A Conceptual Framework of Professional Identity enhanced Reflective Evidence Based Practice Professional Role Taking by Dutch Diabetes Specialist Nurse Prescribers.

A Grounded Theory Approach.

Submitted by

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Preface

This thesis entitled ’A Conceptual Framework of Professional Identity enhanced Reflective Evidence Based Practice Professional Role Taking by Dutch Diabetes Specialist Nurse Prescribers. A grounded theory approach’, has been written in partial fulfilment of the requirements for the degree of Doctor of Philosophy at the Faculty of Health, Education and Life Sciences of the Birmingham City University.

The thesis is based on a grounded theoretical approach to studying Dutch specialist nurse prescribers, who seemed to have overcome the traditional barriers to the adoption of evidence based practice.

Increasing understanding of what is happening in this particular team of nurses could benefit other nurses who find themselves in similar situations, and support educators to facilitate nurses involved in evidence based practice implementation.

Abstract

Introduction and background

In the Netherlands, supplementary prescribing authority was granted to Bachelor level registered specialist nurses in 2014. A team of Dutch diabetes specialist nurse prescribers, in preparation for the prescriber role, was facilitated in their self-imposed quest to master evidence based practice competencies to substantiate their clinical decisions and contend with physicians doubting their prescribing competency. This provided the opportunity to investigate how these nurse prescribers act to achieve this implementation and learn from their experiences.

Aims

The study aimed to develop a conceptual framework of the evidence based practice implementation by Dutch diabetes specialist nurse prescribers, to make recommendations for policy, education and practice for prescribing by nurses in the Netherlands. The preliminary focussing questions where:

- What are the reasons why diabetes specialist nurse prescribers apply or reject evidence based practice, and
- how can these nurses use evidence based practice within their professional role and position, and enhance nurse prescribing practice?

Method

A grounded theory approach was chosen to investigate the nurse prescribers' uptake process of evidence based practice with a focus on influences. Research data consists of face-to-face interviews held with eight nurse participants, two nursing department managers and two diabetes care physicians and two nursing university lectures. Additional data came from educational evaluations and focus groups held with the nurse participants. Data was collected during the period from November 2014 to January 2019. Data analysis was performed with ATLAS.ti7 initially using Seidel's analysis model.

Findings

The conceptual framework describes the process of nurse prescribers taking the role of 'reflective evidence based practice professional' enhanced by Professional Identity Formation. This role taking is a means to underpin clinical decision making and derive proposals to tailor a patients' diabetes care plan in order to discuss this with other healthcare professionals. The

findings revealed that a reason for nurse prescribers to use evidence based practice is to better reveal their competence and ability to other healthcare professionals. This helps them to increase their professional status and be trusted and respected as an equal partner. A strong professional identity is developed in this framework, which can be a prerequisite interpersonal condition to being confident to mediate the patient's pharmaceutical care plan, in an interdisciplinary meeting with the acting physician, in order to tailor the patient's diabetes care plan.

Conclusion

In conclusion, from this research project, it is hypothesised that: Professional Identity Formation is a major facilitator for professional role taking. It appears that the personal construct of "Self" can either form a barrier or be a facilitator for professional role taking. It is recommended that educators focus on Professional Identity Formation while facilitating education for nurse prescribers learning to master evidence based practice competencies.

Keywords

PubMed MeSH: Drug prescriptions; Evidence based Practice; Evidence based Nursing; Grounded Theory; Symbolic Interactionism; Nursing; Nurses' role, Professional Identity

CINAHL headings: Nurse Prescriber, Nursing practice, Nursing role, Professional Practice, Evidence based; Grounded Theory; Professionalisation, Symbolic Interactionism, Professional Identity

Glossary

Dutch	English	Abbreviation
Collectieve arbeidsovereenkomst	Collective Labour Agreement	CLA (CAO)
Centraal Begeleidingsorgaan voor Intercollegiale Toetsing	Central Supporting Body for Inter-Collegiate Review (nowadays The Dutch Cochrane Centre)	CBO
Eerste Associatie voor DiabetesVerpleegkundigen	First Association of Diabetes Nurses	EADV (V&VN Diabetes Care)
Health Research Nederland (ZON) and the Medical Sciences (MW) area of NWO.	Name is ZonMw. Dutch funding organization for health research and care innovation. Its main clients are the Ministry of Health, Welfare and Sport and the Netherlands Organization for Scientific Research. The organization is an independent administrative body.	ZonMw
Ministerie van Gezondheid welzijn en sport	Dutch Ministry of Health, Welfare and Sport	VWS
Patient	Patients will normally refer to the patient and close family	
Reflective Evidence Based Practice Professional	Dutch modified CanMEDS Role: Scholar	R-EBP-P
Samenwerkende Topklinische opleidingsZiekenhuizen	Dutch Association of Tertiary Medical Teaching Hospitals (Foundation of Top Clinical Hospitals)	STZ
STZ–netwerk Verpleegkundig Onderzoek	DA-TMTH Nursing Research Network	DA-TMTH/NRN
Verpleegkundigen & Verzorgenden Nederland	Dutch Nursing Association	V&VN
Wet Medisch-Wetenschappelijk Onderzoek met Mensen	Dutch Act on Medical Research Involving Human Subjects	MRIHS act / WMO

Abbreviations

Abbreviation	Word or phrase
CanMEDS	Canadian Medical Education Directives for Specialists
CAT	Critical Appraisal of a Topic
CAQDAS	Computer Assisted Qualitative Data Analysis Software
CoP	Community of Practice
CE	Continuing Education
CPD	Continuing Professional Development
DA-TMTH	The Dutch Association of Tertiary Medical Teaching Hospitals
DA-TMTH/NRN	The Dutch Association of Tertiary Medical Teaching Hospitals Nursing Research Network
DSNP	Diabetes Specialist Nurse Prescribers
EBP; EBM; EBN	Evidence Based Practice; Evidence Based Medicine; Evidence Based Nursing
GTM	Grounded Theory Method
MANP	Master Advanced Nursing Practice
MKO	More Knowledgeable Other
NCT	Noticing, Collecting and Thinking
PSR	Pharmaceutical Sales Representatives
PIF	Professional Identity Formation
RCT	Randomised Controlled Trail
R-EBP-P	Reflective Evidence Based Practice Professional
SDL	Self-directed learning
SI	Symbolic Interactionism
TMTH	Tertiary Medical Teaching Hospital

Table of Contents

Chapter 1 Introduction and context of study

1.1 Introduction

This study, based in the Netherlands, was developed in response to the Dutch Ministry of Health, Wellbeing and Sport 2011th (Klink, 2010a; 2010b) policy statements containing rules on training requirements, which stated that nursing health care provision needed to be more evidence and research based. These statements also reflected the professional healthcare providers recognition and acceptance that evidence based practice (EBP) needed to become a significant part of daily care (Klink, 2010a). The following year, in 2011, the Dutch government published a decree clarifying the education and training requirements necessary for nurse registration (Schippers, 2011). The concept most relevant to this thesis was that for nurses to be deemed proficient in their professional development, they must contribute to clinical development by promoting and implementing a vision based on EBP that would establish it as an integral component of nursing training.

In the Dutch government's decree, EBP was defined as a *"… method of practical professional practice that is based on the integration of the best available research results, clinical experience and skills, patient preferences and available resources"* (Schippers, 2011, p. 1), which is still in line with commonly accepted definitions of EBP emphasising the need for patient involvement, although Hoegen et al. (2020) definition focused more strongly on the utilisation of EBP. Their definition states EBP is "*careful, explicit and judicious use of the current best evidence to make decisions with individual patients and families about good or desired care or treatment"* (Hoegen et al., 2020, p. 15). Within these two definitions there is considerable overlap in meaning, suggesting that EBP involves the use of propositional knowledge, professional craft knowledge, patients' experiences and preferences whilst retaining focus on the importance of contextual insights for the clinical decision-making process. However, the Dutch Ministry of Health, Wellbeing and Sport's 2011 policy statement (Klink, 2010a) provided few practical suggestions or guidance as to how this could be accomplished. There was also no provision of any additional funding for training or changes in the processes and procedures for EBP care delivery. In consequence, across the country, health care providers still struggle to find strategies to implement what, in many areas, was a major change in the approach to the various health and social care services.

This study started in 2014 and was designed and completed in response to requests for help and guidance from diabetes specialists nurse prescribers (DSNP) who were working at a Tertiary Medical Teaching Hospital (TMTH) and struggling to meet government requirements. As a senior lecturer, I was approached by a group nurse specialists employed in the hospital

and asked to help with their understanding of, and ability to use EBP. Following discussions with the nurses and relevant managers my support was approved by both the university and hospital. The findings from the study demonstrate how nurses learn to develop reflective practice, use EBP and provide insight into the processes that impact on the acceptance of, and implementation of EBP. This project began before the current international health emergency of the COVID-19 pandemic, which globally led to greater recognition of, and emphasis on the need for the development of, evidence based healthcare. However, with completion of the project, the nurses clearly saw the importance of the learning they had undergone and their increased ability to innovate and implement EBP. This chapter concludes with a description of the main contextual aspects of the research and a brief introduction to the chapters of the thesis is also provided.

1.2 Policy influences on evidence based practice implementation

The importance of EBP to Dutch nursing practice was emphasised in an updated '*professional nursing profile'* published in 2012 (Schuurmans et al., 2012), stating that the actions of the nurse in practice should be increasingly supported by the results of research. The policy recommendations involved use of a Dutch translation of the Canadian Medical Education Directives for Specialists (CanMEDS) model (Frank, 2005) based on a professional profile for the '*Scholar role'*. Re-naming the role 'Reflective Evidence Based Practice Professional' (R-EBP-P), the profile emphasizes that these professionals should underpin their practice with the latest scientific knowledge and engage in reflective, lifelong learning. The aim at the time of publication was for this nursing profile to be adopted and implemented across the Netherlands by the year 2020 (Schuurmans et al., 2012). The timing of the release of these recommendations matched those (Dierick et al., 2017) of The Dutch Association of Tertiary Medical Teaching Hospitals (DA-TMTH) Nursing Research Network (DA-TMTH/NRN). The DA-TMTH visionary statement on EBP which supported the need for scientific research to be evident in the way in which nurses practised (Bos et al., 2013), but they set an earlier target date. They argued for implementation by 2018 providing a clear signal for TMTHs' nurses that they needed to rapidly adapt to the role of R-EBP-P.

TMTH's increased focus on the facilitation of use of and implementation of science and EBP during 2016 and 2017 emerged clearly in information and guidance they provided pertaining to the implementation of EBP. These stated that a TMTH should have a science office in place to provide services and facilities with *"sufficient expertise available to guide and stimulate Evidence Based Practice and scientific research by nurses"* (Samenwerkende Topklinische Ziekenhuizen, 2016, art. 6.48, p.8). Achieving these changes by 2018, given all the scientific

literature regarding the difficulty of implementing EBP in nursing (Alatawi et al., 2020), was seen as a major but achievable challenge. Unfortunately, although this initial statement was made, the evaluation date was due to be announced at the same time as the coronavirus pandemic halted all but essential activities. In consequence, no evaluation date was released at that time, and to date no evaluation has been carried out to ascertain the extent to which the target has been achieved (Neefs, 2021).

DA-TMTH policy updates in 2017 identified clusters of clinical criteria under the heading of strategy and policy, with topics including Quality, Innovation, Training, Science, and Top Clinical Care. The main criterion of 'Scientific evidence' was sub-divided into further criteria. However, later that year the DA-TMTH Nursing Research Network (DA-TMTH/NRN) concluded that although the training courses for nursing, nursing specialists and academically trained nurses involved research teaching and EBP, the professional practice field did not facilitate utilisation of the competences developed in training (Dierick et al., 2017). Although the Ministry policy statement was included in the DA-TMTH's visionary statement, and their target year of 2018 has passed, the national implementation of research and EBP remains in many instances a policy dream rather than a reality and still urgently needs addressing.

1.3 Dutch nursing context

1.3.1 Professional profile (and CanMEDS)

Nursing care in the Netherlands has been recognised as being of a high standard, based on achievement of the national nursing competences (Stuurgroep LOOV, 2015). Nevertheless, as a result of medical advances, with ever more complex interventions and possibilities for treatment, nurses have had to continually extend their skills and expertise, adapting their practice to deliver increasingly advanced patient care. In the light of these changes, the Dutch Nursing Association (V&VN) recognised that to safeguard patients there needed to be updated and nationally agreed competences and standards. In setting the standards they chose to follow the example of other European and transatlantic countries and continued to utilise the CanMEDS (2005) professional competency framework developed by the Royal College of Physicians and Surgeons of Canada (Bandiera et al., 2006; Frank et al., 2015) as the basis of the revised core Dutch nursing competencies. The CanMEDS Framework (2005, 2015) was developed around seven professional roles, each with its own set of competencies (Frank et al., 2015). This framework was designed to demonstrate the cohesion of the roles, including patient support, which was described as central to the role of Medical Expert. The Dutch Nursing Association adapted each of the core roles from medicine to nursing, and in this

process identified Bachelor, Specialist and Master level Advanced Nursing profiles. The new roles consisted of six sets of role specific competencies; Communicator, Collaborator, Leader (Manager), Health Advocate, Scholar, and Professional all of which were symmetrically overlapped, to create a central seventh core role, that of the Nursing Medical Expert.

Ellaway (2016) viewed this approach critically, arguing that the CanMEDS model was a theory, and that competency frameworks in general provided a vision of the ideal physician. The underlying proposition was that the closer a practitioner came to reflecting the highest level of the competencies, the more it could be assumed that the practitioner concerned was an 'ideal type'. Therefore, Ellaway (2016) pointed out that using CanMEDS as such without framing it as a theory was problematic: theories should be tested and challenged first, prior to acceptance. By missing this vital stage, and *"by organizing systems of medical education around these frameworks, we send bold statements about health professional education that should be robustly tested"* but have not been (Ellaway, 2016, p. 917). In summary although the CanMEDS framework helped to clarify different levels of practice for qualified nurses when related to EBP, paradoxically it was not robustly based on research or evidence from within nursing. In consequence, adaptation for nursing roles may be required to facilitate full implementation, and until the evidence has been collected, collated and disseminated to support appropriate adaptations, full implementation of EBP may remain challenging.

1.3.2 Dutch CanMEDS nursing roles

Despite the limitations of the CanMEDS model identified above, it remained in place for DSNP clinical diabetes care activities, and at the start of this study, on Reflective Evidence Based Practice Professional (R-EBP-P) role taking for DSNP, the Health Advocacy, Collaborator and Professional roles were still seen as challenging and requiring special focus. Back in 2011, in alignment with national nursing policy, the former professional association for diabetes nurses, the First Association of Diabetes Nurses (EADV), had released their version of their professional profile (Eerste Associatie van Diabetes Verpleegkundigen, 2011) based on the original 2005 CanMEDS, but this had not been updated since its initial release. Although in December 2017 EADV was transformed into the new association of 'V&VN Diabetes Care', the advanced practitioners' guidance and general nursing professional profile specified specialising nurses including the DSPN remained under the umbrella of the Dutch Nursing Association (V&VN). In reviewing the documentation, it was evident that the complexity and changed nature of the various policy bodies influencing diabetic nursing's requirements for evidence based practice, was multi-layered and multi-faceted. No single professional body seemed to have taken on the role of national authority for monitoring the development or

coordination of standards. Hence, they were still based on a system developed over a decade ago, in a different nursing context.

When this study commenced, discussions with the nurses employed in diabetic care revealed they were still using the EADV professional profile from 2011, although some of the roles within the framework had been identified as being of particular relevance to DSPNs. These included the Scholar role, which specified EBP in its profile, with explicit reference made to key EBP competences, and emphasis on the need for participating in the utilisation of research and professional development to stay up to date. Also, of relevance for the study, was the Collaborator role, which gave emphasis to effective interdisciplinary consultation, but this too needed exploring in the light of the changed and extended role that accompany nurse prescribing. Additionally, the Health Advocacy role was identified as relevant, but mainly for the prevention of diabetes complications, and not for its wider context in holistic, patient centred care. The Dutch DSNPs' professional profile predated the legal authority enabling prescribing which was established in 2014, although in anticipation of the legislative changes planned for prescribing, the required competencies were included in the professional profile for diabetes nurses (Eerste Associatie van Diabetes Verpleegkundigen, 2011).

In 2015, an updated CanMEDS framework was released, with changes including the competences of the 'Scholar' role differing from the previous 2005 framework. They were more precisely formulated as educational, focusing on lifelong learning, teaching others, evaluating evidence and contributing to scholarship (Richardson et al., 2015). As a result of the process of adaptation, the Dutch Nursing Association (V&VN) renamed the Scholar role as Reflective Evidence Based Practice Professional (Schuurmans et al., 2012). This role referred to a professional who applied evidence and nursing interventions to deliver appropriate, effective, and efficient care. It clearly stated that a nurse is expected to know and utilise scientific results and findings in their professional nursing practice, to demonstrate a reflective professional attitude to nursing practice, professional procedures and moral/ethical issues. The overall role requirements were wide-ranging and extensive. They included familiarity with the principles of EBP, knowledge of research methods (including their strengths and limitations), current topics within the specialised nursing domain, philosophical and religious movements, and the moral/ethical context of nursing. It also cited that R-EBP-P required professional growth and professional accountability through self-assessment, reflection and critical thinking. There was a stated expectation that these specialist and advanced nurses would be seen within their practice setting as utilising evidence based knowledge and facilitating its implementation (Jylhä et al., 2017).

In TMTHs the need for the implementation of EBP was accepted well before 2020 as a major institutional goal (Bos et al., 2013). Organisations explicitly directed that this applied not only to evidence based medicine (EBM) but also to evidence based nursing (EBN) and other non-medical professional healthcare providers. However, while the move to EBM progressed and slowly gained momentum, the reality in nursing was different. Few clinical areas identified time for facilitated learning, or to support research appraisal of recent published literature, with the result that it was seen as an 'add on' to practice, rather than an integral element of all nursing practice. The V&VN supported the professionalisation of nursing and tried to help move the agenda forward, and to reduce variations in nursing by developing and circulating standardised interventions for some areas of EBP (Nijboer et al., 2016). However, this was again not accompanied by funding to release staff for training or practical strategies for implementation. For DSPN the additional responsibility of prescribing for nurses with little background in EBP compounded the problems of EBP implementation still further, as they tried to marry the differing concepts without additional education and/or guidance.

1.3.3 Transition to diabetes specialist nurse prescribers in the Netherlands

The government and nursing profession's vision was that patients would benefit from DSNP involvement, because diabetic patient care was already largely managed by specialist nurses. They argued these nurses already had specialised knowledge, and played a central role in communicating, listening and counselling people with diabetes. Also, that they held a key role in the major objectives of regulation of blood glucose levels and prevention of short and long-term complications. Other priorities included the optimal choice of the medication to prescribe within protocols, and when needed the administration of medicines and management of possible side effects. They were engaged in the shared decision-making process with a key role in supporting the autonomy of the patient. This involved assessing patients' abilities to respond to health related factors that influence blood glucose levels including diet, exercise and stress (Eerste Associatie van Diabetes Verpleegkundigen, 2011).

The change in the law to permit prescribing by specialist and advanced nurse practitioners only came into effect in 2012, so the role change was yet to become established when this project commenced in 2014. Nursing in the Netherlands followed the trends in the UK. But while in the UK nurse prescribing was legalised in 1998 (Royal College of Nursing, 2014) based on the Crown report (Department of Health, 1989), as dates demonstrate, it took the Dutch government almost 15 years to accept the need for the implementation of similar roles and functions to provide the best possible care for patients. UK practice evaluations, completed once prescribing started, demonstrated that the change in role led to increased recognition of expertise. Also, that the ability to provide medication was respected by other nurses and was seen as raising their status (Royal College of Nursing, 2014).

For nurse prescribing, a distinction can be made between independent and supplementary prescribing (Royal College of Nursing, 2014). Independent prescribing authority is assigned to specially trained nurses allowing them to prescribe any licensed drugs within their clinical competence. This may take place from a limited or an open formulary (Kroezen, 2014). Supplementary prescribing is defined *"as a voluntary prescribing partnership between a doctor (independent prescriber) and a nurse (supplementary prescriber)"* (Kroezen, 2014, p. 12). In this collaboration, the independent prescriber is responsible for both assessment and diagnosis. The supplementary prescriber (nurse prescriber) may prescribe from open or limited formulary. Dutch specialist nurses can obtain a comparable qualification after additional training, such as the supplementary prescriber's licence (Kroezen, 2014).

Following the changes in legislation, there was government recognition that time was needed to provide necessary additional resources for training for prescribing, and to support the need to understand evidence and research. Nurses also needed to develop the professional confidence to prescribe safely (Chater et al., 2019). Therefore, it was only after 2012 that Master level advanced practice nurses were able to legally and independently prescribe medication. However, as in the UK, these advanced practitioners were relatively few in number, and the Ministry of Health, Wellbeing and Sport (Schippers, 2011) recognised that for safe and effective prescribing of medication increased numbers of prescribers were urgently needed. This resulted in yet another change to the law (Schippers, 2013), this time stating that under specific conditions, designated Bachelor's degree nurses could prescribe medication listed in a national patient group related protocol relevant to their clinical area. All nurses (whichever level), who prescribe have to successfully complete an in-depth pharmacotherapy education programme and assessment at a University of Applied Sciences, following which they become registered in the National Register for Health Professionals (BIG-register), which states their area of expertise and legal permit to prescribe (Schippers, 2013). Thus, those working in the field of diabetes care, oncology care and care for patients with chronic obstructive pulmonary disease could, once they had completed the recognised additional training, be authorised to prescribe as supplementary prescribers (Schippers, 2013). Although able to use fewer drugs than independent prescribers, their additional role would nevertheless help reduce the recognised gap in the workforce.

Following meetings with the managers and the nurses who were requesting support, it was evident that for them to be able to safely prescribe medication, whether as independent or supplementary prescribers, they needed help to understand and implement the legislative changes in their practice. Although these nurses had all undergone the requisite pharmaceutical training, they were not confident of their role, or clear on how to review, assess and use or reject the research and evidence they found. This was described by them as being

of paramount importance as it affected their role, function and ability to practise through their changed registration. It was therefore accepted that to help them move towards the implementation of EBP across all their clinical activities, the starting point had to be their overriding concern, their role in prescribing medication, with all the additional responsibility this entailed. The nurses reported that as new prescribers they needed to establish a safe approach to practice and wanted a structure to guide them from the onset towards full implementation of research and clinical evidence into practice. As they had found nothing available, this project offered a unique opportunity to work in partnership with them to develop a conceptual framework to support nurse prescribers now and in the future.

Having now achieved the authority to prescribe, the nurses had recognised that as nurse prescribers they could be seen as challenging physicians who previously controlled prescribing (Kroezen, 2014). Therefore, to help develop strategies whereby the change in role could be accepted without conflict, the nurses wanted to know how to demonstrate their competence in both knowledge of pharmacotherapy and their ability to appraise best evidence and research as it became available. For safe practice they needed to be able to demonstrate the use of the evidence that emerged from high-level research designs, systematic reviews and/or randomised controlled trials, and combine this with, or contrast it with individual professional experiences, patients' health experiences and preferences to tailor patient care (Schippers, 2013). The findings from the study which helped the nurses move their knowledge, expertise and practice skills in the use of EBP was used in conjunction with the principles of adults learning, engagement and lifelong learning, to develop a conceptual framework (Jarvis, 2010).

1.4 Study rational and aims

The aim was to develop a conceptual framework for practice that explained the process of taking the reflective evidence based practice professional role that fitted within the DSNP current roles and that could be translated for use with nurses working in other specialist areas and hospitals. This main aim was further broken down as outlined below:

- to develop a conceptual framework for the implementation of evidence based practice in specialist diabetic clinical areas in the Netherlands, and
- to make recommendations for policy and practice for evidence based nursing in the Netherlands.

From these aims, the following initial research questions were formulated to give directions to this grounded theory study:

- What are the reasons why diabetes specialist nurse prescribers working in the context of a Dutch Tertiary Medical Teaching Hospital apply or reject evidence based practice, and
- how do these nurses use evidence based practice within their professional role and position, and enhance nurse prescribing practice

1.5 Positionality

As an allied health professional involved in nurse education and research facilitation, in any project I undertake, there needs to be careful consideration of how my background, expertise and perspectives could impact on the study. Increasingly referred to as positionality, the formalised recognition of the impact of researchers on the research process and research outcomes supports transparency and auditability as well as helping to address and minimise bias (Denzin and Lincoln, 2017). In positivist research an assumption is made that the researcher's stance is objective and outside the research process, but it is increasingly being recognised that within all research there is an element of bias that needs to be identified and addressed (Bryman, 2012). In contrast to the positivist approach, the inductive processes used in interpretivist research have always accepted that the researcher is actively involved in all phases of data collection and analysis. As Denzin and Lincoln (2017) point out, the aim of qualitative research is to explore specific phenomena in depth, and part of this includes reflecting on how the interactions between researcher and participant(s) develop and impact on the study as a whole. Nevertheless, until relatively recently there was no formal process to acknowledge or describe the direct or indirect influence of the researcher (Wilson et al., 2022). By gathering together the different debates on subjectivity and objectivity, researchers can use them to identify the positives and negatives that arise from their interactions during the research process (Bryman, 2012; Denzin and Lincoln, 2017). As a consequence, qualitative researchers, especially those working with marginalised groups, are increasingly called upon to acknowledge and reflect critically upon their position within the research in which they are involved (Wilson et al., 2022). Thus, a critical reflexive stance, with attention for my own positionality, was a crucial element throughout this study. To facilitate this, a reflective journal was kept throughout the study, with actions and interactions assessed and reviewed, and an additional check came from evaluating outcomes of activities with the participants themselves.

There had to be careful agreements made with both the university and the hospital management departments, with discussions clearly stating my role and responsibilities. Once

agreement had been reached, I started working with the group of DSNP in November 2014. Reflecting on my planned role, in some respects it could be likened to the DSNP, as I was an experienced health professional who had undertaken additional education and training. However, my additional study meant I was also an educator who could facilitate the learning and application of EBP with, as requested, the focus on safe prescribing. My role with these nurses was started by exploring with them their learning needs and, as the project progressed, their steps towards addressing these. I kept careful notes and continually evaluated their development and adapted the support I provided to meet their changing learning needs. On the theoretical side, safe prescribing and confidence were required, but the pace of understanding and ability to integrate theory in practice are individual. In consequence, the rate of change was unpredictable at the beginning of the process; it was led by the DSNPs who sometimes appeared ready to move forwards, but then wished to review and check their previous learning. Previous experience in education with healthcare professionals had demonstrated that I had the knowledge, skills and the inspiration to act as a clinical expert and was respected by other professionals.

Evidence based practice was considered an essential learned behaviour, that helped professionals to deliver evidence based high quality care that could be evaluated and updated as new research and medical advances lead to changes in practice. Prior to the study, when negotiating for support, participants had stated that they found it difficult to understand and follow the research and evidence they needed to use. My past experiences had provided me with the opportunity for involvement in professional discussions and to develop learning programmes about EBP that enabled others to accept and gain confidence in using EBP to innovate and change practice. Having worked for almost two decades in a demanding environment, the operating department, both as a practitioner and educator, I had learned that using knowledge based on evidence is key for a professional who wishes to deliver care that benefits patients. Looking at the proposed study, I saw myself as being in a dual position: I was both an insider and an outsider, and needed to make sure that these two very different roles were carefully aligned so that my own perspectives did not dictate the way the study progressed (Bukamal, 2022; Wilson et al., 2022). The ability to partly share identity, language and experiential base using prescribing as an illustrative template would facilitate the development of the necessary relationship with participants and support their learning. However, care had to be taken that all activities were participatory, using and building on the knowledge of participants, not just using my knowledge and expertise to dictate the way forward (Denzin and Lincoln, 2017).

On reflection, I realised that I valued being entrusted with activities that increased the respect shown to me by others and that this extended my professional role. In addition, the prospect

of being able to transfer my enthusiasm for EBP to support the development of other professionals' abilities appealed to my personally. I found sharing and developing new knowledge exciting and sharing it with others who welcomed the opportunity to learn was enjoyable and had a positive impact on my professional position and career. While this would help greatly in encouraging the participants, I recognised as a potential problem that my enthusiasm could be seen by participants as too forceful. As a result, I completed a SWOT analysis of my role in the project, which I then used to plan activities and to check that I was not allowing my perspectives to become too powerful, and that all activities were fully participatory (Bukamal, 2022). The SWOT analysis included recognition that for many years I had developed skills for scoping research and professional literature. My ability to appraise research literature had also improved, and I had learned to share appraisal activities with other professionals. I have always appreciated the different professional perspectives as innovations emerged from the scientific community. Thus, I knew I would enjoy the shared experience of relating and evaluating new diabetes products and medication for this study. However, coming from the context of perioperative care and not being able to build on experiences in diabetes nursing care, I had to consider myself an outsider (Dwyer and Buckle, 2009) at least with respect to the care context and the fact that the participants were women working in a male dominated healthcare setting (Vandermeulen, 2019). I considered myself sufficiently an outsider to be able to observe other influences on the DPSN development including their caution regarding the physician and managers' response to their changing role (Bukamal, 2022).

My positionality needed careful reflection as the project progressed with increased engagement in the journal club activities. In my previous teaching experience of critical appraisal of literature, using well-tailored, well-conducted and facilitated journal clubs had helped to accelerate participants gaining of additional skills at both Bachelor and Master level. I therefore developed a journal club and set of learning experiences for these participants, and as with previous groups, allowed sufficient time to enable participants to access and use information at their own pace, and ultimately accept why they needed to change practice. Activities were planned to gradually increase the independence and confidence of participants, with the long-term outcome that they would ultimately take ownership of their own learning and developing expertise. The journal club activities were designed to illustrate to the participants how accessible research and clinical evidence has become, how to access and use it, and how this type of learning fits with the lifelong learning approach advocated by the Dutch regulators.

1.6 Outline of this thesis

This thesis consists of seven chapters of which a brief precis is given below. From the **current chapter**, that has provided an initial explanation of the research idea, the stated research objectives and the research question, follows chapter two.

The second chapter provides an overview of literature, addressing the relevance of evidence based practice, continuous professional development and community of practice for nurse prescribers. It further highlights the significance of inter-professional collaboration between nurses and physicians in the context of nurse prescribing in Dutch diabetes care.

Chapter three presents an outline of the study design by introducing the chosen grounded theory approach, Symbolic Interactionist perspective, and its main theoretical considerations. The research design follows, including the main ethical aspects of the study. Aspects of research methodology are considered with the research participants identified, the structure of data-analysis and quality issues discussed.

Chapter four describes the initial analysis and findings, the evolving process of the conceptual framework and its theoretical perspective. Eventually a preliminary version of the framework is presented.

Chapter five presents the development of the conceptual framework and its contribution to knowledge of practice for prescribing nurses in diabetic care. It explains how Reflective EBP Professionals role taking may take place in Dutch diabetes specialist nurse prescribers' contexts.

Perspectives on the research's quality are addressed in **chapter six**. It shows reflections on both the methods utilised and the educational programme created for and with the nurse prescriber participants.

In **Chapter seven,** conclusions and recommendations are drawn based on the emerged conceptual framework of diabetes specialist nurse prescribers' professional identity enhanced Reflective EBP Professional (R-EBP-P) role taking.

1.7 Summary

Giving shape to the role of R-EBP-P in this study was no sinecure. R-EBP-P presupposes competences that make it possible to participate in clinical decision-making in which medical-nursing substantive knowledge of diabetes care all have to be considered (Schuurmans et al., 2012). It also presupposes that the professionals involved are confident enough during inter-

professional consultations to achieve maximum appropriate care for patients. The study challenged all my preconceptions, but together the participants and I shared a journey as we worked to understand the key concepts and find ways to develop the necessary knowledge and skills. The way the study progressed clearly illustrates the strengths and challenges of qualitative research, and the importance of the relationship between participants and researcher, as all involved become intrinsic elements of the study.

The next chapter provides an overview of supportive literature, addressing the relevance of evidence based practice and continuous professional development to nurse prescribers. It further highlights the significance of inter-professional collaboration between nurses and physicians in the context of nurse prescribing in Dutch diabetes care.

Chapter 2 Literature review: Evidence Based Practice in the Dutch DSNPs context

2.1 Introduction

The nature of this study was such that this initial literature review was the starting point for study development (Aveyard, 2019). It collated literature that focussed on the key aspects which were considered potentially influential to the research. The initial search focused on CINAHL Plus with full Text and Medline (using EBSCO*host)*; key words applicable to evidence based practice were used to focus the search. Emphasis was placed on finding systematic and integrative reviews, as the highest levels of data, and on finding primary research into the implementation of evidence based nursing. Issues judged fundamental to the subject area were addressed in greater detail using some methodological key words to further refine the literature and texts were identified from both the positivist and interpretivist paradigms. Priority was directed towards achieving coherence. As the study progressed, the review was repeated and updated which led to the identification of more recent and relevant literature. For studies using grounded theory methodology (GTM) there has been debate since the 1970s as to whether a literature review should be carried out prior to data collection (Corbin and Strauss, 2015; Glaser, 2010b). However, the approach used in this study (Charmaz, 2014) takes a constructivist perspective, and therefore the suggestion by Thornberg and Charmaz (2013) was followed that studies should have an initial review of key concepts.

The healthcare environment continually changes due to different approaches to health problems driven by increasingly rapid changes in healthcare including knowledge, new technology and medications, and policy shifts. Knowledge and skills gained during initial professional education have, therefore, a limited life span, making it necessary for healthcare professionals to maintain pace with current research findings and to fulfil context based Continuing Professional Development (CPD) requirements (Sachdeva, 2016). Hence the call for reflective practice also resounds within the domain of pharmaceutical education (Mantzourani et al., 2019). To achieve this, professionals need adequate research knowledge to appraise research quality and consider the relevance to their area of practice. This concept of research utilisation is connected with EBP (Jabonete and Roxas, 2022). Increasingly, nurses and other Dutch healthcare professionals need to demonstrate that they can implement EBP that fits within local and national healthcare policy, as part of their professional role (Schuurmans et al., 2012; Verpleegkundigen & Verzorgenden Nederland, 2019).

Evidence based practice became established in healthcare in the latter decades of the twentieth century and has continued to develop, giving a plethora of conceptual structures in the twenty-first century. One of the most prominent developments appeared to follow Sackett et al's (1996) seminal model of evidence based medicine (EBM), which had become an umbrella term for evidence based care embracing a wide spectrum of healthcare practices (Clarke, 1999: in Scott and McSherry, 2009). Nursing accepted these early definitions and has gone on to develop systems (Ingersoll, 2000) for developing and implementing evidence to underpin advances in nursing care. In the Netherlands, it is accepted that all Dutch nurses need to be proficient in seeking, gaining, analysing, evaluating and applying new knowledge (Stuurgroep LOOV, 2015).

Evidence based practice competencies have been incorporated in the Dutch CanMEDS based nursing professional profile and are a required part of the curriculum for all nursing levels. However, implementation in hospitals has lagged behind the Dutch Government's and, the Dutch Association of Tertiary Medical Teaching Hospital's (DT-TMTH) expectations. Although in-house training has been offered in many Dutch hospitals and positive effects identified from this, nurses in general have continued to struggle with implementation, and specifically with utilisation of research in practice (Munten, 2019; Vermeer, 2011). Therefore, this review focuses on the main concepts for DSNP's educational development, professionalism and professional practice relating to EBP. It includes concepts of adult learning associated with a traditional pedagogical approach to nursing education as well as approaches such as heutagogy (Bansal et al., 2020; Bhoyrub et al., 2010; Links, 2018) which are seen as less prescriptive and more appropriate to healthcare education. In this study, a heutagogical approach was seen as crucial to encouraging these senior professional nurses, with advanced competences and years of practical experience, to take on and lead the challenge of implementing evidence based nursing. They are used to working and learning as a team and see themselves as a specialist group and professional community, so are in a good situation to guide and lead their peers.

2.2 Historical development on evidence based practice

Nurses and other authors have developed a wealth of literature on EBP in the last two decades. Over ten years ago, Scott and McSherry (2009) identified three main contributory factors promoting the move towards EBP in nursing as political, professional and societal. They argued that politically it offered a strategic approach for standardising and streamlining services, which supported improving patient care while decreasing duplication and financial costs. Professionally it supported the application of clinical governance, which was seen as

essential to inform decision-making, quality improvement and safeguarding of patients. Societal factors were increasing exponentially as both health care professionals and service users had easier access to information. For nurses this access to research and appropriate literature enabled them to gain a wider understanding of the evidence underpinning health care, while for patients this meant they became more informed and willing to challenge established norms.

In the last decade, a stronger practitioner perspective emerged from Orta et al.'s study (2016) which suggested that to redress any shortfall, there needed to be a shift in nurse education to formally include competencies associated with EBP, since few received the education required to enable them to utilise evidence to introduce changes into practice. A challenge for those aiming to use evidence to innovate and change nursing care was that the need for all nurses to up-date their knowledge to inform EBP was rarely prioritised at chief nurse level (Melnyk et al., 2016). Yet, international recommendations were that implementation of EBP should be used to underpin 90% of clinical decisions by 2020 (Orta et al., 2016). The Dutch nursing curriculum has improved the research component in education programmes, which should support nurses undergoing education now and in the future. The current professional workforce, however, has had little formal education and training in the implementation of EBP, and therefore may lack sufficient knowledge and understanding of how to access and appraise evidence. In consequence, these professionals struggle to identify mechanisms to introduce evidence into the care they provide.

Inevitably, as indicated previously, the foundation of EBP has been linked with seminal work into EBM, defined by Sackett et al. (1996) as:

> *"Evidence based medicine is the conscientious, explicit and judicious use of the evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external evidence from systematic research." (p.71)*

Their definition was sufficiently broad to stand the test of time and even to encompass the recent trends towards personalised medicine that include genome testing to measure the potential effectiveness of treatment on particular groups of patients. The ability to focus treatment on both a specific disease and individual patient need helps to avoid unnecessary treatment and reduce the possibility of adverse drug reactions (Swen et al., 2023; The Lancet, 2018). Initially found to be especially useful in oncology, it increasingly has the potential to be useful in other diseases. For diabetes, recent evidence suggests genome influence on some variants of this autoimmune disorder (Langenberg and Lotta, 2018), which could lead to improved and enhanced diabetes care.

From the time the definition was first developed by Sackett (1997) it has been argued that to be effective, EBM needs to be part of a process of lifelong, self-directed learning (SDL) for professionals. For this, answerable questions needed to be formulated, followed by scoping of literature to identify the current best evidence, critically appraising this for its validity and applicability to practice, applying the evidence in practice, and finally re-evaluating the application of the evidence. Sackett et al.'s (1996) model (fig 2.1a), was presented as a three circle Venn diagram (Evidence-Based Medicine Working Group, 1992) consisting of the concept of clinical expertise, research evidence and patient's preferences. However, this was reviewed and critiqued by academics, as focusing too much on quantitative research, using cost benefit rather than cost and care effectiveness. Pearson (2010) argued this has led to a tendency to disregard the value of qualitative research and other philosophical theories, although these can have an important impact on patient care and treatment compliance.

Over time a wealth of definitions have been developed relating to the evidence based movement, until today EBP can be defined as the careful, explicit and judicious use of the current best evidence to make decisions with individual patients and families about good or desired care or treatment (Hoegen et al., 2020). Hoegen et al. (2020) go on to point out that EBP involves the use of propositional knowledge, professional craft knowledge and patients' experiences and preferences, to make clinical judgments, keeping in mind the importance of contextual insights for all stages in the clinical decision process. A plethora of models have been developed some of which utilise results of scientific research and others that focus on adding the more qualitative sources that Pearson (2010) argues have been neglected, but that are necessary for holistic care. These Models each summarise perspectives of the complexity of influences on decision making for EBP. One such recent model by McMaster's University's (2021) (fig. 2.1), built on Sackett's (1996) earlier structure, integrates many of the key elements identified in other literature (McMaster University, 2021). This later work suggests a more holistic perspective together with increased multidisciplinary application. It acknowledges the need for clinical expertise at the centre while highlighting other core aspects needing to be considered to implement EBP care. These include consultation to identify patient preference, health resources, staff expertise, cost of products, medicines and facilities. For nurses involved in chronic health care, considerations of health care resources may be of importance when considering patient adherence. Finally, but of equal importance, all the models stress the need for nurses to have the ability to identify and appraise emerging and existing research evidence.

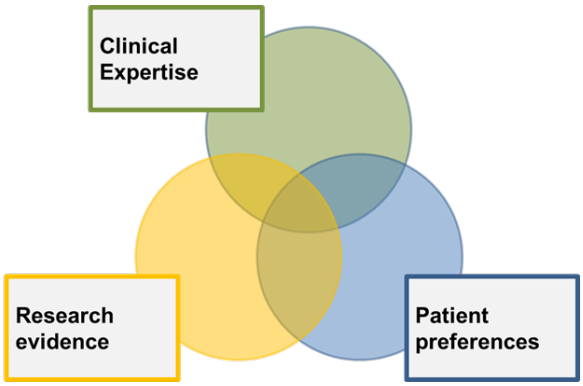


Fig 2.1a: Sackett's Model

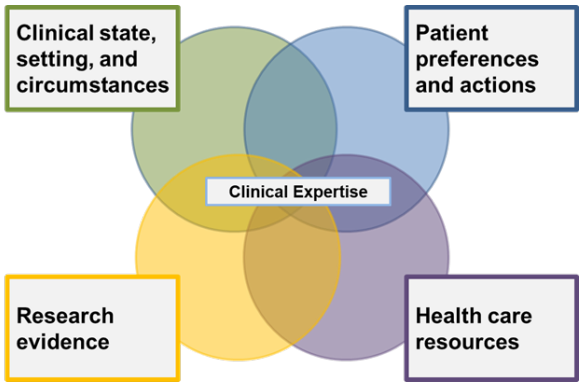


Fig 2.1b: McMaster model

Figure 2.1: Sackett's model of EBM (EBM Working Group 1992) and McMaster model Resources for EBP (McMaster University, 2021)

Models such as that of Sackett (1996) and McMaster University (2021) although developed decades apart both highlight the importance of integrating current knowledge from different sources to inform clinical decision making. The application of these models may differ for clinical disciplines, because of differing roles and responsibilities in healthcare, with the nursing emphasis by nature more on care than cure. Therefore, for nurses, McMaster's model (2021) with its more explicit provision for consideration of the care delivery context and subjective qualitative experiences, was seen to be of relevance: it relies less on the biomedical model and illustrates important aspects of nursing care.

Other models seen to have specific relevance for this study included Critical Appraisal of a Topic (CAT), which gives a step-by-step plan for seeking and finding scientific evidence and assessing its quality. An overview of the various models was given by Gawlinski & Rutledge (2008) who provided an overview of stepwise EBP models including the IOWA model, Stetler's Model, Johns Hopkins Nursing Model, the Academic Center for EBP (ACE) Star Model of Knowledge Transformation, and the Clinical Nurse Scholar Model (CSM). For clarity, these have been tabulated in table 2.1. With the exception of the ACE Star Model of Knowledge Transformation (Richardson et al., 1995) which only focused on utilisation of research findings, these stepwise models all emphasis organisational processes (Gawlinski and Rutledge, 2008). They include the five stages of the EBP process, referring to the five A's of EBP: ask, acquire, appraise, apply, and assess as shown in table 2.2. However, with the exception of the IOWA (Titler et al., 2001) and Clinical Nurse Scholar models (Stevens, 2004), dissemination was omitted. The models were compared based on the six steps in table 2.1.

Main steps of EBP process	IOWA Model (Titler et al., 2001)	Stetler's Model (Stetler, 2001)	John Hopkins Nursing Model (Newhouse et al., 2005)	ACE Star Model of Knowledge Transformation (Stevens, 2004)	Clinical Nurse Scholar Model (Strout et al., 2009)
CAT Ask	• Trigger: problem or new knowledge • Organisational priority • Team formation	• Preparation	• Practice question identified	• Discovery research	• Observing • Analysing
CAT Acquire	• Evidence gathered	• Validation • Comparative evaluation • Decision making	• Evidence gathered		• Synthesising
CAT Appraise	• Research based critique and synthesized • Sufficient		• Translation	• Evidence summary • Translation to guidelines	
Apply	• Pilot change • Decision	• Translation / application	• Plan, implement, evaluate, and communicate	• Practice Integration	• Applying and • Evaluating
Assess	• Widespread implementation with continual monitoring of outcomes	• Evaluation (formal / informal)		• Process, Outcome Evaluation	
Dissemination and consolidation	• Dissemination of results				• Disseminating
Emphasis	Organisational process	Individual nurse or organisational level	Organisational process	Knowledge transformation	Organisational process

Table 2.1: Comparison of EBP models (based on Gawlinsky and Rutledge, 2008, p.296)

The key aspects presented in table 2.1 were distilled into five main steps for the 'five A's of EBP' structure below (table 2.2). This gives a practical list that can be used by nurses as an aide memoire in the implementation of EBP.

Ask: Formulate answerable clinical questions about a patient, problem, intervention, or outcome.
Acquire: Search for relevant evidence to answer questions.
Appraise: Determine whether or not the evidence is high-quality and valuable.
Apply: Make clinical decisions utilizing the best available evidence.
Assess: Evaluate the outcome of applying the evidence to the patient's situation.

Table 2.2: Evidence based practice general "five A's of evidence based practice" (Guyatt et al., 2015)

The final set of EBP conceptual structures found included the Advancing Research and Clinical practice through close Collaboration model (ARCC) (Melnyk et al., 2017) and the (i)PARIHS framework (Harvey and Kitson, 2015; Harvey and Kitson, 2016; Rycroft-Malone et al., 2002). These models aimed at providing pathways to enable innovation and to support the introduction and implementation of evidence in practice. Implementation is regarded as being dependent on key elements, related to each other and together exerting influence on the nature of the EBP innovation: the characteristics of the recipients, contextual aspects (i-PARIHS) and a strong emphasis on facilitation (i-PARIHS and ARCC). The present study included a review of DSNP whose responsibilities overlapped into the traditional territory of doctors, suggesting such structures may now have relevance for nurses. However, the development of a wealth of educational literature regarding teaching EBP to nurses has still left gaps. Reid et al. (2017) reported that there was still a need to enhance education programmes to improve confidence in the ability to use EBP. They argue that the importance of providing care based on best available evidence, rather than custom and practice, has been accepted as established, but that guidance on how to apply evidence in practice remained limited.

The overview of EBP in this chapter has given an outline of the types of models developed and used over the decades since EBM was first defined. It illustrates the sustained interest generated for EBP but emphasizes that although there is a wealth of literature and a number of structures and models which have been developed, implementation of EBP remains a challenge for policy makers and government, as highlighted in chapter one, with EBP having limited effect on practice.

Evidence based care limitations and barriers

The strength of the evidence based movement was acknowledged earlier (paragraph 2.2), as was its strong focus on quantitative propositional knowledge, a narrow perspective that needs addressing for shared decision making (Hoegen et al., 2020). Hoegen et al. (2020) argues that EBP should demonstrate how it integrates such propositional evidence with clinical expertise and patient preference. The intention is to provide the best care for the individual patient through making the best possible use of available resources (Greenhalgh et al., 2014). This facilitates the achievement of more patient-centred clinical decision-making as it includes the patient's personal circumstances, cultural and socio-economic factors. By combining tacit and clinical nursing knowledge with the patient's experiences, preferences and contextual insights, the propositional knowledge is placed into a healthcare context. This broadens the field of choice from an intervention that on average, seems to be the best for the target patient population, to what is the best choice from an individual patient point of view. This may and can, in some cases, deviate significantly from standard protocols for care. Nurses can increase

their ability to deliver individual tailored nursing care by continuously exploring patient preferences, enhancing nurse-patient rapport, remaining open minded and sensitive to a patient's needs, and using empathy to refine/ 'fine-tune' what they observe (Den Hertog and Niessen, 2019).

Recently, pharmacogenetics (genomic) has received increasing publicity (Swen et al., 2023). Pharmacogenetics makes it possible to personalise some medications through the use of patient genetics, which then enhances their impact and through that improves patient outcomes, supporting patients' choice of use. Although not yet well documented in the literature, ultimately this may enable patients to consider their choices, comparing a possible lower or non-existent therapeutic effect and/or the occurrence of stronger or different side effects. However, this medical advance does not necessarily mean that more attention is paid to the clinical experiences of healthcare professionals and/or the personal experiences and wishes of individual patients.

On first assessment, evidence based diabetes care appears to be logically based on pharmaceutical propositional knowledge, with a significant component of the care provided aimed at finding the optimal medication and dosage for each patient. In addition, the new extended role of nurse prescriber requires Dutch diabetes specialist nurses to have enhanced critical appraisal competencies (Schippers, 2011). These include accepting and utilising patient preferences when defining the best care as this necessitates shared-decision making, which is only possible when the nurses have the skills needed to interpret information (including EBP) for the patient (Moreno-Poyato et al., 2021). Crucially, as part of this, they need to be able to encourage patient medication adherence. They need to integrate clinical expertise, patient preferences and health care resources in combination to research evidence in their clinical decision-making. Nurses have to focus on increasing the patient's insight into his/her health needs (education role), suggesting ways that patients can change lifestyle patterns and behaviours to support their health (behavioural). They also work with patients to help them to strengthen their social relationships and support (affective), and where necessary help them to resolve cost-related issues pertaining to medication (economic) (Sapkota et al., 2015).

However, the nurses need to recognise that an ongoing criticism of EBP in general is that it is based on a simplification of reality, which may to fail to take into account the patient's dynamic context, and utilise only quantifiable proven knowledge that is universally applicable and formalised in guidelines (The Council for Public Health and Society, 2017). Such propositional knowledge is not designed to encompass individual circumstances, with population-based guidelines not universally being applicable to an individual or significant minority group (Nazha

et al., 2021). This criticism is difficult to refute, as there is limited high-quality evidence that the application of EBM has directly improved individual patient care (Djulbegovic and Guyatt, 2017). Three major issues are cited as being problematic: (1) relying too heavily on the scientific method, (2) encouraging formulaic cookbook medicine, and (3) applying rule based reasoning in an unquestioning manner without always accepting the need for expert judgement to check that the medical status and circumstances of the particular patient match with the population on which the propositional knowledge was based (Djulbegovic and Guyatt, 2017; Greenhalgh et al., 2014). Nazha et al. (2021) argue that among the limitations of scientific studies such as RCTs, external validity is a major issue because of the limited evidence on the application of evidence for individual patients. They point out that the conditions for a highly reliable RCT design (e.g. randomisation, blinding, intention-to-treat procedure, controlling for confounding and bias) come with the disadvantage of researching a study population that frequently doesn't fit the real-world patient population. Thus, research outcomes, and guidelines based on research outcomes, may be less useful for patients with a health status outside that defined for the study population involved in the trial.

Sheridan and Julian (2016) illustrated that this unrepresentativeness of clinical trial patients extends to age, (pharmaceutical) therapy, and comorbidity. Focussing on these variables, they suggest that for a clinical trial to be successful, the researcher needs to be able to control possible confounders. To do so, the research population has to be clearly defined and identified with precision, and inclusion and exclusion criteria also well defined. Excluding patients based on additional co-morbidities and disease condition status can introduce a profile mismatch between research participants and the patient population. The clinical trial can then inadvertently exclude some categories of patients, making it unclear if the research results can be safely applied to all patients. In these instances, available evidence is not fully informative or adequate for clinicians trying to deliver personalised care for a specific group and the group, in turn, has a risk of harm if generalised guidelines are used alone (Djulbegovic and Guyatt, 2017; Marck van der et al., 2017). In the absence of research to address this gap, there is a need for nurses trying to implement EBP to "acknowledge the fundamental mismatch between the evidence produced and the evidence that is needed" (Marck van der et al., 2017, p. 2244).

In some instances, pre-trial evidence already points clearly in a specific direction consistent with professionals' clinical experiences, with one of the earliest examples of this being illustrated by the Doll and Hill (1999) study of the association between lung cancer and smoking. Care has to be taken that there is not an over-reliance on statistical, as opposed to clinical significance, as this can suggest that statistics have of a higher level of importance than clinical significance. In addition, statistical measures may not be possible for issues relating to patients' psychosocial values and personal needs. Although used as a standard cut-

off point (in general p<0,05) statistical significance does not imply clinical relevance, meaning that a significant positive effect does not always predict a positive effect on the patient's health. Further, misleading results caused by bias (involving inappropriate subject selection, poor study performance, or incorrect analysis of data) in the reporting of the clinical trial, or publication bias (journals' reluctance to publish negative results) can lead to an overrepresentation of positive results in the literature, which may give an erroneous impression of the actual limitations of the findings in terms of EBM (Djulbegovic and Guyatt, 2017; Sheridan and Julian, 2016).

Published positive findings thus may be more easily accessed and used to influence protocols and guidelines than less prominent and more moderate results. Unquestioning acceptance of research results encourages the use of protocols or guidelines which can lead to automatic clinical decision-making, resulting in less effectiveness of a promising intervention (Djulbegovic and Guyatt, 2017; Greenhalgh et al., 2014). Putting humanistic and personal aspects before the clinical intervention supports a focus on what is important for the patient. Therefore, for all planned interventions, it is recommended that consideration of patient's needs, circumstances and preferences be always included (Greenhalgh et al., 2014; The Council for Public Health and Society, 2017). This can lead for example to a differentiation from the drug initially seen as first choice to a drug that appears to be more suitable for the patient because of their specific personal context, an approach that nurse prescribers need to follow.

The critique that EBM can place rule-based reasoning above expert judgement appears to be based on an erroneous assumption that EBM is a straightforward linear process. It is instead, a *"sophisticated process of advanced expertise"* combining professional methods, expert judgment and using intuitive practice, all of which are inextricably linked to the relationship the professional has with the patient (Greenhalgh et al., 2014, p. 3). In addition, a socially oriented process of making clinical decisions with the patient being involved is a good example of the exercise of ethical principles and technical judgement.

Another important growing insight is, that there seems to be an association between the professional's attitude towards EBP and the strength of the nurse-patient therapeutic relationship (Moreno-Poyato et al., 2021). For patients diagnosed with the long-term condition of type 2 diabetes, nurse prescribers are in an excellent position to establish a professional relationship with their patients. DSNP in particular because they see and speak to their patients on a regular basis. Nurse prescribing has developed into a well-established and holistic patient-centred approach that improves patients' quality of life. Especially for the increasing group of patients with long-term conditions and multiple comorbidity (Mitchell and Pearce, 2021).

In addition to the limitations of EBM, there are also barriers that make it difficult to implement EBM. It seems that in The Netherlands nurses have to some extent accepted the principle of EBM (Ubbink et al., 2011), but still often fail to implement it in practice. The top five barriers they cite are insufficient time to read research, lack of awareness of existing research, lack of clarity in reported results including difficult to read research reports, and unintelligible statistical analyses. The final barrier was said to be insufficient time to implement new ideas in the workplace (Ubbink et al., 2011). More recently, Alatawi et al. (2020) in their literature review, focused on the barriers that hinder implementation of EBP in the nursing context. They searched the literature published from 2013 to 2018, finding that nurses reported being in positions where they were lacking in professional autonomy. They also reported lacking professional attributes such as research awareness, knowledge and skills (including English language), as well as personal knowledge/ability and experience to apply EBP. The need for organisational support and supervision, education and time were also given as barriers that need to be addressed. No research was cited that indicated that the Dutch situation is different to any other setting. Overall, Alatawi et al. (2020) findings reveal that despite all efforts already made to implement EBP, there is still a long way to go before EBP implementation becomes standard practice. In addition, changing workloads and situations may mean that changes that are implemented may not be sustained where there is high turnover of personnel. To be sustainable it seems that EBP implementation has to be approached as a never-ending ongoing cyclic process in which all stakeholders (training institutes, employers and professional associations) must be involved.

2.3 The Dutch context of EBP and nurse prescribing

As outlined in the introduction, EBP implementation has been a long and complex journey for individual nurses, healthcare providers and healthcare institutions. At the time this study was initiated, Dutch nursing education centres adopted EBP as a professional focus for their students, with curricula adapted to increase knowledge and understanding of the role of evidence and research in service provision (Hanze Hogeschool, 2018). However, while undergraduate nursing students were taught to use EBP and appreciate its value in patient care, they faced challenges regarding its actual implementation in clinical practice. They learned to search for evidence, but because of their role as students, they reported little opportunity to integrate evidence, to plan EBP changes or share best practice (Ryan, 2016). This meant that on qualifying they had had little experience in developing ways to integrate research findings into practice. In addition, they may have had senior nurses as role models who themselves had had little experience, or expertise, in this crucial element of professional practice. The context in which they practised was an important factor, as the i-PARIHS

framework (Harvey and Kitson, 2015; Harvey and Kitson, 2016) emphasises and was recently stated in a report of the Dutch Council for Public Health and Society (The Council for Public Health and Society, 2017).

In recognition of the need for EBP in nursing, when the Netherlands Advanced Nursing Practice first developed the Master's in Advanced Nursing Practice (1997) qualification, the new curriculum contained extensive content in research methods and the use of EBP. Dutch Master level certified nurses were called master's advanced nurse practitioners or retained the title nurse specialists. When this project commenced, advanced practice in The Netherlands was still relatively new, having been introduced just over two decades previously, with the graduates from these programmes expected to be acting as role models for some of the DSNP. Master advanced practice nurses were the first nurse practitioners with a higher-level qualification specifically designed to educate them for working in Dutch hospitals. Later, the programme was further developed to include primary care settings, care of the older person, and mental healthcare. Unlike in the UK, these nurses did not gain the opportunity to become independent prescribers until 2012, almost a decade later than their UK peers did (RCN, 2014). Specialist nurses in the fields of diabetes care, oncology or asthma and COPD were the only groups who could become supplementary prescribers from 2014. However, it was evident that DSPNs who completed a pharmacology course, containing limited integrated content on evidence based practice, were expected to have high levels of skills and competence in appraising, interpreting and translating available evidence into clinical practice (Ministerie van Volksgezondheid Welzijn en Sport (Ministry of Health Welfare and Sport), 2013). VWS (2013) found that while higher skills and competences may have been expected, in reality, the pharmacology programmes had not prepared them for this aspect of their new role. Nurses still lacked the expertise in EBP they needed to select and prescribe pharmaceutical therapies tailored to the individual patient. Hence, the urgent request for support that led to this project.

From the onset, the Dutch Master Advanced Nursing Practice (MANP) curriculum has been competency based, with the ability to apply EBP as one of the core competencies (Hamric et al., 2009). Therefore, when the legislation was developed, it had been expected that fifteen years later, the application of EBP would be evident in clinical practice, with nurses competent to critically appraise scientific evidence and to provide patient-centred care through sound clinical judgement. However, it has to be noted that, since this study started a government report has been published reporting that there is still limited implementation of EBP and little use of scientific evidence at all levels (ZonMw, 2019). Although it is argued that EBP increases and supports high-quality health care (The Council for Public Health and Society, 2017) the lack of evidence of this in the Netherlands had made it challenging for the participants to see how they could start to apply EBP in their practice. The lack of knowledge and understanding

of EBP expressed by participants at the start of this study fits with this latest report regarding the use of evidence and EBP. Further research is needed into whether other groups of nurses have the same concerns as those in this study. If so, it may well reflect the national picture, explaining in part why the government targets regarding EBP have yet to be achieved. Over a decade ago, Ubbink et al. (2011) questioned whether or not the government timescale was realistic, because of barriers, including lack of knowledge, which they had identified as obstructing aspects of EBP (Ubbink et al., 2011). The literature found in searches during this study supports such critique, suggesting that senior nurses with the authority to prescribe, whether MANP or DSNP, may display a reluctance to engage in prescribing, due to lack of previous, appropriate education in EBP, reinforcing the need for this study (Abuzour et al., 2018; Graham-Clarke et al., 2018; McIntosh et al., 2016).

2.4 Evidence based practice education

2.4.1 Continuing Professional Development and EBP education

Continuing Professional Development (CPD) was defined over two decades ago as including all educational activities that underpin and support the professional competency and clinical performance of health practitioners after completion of initial education (Peck et al., 2000). Its aim is to enable professionals to take responsible for continually updating their knowledge and skills to enable them to adapt to the changing health care environment as they deliver high quality care. This process needs to continue throughout the nurse's working life and therefore has been described as a form of lifelong learning (Gallagher, 2007: in Manley et al., 2018). However, although taken as a given now, the implementation of CPD took time to be accepted, with some professionals and managers not initially having recognised that it was their responsibility to initiate and record their CPD (Manley et al., 2018).

In the Netherlands, when first instigated, CPD for nurses was defined and established by a National Collective Agreement without detailed specifications, leaving leeway for the employer and the employee to prioritise individual learning objectives. This resulted in personalised educational activities which could however be focused on maintaining and extending practical skills (Verkaik et al., 2010). CPD at the time served various professional objectives including maintenance of certification and confirmation of competence or performance. The latter was seen as the most relevant, because its goal was to improve performance and therefore potentially had greater impact on the quality of practice (Links, 2018). However, this approach gave little guidance as to how CPD could be used in career planning, or the actual level of CPD that should be undertaken annually. Recent recommendations addressing this issue suggest that to maintain their registration and licence to practice, Dutch nurses need to spend

184 hours on CPD across each five year time span (Kwaliteitsregister Verzorgenden en Verpleegkundigen, 2021).

When planning CPD activities, traditionally pedagogical approaches were used (Halupa, 2015), but there has been an increasing move towards the use of andragogical methods (Hase and Kenyon, 2000; Knowles, 1988). In both these approaches, the educator has a key role in the education processes used and the content of the training. However, CPD has specific objectives, which include the enhancement of clinical performance and improved healthcare outcomes for patients. Therefore, the learners themselves may be the most aware of their learning needs, suggesting that planning for CPD activities need to include a degree of self-determination, an approach that fits with heutagogy (Hase, 2016; Links, 2018). This is a form of self-determined learning that gives the learner more autonomy and control over form and content of the educational process, enabling them to focus on personal capabilities (Hase, 2016; Links, 2018). This facilitates learning maximisation, through which individuals build on their capability-based choice and needs to achieve maximum personal growth (see paragraph 2.4.3 for further details of heutagogy). For this study, the means of supporting self-determined EBP education was the use of journal clubs. This introduces methods of appraisal, analysis, and discussion of scientific papers, working with participants to help and support them to gain additional knowledge and skills, working at their own pace (Nesbitt, 2013).

As part of the process of formalising CPD in The Netherlands, to help individuals and organisations accept and plan, the CanMEDS model was adopted (Sargeant et al., 2011). This accelerated a shift from focussing on clinical competence to the wider professional competencies, which now from a core component of CPD (Sargeant et al., 2011) and with that came the need for an andragogical approach for learning. A decade ago, a Dutch survey revealed that at that time, approximately 69% of the nurses were satisfied with the CPD their employers offered (Verkaik et al., 2010). Subject-specific training was addressed by taking part in congresses, symposia, clinical teaching and skills training, but this contained little reference to cross-curricular competencies, such as communication or innovation, or the need to deliver context specific care. This was not surprising as traditionally nurses and institutions paid less attention to professional competencies such as collaboration, case discussion and legislation. It was opportune at that time, for organisations to argue that a positive climate of respect existed for CPD within the Dutch healthcare system, with nurses encouraged by their professional community and by their employers, to carry out learning activities based on addressing identified clinical learning needs.

The need for a different approach to CPD came with the added incentive arising from the introduction of the legal need for re-registration, and the latest legislation on prescribing. This

meant the approach to participation in CPD started to change, moving to focus on the need to use CPD to inform and change practice. This led to an increased recognition of the importance of the education being tailored to meet personal professional learning needs and enable nurses to accept and deliver the extended role that accompanies the changes in legislation (King et al., 2021). In consequence CPD is now described as a core component of practice. Optimising key factors can enhance nursing CPD impact on professional practice: these factors are self-motivation, relevance to practice, preference for workplace learning, strong enabling leadership and a positive workplace culture (King et al., 2021). There has been recognition that CPD needs to have measurable outcomes that include strategies to assess and evaluate any improvements in outcome. EBP can help to identify necessary changes in care and help to identify the collective competency needs of designated healthcare teams. For example, nursing teams need to meet the competency profile of the complex clinical areas in which they work, to fulfil nursing quality standards. At the same time, there needs to be self-analysis by nurses of their knowledge and skills as this enables individuals to identify their own learning needs (Boreham, 2004; Langlois, 2020). However, it has to be accepted that as Lingard (2016) argues, collective competence is not reducible to individual competence but enables the team as a whole to deliver high quality care.

Since EBP is a nationally accepted and defined on-going process, it has to be prominent in CPD activities and to become one of the driving forces for lifelong learning for nurses (Mlambo et al., 2021). For this to occur, it needs to be recognised that EBP is both an education and a social process through which professionals discuss key issues and interact with each other (Harvey and Kitson, 2016). If designed and implemented positively, it can support practice on a day-to-day basis to enable nurses to discover how to adapt to changes within the ever-changing professional context. One of the most effective ways for nurses to do this is through the establishment of a community of practice, and in this study the journal clubs offered an appropriate starting point for the participants to learn to work together and develop their own community of practice.

2.4.2 Concept of Community of Practice

A community of practice (CoP) can be described as a learning partnership between participants who learn from and with each other, about a specific domain or concept. It connects the personal development and professional identity of employees with the strategy of the organisation (Fenton-O'Creevy et al., 2014; Wenger et al., 2002; Wenger et al., 2011). Over a decade ago, Andrew et al. (2008) used Wenger et al. (2002) concept, that groups who share perspectives and views, or intense interest or passion about a subject, can work together to extend and enhance their knowledge and expertise. Thus, a domain-specific group of people can develop a sense of social identity and to some extent become actively involved in learning

activities concerning a specific topic of interest. The establishment of a CoP includes recognition of specific and inherent knowledge concerning the community and its area of practice. The community becomes bound by a social cohesion of learning, sharing a community-specific culture and creating knowledge that supports professional practice, with common interests being the binding factor. It can provide a supportive learning environment within which the CoP contributes towards translating EBP into applied knowledge, professional development and lifelong learning (Armoogum and Buchgeister, 2010; Barwick et al., 2009; McCreesh et al., 2016; Price and Felix, 2008; Tolson et al., 2008). This involves specific EBP implementation strategies including journal clubs, which exhibit characteristics of each of the four principles of community, meaning, identity, and practice of CoP learning (Nesbitt, 2013; Quinn et al., 2014). Mutual engagement is a core feature of each community and refers to the sharing of activities. CoPs operate flexibly, allowing changes to be made to learning objectives and strategies whenever the course of events or the practical problem require. The individual's relationship with the professional CoP evokes a sense of group identity (Andrew et al., 2008) by identification with community specific tenets (Quinn et al., 2014), and, taking part in the community practice strengthens the bonds between group members.

Terry et al.'s (2020) systematic review used meta-analysis to reveal that for CoPs to be successful they need to embed students and novice nurses into the broader group, instigating a sense of being supported, welcomed and empowered, and through this paving the path for students to develop into colleagues and experienced nurses. Terry et al.'s (2020) study also identified that the enabling factors for success included an environment that allowed for personal connections and communication, the experience of peer support through informal social interactions, professional conversations, and positive support from preceptors, supervisors and mentors. This, in combination with the experience of being expected, accepted and welcomed into the clinical space with support freely offered was seen to be of key importance, particularly as it offers guidance within a safe learning environment. An example of the focus for activities for a CoP was that the principles of a journal club were shown to have a potentially positive impact on nurses' comfort in reading research articles, stimulating constructive collaboration among peers, and providing an incentive to read scientific articles about nursing practice (Gardner et al., 2016; Nesbitt, 2013). Further, journal clubs were proven to be a practical tool to enable nurses to begin to, and sustain the implementation of EBP (Harris et al., 2011).

According to Terry et al. (2020), barriers to a successful CoP include feelings of alienation if an individual nurse sees them self as an outsider or as excluded from some or all activities of the group. This included feeling marginalised, despite having access to the community, and feeling unable to contribute due to lack of knowledge and experience, which could manifest

itself by an individual seeing their ideas ignored or rejected. These feelings can be compounded by issues of power/(self-)empowerment, trust and predispositions (Roberts, 2006; Terry et al., 2020) where individuals see experience, expertise, age, personality (alienated), and authority as power issues influencing the level of participation, keeping them peripheral and thereby reducing the power to negotiate meaning (Roberts, 2006; Terry et al., 2020) especially in broader organizations. It also was evident that, although relevant for practice, knowledge from a local CoP was not necessarily recognised within the formal organizations (Yanow, 2004: in Roberts, 2006).

Trust was also seen as necessary for sharing information. The perception of the use of power may hinder knowledge transfer and influence trust within the social interaction of community members. Roberts (2006) accepts Mutch's (2003) argument that predisposition, including *"modes of thought that were unconsciously acquired, resistant to change, and transferable between different contexts"* (Mutch, 2003: in Roberts, 2006, p. 629), was another factor that could influence the dynamic of the CoP. Personal preferences and predispositions may influence and change those of the community and eventually hinder knowledge creation and utilization. Facilitators of a CoP should be aware of the preferences and predispositions of community members, the internal and external use of power, and the degree of trust within the working relationship among community participants. These all need to be recognised, as lack of attention to any one of these areas may impact negatively on the effectiveness of the CoP.

2.4.3 Heutagogy as an educational approach

As adult learners, andragogy and self-directed learning may be logical choices for nurses supported by facilitators of CoP groups to improve knowledge and understanding. Seminal work into adult learners states that they are referred to as people who have "arrived at the psychological level of self-concept of being responsible for their own lives and of being self-directing" (Knowles et al., 1998; Knowles et al., 2020). In adult learning, the teacher is a facilitator who establishes a personal relationship with the learner, an insight described by Rogers (1969) and one which is still accepted today. Insights offered by his approach include the facilitator demonstrating psychological qualities of authenticity and a genuine readiness to promote learning (Kantar et al., 2020). Constructiveness and a willingness to support the development of others was developed in the presence of trust and respect. Empathy was therefore required, shown by the facilitator listening sensitively to understand learning needs, different perspectives and the concerns of others.

Educational facilitation or scaffolding was also evident in Vygotsky's theory of Social Cultural Learning (Kantar et al., 2020). The basic principles of this theory were the Zone of Proximal Development, Scaffolding by a More Knowledgeable Other (MKO), who can be a teacher or

peer, and temporary support. This theory posits that for the learner to develop a higher level of competency it was necessary to decrease the distance between not being able to fulfil a specific task and being able to fulfil that specific task. This can be supported by scaffolding the learning of the learner by the MKO. However, a MKO was not necessarily a teacher but can also be a peer health professional, specialist librarian or co-student with more knowledge of a specific sub-area. Scaffolding was an adult learning strategy referring to the MKO guiding through the teaching and learning material (Taylor and Hamdy, 2013). During the education process, scaffolding should be gradually phased out to enable the learner to achieve task completion with maturity and independence.

Heutagogy was originally considered to be an extension of andragogy (Hase and Kenyon, 2000; Hase and Keyyon, 2013). Defined as *"a student-centric self-determined learning based on humanistic theory guided by technology based learning desig*n" (Bansal et al., 2020, p. 2), it suggests that the learner be positioned in the centre of the learning design. Bansal et al. (2020) also stress the importance of including computer technology, and its role in clinical practice. They have explored heutagogy principles and compared them with andragogy and pedagogy to determine their suitability for enhancing the use of evidence within a community of practice. An interpretation of their comparison of these three educational approaches is given in the column 'implications of self-determined learning' in table 2.4 below. Adding these insights to Bansal et al.'s (2020) structure explicates the differences evident when using heutagogy principles, rather than pedagogical or andragogical methods. This suggests that an approach grounded in heutagogy meets practitioners self-determined learning needs and supports the extension of expertise, supporting the introduction of a flexible learning path in close consultation with the others involved (Hase, 2016).

For this study, the importance of the key principles of heutagogy lay in its focus on adopting an individualised approach to learning, with self-designed strategies, and an adaptable, non-linear and self-directed approach. This could be negotiated in the CoP settings of this study with a range of professional and non-professional others to enable collaboration across individuals and the group.

Key-points of educational approaches				
Features	**Pedagogy**	**Andragogy (self-directed)**	**Heutagogy (self-determined)**	**Implications of self-determined learning**
Target learners	Children or naïve students with no experience	Adults with or without experience	Adults with some exposure	Experienced professionals often with decision making responsibilities.
Objective of learning	Gain knowledge to go to next stage	Develop competency needed to solve the problem	Develop capability based on need and potential to learn	Supporting Lifelong learning emphasising autonomy, capacity and capability
Role of teacher in learning and assessment	Learners are totally dependent and teachers decide what, how, when about leaning and assessment (teacher centric)	Learners are autonomous and teachers act as guide and facilitator to help adults to become self-directed learners (problem centric)	Independent learners with limited role of educators who foster curiosity and bring opportunities (learner centric)	Learning leader. Work in partnership as the learner negotiates what it is she or he will learn and how she or he will learn it. Teachers provides the material and facilitating student negotiating the learning process.
Motivational factors	External reward driven	Internal need and desire driven	Internal enquiry driven	Improve patient services empowering others and developing careers.
Resources of learning	Limited, advised and/or devised by teachers	Controlled; collaboratively decided by educator and learner	Unlimited, may be provided by teacher but decided mainly by learner	Extensive learning resources such as connectivity and (Interprofessional) collaboration
Learning to change underlying values and assumptions	No (single loop)	No (single loop)	Yes (double loop)	Psychological and behavioural engaged, reflection on influences of values and belief system on learning the process (Blaschke and Hase, 2015).
Allows creativity	No	No	Yes	Initiative evident for self-development
Requires interlearner collaboration, connectivity for learning	No	Not essential	Must	Essential and includes local and national involvement to influence policy if required
Process of learning	Unidirectional	Bidirectional	Multidirectional	Multidirectional involving national, and international engagement.
Level of cognition / learning	Cognitive	Meta-cognitive	Epistemic (evidence based)	Questioning, innovative approach established supported by current knowledge.

Table 2.4: Important differences between pedagogy, andragogy and heutagogy adapted from Bansal et al. (2020), with additional interpretation of differences self-determined learning.

Heutagogy uses experiential reflective learning techniques focused on conceptualising knowledge, leading to new understandings and the room to focus on research evidence, knowledge development and the promotion of skills. Thus, the learner learns to demonstrate increasing confidence in collaborating with others, the flexibility to work across various levels of knowledge and how to identify appropriate evidence and implement EBP (Hase, 2016).

2.5 Nurse-Doctor Interprofessional Collaboration related to prescribing

2.5.1 Reallocation of prescribing autonomy

Due to rapid advances in medicine since the turn of the twenty-first century, the shift of medical tasks from physicians to nurses, occurring throughout the twentieth century, has accelerated (Mahase, 2019: in Leary and MacLaine, 2019). In the first decade, for example, there was mainly a shift in relation to particular reserved medical activities being delegated by a doctor, who first agreed the necessity of the treatment or care, to a specially trained nurse. In the second decade, however, there was an increasingly far-reaching substitution of medical duties by nurses, with the most significant change being legal prescribing authority for specified groups of nurses and other health professionals. By extending prescribing authority, practitioners enhance their professional autonomy and extended professional responsibility. This led to some aspects of the prescribing nurses' role being comparable with doctors.

In this context nurses ideally need to develop a collaborative relationship with medical staff, rather than coexisting in cooperation with each other. Although nurse-physician professional relationships historically were hierarchical, the legal changes have led to a blurring of some of the boundaries with further collaboration required, characterised by equal trust, respect and autonomy concerning patient care (Tang et al., 2013). However, sharing prescribing authority with physicians can remain unequal, since some find the process of transferring power and responsibilities challenging (Pritchard, 2018). This may affect interprofessional communications and therefore working relationships. Interprofessional collaboration involves work-sharing cooperation in which practitioners from more than one health or social care profession cooperate with the explicit goal of improving working relationships and/or increasing patient-related quality of care (Reeves et al., 2017). There is still some debate on these findings. For instance, a decade ago, Tang et al.'s (2013) integrated literature review suggested that in the hospital setting, nurses and physicians perceived their collaboration differently, with regard to communication skills, respect and trust, understanding of professional roles and prioritisation of tasks. Unclear and imprecise communication was seen as affecting the delivery of patient care, which could ultimately jeopardise patient safety with

the potential to cause unfriendly behaviours, particularly by physicians to nurses. They went on to state that nurses reported that they did not feel respected or trusted because their contribution to patient care was undervalued by the physicians, a perception which impacted on the care delivered.

Reeves et al. (2017) in their systematic review suggested that there is still insufficient evidence on the effects of interprofessional collaboration, and that more research is urgently needed. However, Pascucci et al. (2021) take a different view, arguing that collaboration between health professionals can have a beneficial effect on both the quality of care and patient centeredness. In their systematic review of chronic illness, they delineate a number of positive findings for clinical and process outcomes related to interprofessional collaboration. These include regular management of patients' specific issues such as blood pressure and cholesterol levels, which otherwise could contribute to more serious consequences including incidence of end-stage renal disease and mortality. Of specific interest for the present study, was the impact on glycated haemoglobin diabetic foot examination leading to improved patient care through nurse-physician collaboration in specialised diabetes care (Health Quality Ontario, 2013; Pascucci et al., 2021).

Traditional, epistemological differences between nurses and doctors prompted by the unequal power relationships have been perpetuated by contrasting entry requirements, education, and status. Some doctors were reported as not appreciating the value of including nursing expertise in shared decision-making processes, nor did some nurses feel comfortable taking a role in these processes (Tang et al., 2013). In general physicians perceived nurses as a partner for caring, rather than for decision-making, partly because of their lack of understanding of the nursing role and their traditional contribution to clinical decision-making (Tang et al., 2013). Conversely, nurses were reported as misunderstanding the rationale of specific treatments motivated by different task orientations. This could also affect collaboration, especially since physicians may choose to adopt an objective approach while nurses may assume or demonstrate a more intuitive approach when assessing patients' conditions. As stated previously, nonmedical prescribing rights were granted for nurses earlier in the UK (1992) than in the Netherlands (Cope et al., 2016), and therefore, evidence from the UK could be used to support and guide developments in the Netherlands. Almost two decades ago, Jones (2006) identified supplementary nurse prescribing as a means of moderating the medical hierarchy, including mentoring junior medical staff members but also for monitoring the effect of non-prescribing nurses. Jones (2006) also found that nurses were aware of the need to gain trust from the doctors when collaborating, demonstrating their knowledge and experience to support that process. More recently, Fleischmann et al.'s (2107) study on nurse-physician collaboration

in a home-care setting, found that the core category was “being-involved”, as this led to nurses being represented as part of medical decision-making (Fleischmann et al., 2017). They identified five dimensions as being of equal value in affecting collaboration. The first was lack of contact with or involvement by the doctor, meaning nurses being excluded by the doctors. This dimension had a negative impact. The second was “being involved”, which referred to nurses’ presence in medical care situations at the request of a doctor and was seen as more positive. The third was passive involvement, with nurses only informing and facilitating doctors of their requests; the frequency and nature of the nursing requests influenced whether this was positive or negative in impact. The penultimate dimension was participatory nurse involvement in a supporting role, mutually agreeing further procedures (positive) and finally being involved but only as an intermediary to ensure efficient medical care (limited positive effect). It seems that the emerging core category of “being-involved” from Fleischmann’s et al.’s (2017) study suggested that overall, collaboration occurred in a fairly limited manner. Nurse participants wanted to utilise their patient advocacy role using nursing knowledge to underpin decision-making. For doctors, involving nurses in clinical decision-making depended on the duration of their professional relationship, long-term cooperation, and trust. This qualitative study identified that executing the nursing role of patient advocacy through involvement in medical care provided nurses with the opportunity to display their own expertise and this can also meet the needs of doctors in learning to know and trust the nurse.

Interestingly, McComb et al. (2017) study found both nurses and physicians were significantly more likely to trust members of their own profession and had similar levels of trust in physicians. In contrast, physicians trusted nurses less than their physician colleagues. More importantly, on a general medical unit where nurses and doctors both had responsibility, nurses were perceived to have substantially more responsibility than physicians regarding identifying a near miss and advocating for the patient (McComb et al., 2017). This was with the exception of ‘reconciling medication’. For this role, nurses reported themselves to have less responsibility compared to the physicians. This suggests there was scope for nurses to expand their prescribing responsibilities and therefore their prescribing autonomy. Recent research suggested a move toward increasing autonomy for nurse prescribers, an important issue for this study, and one that needed to be considered as the journal club and project progressed (De Bruijn-Geraets et al., 2018; Kroezen et al., 2014b). If implemented in practice, this would lead to nurses being allowed to examine the patient, make a diagnosis, and offer appropriate treatment, performing a wider range of reserved procedures without being constantly checked by the physician (De Bruijn-Geraets et al., 2018). However, it has to be accepted that this move can be motivated either by internal forces of the profession itself striving for jurisdiction over tasks, or by external forces such as governmental focus on a cost-effective healthcare system

(Kroezen, 2014). In summary, the shift of prescribing authority included nurse as well as doctor collaboration and this was likely to need to increase in the field of pharmacological treatment. Further development of mutual trust was required for collaboration to become more widely established.

2.5.2 Trust in collaboration

Rousseau et al. (1998) defined trust as 'a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another', expressed as reducing a degree of control as a result of belief in another's motives. For the nurse-doctor interprofessional relationship building trust grows over time. Relationships and/or communication lead to reciprocal understanding of each other's capabilities, which in turn leads to mutual respect being built up, enhancing interprofessional trust (McDonald et al., 2012; Pullon, 2008). Behnia (2008) described four trust development approaches, namely: 'Dispositional-based' trust, 'Credibility-based' trust, 'Relational-based' trust, and a 'Social Interactionist approach'. In the Dispositional-based approach (Behnia, 2008) trust was considered as a personal trait suggesting relying on somebody who meets the expectation of trustworthiness by putting the word into action as a stable personal characteristic (Behnia, 2008). Trust in this respect was seen as behaviour learned from significant others who, by being a role model, could reinforce trust. Social bonds or social identification within a group were the keys to social trust formation and should be seen as depersonalised trust, since trust was based of being a member of a specific group (Behnia, 2008). Social similarity and positive social interaction were also believed to be strategies for trust-building (Behnia, 2008). The critique on this approach was that trust is based on a cognitive assessment, trust was selective, and specific and contingent on circumstances.

Credibility-based trust (Behnia, 2008) built upon personal characteristic was described as being related to trustworthiness. These characteristics were recognised by consistent patterns of observations. Trustworthy characteristics included: intelligence; correctness of opinions, character; honesty, and goodwill; favourable intention regarding the listener (Behnia, 2008). The criticism on this category is twofold. Since trustworthiness was a personal quality in this approach and interpretations of personal qualities are subjective, trustworthiness was a matter of who should put trust in someone else (Behnia, 2008). Further, it seems that circumstances determined the trustworthiness, because new knowledge about a person could alter trust.

Relationship-based trust (Behnia, 2008) was based on the characteristics of the relationship with another person. The relationship embedded sanctions and incentives determined the quality of trust (Behnia, 2008). Because it was in the interest of the person to be trusted to act co-operatively upon trust related issues people make rational choices, explained by rational

choice theory, bringing self-interest based calculated-based benefits or deterrence-based sanction choices into the relationship (Behnia, 2008). An objection to this approach was that not all people were selfish or instrumental, and that in this approach trust could be confused with the concept of co-operation. The fourth approach takes the perspective of Symbolic interactionism (SI) and is described in the next paragraph.

Pullon's (2008) qualitative study (part of a mixed method study) within the context of primary care, described the development of interprofessional trust by nurse and physician. Based on a shared understanding of each other's professional role and identity, they cultivate mutual respect for each other's' professional competence. Pullon (2008) recognised her own findings as being similar to those of Blue and Fitzgerald (2002), namely that building trust between registered nurses and general practitioners takes time and requires mutual respect, only arising through mutual understanding of each other's individual capabilities. To be trusted the individual has to meet others' expectations on a number of occasions. For physicians to trust a collaborating nurse means that they expect nurses to be to the point and supply them with relevant information (Schmalenberg et al., 2005). Nurses on the other hand expect physicians to listen, not doubt the information, and come when called.

2.5.3 Trust and Symbolic Interactionism

The fourth approach to trust development described by Behnia (2008) takes the perspective of the Symbolic Interactionists. In this approach, fundamental principles of symbolic interactionism (see chapter 3) are key and applied to explain trust development in specific situations. It points out that only during social interactions (situation) where conditions are interpreted as trustworthy, will an individual take the risk of being vulnerable to the actions of others. Criteria for this depends on the situation. In the process of trusting the other (Behnia, 2008) an individual first "collects and interprets interactional cues from the situation" taking in account their self-concept, perceived self (role taking), and definition of the professional (expectation of role fittingness/competence). Through internal communication, things that have meaning for an individual have to be taken into consideration before taking any action. For this, the perceived Self (vicarious thinking about how the other sees you) is important, it influences how an individual defines Self. For trust formation, this is crucial. Behnia (2008) described the concept of trust from the perspective of Symbolic interactionism. Konecki (2019) describes the interpretations of trust by distinguishing trust in Symbolic Interactionist research from trust in phenomenological investigation. Konecki (2019) goes on to argue that Henslin's 1968 Symbolic Interactionist theory of trust development (table 2.5) is relevant to date (Henslin, 1968: in Konecki, 2019).

There are six stages of trust development:
a. The proffering of a definition of self by an actor;
b. such that when the audience perceives fit between the parts of the front of the actor;
c. and accepts this definition as valid;
d. the audience is willing, without coercion, to engage in interaction with the actor;
e. the interaction is based on the accepted definition of the actor, and;
f. the continuance of this interaction is dependent on the continued acceptance of this definition, or the substitution of a different definition that is also satisfactory to the audience.

Table 2.5: Henslin's Symbolic Interactionist theory of trust formation. Adapted from (Henslin, 1968: in Konecki, 2019, p. 274)

The meaning of trust in research from the Symbolic Integrationist perspective is discussed by Konecki (2019) who argues that through the process of socialisation, eventually trust will appear when a person gains a sense of self. Individuals become capable of imagining how they appear to others (role taking), taking this into account in their social interactions, and adapting their behaviour. From Hegel's view trust is a precognition for 'self' and connected with the struggle for recognition and acceptance (Konecki, 2019). Konecki (2019, p. 277) concludes, however, that for trust formation interactive activities are necessary, and that from the actor's perspective *"interpretations of intentions and faces, postures and prompts of the face of both sides of the interaction start the process of building trust".*

2.6 Professional Identity Formation

Nurses' Professional Identity Formation (PIF) is a dynamic and flexible process that starts with the entry into the undergraduate nursing education (and sometimes even before) and develops during the further career through theoretical and practical education (professional development) and by gaining practical experience (Rasmussen et al., 2021). Professional identity is inextricably linked to professional role and changes based on new roles and responsibilities, competencies, or settings (Johnson et al., 2012; Andrew, 2013; Larson et al., 2013: in Rasmussen et al., 2021). Based on their mixed method study Rasmussen et al. (2021, p. 6) concluded that Professional Identity:

> *"centred around feelings of their self, their everyday work and relationships with patients, peers, colleagues and the wider community"*

and that nurses need

"extrinsic validation of professional worth and value".

The latter suggests that the quality of social interaction originating from interprofessional collaboration will affect nurses' professional identity formation.

The integrative literature study by Rasmussen (2018) revealed that nurses' perceptions of professional identity can be divided into the categories of self, role and context, stipulating that perceptions of these categories need a strong alignment to reduce stress and tension, and evoke a feeling of contentment about being a nurse. For this, it is necessary to have a sense of belonging (Self) to the nursing profession and to fit in. A clear picture of self and the expectations of the nursing role support determining if the individual fits in that role. Finally, the structure and resources of the context can improve nurses' feelings of belonging, confidence and self-motivation (Rasmussen et al., 2018).

After certification, registration and being included in the nursing community, professional identity formation becomes a complicated social activity that can be explained by applying social identity theory (Willetts and Clarke, 2014). Social identity theory links the importance of the social group an individual wants to belong to, with the social identification process for adopting that identity (gaining self-esteem), and eventually (after that identity has been adopted) the process of social comparison of that identity with identities from other competing social groups (maintaining self-esteem). Social identity, group performance and self-categorization, are the main principles of this theory. For social identity, group belongingness determines where one likes to be positioned on the interpersonal-intergroup continuum and can be observed by in-group behaviour and self-categorization, displayed by group-membership (Willetts and Clarke, 2014). Applied to the situation of the nurse prescribers, professional identity as a social identity means that a non-prescribing nurse, when choosing to enter the nurse/medical prescribing domain, has to identify if and to what extent she or he categorises themselves in the nurse/medical prescribing entity. Nurses must therefore behave according to the standards of their group and working context. For effective group performance, it is essential that the individual works on behalf of the collective and is motivated to perform well according to agreed group standards (Willetts and Clarke, 2014). For Self-categorization, the concept of "sense of Self-worth" contributes to self-esteem and is in part, an individual's evaluation of their level of respect within the group (Willetts and Clarke, 2014). This plays a role at different levels, namely: superordinate (human), intermediate (social), and subordinate (personal). Thus, social identity and through that, professional identity, cannot be separated from personal identity (Hall, 2020).

2.7 Summary

As the study progressed, many concepts and theories became of increasing interest, with the emerged conceptual framework describing a process that appeared to be a multi-faceted chain of related categories. In this chapter, the most important categories have been described and supported by available evidence. The information is intended to act as an illustration to support understanding of the study design and how the emerging findings link to previous research. EBP was the initial focus of the study for these new nurse prescribers, with improving their ability to use and implement it in practice a necessity. CPD was seen as a carrier for their learning, supporting the nurse participants' transition to nurse prescribers, so needed to be addressed as did the interprofessional collaboration with physicians, since this is related to the specific clinical context and reality of the nurse participants. Finally, the concepts of trust and professional identity have been briefly explained because they emerged within the conceptual framework. The research design is explained in more detail in the next chapter, as are theories and concepts that have implications for the research design. This was a qualitative study, and therefore as the study progressed, so did searches of the literature to support the emerging concepts, themes and key terms that arose during analysis.

Chapter 3. Methodology

3.1 Introduction to research method

In this chapter, a description has been written of the rationale for the choice of theoretical perspective for this study, and the research processes used to address the research question and aims. It includes the researcher's reasons for choosing a qualitative grounded theory methodology (GTM), why it was seen as appropriate for this study, and the ethical issues that needed to be addressed. It also gives further detail of the positionality and engagement of the researcher with the research participants. The chapter includes an overview of the advantages and limitations of the use of Computer Assisted Qualitative Data Analysis Software (CAQDAS); in this study, Atlas.ti7 was used.

3.2 Aims, outcome and research questions

The aim of the study:

- to develop a conceptual framework for the implementation of evidence based practice in specialist diabetic clinical nursing areas in the Netherlands, and
- to make recommendations for policy and practice for evidence based nursing in the Netherlands.

Thus, the planned outcome from this study was a conceptual framework inductively developed from qualitative data gathered from in-depth interviews with participant nurses, educators and managers, and from an education and training programme developed in response to an identified (by the nurses) gap in knowledge. Therefore, the initial questions for this study were:

- What are the reasons why diabetes specialist nurse prescribers apply or reject evidence based practice, and
- how can these nurses use evidence based practice within their professional role and position, and enhance nurse prescribing practice?

Because the investigation has nurses at its centre and includes views of medical professionals, educators and managers, this research is considered to be an interdisciplinary study.

3.3 Study Paradigm

The study developed following careful consideration of the research questions and the aims. The starting point was to review the different research paradigms. Accepting that a paradigm is:

> *"a cluster of beliefs and dictates that for scientists in a particular discipline influence what should be studied, how research should be done, [and] how results should be interpreted"* (Bryman, 2012, p. 630).

This study also needed to consider how within these paradigms the concepts of epistemology and ontology are applied, and how they related to the study. The different philosophical dimensions of epistemology and ontology needed to be carefully considered. While epistemology is seen as the study of, and development of knowledge, ontology, relates to how an individual perceives and feels their reality; thus, questions of social ontology are concerned with the nature of being and meaning of social actions and interactions (Wahyuni, 2012). Epistemology is concerned with what is (or could be) regarded as acceptable and accepted (theory of) knowledge within a discipline (Bryman, 2016).

How knowledge is derived depends upon the paradigm used for the research, with the most frequently used paradigms being positivism and interpretivism. With the former, a fundamental assumption is that there is one reality that can be studied and understood. Reality is seen as objective, existing independently of human observation and creations of the mind. Therefore, for this group, the real world is driven by natural causes and their ensuing effects, and the aim of research is to understand the underlying causes of phenomena, using quantifiable and repeatable measures of assessment. Personal beliefs and biases are excluded to avoid what is described as contamination of the phenomena under study. Thus, the positivist researcher usually uses quantitative methods and procedures with tight controls of the research situation, particularly when seeking to formalise cause and effect through testing hypotheses. The emphasis in both data collection and analysis is quantification (information is measurable), with statistical analysis being key to the study. Most testing is based on deduction, for verification of theory, which in turn guides the research. The research design is fixed and pre-specified, the sample size must be adequate for generalisation. A positivist seeks generalisations and believes in the power of replication (Polit and Beck, 2017).

In contrast, interpretivists want to gain insights into the subjective meaning of social actions and interactions, so see major differences between the lived experience and the objective nature of the natural sciences. For these researchers, reality is contextual, time and place specific. The emphasis is on increasing the understanding of human behaviour, not finding one

explanation as in positivism (Bryman, 2016). An interpretivist explores and seeks understanding from individuals, aiming to uncover insider perspectives and/or what participants see as the real meanings of social phenomena in which they are involved. In this approach, the researcher is an integral part of the phenomena being observed and has to acknowledge that their own subjectivity and values influence the research undertaken. Usually, in this paradigm, qualitative research is used with the researcher using strategies of inquiry that include narratives, interviews, descriptions and observations. Research questions are open-ended and explorative. Sample size for data collection is small. It is about gathering in-depth information to gain deeper understanding of the subject being studied and data should provide rich descriptions of specific social constructs. Data-analysis is inductive as the aim is for the theory to emerge from within research data and not deductive as in positivism where established theory guides research processes.

The emphasis in this study was to gain insights into the diabetic nurses' knowledge and perspective and increase understanding of their development as they developed their extended role, which included their views of the core aspect and the implementation of evidence based practice. After careful study of the aims and questions, it became clear that to address the aims this needed to be an exploratory study, with emphasis on words and their meaning, not on quantification or standardisation, so an interpretivist approach was considered most appropriate. Then too, the decision had to be made as to whether in this study, the social processes the nurses followed could or should be considered as relatively objective, with an external and independent reality (Bryman, 2016) where the social phenomena and their meanings have an existence in which the social actors participate. Or, whether they could and should be considered as social constructs built from the perceptions and actions of the social actors (social constructivism). With this approach reality is seen as multifaceted and subjective, constructed by the individuals who live it. Social phenomena are continually being created and revised, as participants create their own reality (Bryman, 2016). For this study, the latter approach seemed more appropriate as the study has a strong ontological dimension, so from within this qualitative paradigm, an approach was sought that enabled roles and interactions in different settings to be considered. The nurses have been expected to manage and carry out the multi-faceted tasks of nursing and they needed to be able to explore all of these with the researcher. This approach was supported by the changes in legislation, which with the inclusion of prescribing include the initiation of a new role extension designed to support their role to enhance evidence based care, with the patient part of the decision process. Therefore, this study needed to include exploration of the extent to which the nurses were aware of, and competent in the strategies needed to implement the changes, if so, their perceptions of the social policy changes, the awareness of the roles they are now expected to take, and the

impact this has had on their professional development and the lives of patient, their close family, and where appropriate extended family and friends.

3.3.1 Symbolic Interactionism

The challenge was to identify a theoretical perspective that could support the processes of data collection and analysis needed to address the research questions. Initially psychological theories and processes were considered, but the focus was on the ways in which the nurses worked and interacted with their peers, each other, with other professionals and patients. Also, on the differing roles they needed to take on as they strived to develop and meet new and different professional expectations. Therefore, sociological approaches were considered suitable, and symbolic interactionism was seen as offering a philosophical framework which could be used to underpin and support implementation of the study. This approach offers multiple perspectives, multiple standpoints, multiple views of social reality, as a part of a larger whole in which individual perspectives apply, thus researchers accept that there are multiple realities (Bryman, 2016; Polit and Beck, 2012) with each social action and interaction impacting on how these multiple perspectives develop and are sustained (Creswell and Poth, 2017). The use of symbolic interactionism also enables the researcher to recognise and assess the extent to which the nurses newly acquired prescribing autonomy affects the traditional privileges of physicians (Kroezen et al., 2014a).

Although George Herbert Mead (1863-1931) is seen as the founder of symbolic interactionism, Blumer (1969) was one of the first to formally delineate and describe it as such (Redmond, 2015). Blumer (1969) suggested that the derived social meanings, which are very real to individuals, are modified by observers trying to interpret their meanings, and identified three core principles. The first, that human beings, individually or collectively, act out the meaning that social interaction and activities have for them, secondly through the social interactions with others they can attain meaning. Finally, meanings evolve and change through interpretive processes arising from additional actions and events. Group processes or social interactions develop through the way in which individuals within groups interact, developing their own understanding of social processes (Redmond, 2015).

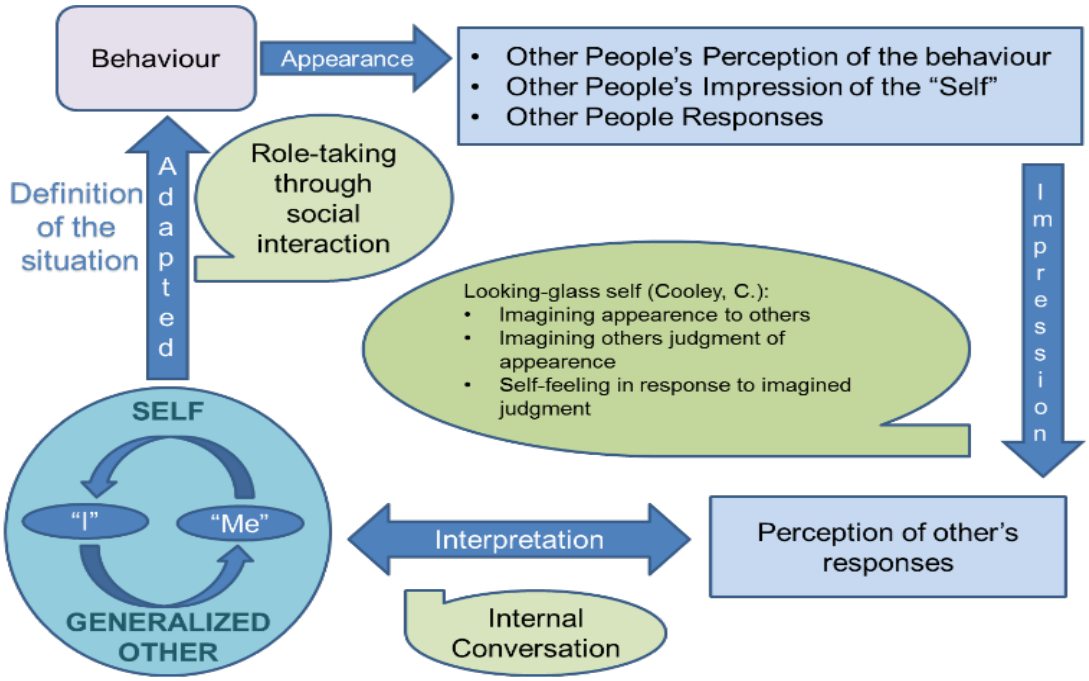


Figure 3.1 Cyclical Model of Interaction between Self and Others, based on Redmond (Redmond, 2015)

Experiences are described through use of symbols which include language, gestures, and touch, which in turn are linked to social and intellectual processing (Carter and Fuller, 2015). This leads to a cohesion of five concepts of Symbolic interactionism explaining social behaviour, namely: self-concept ('I' and 'Me'), the object (symbols/signs), 'role'-taking, 'looking-glass self' that Cooley added in 1902, and the definition of the situation (Aldiabat and Le Navenec, 2011). The 'I' in this is considered to occur first and the 'Me' to be a reflective image drawn from interpretations of how others accept and value the individual (fig 3.1).

A fundamental assumption of Symbolic interactionism is that self-concept is built through processes of interactions with others, using carriers of meaning, and symbols, abstract and arbitrary stimuli, to which societies attribute meaning (Redmond, 2015). Symbols help connect individuals within a society, becoming essential for interaction and communication, and together with the five concepts form cycles of action and interaction. Giving objects social meaning and using them within a social interaction it is possible to gain insight into and understanding of others' behaviour and intentions. Taking a role within an accepted social context, the processes of interpretation guide behaviour supporting acceptance and social survival within a given society. The assumption being that individuals sense their environment, and define the situation they are involved in, through constantly examining and weighing perceived meaning. Also, individuals can actively respond to each other because they have accepted, or agreed shared experience attached to activities in their setting (Carter and Fuller, 2016). This suggests that choice selecting attitudes and behaviours is possible, albeit

controlled by cultural norms, within an agreed form of communication, within the cycles that comprise symbolic interactionism.

This provides a theoretical perspective for exploring ways of understanding phenomena, social groups' actions and day to day experiences and how the processes of thinking and understanding lead to responses (behaviour) in and to specific events, rather than seeking for explanations of causes (Van Manen, 2016). Using symbolic interactionism, individuals are seen as being self-aware, able to see themselves from the perspective of others and adapt their behaviour and interactions accordingly (Heath and Cowley, 2004).

Therefore, symbolic interactionism seeks to explore how people and places, times and troubles, actions and accomplishments all interact as individuals try to make sense of, and understand their changing world, consequent actions and the roles they are expected to play in the different settings in which they find themselves. Charmaz (2014) takes this perspective further arguing that people act and interact in response to how they view their situation. This includes reflecting on how their actions and those of other people affect specific situations, and subsequently altering our interpretations of what is, was, or will be. This viewpoint therefore tends to the belief that as individual responses and interactions arise from each other and are reciprocal, then the meanings and changed roles that follow "are to some extent consequential" (Creswell, 2012, p. 423).

What was important for this study was that symbolic interaction describes the social groups as consisting of interacting personalities. In an interaction between at least two persons, it is possible to see the development of roles and functions. Roles are based on expectations that evoke behaviour as expected responses (Carter and Fuller, 2015), concepts that applied directly to this study. These roles are all based on the symbolic meanings attached to each role. Therefore, how members of the professional group respond to a situation is determined by how they interpret it, how they are continually changing roles, expectations and the behaviour of all the members of the team.

If insight can be gained into the symbols used by health care professionals, they can all understand more clearly the interactions and behaviours of each member. Through the symbols they know and use, each individual is able to communicate with the others in their professional world and thereby share experiences (Carter and Fuller, 2016). If the accepted communication processes are not used or followed, interactions, experiences, expectations and behaviour cannot progress as expected. This in turn can lead to tension and unhappiness across the team. To explore and understand intra- and interpersonal processes symbolic interactionism employ a variety of methods (Carter and Montes Alvarado, 2019).

Choice of method for data collection

With symbolic interactionism identified as appropriate, a method for data collection had to be decided upon. In considering which interpretive research strategy would be the best to use, individual approaches such as narrative studies, ethnographic approaches and individual case studies were all rejected. A narrative study focusses on the experiences expressed within the lived and told stories of individuals. While the focus on exploring the life of an individual would give insight into how they felt, it would not lead to increased understanding on what they felt they needed in their professional role, or how they utilised the knowledge and expertise that they had. Ethnography has emphasis on describing a shared culture group (such as nurses in a home care team). This is a relatively long-term approach, as a study of the behaviours, reported beliefs, language and interactions among members of the culture-sharing group takes time. It can include a description of the journey of the researcher as they interact with the group and was, therefore, considered (Bryman, 2016). However, this study needed to work with a group who already share a professional education, training and role. It needed to identify how they developed their new role, and developed as individuals, focusing on the shared elements, rather than a totally shared culture. In addition, the emphasis was on how this change in role affected the practice of each one of them and of the group as a whole, at this early implementation stage; the intention was not to follow the group over time.

Case study research looks specifically into a specific case, or multiple cases to develop an in-depth description and analysis, so increasing understanding of how the case is or cases are constructed. A defined social setting can also be treated as a case study with all elements and interactions being studied to increase awareness and insights into how it and its members function (Creswell and Poth, 2017). However, it was decided that this approach would not fully address the questions being asked, as at the time of the study the role was evolving, and the nurses asked for and received education and training to support their role. This was a key component of the project with activities and actions building upon it over time. Therefore, while a case study approach could have been used for the education programme, this would not have addressed the evolving practice role, or supported the conceptual framework developed during the study, for use with this and other similar groups.

Phenomenology was also considered, as this is concerned with the question of how individuals make sense of the world around them (Bryman, 2016; Isabirye and Makoe, 2018). Knowledge and insights are gained through interactions between researchers and participants. Phenomenologists study the lived and conscious experiences focusing on specific phenomena, their concepts and ideas (Giorgi, 2012). There are two possible approaches:

descriptive phenomenology and hermeneutics. The critical issue for descriptive phenomenologists is to gain insight the lived experience. The researcher collects data from individuals (participants) who have experienced, lived, or are living, the phenomenon. This is then used to identify the essence(s) of their experiences, not to explain or justify, and in this approach no one element takes priority over the others (Giorgi, 2012). In Descriptive Phenomenology experiences of perception, thought, memory, imagination and emotion are all explored to offer rich, in-depth, 'thick' description with all interpretation within praxis (Giorgi et al., 2017). Originally, to try to minimise bias, the belief was that the researcher's preconceived opinions should be set aside or bracketed. Today, it is accepted that this is not really possible, but that the researcher's knowledge, attitude and perceptions should be assessed pre-study. Then checks should be made throughout the study, to minimise any bias that does arise. Therefore, a process that resembles bracketing can still be used to identify the researcher's pre-conceived beliefs and attitudes, and the way in which they may impact (advantage or disadvantage) on the research. This together with positionality helps to assess the trustworthiness of the interpretive research (Creswell and Poth, 2017). On reflection, this approach was also rejected as although it would have given insight into the nurses' experiences to date of the new role, it would not fully address the study questions and aims.

Hermeneutic research was then considered. Having initially studied under Husserl, Heidegger (1889-1976) rejected the epistemological point of view that underpins descriptive phenomenology, arguing that as all humans are subjective and interpretive, the research they do has to reflect this. The result was the development of hermeneutics, an approach based on acceptance of this subjectivity, and on interpretation of the data. It moves beyond the description of core concepts, and the essence or the experience, seeking meanings that are embedded in everyday occurrences (Van Manen, 2016). For hermeneutic researchers, the question is how to increase understanding of the meaning and the being, of the phenomenon being studied. The aim is for the researcher to analyse and interpret the data to provide the bridge between the reader and those living the experience, such that they have a better awareness and can almost walk in the shoes of the participants (Spradley, 2016). With this approach, bracketing is rejected because hermeneutics presumes and accepts prior understanding. The individual's understanding of the everyday world is seen as derived from their interpretation of it. Research focuses on human existence, about each individual knowing as what it means to be themselves (Reinders, 2012). However, there do still need to be regular checks that the researcher's perception and attitudes do not dominate and then subsume the interpretation (Birt et al., 2016; Charmaz and Thornberg, 2021). For this study, the emphasis was on gaining insight into, and ascertaining what a specific group of specialist practitioners needed in terms of knowledge, skills and professional development, to enable them to develop

from specialist nurses into advanced practitioners who prescribe, not just what they had already experienced and were experiencing. Therefore, hermeneutic research, while it could have given useful insights, would not have fully addressed the research questions, and was rejected.

3.3.2 Grounded theory approach

Having reviewed and rejected other qualitative methods for exploring lived and changing roles and experiences, grounded theory was explored. This approach aims to go beyond describing stories or experiences, arguing that it is possible to use the data to go further to generate or discover a theory for a process or action, "consisting of plausible relationships among concepts" (Strauss and Corbin 1994: in Bryant and Charmaz, 2007, p. 586). Its focus is on exploring with participants, on trying to explain or gain increased insight into and hence understanding of participants' perspectives, seeking for shared or at least reciprocally reflected issues. The argument is that by using an iterative approach with participants it is possible to work towards achieving consensus. This in turn can be used to move inductively towards developing tentative theories from within the data sets gathered. Thus, findings and potential or suggested theories are said to be 'grounded' (based) within the data collected from participants who have experienced the actions and interactions. From the findings, a framework can be developed to stimulate and support further research (Creswell and Creswell, 2018; Creswell and Poth, 2017).

It is argued that this approach has been developed for the purposes of developing small scale, not grand theory from the data and phenomena under study (Charmaz, 2014; Glaser, 1999; Strauss and Corbin, 1990; 1998). Thus, at no time does the investigator attempt to impose a theory from another study onto the data. Instead, data from participants determines what is explored in the research, the literature searched, the actual questions used and the number of participants in the study. The data from participants helps to repeatedly check and focus the research question (staying close to the data) and related general questions (Bryant and Charmaz, 2007) and it determines the information sought. Coding is the core process in classic grounded theory methodology. It is through coding that the conceptual abstraction of data and its reintegration as theory takes place.

To remain truly open to emergence of theory is among the most challenging issues confronting researchers using a grounded theory approach. It is important to enter into the research with questions rather than hypotheses, and with interview schedules that are flexible and can be adapted from interview to interview depending on the information revealed and shared by participants. While knowledge of the issue is important, as the study progresses, perhaps one of the biggest differences is that literature is used to support the findings and to enhance

insights, not as a base into which the data can be slotted, therefore, ongoing extensive reviews of literature can occur using guidance from the data gathered (Charmaz, 2014). The researcher can therefore explore phenomena based on issues raised by individuals actively engaged in the study, using this to guide and influence the emergence of a core issue. This element of was an important advantage for this study.

Originally credited to Glaser and Strauss (1967), grounded theory research has clear and structured characteristics. The study processes are iterative with simultaneous involvement in data collection and analysis, during which analytic codes and categories are constructed from within the data, not from preconceived logically deduced hypotheses. The iterations, or constant comparisons, occur during each stage of the analysis, and this helps advance theory development as each cycle continues to build upon previous data analysis. To support the raw data, memo-writing is used to elaborate categories, to specify their properties, and to define relationships between categories, and identify gaps.

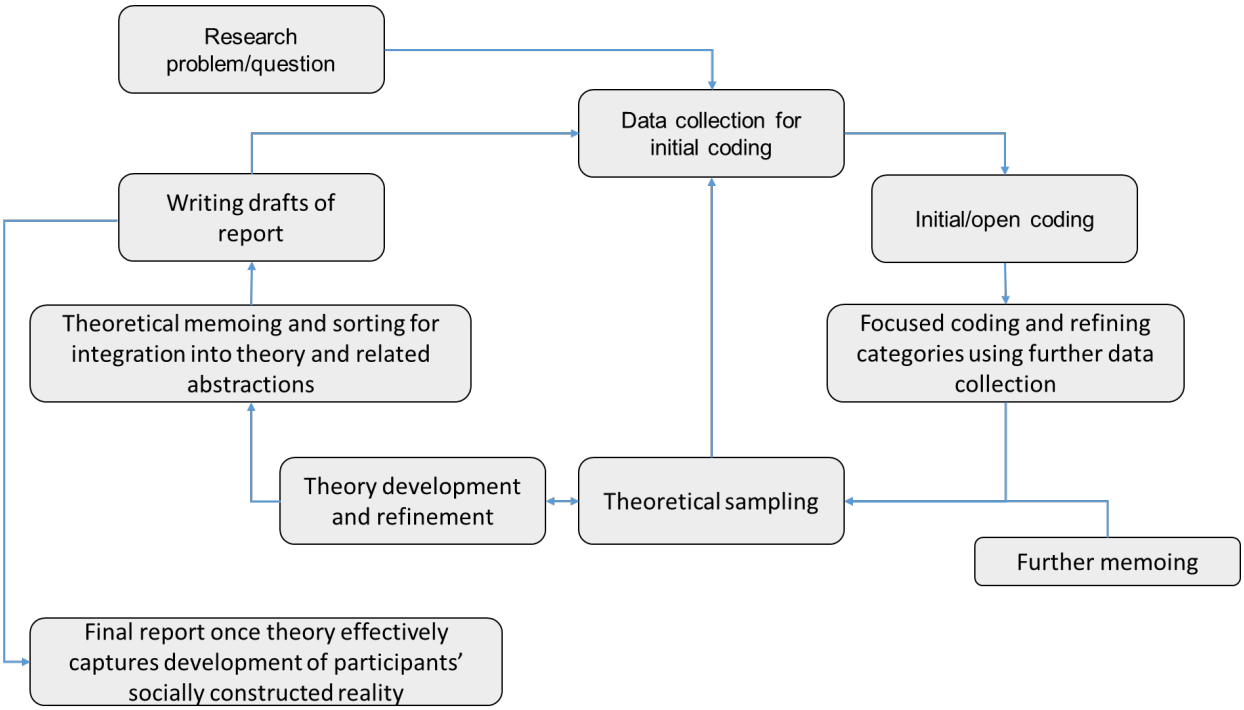


Figure 3.2: Process of GTM modified from Charmaz 2006

Sampling is purposive and not random (Bryman, 2016), aimed toward the generation of concepts and where appropriate theory construction for the specific group of participants and not as with positivist research for population representativeness.

Following their initial work Glaser and Strauss (1967) separately refined and modified their early research. The Glaserian version of grounded theory or classic grounded theory follows the original open and iterative approach (Charmaz, 2014). However, Strauss with Corbin (1998) developed a more prescriptive form of grounded theory (Straussian) with preconceived categories and frameworks which have led to concerns about validity and reliability particularly with regard to theory generation. According to Glaser (1992), these concepts inhibit the possibility for theory to emerge from the data during the process of research, because there is no active conceptualization of patterns or connections in the data while accepting the principles of grounded theory. Charmaz (2006) took an alternative position to both the classic Glaserian and the Straussian grounded theory, developing the constructivist version of grounded theory. In her opinion, both Glaser and Strauss (1967) and Strauss and Corbin (Strauss and Corbin, 1998) were much too systematic in their procedures. She argues that strategies must be more flexible, and that the meanings and perspectives of participants need to be more emphasised (Creswell, 2012). The difference between the two initial approaches and constructivist grounded theory is the focus on interpretive understandings of participants' meanings, rather than aiming for a conceptual understanding of social behaviour. According to Charmaz (2014, p. 237), the latter is a more objectivist point of view of grounded theory:

> "*An objectivist grounded theorist assumes that data represent objective facts about a knowable world. The data already exist in the world: the researcher finds them and 'discovers' theory from them. This view assumes an external reality and an unbiased observer who records facts about it"* (Charmaz, 2014, p. 237)

In the constructivist approach, data and analysis are created through an interactive process whereby the researcher and participant construct a shared reality. Meaning does not emerge from the data alone, but rather is created as individuals interact with and interpret actions and interactions. Any resulting theory is subjective interpretation, which includes the researcher's view, and cannot ignore the interactivity and subjectivity (Charmaz, 2014). Where previously grounded theory sought to identify and conceptualise the main or core category, the emphasis in constructivist grounded theory is on capturing multiple participant's perspectives. It is about giving voice to the participants. Their voices, views and visions have to be incorporated into descriptions of their lived experiences (Breckenridge, 2012). One of the clearest comparisons of the difference is that given by Charmaz (Charmaz, 2006; 2014) who argues that distinguishing between a social constructionist and an objectivist grounded theory is essential, for understanding divisions and debates in grounded theory and indicating ways to move the method further into social constructionism. She advocates examining (1) the relativity of the researcher's perspectives, positions, practices, and research situation, (2) the researcher's reflexivity; and (3) depictions of social constructions in the studied world. Consistent with the

larger social constructionist literature, actions are a central focus arising within socially created situations and social structures. Constructionist grounded theorists attend to what and how questions. They emphasise abstract understanding of empirical phenomena and contend that this understanding must be located in the studied specific circumstances of the research process Charmaz (2008). To address the research questions and gain insight in the nurses' professional development, roles and practice, the main focus had to be on letting them speak, giving their voices credence and listening to their views and visions on their own roles, using the iterative approach of grounded theory. This fitted well with this study.

Having identified an underlying philosophy, and an appropriate research method, a check had to be made for compatibility between the two. There is a wealth of literature regarding the ontological and epistemological background of GTM, which argue for and against the premise that grounded theory grew from within Symbolic interactionism (Glaser, 2005). Aldiabat and Le Navenec (2011) concluded, regardless of origin, that the goals of grounded theory and Symbolic Interaction are compatible (table 3.1) and that combining both to investigate human behaviour is effective. They argue that Symbolic interactionism provides a framework for (focussing) collecting data regarding the meaning of behaviour and its contextual sources.

Symbolic Interactionism	**Grounded Theory Methodology**
• Direct observation of participants' empirical world	• Interviewing supported by participant observation; document analysis; audio- / videotaping
• Identification and delineation of data through disciplined observation	• Interviewing guidelines; theoretical sampling observation during data collection
• Development of abstract constructs and issues	• Analytic, methodologic, personal memoing
• Construction of categories	• Open coding; axial coding; theoretical coding; properties; dimensions
• Construction of theoretical scheme	• Core category; categories; subcategories; dimensions; memos; mind maps, diagrams
• Testing of categories	• Theoretical sampling; theoretical saturation; literature review; iterative analysis; member checks

Table 3.1: Modified from Methodological Similarities of Symbolic Interactionism and Grounded Theory Methodology (Klunklin and Greenwood, 2006)

Therefore, grounded theory provides the means to work towards generating a theory that illuminates behavioural patterns and trends (Aldiabat and Le Navenec, 2011). Comparing the two shows that the methodological principles of Symbolic interactionism (Blumer, 1969) can be used with grounded Theory (see table 3.1).

The choice then needed to be made regarding which grounded theory approach to use. Where initially grounded theory sought to identify and conceptualise the main or core category, the emphasis in constructivist grounded theory is on capturing multiple participants' perspectives. It is about giving voice to the participants. The three versions (Glaserian, Straussian, constructivist) may differ in assumptions, standpoints and conceptual agendas, however they have all emerged from the same rejection of positivism and can be seen to follow integrated methods using inductive logic to subject the data to rigorous comparative analysis and aiming to develop theoretical analyses and increase knowledge, insights and understanding (Charmaz, 2014). Having reviewed the three possible approaches, in this study, it was seen as essential to help give the participants voice through the addition of the Symbolic interactionism looking-glass approach, which focused on the meaning of social behaviour in the social-interaction between nurses and physicians (Redmond, 2015). Recent literature from Charmaz and Thornberg (2021) indicates recognition of the use of grounded theory in the discipline of psychology as well as it is remaining of value in its traditional philosophical field of sociology.

3.4 Methods of data collection

Sources of data in grounded theory are most likely to include interviews with individuals, group meetings and observations (Corbin and Strauss, 2015). The combination facilitates reconstruction of events by supporting participants to reflect through questioning, without the disadvantage of reactive effects caused by direct observation of participants (Bryman, 2016). This study focused on individual interviews and (evaluative) focus group interviews rather than observations, exploring participants internal (thinking) processes and reflective perspectives (Bryman, 2016). Data were collected at several stages of the evidence based practice educational programme undertaken by the participants (fig 3.3).

Developing the study took time, with educational engagement with participants from 2014 to 2018, and gradually evolved into three learning cycles. The first educational cycle was filled with workshops and journal clubs, to prepare the nurses to be able to discuss scientific evidence with colleagues and to appropriately question pharmaceutical representatives who offered new medications. The cycle was finalised with a focus group evaluation serving as data for the presented study. However, it was evident from this that the nurses still required support and guidance. Therefore, a second educational programme was developed and delivered. During this second educational cycle in 2015, interviews with the research participants (nurse prescribers, team leaders and external educators) were conducted and analysed. This cycle was well received with the participants identifying its impact, but still needing some support,

and so a third educational cycle was developed and run, also finalised with an evaluative focus group meeting.

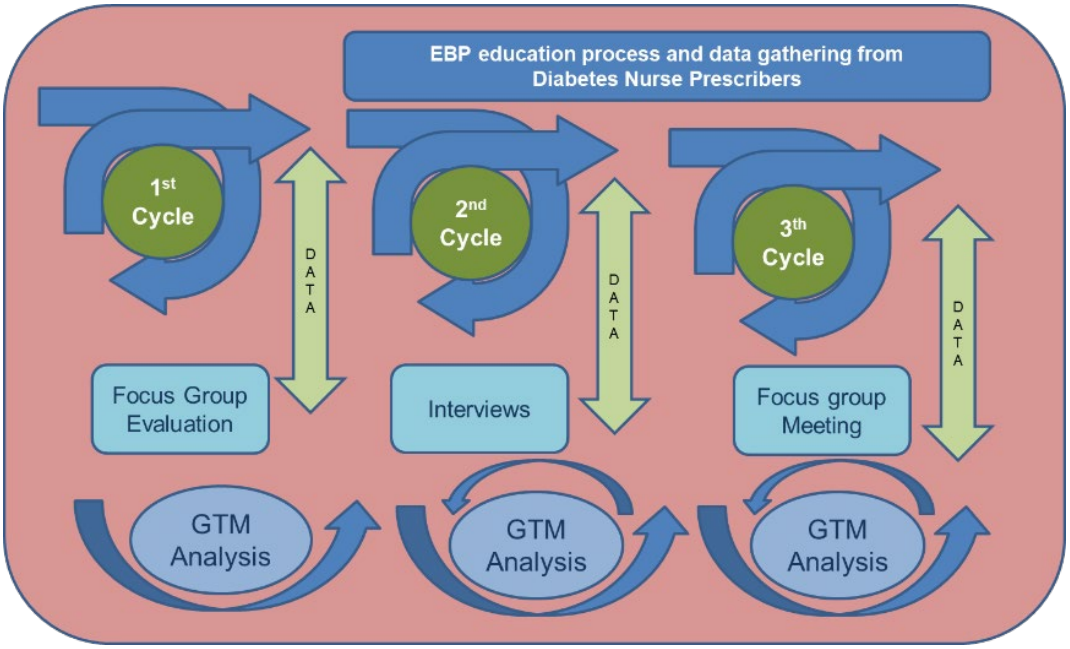


Figure 3.3 Structure of research design around process of engagement

Programmes were flexible and developed based on participants' expressed situational learning needs, hence the cyclical representation in the diagram (fig. 3.3). The cyclic approach reflects the iterative processes of grounded theory when more than one cycle is carried out. During these cycles, as indicated above, data was gathered and analysed. Iterative analysis took place in accordance with the constant comparison principles of grounded theory, as shown by the 'GTM Analysis' pictogram in the diagram.

3.4.1 Interviews

When planning data collection, interviews were the initial method of choice. Therefore, during the second educational cycle, interviews with eight nurse participants were conducted in the course of the summer holidays (2015). Further, two interviews were held with collaborating physicians/endocrinologists, two with unit managers and an additional two with university EBP lecturers. It was anticipated that the lecturers' perspective on evidence based nursing practice and education would help the researcher stay open minded and enhance theoretical sensitivity. Questions asked were focused on their perspectives on formal EBP education for nurses and its adaption of different nursing levels and the difficulties to implement EBP. The team manager and later managerial successor were interviewed to gain a managerial perspective on EBP implementation for nurse prescribers. The focus on these interviews were on EBP implementation and managerial interventions, (multi-disciplinary) group dynamic and to ascertain if they had suggestions to accelerate implementation of EBP.

The interviews were designed based on the constructivist approach (Charmaz, 2014) interview guidance was thus flexible, following the direction taken by participants,' allowing them to raise and explore what they saw as key issues (Bryman, 2016) and uncovering concerns related to the social and social psychological processes they were involved in (Charmaz, 2002). Interviews questions were open-ended based on the context of EBP and nurse prescribing, to explore the participants' perspectives. Researcher guidance was only used to check that key issues were raised, not to structure or lead responses. To increase insights participants were asked to refer to a critical case that they had managed, to consider their perceptions of the boundaries of the supplementary prescribing rights and their interaction with other health professionals. At the end of each interview the interviewees were given the opportunity to introduce important points not already raised.

All interviews were transcribed as was soon as possible after each interview, allowing for an initial analysis to inform subsequent interviews (Charmaz and Thornberg, 2021). The interview focus, therefore, varied slightly each time depending on what had been learned from the previous interviews, an important element of the iterative process of grounded theory (Charmaz and Thornberg, 2021). All transcripts were initially analysed using open coding. Although it appeared that the sixth interview did not reveal new information, to check that this was not an anomalous interview, another two nurses were interviewed. While adding further rich data new issues did not arise from the last two interviews, indicating data saturation.

3.4.2 Focus groups

As the study progressed, because of its focus on both individual and professional development, it was evident that interview data alone would not fully meet the study goals, and the addition of the group perspective was considered. Both Charmaz (2014) and Patton (2014) suggest focus groups are an appropriate approach to use in grounded theory studies, aiding in gathering insight and in-depth data regarding participants' common experiences. For this study, they offered an opportunity for the participants to share their lived experiences away from the clinical setting, debating and discussing their perspectives of key points, and were therefore included in the evaluative cycles (Bryman, 2016; Creswell and Poth, 2017). The homogeneity of the participants' new role facilitated open and active group discussions as they shared their experiences. These included any issues from the journal club and concerns arising from the changes in their clinical roles, enabling the researcher to obtain additional insights. Focus groups also facilitate exploration of interactions amongst and between participants (Patton, 2014). In this study the individuality of the participants' professional journeys, encouraged dynamic group interaction and exploration of diversity of perceptions. Collectively the focus group data included a review of participants' understandings of changes in management and practice to support their new role and their professional development.

Following the introduction of ground rules, the questions used were specifically chosen to stimulate conversation between the participants and support the creation of a relaxed and supportive atmosphere to enable them to take the discussion to a deeper level. Questions also acted as informal prompts, with issues raised by participants carefully considered both individually and as a group (Evers, 2023; Foley et al., 2021). For the researcher, an additional advantage was the opportunity to review the way participants collectively made sense of how EBP activities relate to and have meaning for their activities as nurse prescribers. The focus group meetings also supported the use of a Symbolic interactionism perspective, through supporting and enhancing the socially constructed formation of understanding and meaning (Bryman, 2016). In total, three focus group interviews were included in the study, and in each case, care was taken that the researcher acted as a facilitator, enabling the participants to lead the discussions and debates. Attention was also paid to ensuring that all participants had the opportunity to participate in the discussions, and that no one member dominated the discussions or led all the different component parts (Evers, 2023; Slocum, 2006).

The first focus group was used as the final element of the first education cycle and was held one month after the participants had had their meeting with pharmaceutical representatives to review the scientific evidence supplied to accompany specific medications. Almost all participants were present including the head of the department. As the ability to debate and discuss research and scientific evidence with pharmaceutical company representatives had been one of the participants' chief concerns, their perspective of the extent to which the cycle had prepared them for these discussions was key. The focus group's evaluation of the educational activities gave insights into how the participants perceived the efforts they had made and to what extent they had met their learning needs. The second focus group was conducted at the end of the third educational cycle (December 2017). This had an additional remit: from the beginning the education cycles had been planned with the aim of gradually handing autonomy and control to the participants, and it was therefore crucial to evaluate how they viewed the gradual discontinuation of the programme. The third focus group meeting was held in January 2019 and served mainly as a 'participant check' and evaluation of the proposed conceptual framework, supporting its 'fine tuning' and finalisation. All focus group meetings were audiotaped, transcribed and member checked before being analysed.

3.5 The sample: the Participants

3.5.1 Introduction

The participants needed to have a common commitment and be from one specific professional community, they needed to be diabetes specialist nurse prescribers from a Dutch Tertiary Medical Teaching Hospital. Therefore, purposive sampling was used, a non-random sampling technique that utilises a specific criteria or purpose to select a particular sample (Bryman, 2016; Creswell, 2013; Thornberg and Charmaz, 2013). In addition, for this study, a cohort approach was used for the diabetic specialist nurses with all members of the identified cohort choosing to participate.

The cohort consisted of ten participants from one nursing team, eight were diabetes nurses and two were vascular nurses who were associate members of this team of specialist nurses. At the start of the first learning cycle, this team had on average 10 years (3y-25y; SD 6,4y) of specialist nursing experiences. The average age of the team members was 45 years (35y-54y; SD 6,5y). Two of the diabetes nurses had undertaken additional specialist study and were licensed Diabetes Practice Nurses and the others were Bachelor Level Nurses. One of the latter had already enrolled on the Master of Advanced Practice Nursing programme and graduated during the research period. The two vascular nurses and two of the diabetes nurses had been actively involved in clinical research in the past, while three of group had previously successfully undertaken a Good Clinical Practice course, and one had more than 10 years of research experiences as a clinical research nurse.

These included all the nurses for the outpatient department for diabetic (or vascular) patients in this particular hospital, where a core focus in diabetes care needed to be to help patients to learn to take control of managing their blood sugar levels. The nurses work with the patients and their families, adjusting medication and providing lifestyle coaching. They each have their own caseload of patients with whom they have regular consultation. When necessary, they review each other's patients and for patients with serious complications or where they are uncertain of the best treatment, they have access for guidance to an endocrinologist. However, although the nurses work in proximity with each other and physicians, and do they have some opportunities to interact with, and consult colleagues and other professionals, their daily practice is largely independent with few opportunities to informally discuss practice (informal learning). Interaction with management is also limited, mainly taking place in the diabetes (vascular) outpatient department through formal meetings or appointments.

3.5.2 Description of the EBP training co-worker (Information Specialist)

Throughout the study to maximise the effectiveness of activities and to help minimise any bias from the researcher, a co-worker participated in the educational activities (journal clubs and evidence based practice skills trainings). This specialist co-worker was a Bachelor level information specialist (since 1992) with more than 10 years of experience within the medical domain. Her own previous education and training included Clinical Question Answering, Advanced Search Strategy Design, Advanced Search Techniques for Systematic Reviews, Critical Appraisal of a Topic and the application of Reference Management Systems. Using these skills, she helped the researcher navigate within the hospital organisation, linking the researcher to key individuals and providing introductions, and provided support and education for the participants. As the head of the Knowledge and Information Centre of the TMTH and consultant for the Hospital's Academy, she was of utmost importance in facilitating the nurses' access to literature, and development of critical appraisal skills. She was based in the hospital, made herself freely available for individual and group consultations, and supported the nurses as they studied to enhance their skills in searching and finding scientific evidence to support the development of evidence based practice.

3.5.3 Positionality: Description of the facilitator (researcher)

As indicated in the introduction, with this approach, positionality has to be carefully considered, as it is essential that the researcher's background, knowledge and perspectives do not dominate the research process and alter its direction. The individual's world view or the researcher's perspective affect both the epistemological and ontological assumptions regarding the nature of knowledge and social actions and interactions regarding human nature and agency (Grix, 2019: in Holmes, 2020). It is influenced by all factors affecting personal beliefs and values including age, gender, family, religion, social and work background (Holmes, 2020). Positionality is normally considered for three distinct areas, namely the subject being studied, the participants and the research process, but Holmes (2020) has added a fourth component, that of time.

For this study, the researcher also had to be aware of the roles involved. As this was a qualitative study the researcher was simultaneously researcher and facilitator, being an experienced lecturer in nursing science education with extensive clinical experiences as an Operating Department Practitioner (1982-2000), with a Master's degree in health sciences (1997) and having taught Master's level advanced practice nurses, nursing science and evidence based practice for more than 15 years. This background was recognised and accepted by hospital management who supported the study, with the researcher taking on the role of evidence based practice expert and facilitator for the journal club meetings.

Holmes (2020) points out that researchers should acknowledge and review their views, values and beliefs regarding their choices with respect to research design, implementation and outcomes. Self-reflection and a reflexive approach are both a prerequisite and ongoing activities in qualitative research designs such as grounded theory (Charmaz, 2014) if the researcher is to be able to explain and recognise their influence on the study as a whole (Cohen et al., 2018). Thus, reflexivity informs positionality through repeated self-assessment by the researcher as they consider how their views and perceptions may directly or indirectly affect all aspects of the study, including the interpretation of findings (May and Perry, 2017). Reflexivity is complex, affected by ethics, personal integrity and competence as well as societal background and experience of the researcher. Furthermore, the influence of these factors on the research process and the positionality of the researcher will change over time as the study progresses (Holmes, 2020).

When planning the study and reflecting on the participants' place in the study, the question of whether coercion and undue influence could be present needed to be carefully considered (Kraus et al., 2012). This was an important issue, as the researcher facilitated the participants' journal club, an educational activity for which the nurses gained professional credits. There could therefore have been a hierarchal power dynamic in the interactions between researcher and participants, a possibility that the co-worker was specifically asked to consider and review. However, the participants had approached the university asking for support and naming the researcher. Both the nurses themselves and management pointed out that participants had previously been taught by the researcher, and having succeeded in their training with his guidance, wanted his help with their new role. As a safeguard, it was formally agreed that they could change or stop the relationship without prejudice, and that each participant would be given time to consider the study and their role within it. Only then, could an informed consent form be signed (personal communication, 2014).

The insider outsider debate has become increasingly recognised with researchers having different backgrounds to participants (Manohar et al., 2017). Ontologically, the insider perspective is usually said to be an emic account while the outsider perspective is considered as etic (Holmes, 2020). Holmes (2020) goes on to argue that the terms designate the difference in role. An emic description is based within a cultural relativist perspective, identifying actions as being linked to the individuals' backgrounds and social context. Etic accounts aim to be more culturally neutral using language appropriate to an external observer, rather than that of the participants. The researcher remained an outsider and included the co-worker throughout the study, who acted as a representative from the hospital's Academy, giving them access to the Academy's resources, but who also observed and could comment on the roles of the researcher and the progress of the project. It was explicitly explained to participants that at any

time, their journey of implementing evidence based practice could be continued with or without the facilitator/researcher. The facilitation role was offered free of charge and care had to be taken that enthusiasm to help, in combination with a job well done did not make them feel dependent on the researcher. The whole aim was to build independence, enabling participants to gain the skills they needed to become autonomous nurse prescribers, reaching a level of competence where no further help would be needed for the implementation and sustainability of evidence based practice. However, language and interactions are individually, socially and subjectively constructed, and therefore what are sometimes described as objective reflections and descriptions still contain some element of bias (Dubois, 2015 in: Holmes, 2020). Acceptance of this and searching for bias in all reviews of activities enable the researcher to take account of possible impact on the study and explain how and when their own perceptions may have had an effect (Savin-Baden and Major, 2013; Ormston et al, 2014 in: Holmes, 2020). Holmes (2020) also points out that researchers need to be vigilant and check that their reflections are a true review of their personal position. In this study, the ongoing reflective process was an integral element of the study, only stopping once the study was complete.

3.6 Data analysis

In grounded theory, coding is a key process, with data being broken down into component parts, which are then named (Bryman, 2016). Charmaz (2014) defines it as

> *"… the process of taking data apart, defining and labelling what these data are about … Thus, grounded theory codes are emergent … Researchers develop codes as they study and interact with their data …"* (Charmaz, 2014, p. 342).

Coding in grounded theory is a crucial first step in the generation of theory and is initially tentative, with coding in a constant state of potential revision and fluidity. The data are treated as potential indicators of concepts, and are constantly compared (Bryman, 2016). Originally, Glaser and Strauss (1967) described two levels of coding, first into as many categories as possible and then integration of categories (second level). Strauss and Corbin (1990) then developed three levels of coding, open, axial and selective coding. In the phase of open coding initial categories are formed regarding the phenomenon being studied by segmenting information into indicators and sequentially into codes. An indicator is a small segment of information that come from different people, or from different sources of the same people, over time (Bryman, 2016; Creswell, 2012). The outcomes from this process are concepts; labels given to discrete phenomena. These concepts are later grouped and form categories through constant comparison and revision. A category usually subsumes two or more concepts. The critical issue is to ensure that there is a fit between the indicators and the concepts (Bryman,

2016) Axial coding entails open coding categories being explored, following which one is selected and positioned at the centre of the analysis as the core phenomenon, with the other categories explored for links and relationships to it. These other categories are seen as the causal conditions (factors that influence the core phenomenon), strategies (actions taken in response to the phenomenon), contextual and intervening conditions (specific and general situational factors that influence the strategies) and consequences (outcomes from using the strategies) (Creswell, 2012). This phase often involves diagrammatic representation, referred to as the coding paradigm (chapter 4, figure 4.2 a&b), which illustrates the interrelationship of the causal conditions, strategies, contextual and intervening conditions and consequences. In the last phase, selective coding, the researcher aims to identify theoretical concepts from the interrelationship of the categories in the coding paradigm (Creswell, 2012).

However, this study follows a constructivist approach, based on Charmaz (2014), with some difference in the overall processes of analysis. With this approach there are two main levels of coding: initial and focused coding. Initial coding is:

> *"The early process of engaging with and defining data. Initial coding forms the link between collecting data and developing an emergent theory to understand and account for these data. Through coding you define what is happening in the data and begin to grapple with what it means" (Charmaz, 2014, p. 343).*

In initial coding, the researcher has to remain open-minded, working iteratively with the data, aiming to explore and generate new ideas in the data. Initial codes are provisional, comparative and grounded in the data. Charmaz (2014) argues researchers must try to remain open to seeing what they can learn while coding and where it can take them. At the same time, they must acknowledge their own background and impact on the study taking time to learn and examine how their past is influencing the way they see the world and their data (Charmaz, 2017). When coding early in-depth interview data, the researcher must consider what people say, what they struggle to say and what they may not be able to say, identifying implicit concerns as well as explicit statements. Engaging in line-by-line coding can help to refocus later interviews (Charmaz, 2014). Following initial coding, the next step is focused coding. This is:

> *"A sequel to initial coding in which researchers concentrate on the most frequent and/or significant codes among their initial codes and test these codes against large batches of data. Researchers can then take those codes demonstrating analytic strength and raise them to tentative categories*" (Charmaz, 2014, p. 343).

Focused coding requires making decisions about which initial codes make the most analytic sense in order to categorise the data incisively and completely, and/or coding initial codes into more conceptual ones (Charmaz, 2014). By developing theoretical sensitivity, the researcher can bring an analytic precision to the comparative process of initial and focused coding. Theoretical sensitivity fosters seeking the roots of the studied phenomena aiming to specify how it is constituted. It increases the analytical power of the codes, with engaging in coding stimulating developing theoretical sensitivity. Engaging in focused coding brings the researcher further in the comparative process and emerging analysis. Throughout this process, the researcher takes a critical as well as measured stance, bringing their own analytic skills and perspectives and so becoming part of the analysis (Charmaz, 2014).

The aim is to uncover the meanings of the participants and understand their emergent actions. The data not only forms the materials, but also frames the codes (Charmaz, 2014). When using in-depth interviews as a source for data collection, these have to be recorded and transcribed verbatim prior to coding (Bryman, 2016). This helps to correct the natural limitations of memories allowing for more thorough examination of the data. In addition to coding the collected data, memos about the data and coded categories should be recorded throughout the research process. In these, the researcher explores hunches, ideas and thoughts, then reviews them, always searching for broader explanations of the work in process. Memos are documentations of the researcher's thinking process (Thornberg and Charmaz, 2013) and can be observational (describing the situation during the interview), methodological (records of any issues and concerns regarding the methods used) or theoretical (themes and findings emerging from the interview process) (Wahyuni, 2012). Charmaz (2014) argues that for a full picture of the data to emerge, that which is seen by the researcher during the interview is also necessary. Conceptualizing data begins by tracking ideas from raw data to coding and into categories (Creswell, 2012).

In this study, all interviews were tape-recorded, and transcripts were compared with the audiotapes for accuracy of the content of the interviews. Each transcript was repeatedly and thoroughly read to establish familiarity with the data. The research memos of the participants' reactions to individual questions during and after each interview were also used. With the aim of reflexivity, all findings from each coding process were recorded in the research journal and annotated together with the research memos. At the start of the study, it was decided that Computer-Assisted Qualitative Data Analysis Software ATLAS.ti7 would be used to assist in the analysis of all qualitative data from the participants' interviews and focus groups meetings. In line with grounded theory, it was used to help with the generation of mind maps from the analysis of the text files together with the coding memos and findings. Data collection and analysis occurred simultaneously, as recommended for grounded theory (Charmaz, 2014). It

was accepted that there was a possible risk in using the programme if care was not taken to systematically complete all the components of each step of analysis. This could influence the analytical processes by diminishing flexibility and creativity and thus the emerging of the primary/core category (Corbin and Strauss, 2015). However, in using an iterative approach the programme facilitated creativity by enabling the researcher to try different perspectives in the data to be reviewed concurrently, saving time, constructing an audit trial and aiding review and reflection of the memos. This facilitated systematic data analysis, supporting consistent diagramming, and processing (Corbin and Strauss, 2015, 204). Friese (2016) when considering the use of software packages to aid qualitative analysis, suggests that different packages are needed for the different possible approaches. MAXQDA is seen as appropriate for studies focusing on mixed method analysis, with NVivo seen as more appropriate for 'quick and dirty' analysis and ATLAS.ti7 with its quotation level recommended as probably the best choice for grounded theory. Friese (2016) goes on to promote Seidel's analysis model (Seidel, 1998) of Noticing, Collecting and Thinking (NCT), arguing that when used with software such as ATLAS.ti7, it can support building of a coding system (fig. 3.4) for use with grounded theory.

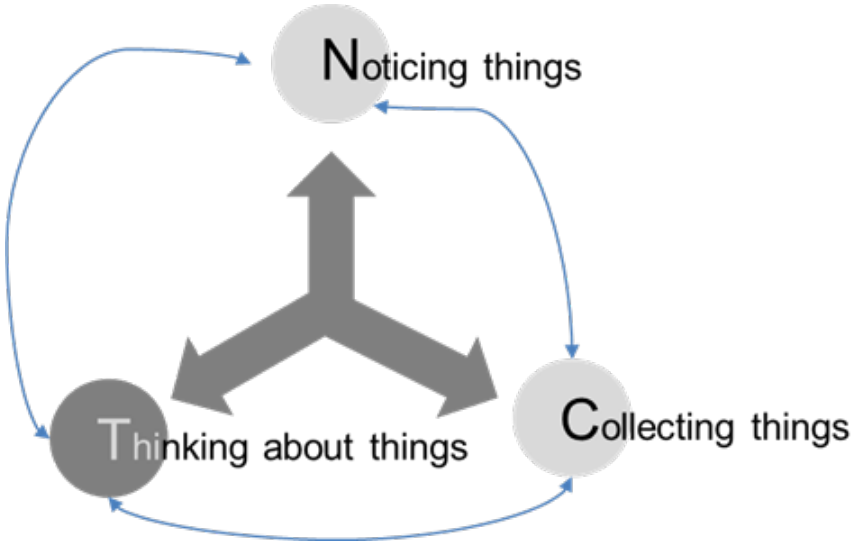


Figure 3.4 The NCT model of qualitative data analysis adapted from Seidel (1998)

Data analysis in this study started with reading the transcript in totality, followed initially by in vivo coding of quotations, seeking for participants' chief concerns and how they report addressing them. This led to the generation of mind maps illustrating initial, open coding patterns (see figure 3.5).

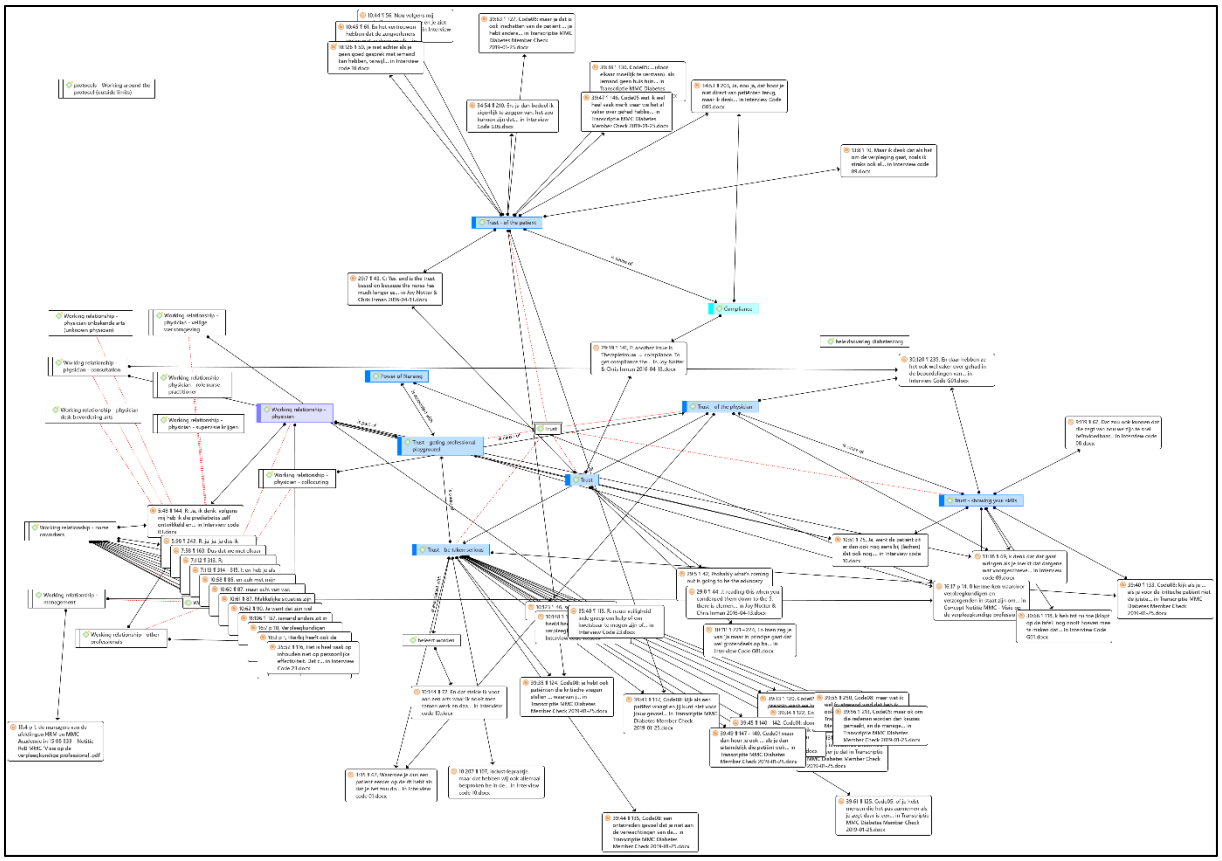


Figure 3.5: Mind map Trust (in Dutch checked by supervisor) generated with Atlas.ti7, see appendix 6 for full details.

Further examples of mind maps taken from the series of maps created can be found in appendix 6-8. The focus lay on using these to search for expressions of external and internal processes that could be coded by 'gerunds' (noun forms of verbs like feeling or wanting). Quotations were further labelled by actually delineated (described) concepts used to act as interpreted meaning of data (Corbin and Strauss, 2015). Quotes were then recoded and/or labelled with multiple codes. Software features such as hyperlinking and memoing, which also is a function of being reflective, were used to check and review the process of Noticing and Collecting, using the comment field for each identified quote. Iterative reviews of memoing and labelling were held with the supervisory team to check that assumptions did not over-duly influenced analysis. Following the open coding process, codes were then redirected (Thinking), identifying the recurring codes and those which were considered to be of particular importance regarding participants' expressed thoughts and feelings about EBP linked to participants' professional activities (nurse prescribing). Codes were sorted (selective or focused coding) into groups and elevated to more precise concepts, then grouped into categories (theoretical sampling, saturation and memo writing), using the ATLAS.ti7 'Network view' function Friese (2014).

Comment	Initial codes	Categories
this is much more interesting than anything I have ever done before	**Positive experience** **Motivating and engaging**	**Engaging and motivating**
enjoyed the doing the programme …	**Engaging**	
think more about what you are learning	**Encourages reflection content**	Positive learning
this was a refresher course for me	Appropriate content reinforcement	
the technology challenges detracted from the potential learning	Problems with technology affecting learning	**Technology and usability**
embarrassed that I couldn't get onto the online learning without help	Needed assistance to access learning	
spent more time trying to get round the programme than answering the questions	Wasted time trying to navigate the programme	
needs to be more intuitive	Technology not flexible to use	
we don't all have much access to internet at home	Access to internet	**Home access**
not able to work online much at home	Using online learning at home	
found it quite frustrating and disappointing that I needed to read the workbook to try and navigate to get the resources or make decisions	**Frustrating and Disappointing not easy to use** **Workbook not online**	**Resources**

Table 3.2: Example of one of the coding tables for Data Analysis

Checking the generated categories as shown in table 3.2 was carried out using the computer-generated links and hyperlinks to support writing quotation comments, taking note of possible connections (again using hyperlinks) and visualizing the relationship links and from this revising the network diagrams. Following this, the network diagrams were compared, looking for links and connections, and using these to create the emerging concepts and through that to support the development of the conceptual framework.

As the research took place in The Netherlands using the Dutch language for data gathering and analysis, an important consideration was translation of the findings. Therefore, all findings were translated into the English language by me (the researcher) and discussed with the supervisory team. Findings were checked by random reverse translation by the researcher and by an independent Dutch researcher fluent in English, and then submitted to the English supervisor, also for checking. She has worked in the Netherlands, is proficient in Dutch and familiar with the nursing cultural context, regional and colloquial phrases. As a final check, the quotations were tabulated in both English and Dutch and discussed, following which a final translation was agreed. An example of the challenge of translations was the Dutch term

'gesprekspartner', which could be literally translated as 'collocutor' or 'interlocutor'. However, when used in sentences and paragraphs this translation did not fit with the context of the overall data, because, as in English, words used in conversation can have different meanings and care had to be taken to check the translation fitted with what the interviewee was actually saying, see table 3.3 below.

Dutch Quote *"… en een goede **gesprekspartner** te zijn en … ik denk … inderdaad dat een geode **beroepsgroep** mij als person sterker maakt … dus niet alleen de groep maar ook mij als individu … wetende wat allemaal mag en dus ook beter dat gesprek in kan gaan ..."* (QU:10:110)
Initial translation *"… and to be a **good conversation partner [collocutor]** and … I think … indeed that a **good profession** makes me stronger as a person ... so not only the group but also me as an individual … knowing what is allowed and therefore **to enter better into that conversation** …"* (QU:10:110)
Final translation after dialogue *"… and to be a good **advocate** and … I think … that **belonging to a strong profession** makes me stronger as a person ... not only the group but also me as an individual … knowing what is allowed and therefore **better able to lead and advocate** …"* (QU:10:110)

Table 3.3: Example of translation process

Using this approach, translations issues were resolved as they arose, with interpretations of the key quotations discussed by the team. A final peer review was completed once all identified quotes had been translated.

3.7 Ethics

In all professional practice, the principles of ethics clarify boundaries and define the framework in which practice, and where appropriate, research is executed. Nevertheless, there are always dilemmas and areas that need careful consideration in order to protect participants, and to check that research is carried out in accordance with agreed ethics regulations. The principles of ethics were followed throughout this study.

3.7.1 Specific Ethical Principles in GTM

Reviewing the ethical issues related to grounded theory methods gave three perspectives to consider (Corbin and Strauss, 2015): the general principles and ethical issues for research, issues arising from the paradigmatic approach used and the specific implications of the researcher conducting a specific research method taking in account the participants in this

case in grounded theory. A grounded theory approach is designed to enable data gathered during the research journey to clarify individual and social processes and support the study of new and emerging concepts (Glaser, 2010a). These emerge from, and are grounded in the data, following a methodological construct that addresses the research question, whilst the researcher has to check there is no harm or adverse effect from participation (Corbin and Strauss, 2015).

It has to be accepted that interventions such as interviews, do bring with them the risk that subjects raised, may raise emotional and/or contentious issues that may impact on the psychosocial wellbeing of participants (Corbin and Strauss, 2015). In nursing studies there is another issue, that evidence of poor or unsafe practice may emerge that in terms of professional accountability cannot be ignored but have to be addressed. Thus, Corbin & Strauss (2015) argue that whenever research is conducted ethical issues concerning participants, the research and the researcher have to be considered, clear ground rules and instructions have to be followed to safeguard all involved. In this study, this was acting in accordance with the Dutch Code of Professional Practice (Verpleegkundigen & Verzorgenden Nederland, 2015) and following hospital procedures.

This study, although conducted within the clinical field, is not clinical but is a social study concerning nurses adapting to an extended role, which includes specified professional activities. The researcher needed to remember that participants are reflecting on their own practice so are potentially in a vulnerable position, where information gained during the study could be traced to an individual. Nurses in this study are for the first time, using their autonomy to utilise their newly acquired prescribing rights. They are challenging hierarchical practices in which physicians have to cede a part of their autocracy while at the same time acting as both co-workers and supervisors. Confidentiality regarding information from participants was a core premise.

For this study, it was difficult to prevent identification of individuals. Therefore, no participants are named or numbered and although indicators are given regarding the transcript from which quotes came, this knowledge remains with the researcher and cannot be accessed by those participating in or reading the study (see paragraph 4.1 for more details). In addition, all participants were informed of this as they gave informed consent, and all data was anonymised. In the presentation of findings in the study quotations are referred to by using only quotation numbers or referred to as ‘nurse x’.

3.7.2 Ethics approval

This study has been approved by more than one ethics committee because the study is situated in both the education and the medical domains. Obtaining consent from various ethics

committees was also part of the procedural and statutory requirements of both the University of Applied Sciences, and the Tertiary Medical Teaching Hospital where the study took place. Additionally, approval of the higher management of the institutes to access their employees was given. Both Boards approved the study proposal, they also pointed out that as the study did not fall within the scope of the Medical Research Involving Human Subjects Act and the institutional approval already given were sufficient, there was no need to seek further additional approvals. With their approval it was possible to go back to Birmingham City University, and submit both approvals, to gain permission to start the study. Approval was given and the study commenced.

Informed Consent

A written information sheet was completed for all potential participants. Although the request for the study had come from them, it was important to make sure that they understood the processes to be used, and that the study itself was to be used as the basis of a PhD study based at Birmingham City University. This information included details on how to contact the researcher, and/or the lead supervisor (see appendix 1a and 2a). Once participants had received the information about the project and had had the time (a two-week period was set) to consider the contents and seek further clarifications, they were then asked to give Informed consent (see appendix 1b and 2b) to participating in the project. The written consent form explicitly stated that each participant has the right to withdraw from the research at any stage without discussion or incurring any form of disadvantage. They were also asked to consent to participation in the training programme, an individual interview and a focus group. It also pointed out that where for interviews and focus groups, audio taping would be used if they consented, but that prior to the interview they would again be asked if they were willing to be taped. They were assured that the strategies to maintain anonymity and confidentiality described in information sheet would be adhered to, and that all data would be securely stored in a locked cabinet in the researcher's office with electronic data being kept on an encrypted flash drive.

Concealing the source

For these participants, as described in the previous section, when interviewing, observing and documenting small groups of nurse prescribers the promise of anonymity is key and every effort was made in the presentation of data to protect individual identify and prevent any one individual from being recognised. These nurses have established a functional professional relationship, earned the physicians' respect and gained professional ground over years. It mattered to them, that they could share their views and perspectives in a safe environment, and that included knowing that their anonymity would be protected. For them, prescribing drugs

was already an entrusted activity, however, now prescribing has become regulated by new nursing legislation and they are formally entering the physicians' territory. Their extended role is new, and some felt unsure of how their actions and any comments would be perceived, particularly because they work within a relatively small multidisciplinary team, where everyone knows everyone. Therefore, at the start of the project, ground rules were discussed and agreed, including maximising confidentiality. For clarity, no individual can be identified, although the quotes were coded indicating whether the quote was from an individual interview or a focus group (see table 4.2 in chapter 4).

The number one rule was that every participant would keep confidential what other participants had shared or shown and what could be considered highly private information. Further, ground rules were drawn up for a safe working and learning environment including, but not limited to being respectful (e.g. actively listening and respecting others' viewpoints) and compassionate (e.g. showing kindness and being supportive) towards each other, being open and honest, and being present (e.g. not becoming distracted by work issues and actively engaging in discussions) and accountable (for their own professional activities and the need to address sensitive issues). This latter included recognition of sub-optimal practice and devising professional strategies to address this within the workplace. These included directly working with nurses to resolve issues of safeguarding or quality of practice, as they recognised the importance of the trust placed in them by the patients that they care for (Dinç and Gastmans, 2013; Galuska, 2016; Gonzalez, 2017).

To facilitate such a group and achieve the study goals, a qualitative researcher needs to create an open and safe environment. The research setting offered the participants access to an expert lecturer/trainer in evidence based practice, who agreed to facilitate their Journal Club over time without any financial charges or sharing personal information with management. For this, acceptance was key and creating a safe learning environment in the Journal Club enabled participants to work with and continue to trust in the researcher's handling of shared information. Prior to the start of the study, it was agreed with the management that they would not be given access to the research data or related informal data. It was also agreed that if the impression arises that information about participants is being asked, this question will not be answered.

Data storage

Data gathered from individuals is very precious because participants may reveal to the researcher very personal and sometimes very intimate information, which has to be treated with respect and confidentiality. For this study all data from personal and focus group interviews was anonymised. Audio records were transferred to a personal BitLocker encrypted

laptop and the used Secure Digital card was always formatted after transferring the data to the laptop before leaving the research location. Data were further stored for safekeeping in accordance with the guidelines of BCU and to comply with the European General Data Protection Regulations enforced on 25th May 2018. All data was stored in a secure cabinet and electrically on an encrypted computer, which only the researcher could access. All personal details were stored separately from the main data sets, with no links to identify the individual providing specific information. Data will be stored securely according to Dutch research regulations and BCU requirements or five years following completion of the study.

Assessing the rigour of the research

Grounded theory methods can be conducted from several philosophical points of view. According to Corbin & Strauss (2015) the researcher should be intrinsically motivated to conduct research and must focus on being self-critical and reflective. Corbin and Strauss (2015) argue that it should be made clear that contributions are made by both participants and researcher. The researcher should always try to understand what the participant is trying to reveal or to hide even if it seems that the participant's perspective differs from that of others (Corbin and Strauss, 2015). Participants entrust the researcher with their very personal data, and it is essential that this is recognised and treated accordingly. This is a PhD study, which is supervised by multiple supervisors, all of whom were nurses with different clinical and scientific backgrounds, giving a broad focus to research quality aspects, methods and content.

To check the quality of the study processes, and avoid potential bias, involves reviewing all aspects of the study. Assessing rigour is essential in qualitative research especially when the researcher has knowledge of the participant's field of practice and of the related issues. Criticisms of this approach suggest that the inherent subjectivity gives a narrow perspective of the dynamic reality, with a lack of reliability as the data is text based, and there is interaction between the researcher and participant. In addition, the results can contain bias from inter-dependence on the researcher's previous experience. To minimise this, a framework has been developed designed by constructivist researchers that can be applied to grounded theory studies. This has two main components, trustworthiness and authenticity (Guba and Lincoln, 1994).

Trustworthiness consists of the aspects of four concepts, credibility (truth value), transferability (applicability), dependability (consistency) and confirmability. Credibility in this study was strengthened by the audio recording and transcription of data, which facilitated the use of quotes in the thesis. Although originally designed to seek for transferability between theories (Bryman, 2016) it is generally accepted that transferability can also refer to the extent to which data from this study could be transferred or translated for use by other similar groups (Bryman,

2016; Polit and Beck, 2017; 2021). In this study, it included checking that readers have sufficient information about the process through which the study was completed to be able to judge the findings. An audit trail of memos and a reflective journal also supported this process and identified all decisions to be analysed, recorded, and dated. This data also supports the dependability and confirmability of the research as it facilitates reflexivity and evaluation. In writing memos (theoretical notes), the researcher enters into a conversation with self and with the data and develops new ideas (supporting categorizing) and insights from the data.

From a symbolic interactionist point of view, interview data are constructed as a result of interaction between researcher and participant. Thus, the researcher should be aware of the effect of researcher-participant interactions on the construction of data (Hall and Callery, 2001). Keeping a journal to engage in reflexivity is recommended (Corbin and Strauss, 2015; Thornberg, 2016). To control intrusion of perspectives, biases and assumptions the memos can be used to review and reflect on what was written and to response to the data (Corbin and Strauss, 2015). Personal writings are recommended to engage in reflexivity. Self-interrogation and reflection can be enhanced by (reflective) memoing, or keeping a personal journal to illuminate the influences on emergent concepts and theory, becoming aware of how concepts are constructed and monitoring how the literature, previous research and theoretical constructions are used (Thornberg, 2016).

Reflexivity is the social researcher's process of reflecting on their generated knowledge of the social world, and their personal influence (as a researcher) on the research findings (Bryman, 2016). Although there are multiple meanings to the term reflexivity (Lynch, 2000), in general reflectivity is part of critical self-reflection about one's own biases, preferences, and preconceptions (Polit and Beck, 2017; 2021). Methodological reflexivity can be defined as a process of researchers conveying their background, how it informs their interpretation of the information in their research and what they have to gain from their study (Creswell, 2013). More precisely, reflectiveness among social researchers is about the understanding of how researchers' methods, values, biases, decisions and mere presence in the very situations (time, place and context) they investigate influence the knowledge of that specific social world (Bryman, 2016).

With symbolic interactionism supporting the grounded theory methods, applying reflexivity to the method used was essential (Engward and Davis, 2015), but the operationalisation of reflexivity may differ depending on the approach used (see paragraph 3.5.3). Although it is commonly accepted that in grounded theory the intertwinement of the researcher with the world at study is inseparable, its impact on the emerging theory is still an issue of discussion and depends on the chosen epistemology (O' Connor et al., 2018). For this study, the requirement

of reflexivity has been met by being aware from the start of the need to approach data with an open mind and by always questioning this openness, for example during the meetings with the supervisory team, who acted as a critical friend. During the research, memos were recorded in ATLAS.ti, which also served to provide an audit trial of the memos. Listening to or viewing the recordings of the dialogues with the supervisors was used to support reflection. The recordings were also intended to aid understanding of what was said during the dialogues, as they could be listened to repeatedly. This was very helpful for the reflection, especially in relation to the back-and-forth translation of the interpretation of the data. Finally, use was made of writing a reflexive paper (see appendix 5) on the end result.

It is only two decades ago that reflexivity became an issue, especially within the constructivist framework (Mruck and Mey, 2007), and there is still dissention about if and to what extent reflexivity should be applied depending on the kind of the grounded theory approach. Methodologically, letting the theory emerge and not (re-)constructing one by using an interpretational process but being 'open' to that which emerges is of most importance.

3.8 Summary

This study explored how diabetes specialist nurse prescribers learn about, and try to implement evidence based practice, revealing that they were in need of further education (see appendix 3 for the educational programme). The findings were used to develop a conceptual framework that informs the underlying (social) processes that they learn and use to try to adopt evidence based practice. A Symbolic Interactionist theoretical perspective and grounded theory method were used to structure the research process letting codes, categories and ultimately the building blocks and coherence for theory generation. The study methods were chosen as they were seen as appropriate for use together with evidence based practice educational facilitation. Since the study's focus was on participants' internal processes data was gathered through personal and group interviews. Anticipating complex data analysis, this process was supported by CAQDAS using ATLAS.ti7 software and grounded theory matching data analysis technique. Quality and ethical research issues were addressed in accordance with grounded theory methods (Charmaz, 2014; Charmaz and Thornberg, 2021).

Chapter 4: Initial analysis and findings

4.1 Introduction to initial analysis and findings

The content of this chapter describes and gives examples of the processes used in the GTM of analysis, which as indicated in the methods chapter has the explicit focus of theory development without the purpose of theory verification (Glaser and Strauss, 1967). The iterative coding process (open and theoretical coding) described below yielded a wealth of information from within the data sets.

4.1.1 Initial analysis

Using ATLAS.ti7 for coding, the analysis was based on individual interviews and the first focus group (see table 4.1 for an overview).

Month and year	Interviewing, transcribe, analysis	Profession
October 2014	Focus Group (Document 33) (55') code 01; code 02; code 03; code 04; code 05; code 06; code 08; code 10 code 11 code 17	 Nurses Manager Co-worker
June 2015	code 10 (56') code 09 (83')	Nurse Educator
July 2015	code 08 (57'), code 06 (57'), code 05 (58') code 07 (52')	Nurse Educator
August 2015	code 04 (61'), code 03	Nurse
September 2015	code 02 (50'), code 01 (52')	Nurse
October 2015	code 11 (78')	Manager
June 2016	code G01 (60')	Physician
August 2016	code G05 (65') code 23 (89')	Physician Manager
December 2017	Focus Group (Document 45) (56') code 04, code 08, code 01, code 06 code 17	 Nurses Co-worker
January 2019	Focus group (Document 39) (63') code 08, code 06, code 05, code 01 code 17	 Nurses Co-worker
January 2019 to December 2022	Further analysis and development of the conceptual model	

Table 4.1: Timeline of data gathering and analysis

4.1.2 Interviews and focus group analysis process

In line with recommendations for the use of grounded theory (Charmaz, 2014; Friese, 2014) as described in the methods chapter, data analysis began after the completion of the first interviews, and continued after each interview, using Charmaz's (2014) approach, the initial coding led to initial themes emerging from the data. Figure 4.1(a & b) gives an example of the initial coding as seen in ATLAS.ti7, while table 4.1 illustrates how the researcher used these initial findings to check coding and then moved towards the development of concepts. As described in paragraph 3.6, Seidel's (Seidel, 1998) NCT model was used to facilitate the coding process. This was followed by memoing and a reflective review of the initial labels with

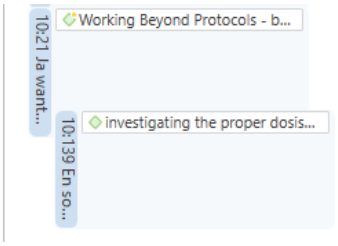
the supervisory team, to check that researcher perceptions and bias had not unduly influenced the analysis (also described in paragraph 3.6).

Coding of quote 139 in document 10 (interview code 10)

Initial coding of the first interview August-September 2015

Investigating the proper doses for the patient

R: Ja want voorschrift is start met 40 mg Simvastatine of Pravastatine. Dat zijn gewoon Nederlandse regels zeg maar, volgens de ... en uhm ik zie mensen die daar klachten van hebben .. dus dan ga je zoeken.. he als het allemaal goed ging waren ze soms bij de huisarts, zeg maar he, kwamen ze niet eens bij ons, en uh , maar het lukt niet zoals het zou moeten en dan gaan we zoeken. En soms is dat buiten de kaders. En juist bij na onderdoseren om te zorgen dat er een moment komt waaar we een geschikte dosis gaan vinden en soms komt er ook een moment dat je moet zeggen "maar, wat wil u?" wan uh u heeft zoveel klachten ... is dit voor u leefbaar, he, maar maar uh ...



(find enlargement of the screenshot of ATLAS.ti in appendix 7: screen shots ATLAS.ti)

Direct translation

R: Yes, because the prescription starts with 40 mg of Simvastatin or Pravastatin. Those are just Dutch rules, so to speak, according to the ... and uhm I see people who have complaints about that ... so then you start looking ... hey if it all went well they were sometimes at the GP, say hey, they didn't come once with us, and uh, **but it doesn't work out the way it should** and **then we start looking**. And **sometimes that is outside the box**. And **just after under dosing to ensure that there comes a moment where we will find a suitable dose** and **sometimes there comes a moment when you have to say "but, what do you want?"** wan uh **you have so many complaints** … **is this liveable for you**, huh, but uh …

Representation of the quote in the thesis

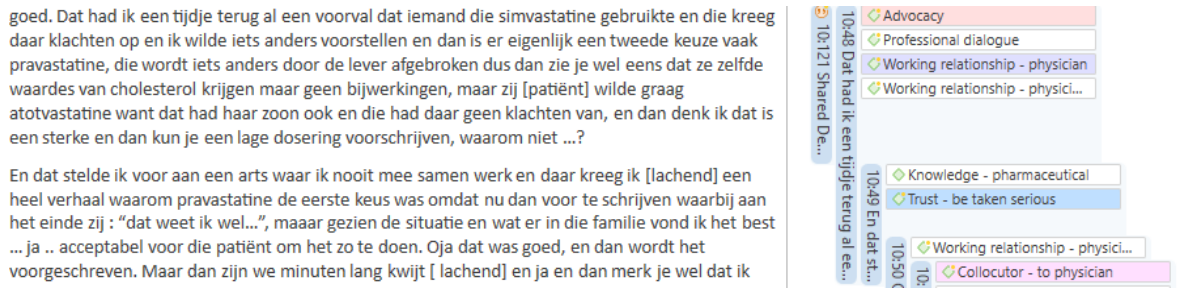
"… but if it fails then we start looking ... sometimes out of the box ... and intentionally prescribe a lower as work to identify we find the appropriate doses … and sometimes you come to a point where you have to say … what do you [patient] want … because you have so many side effects … is this liveable for you …" (QU:10:139)

Figure 4.1a: Visualisation of coding process first interview (in ATLAS.ti)

Coding of quote 48 in document 10 (interview code 10)

Initial coding of the first interview August-September 2015

ADVOCACY



(find enlargement of the screenshot of ATLAS.ti in appendix 7: screen shots ATLAS.ti)

Direct translation

good. I've already had an incident a while ago that **someone who used simvastatin got side effects** … **and I wanted to propose something else** … there is actually a second choice often **pravastatin**, **which is broken down slightly differently by the liver so then you see** sometimes that they **get the same effect on cholesterol levels but no side effects**, but she [patient] wanted to take atorvastatin because her son also took it and he had no side effects, and then I thought that is a strong reason ... [why] she won't accept the options and then I can prescribe a lower dose [so] why not …?

And I suggested that to a doctor I'd never worked with and there I got [laughing] a whole story why pravastatin was the first choice now to prescribe … where at the end I said: "I know that …", but given the situation and what was going on in that family I thought it was best … yes … acceptable for that patient to do what I had done and the response was. **OK yes … that was good, and then it is [stays] prescribed**. But then we sat [laughing] and yes and then you notice that I

Representation of the quote in the thesis

"… a patient used simvastatin and … had side-effects … and I wanted to propose something else … pravastatin … which is broken down slightly differently by the liver … so then there is the same effect on cholesterol but less side effects … … and he [physician] agreed so prescribed it …" (QU:10:48)

Figure 4.1b: Visualisation of coding process first interview (in ATLAS.ti)

The examples of the quotations in fig. 4.1a&b illustrate that each quote was labelled. An explanation of the label system is given in table 4.2.

Sort of source	Document number (code)
Interviewee	03 (code 01); 04 (code 02); 05 (code 03); 06 (code 04); 07 (code 05); 08 (code 06); 09 (code 08); 10 (code 10); 11 (code 11); 13 (code 09); 14 (code 07); 30 (code G01); 34 (code G05); 35 (code 23)
Group interview (e.g. group meeting or focus group)	31 (code 31); 33 (code 33); 36 (code 36); 39 (code 39); 40 (code 40); 41 (code 41); 44 (code 44); 45 (code 45)
Explanation: The quotes (e.g. QU:13:100) are provided with a unique designation where QU indicates that it concerns a quote of an interviewee. The two-digit designation refers to the relevant document number (transcript of an interview or a group interview. The three-digit designation refers to the quote in that document. Therefore, QU:13:100 refers to quote 100 of a transcript (in this case number 13) of the interviewee coded with "09". In order to distinguish the difference between a quote from a personal interview and a quote from a group interview or focus group, an "f" has been added to these quotations. Therefore, an "f" added to the designation QU like QU-f means that it refers to a focus group transcript.	

Table 4.2: Explanation and overview of the coding

Using the network tool in ATLAS.ti codes were sorted into groups and elevated to more precise concepts, then grouped into categories as described in chapter 3 (Friese, 2014). An example of how it then appears in ATLAS is given below in fig. 4.2a for clarity a section of this chart is given in fig. 4.2b overleaf, the full expanded chart can be found in appendix 8.

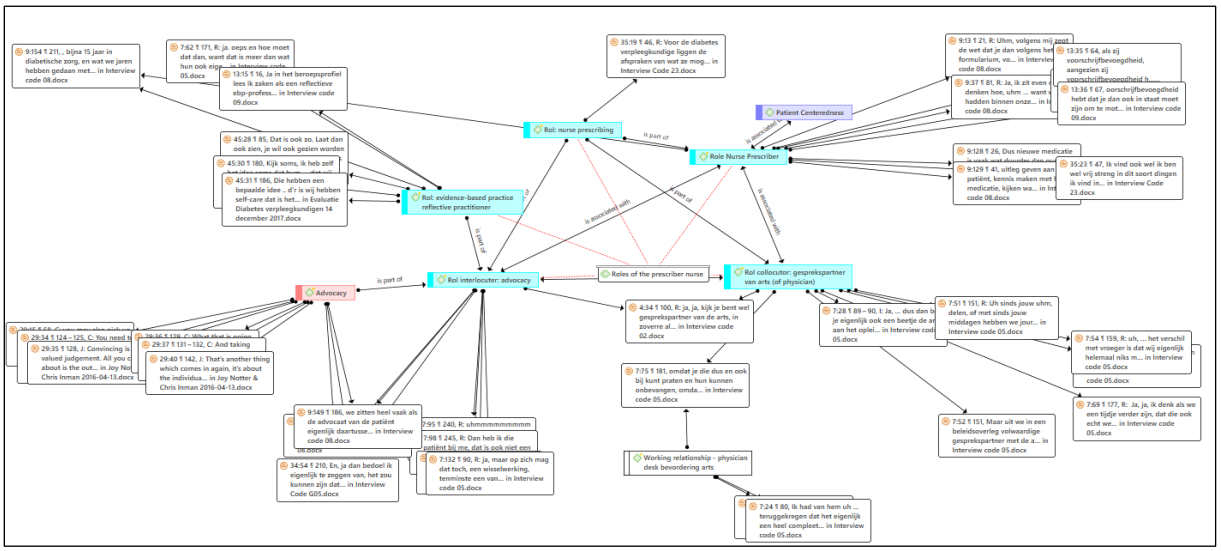


Figure 4.2a: Visualisation of the use of ATLAS.ti network tool (Mediator: advocacy-interlocutor)

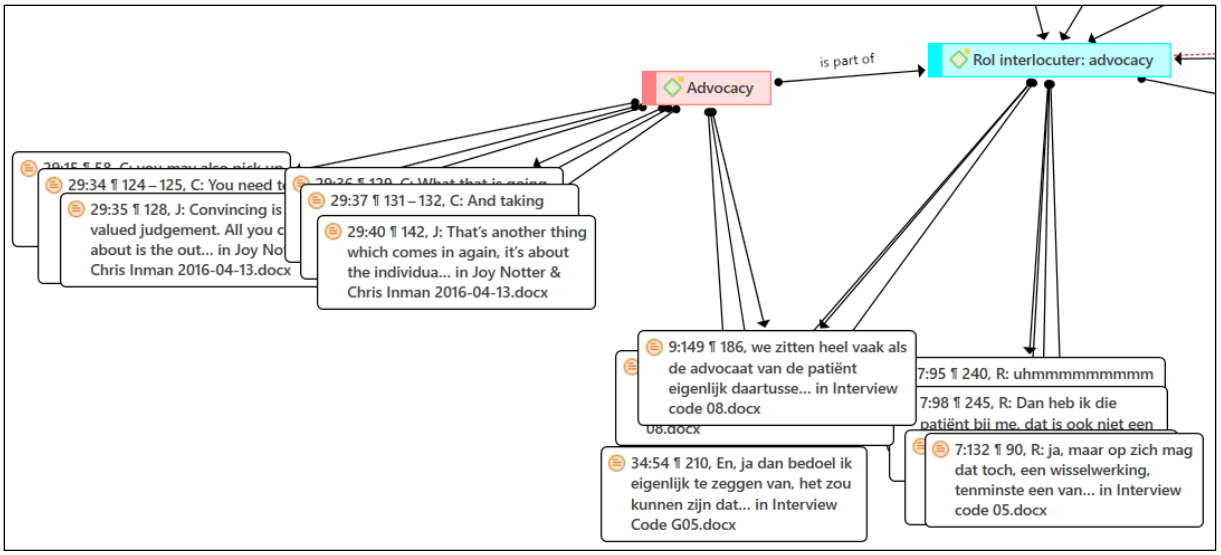


Figure 4.2b: Close view visualisation of the use of ATLAS.ti network tool (Mediator: advocacy-interlocutor)

An example of the relationship between quotations, initial codes and concepts or categories developed during the initial analysis is given below in table 4.3.

Quotation	Initial code	Concept / Category
"… we **often need to intervene as patient advocate**...to get good blood sugar readings ... i think this drug...maybe easier … or better for the patient ... yes [it's about] quality of life for the patient … is the patient better with a 4 times daily insulin schedule ... but then if that doesn't fit into his daily life … then you argue [with the doctor] for something else ..." (QU:9:149)	**Advocacy**	**Patient's advocate (Mediating)**
"… a patient used simvastatin and … had side-effects … and I wanted to propose something else … pravastatin … which is broken down slightly differently by the liver … so then there is the **same effect on cholesterol but less side effects … … and he [physician] agreed so prescribed it** …" (QU:10:48)		
"… we discuss [the prescription] with a patient and **we will look with them to see if the medication they use is the right one** and if we think something else should be done in consultation with the doctor ... then **we will talk with the physician about what to do** …" (QU:9:4)	**Role interlocutor: advocacy**	
"… yes … the nurse may find things out in a consultation and say … **well that may not be so convenient that we use this … and that she suggests something** ..." (QU:34:54)		
"… **but if it fails then we start looking** ... sometimes **out of the box** ... and intentionally prescribe a lower as work to identify we find the appropriate doses … and sometimes you come to a point where you have to say … **what do you [patient] want** … because you have so many side effects … is this liveable for you …" (QU:10:139)	**Investigating the proper doses for the patient**	**Working beyond protocols**
"… **well learning together** … preparing much more from … well yes that must still be a … while I think there are all sorts of causes, but you notice … **within the team** … that **there is less attention** … **to go through an article together** … to assess …" (QU:10:64)	**Evidence based practice - journal club**	
"… [there had been] a presentation [Pharma Rep] about a new insulin ... the response of the physician was … how is that possible … **you are not allowed to … you should not have had that presentation** ... this is **reserved to physicians** and **not nurses**… as she went on to add … we still have a long way to go for us [to be accepted] as professionals ..." (QU:10:73)	**Evidence based practice – propositional knowledge**	

Table 4.3: Example of initial coding list

The initial themes that emerged were Nurse Prescriber - Patient relationship, Nurse Prescriber - Physician relationship, Patient Mediator (Advocacy), Working beyond protocols and EBP (Professional knowledge). Study of these themes revealed a 'situational' presentation of the nurse prescriber's relationship with the patients, the physicians and other stakeholders. There appeared to be a triad-based relationship between patient, physician and the nurse prescriber, with the last taking on several roles, including independent nursing care provider to the patient, collaborator with the physician, and collocutor regarding the patient's general therapeutic care. Occasionally these roles were reported to conflict for example, when the DSNP's focus was on therapy adherence, and the physician's prescription was difficult for the patient to follow due to personal circumstances or needs. An example of this arises when nurse prescribers inform the patient about the physician's treatment decisions, discussing compliance issues and concerns with the patient. In these circumstances, the DSNP finds themselves with an additional role of interlocutor, having to act firstly as advocate for the physician and then vice versa regarding the patient's personal views and preferences (e.g. regarding side effects) with the physician. Intervening as an interlocutor can improve/influence the decision-making process for all involved, by providing stakeholders with relevant information and thereby influencing therapy adherence and through that patient's health.

There is another issue, when it comes to a DSNP's delivery of quality of care they have to answer to the patients, physicians, and to management in their position as employee (answering to a manager), to their nursing community as a professional (with professional standards), and in the case of a nursing student, as the knowledgeable, professional educator. This initial analysis gave a wealth of information that needed to be reviewed in more detail and become more focused. While this analysis informed the researcher about the situational context of the research setting, it did not in itself address the research objectives, and a more detailed review and analysis of each theme was needed.

Nurse Prescriber - Patient relationship

This theme is key because of the changes to the nursing role that arise from the recent legislation. To embrace their new responsibilities nurse prescribers must have a deep understanding about both patient needs and pharmacology. Only then are they able to discuss treatment policy with the patient and/or the (supervising) physician, regardless of whether it is the nurse or the physician who authorises changes in the medication (QU:10:48).

> *"… a patient used simvastatin and … had side-effects … and I wanted to propose something else … pravastatin … which is broken down slightly differently by the*

> *liver … so then there is the same effect on cholesterol but less side effects … … and he* [physician] *agreed so prescribed it …"* (QU:10:48)

Nurse prescribers develop independent treatment-based relationships with the patient, which focus holistically on the patient's health and treatment needs, this includes lifestyle and factors that impact on compliance to medication and treatment regimes. For the patient to adhere to a prescribed medication regime, they have to trust those prescribing, and be able to see how the treatment regime fits into their working, home and social life. As one reported (QU:10:42).

> *"… if they are not adhering* [to their prescription] … *there is usually a reason ... and in this case just the fear of the medication because someone closely related ... received too much medication that wasn't right and* ***being afraid*** *like … now I have medication but I'm afraid I'm going to poison myself with this … and you won't find that out until you have a good talk ..."* (QU:10:42)

Patients find it difficult to express their misconceptions about medication safety regarding prescriptions from their healthcare provider, or may choose to hide their concerns, from both professionals and families. Therefore, nurse prescribers need to develop strategies that encourage patients to share with them how they really feel, to enable them to gain insight into the patient's perspective and explore with them the best approach to treatment and to help them to protect their own health. The data indicated that a good patient-prescriber relationship includes emotional support, reassurance and/or respect with both professional and patient seen as equal partners, and has an important, positive influence on patient's adherence (Jin et al., 2008; Molina-Mula and Gallo-Estrada, 2020).

Nurse Prescriber – Physician relationship

The participants reported that they usually worked with one specific physician or a limited number of specialist physicians, for example, endocrinologists. They said that for them, the challenge is that each physician works with, and collaborates with, several nurses and may therefore have limited time to develop the individual relationships needed for the nurse prescriber's role to be fully accepted. Additionally, each hospital sets their own boundaries for the nurse prescriber's role and responsibilities; these have to be approved by both physicians and pharmacists and are then recorded by an institutional lawyer. Despite annual consultations on precisely which drugs nurses should prescribe, ultimately, physicians make the final decisions on the boundaries of nurse prescribing in each hospital. In consequence, the nurses still need to seek physician approval for any medication not on their approved list. They also pointed out that this change in role and responsibility has impacted on their working relationships, with physicians now expecting a higher level of knowledge and expertise from them (QU:10:56).

> *"… regarding the doctor ... my experience is that … especially the one I mainly work with … … he expects more from me …"* (QU:10:56)

The participants were moving into a domain previously seen as the sole prerogative of medicine, and reported finding that they need to continually demonstrate their competence and professionalism, to gain the trust of the physicians they work with. Where the professional relationships are good, the nurse prescriber is more likely to be able to tailor the prescription to the patient's needs, working beyond rigid protocols (QU:10:19).

> *"… I see quite an extensive group here and I have realised that I just work beyond regulations … very careful giving people very low doses to check the day vitamin … levels because there is a possible connection …"* (QU:10:19)

For these designated inter-professional relationships between nurse prescribers and physicians, the concept of 'trust' was seen as crucial. Professional collaboration improves patient experience and allows for full discussions on all aspects of treatment and the individual patient context (QU:10:137). Where the nurses and physicians do not have a strong relationship, and/or there is less trust, it affects how the nurse works with the specialist physicians, as one reported:

> *"… I noticed that the nurse's role was different ... less contact with the physicians ... there was simply a difference and they didn't know you that well and I think* [there was] *less trust too ..."* (QU:10:137)

This shows that the participant was aware of the importance of good professional relationships with physicians and how once trust was established the nurse prescribers had more professional freedom to act.

Patient's Mediator (Advocacy)

Working as a team the ultimate aim is to help the patient achieve the best possible blood glucose levels, aiming to bring them back towards normoglycemia (QU:9:93). The nurse participants described themselves as the patient advocate, often finding themselves in the position of persuading (mediating) the physician (Hanks et al., 2019) to consider a different prescription or medical treatment to the one initially suggested (QU:9:149).

> *"… we often need to intervene as patient advocate ... to get good blood sugar readings ... I think this drug ... maybe easier … or better for the patient ... yes* [it's about] *quality of life for the patient … is the patient better with a four times daily insulin schedule ... but then if that doesn't fit into his daily life … then you argue* [with the doctor] *for something else ..."* (QU:9:149)

For this role, the nurse prescriber patient advocacy role was often implicit, rather than explicit. Some stressed that they contact the physician when they think they need to argue for the patient (Hanks et al., 2019), either suggesting adjustments to medication or changing medication altogether (QU:9:4).

> *"… we discuss* [the prescription] *with a patient and we will look with them to see if the medication they use is the right one and if we think something else should be done in consultation with the doctor ... then we will talk with the physician about what to do …"* (QU:9:4)

One physician interviewed confirmed that the nurses' advocacy role was important and he had as a result of discussions with nurse prescribers, changed proposed treatment plans, (QU:34:54).

> *"… yes … the nurse may find things out in a consultation and say … well that may not be so convenient that we use this … and that she suggests something ..."* (QU:34:54)

The concepts of advocacy and trust appeared to be the central tenets of the triadic relationship, and to give legitimacy to the advocacy role. However, for this to be possible, good communication and advocacy skills are essential (Galuska, 2016) or the physician may not be convinced, despite evidence of the need for change.

Working beyond protocols and EBP (Professional knowledge)

It was evident that supplementary nurse prescribers have to use the agreed pharmaceutical protocols and that hospital policy dictates which medication can be autonomously prescribed by nurses. For all other medication, nurses have to consult a physician prior to making changes to prescriptions. However, the data also revealed that patient experiences of side effects and problems with compliance, sometimes make nurses seek solutions which are beyond protocols and guidelines and standard regulations (QU:10:139).

> *"… but … then we start looking ... sometimes out of the box ... and intentionally prescribe a lower dose as we work to identify and find the appropriate doses … and sometimes you come to a point where you have to say … what do you* [patient] *want … because you have so many side effects … is this liveable for you …"* (QU:10:139)

This patient centred approach facilitates the development of individually tailored patient care and opens the door to discussing care alternatives with physicians as well as patients. An advantage of this cooperation is that as together they search for research to improve the care

they provide; they are moving towards the implementation of EBP. During their additional training, all nurses had undergone a pharmacology course, but all of them reported that this had not prepared them for the reality of the clinical situations they found themselves in as nurse prescribers. They all agreed that it was having to make what they described as 'difficult decisions' for specific patients, that had made them realise that they needed to know more about appraising scientific articles and utilising evidence in practice (QU:10:64). They had found the journal clubs, which had meant working and learning in a group, beneficial in helping them to find and apply alternative treatment possibilities.

> *"… well learning together … preparing much more from … well yes that must still be a … while I think there are all sorts of causes … but you notice … within the team … that there is less attention … to go through an article together … to assess …"* (QU:10:64)

Today, the bulk of decisions regarding care of patients with chronic diseases is multidisciplinary, with teams aiming to reach a shared understanding of what the best treatment/care should be. This is still physician led, but increasingly the nurses have a greater say in the outcomes (QU:10:139), whereas the statement above indicates, the nurse persuaded the physician to work with her, departing from the given protocols to enable the patient to cope with and comply with the treatment regimen.

To be informed about new drugs, the nurse prescribers now meet with Pharmaceutical Sales Representatives (PSR), but this is new, and for some physicians is difficult to accept. One participant reported an incident where the physician had been taken by surprise at the nurse having knowledge that traditionally she would have had no access to (QU:10:73).

> *"…* [there had been] *a presentation about a new insulin ... the response of the physician was … how is that possible … you are not allowed to … you should not have had that presentation ... this is reserved for physicians and not nurses …*

She went on to add

> *… we still have a long way to go for us* [to be accepted] *as professionals ..."* (QU:10:73)

Although this response had been disappointing for the nurse, she had accepted that change takes time, and for the physician to suddenly be faced with nurses with extended knowledge had come as a shock. Physicians need to be aware of the changes, including of the increased education accompanying the new laws, and this study shows that for some, it takes time to become accustomed to the extended role of nurse prescribers. For the nurses, when nurses

seeing themselves as being proactive in searching for knowledge, it can be difficult if they are then rebuffed, and seen as having crossed professional borders. However, nursing research and documentation demonstrates that over the time nurse prescribing has been in evidence (over two decades) there has been a gradual change, and now in some high income countries, what was initially seen as confrontational, has become accepted and is now seen as 'normal' clinical practice (Kroezen et al., 2012; Kroezen et al., 2014b; Maier, 2019).

4.1.3 Result of the initial findings

As the above indicates, the initial analysis gave insights into the situational concepts, and their cohesion, giving the first indicators of the tripartite professional relationship between patients, nurse prescribers and physicians, within which the patient may receive medication prescriptions from both nurse prescribers and physicians. Figure 4.3 below gives a diagrammatic representation of this initial situation context.

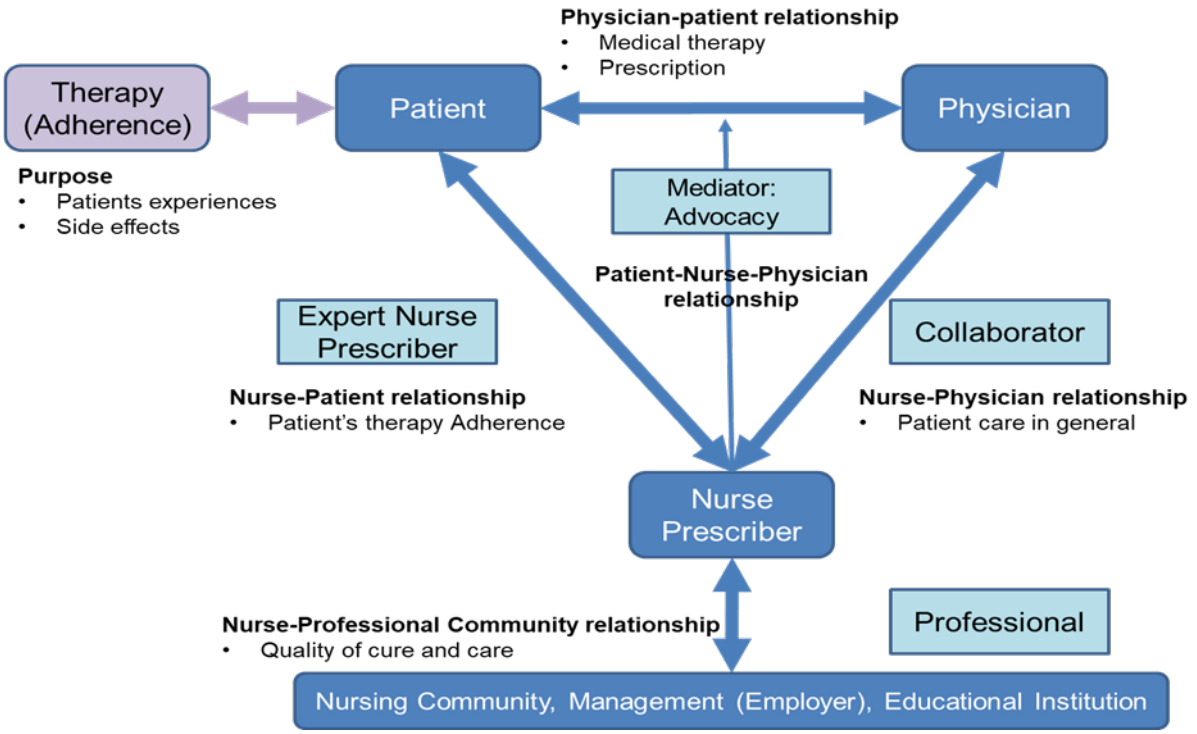


Figure 4.3: Diagrammatic representation of initial situational context

The analysis also revealed that overall, nurses only collaborate with a limited number of physicians, usually experts in their own field and with whom they can establish a secure, ongoing relationship. Occasionally they may need to work with physicians from other medical disciplines, but in these instances, they are less professionally connected, and it may be harder for their views and perspectives to be accepted. In addition, the nurse prescribers tend to work in accordance with the annually agreed protocols, but where necessary are able to work with physicians to develop a solution based on decisions that are beyond normal accepted

protocols. On these occasions, the nurse becomes a mediator, mediating and advocating for both patient and physician. All the nurses were aware of the need for, and importance of EBP, but, at this stage of the study, how, when and why the nurses were using EBP was not clear from the analysis, as their focus was on optimising the patients' therapy and therapy adherence.

Thus, although the analysis at this stage provided a clear picture of the situational context of the DSNPs, it did not appear theoretically sensitive to the relevant issues and events emerging from the data (Corbin and Strauss, 2015). Reviewing the approach used, led to the decision that a change in the analysis approach was needed, in which more attention would be given to the participants' self-concept using perspectives arising from symbolic interactionism, to focus on an interpretive understanding of participants' meanings, embracing Charmaz's methodology (Charmaz, 2014). In consequence, the second cycle of analysis also focused on the social and cultural context of the processes being investigated, and therefore on the how and why of the participants' understanding and actions (Maher et al., 2018). This meant looking again at the total data set, using an additional process of coding (open and focussed) (Charmaz, 2014), to identify where the interviewees' data expressed meanings of events on their self-concept. This approach was then compared with the previous analysis and resulted in new categories within the previously created situational model. This led to the development of the conceptual model as described in chapter 5, although, it is accepted that with qualitative research, any resulting tentative theory is a subjective interpretation (Charmaz, 2014) and the actions and interactions of the researcher have a creative component (Corbin and Strauss, 1990; Suddaby, 2006).

4.2 Re-analysis

As the initial analysis had not answered the question how, when or why the nurses use EBP, the reanalysis followed the first one, and started with reanalysing the transcript of the first interview. In this second iteration, it emerged that professional social interaction was an important component of their actions and interactions. As seeking for the emergence of potential patterns which could lead to theory development is a key aim for grounded theory methods, this finding was carefully considered.

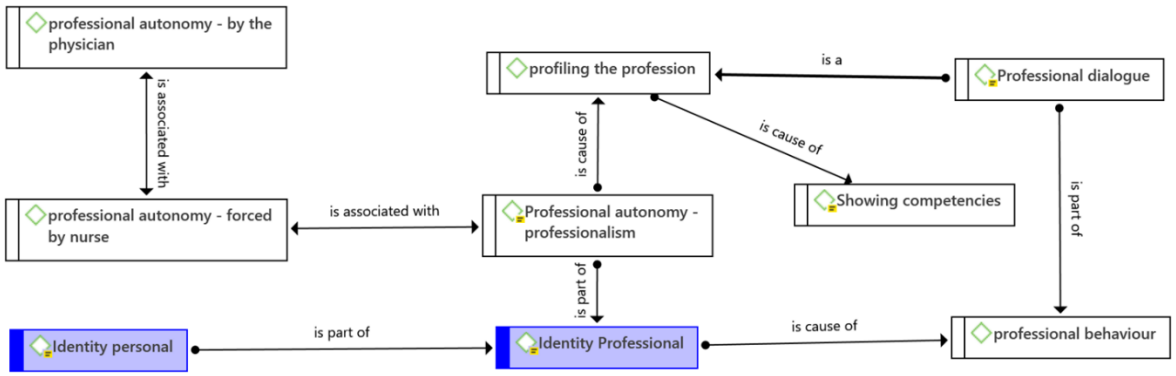


Figure 4.4: Visualisation of a Network view in process (Professional Autonomy)

A possible framework for this was Aldiabat's and Le Navenec's (2011) discourses on Symbolic interactionism, and therefore the decision was made to use this concept to guide the analysis (using the processes described in chapter 3). As a result, the focus of this analysis moved (fig. 4.4) to the self-concept of nurse prescribers as they interact with other stakeholders in the given context.

4.2.1 Outcomes of the addition of the Symbolic Interactionists perspective

The addition of the symbolic interactionist perspective was used to check how the new insights and perspectives had impacted on the data sets, and one area of increased insight was into how the nurse prescriber defines their professional Self within the professional context. In this case mainly diabetes patients and physicians, but also their overall professional body, giving the nurse an ongoing process of internal conversation about herself, being a nurse prescriber ("I": human subject) reacting to the attitudes of others and her social Self ("Me": human object). This social Self is an interpretation of Self as reflected by others (Mead, 1934: in Aldiabat and Le Navenec, 2011). In this case the data indicates that as the nurse 'grows' into being a (supplementary) nurse prescriber, the transition from specialist nurse to nurse prescriber takes place parallel to development of professional Self-concept (beliefs and feelings about one professional selves) through their perceived appearance to others and the individual's perceived judgment from others of their appearance. The data suggests that as the nurse's perception grows the meaning it has for the nurse will enhance or diminish their Self-concept (Looking glass Self), and this in turn, will affect how their professional Self develops (Aldiabat and Le Navenec, 2011). Thus, within the context of nurse prescribing the decision of taking on the role of R-EBP-P (or Mediator of the patient) and the way in which it will be performed may well be dependent on the outcome of social interactions by the nurse with physicians (or patients). Therefore, during analysis the focus needed to include nurse participants' perceptions of the physicians' expectations, looking for expressions of how they appear to

physicians, how the physicians judge the nurses' appearance, and how they respond to the imagined judgement (looking glass self).

From the initial analysis, it was evident that the nurse prescribers had already embraced the professional role of Health Advocate (or being patient's mediator). To do this well it is necessary to see the role (SI role taking: Aldiabat and Le Navenec, 2011) of the patients accurately to understand if they are in need of a mediator, and it appears that women are more accurate in role taking than men (Love and Davis, 2021). Therefore, in using the findings from this study it will be important to note that all participants in this study were female, particularly as the findings demonstrate the extent to which nurses took on the role of patient Mediator when in dialogue with physicians. Once the decision was made to take on the patient Mediator role, a nurse also has to appraise the how this sits with the role of Reflective Evidence Based Practice Professional (R-EBP-P) and weigh the presumed consequences of acceptance by the physician and patient, as these will govern actions and interactions in the new role (Chapter 1). This decision impacted on the findings in their totality, and therefore the following sections review and re-present the findings, as preparation for them being integrated into the Reflective Evidence Based Practice Professional in the conceptual framework developed in chapter 5.

4.2.2 Situational context of Nurse Prescribing

Before February 2014 diabetes specialist nurses had developed a system which included prescribing specific drugs, through permission to utilise the name of the physician with whom they worked, in what was referred to as an 'extended arm construction'. However, the data revealed that this only worked where there was a trusted relationship (QU:6:74) and nurses met the expectations of the approving physicians.

> *"… look before that it was tolerated … … yes previously it* [prescribing] *was not really allowed but if you did … then you were be judged on it … your performing ...*

However, they also reported that where nurses were not seen as able or competent to use this approach, the extended arm construction was not accepted, and ultimately, their nursing position with management became adversely affected.

> *… if you came here to work and you could not do certain things after a year … … or you still had to keep your booklet from …* [stating what you have been approved to do] *on what will I have more or less to inject … then this resulted in a bad assessment … you can say …" (QU:6:74)*

For these nurses, the move to implement prescribing was more difficult as they first had to overcome an adverse judgment, and they were concerned that a judgment made regarding one nurse would be used when assessing other colleagues. This was in part because, although prescriber rights are given by law, giving substance to the role was initially left to local hospital institutions where hospital managers, physicians and senior/management nurses set the institutional rules (Koninklijke Nederlandsche Maatschappij tot bevordering der Geneeskunst, 2012). Thus, although in the eyes of the nurses in this study, gaining prescriber authority was a matter of formalising what was already practice (accepted behaviour), in some instances it had not been easy. Where physicians had not followed the 'extended arm' approach, it had proved to be more challenging to fully develop the role of nurse prescriber. Nevertheless, overall, the perception of the role of the nurse as a prescriber was changing and being increasingly accepted.

The nurse participants had accepted the increased need to keep themselves updated, much as the physicians do, following the government guidelines on national protocols ('protocolling of diabetes care'), the Pharmacotherapeutic Compass (Zorginstituut Nederland, 2021), and attending (in-service) training (QU:8:116), as well as pursuing individual study programmes. It was their expressed hope that in the future, as their new role becomes seen as accepted practice, they will be allowed to prescribe a wider range of drugs, including those often needed in combination with diabetes medication such as cholesterol reducers and hypertension medication (QU:8:126).

Multi-disciplinary context

As the data revealed, in addition to their (independent) professional relationship with the patient, DSNPs work in close collaboration with a range of other healthcare professionals, specialist physicians (endocrinologists, cardiologists and neurologists), other nurses and allied health professionals such as dieticians, podiatrists and where necessary social care providers (QU:9:90). The patient can now interact directly with physicians and nurse prescribers, accepting that both will collaborate on their behalf with other members of the multi-disciplinary team providing health care.

The nurses categorised separately the main groups of physicians and professionals with whom they collaborate. Firstly, there were the medical consultants for their caseload, and with whom they have a professional and, in many instances, have developed an increased rapport. Secondly, other physicians and surgeons to whom the diabetic patient may be referred, but where the nurses-physician relationship is weaker with less trust, as sporadic contact can limit understanding of individual personal and professional competencies. Finally, there are other professional bodies that also affect forming the framework for the profession, such as nursing

management, the nursing regulatory organisations, the nursing community itself and training institutes.

It was evident from the re-analysis of the data that the most frequently recurring issue, affecting all others, and needing to be the main focus of this study, was the nurses' perceived professional relationship with the physicians. This crucial position underpins all their activities as they work in the multi-disciplinary team to help patients achieve a status as near to normoglycemia as possible (QU:9:93).

> *"… our goal actually as a diabetes team … the goal is to aim for normoglycemia ... good blood glucose values … … promote the patient's quality of life ..."* (QU:9:93)

As this indicates, the nurse transitioning from a specialised diabetes nurse to a diabetes specialist nurse prescriber, operates in a complex care context in which many influencing factors need to be considered.

Professional Roles

As indicated previously, in the care triangle of diabetes care (patient, nurse and physician) the nurse has several roles (fig. 4.3); the re-analysis of the data gave increased insights into these roles including the position of advanced practice Nurse Prescriber, an independent healthcare provider to the patient which focuses on lifestyle and patient compliance (adherence) coaching. Also, to the second role of Collaborator to the physician, giving much greater insight into the ways in which the nurse discusses the patient's health status with the physician in order to optimise treatment in primary diabetes care or, where there are co-morbidities to consider, medical healthcare including additional specialities such as cardiology or nephology. When medical treatment is complex and problematic, resulting in the patient being left with discomfort and/or side effects, which can affect compliance, the nurses willingly embraced yet another role, that of Mediator. This additional new role is to discuss physician's prescribed treatment with the patient in order to help them understand the proposed medical regime, to explore and discuss the patient's perspective of the treatment and challenges to adherence and where necessary adapt or change the prescribed treatment. To do this, the nurse has to make suggestions/proposals supported by evidence for either non-standard care (non-protocolised care) or patient centred, clear and detailed adherence plans.

In addition to increasing insights into the already identified roles, a fourth role emerged, which comparing the data to nursing theory and documentation has been described by the Dutch Nursing Association as the role of the R-EBP-P. This fits well with the nurse prescriber role, as the prescribing authority means that nurses are expected to use expert judgment to review,

appraise and consider pharmacological information when assessing and planning care. For all four of their roles, EBP practice is essential. Using accepted strategies and interventions, knowingly placing the clinical decision-making within the moral and ethical context of cure and care (Schuurmans et al., 2012), the R-EBP-P will support and enhance their ability to carry out their new role. The participants saw their responsibilities as a challenging remit, as a lecturer interviewee reported (QU:13:15).

> *"... if I look at how we try to build EBP in education … then I think that's been the big problem for years ... … to use a metaphor … we* [in colleges of nursing] *try to teach students how to swim in a swimming pool barely filled with water …"* (QU:13:15)

They recognised that until this situation is resolved, and all nurses are adequately prepared to search for, appraise and implement appropriate EBP strategies, the Dutch government's requirement for full implementation of EBP is likely to continue to be delayed. Also, that just as they had needed the additional education and support given by the journal clubs, similar initiatives may be needed on a much bigger scale (QU:13:15).

4.2.3 Relationships

Nurse Prescriber – Patient relationship (deputed thinking)

As a nurse prescriber, the nurse serves the patient by discussing personal needs related to diabetes, reconsidering the medication in use or its dosage. To do this, the nurse needs information from both the physician and the patient, and the re-analysis revealed that the nurses accepted that their changed responsibilities include the need to use EBP (QU:3:17).

> *"... the diabetes training (course) had little or no EBP what you got but really for pharmacotherapy … … so I was glad we could go a bit further* [EBP course] *… especially because you will get prescribing authority … and I do not want just from the notes of what I get from a physician such as … you can prescribe these medications … I also want to know what I prescribe and what I do with the patient and how reliable it is …"* (QU:3:17)

The nurse prescribers aim to consider the patient's perspective, focusing on the direct effects of the medication and the mode of administration. However, society is changing and this in turn means that patients have changing needs, and clinical decision-making needs to adapt to meet the ever-changing context. Expressions such as *'… how would the patient want to be treated these days ...*' (QU:11:168) and '*… there are different patient's needs and probably also techniques …'* (QU:11:170) reveal that the nurse has to have an open mind towards planning care and offering treatment advice. In most cases it is the nurse's role to decide

(deputed thinking) what is best for the patient, offering the best care possible (QU:6:95). This includes treatment to prevent hypoglycaemia (QU:6:55), respecting the patient's right to self-determination through a shared decision making approach (Driever et al., 2020) and/or challenges to compliance, with in some instances the nurse acting as '*a bridge*' between physician and patient (QU:5:113).

> *"… that physician is ultimately the one who decides ... but you always keep* [in mind] *... yes what is best for the patient …"* (QU:6:95)

They have to be able to interpret and explain what the various treatments do and what the patient can expect as the following example indicates (QU:5:113).

> *"… that's just … at some point sugars go up … they start rising and before you give medication … that probably will never stop … you can also say … well you let's try … just add in everything … exercise … healthy food … we'll see what it does …"* (QU:5:113)

Another example was of a pregnant woman with fluctuating blood sugar levels. To show her what was happening, she was asked to wear a blood sugar sensor that indicates low sugar value. For the nurse, the patient's participation in her own care was a way to provide biofeedback and help her to understand (QU:9:87).

> *"… and … we have not only adjusted the medication but she has more insight of how the blood sugar values … affect her and her baby …"* (QU:9:87)

Patient tailored care was important to all participants (QU:8:136).

> *"... you actually always participate in giving the patient the most applicable and the most customised suit ..."* (QU:8:136)

The nurses try to work in the best interests of the patient, accepting that all patients are individuals and what works for one patient does not necessarily work for another. They have accepted the need to educate the patient on subjects not directly impacting on diabetes as well as the diabetes itself, such as smoking habits (QU:4:45).

> *"…* [stop smoking] *is a part of ... so it is a bit of what you have to discuss … with the patient … but it is difficult … as the effects are not directly on the diabetes … you have nothing to use that seems real …"* (QU:4:45)

This wider role of the nurse cannot be ignored (Pascucci et al., 2021; Tabesh et al., 2018) but is probably one of the more problematic elements of their role, relating to issues for which on

a national level, no one strategy has been found to be effective. EBP can help, but for that the nurses need to have wider knowledge of health and illness to explain the reasoning behind their clinical decisions (Michalsen et al., 2019). This includes the general impact of smoking on health, linked to the additional impact of diabetes on health status, immunity, and healing etcetera.

Nurse prescriber - physician relationship

In the primary interview, the nurse participants referred to the physicians with whom they primarily work as "*my physician*" (QU:10:140), demonstrating a high level of professional and social connectedness, with comments such as "*my physician knows and trusts me*" (QU:10:141). Being recognised by the physician was reported as reducing feelings of inhibition and discouragement, leaving freedom to discuss difficult patient cases. For one nurse, the behaviour of less known physicians was perceived as less positive, being '*lectured to'*, seen as less knowledgeable, and not taken seriously, or accepted as an equal health professional (QU:10:49).

> *"… and I suggested … to a doctor that I never work with … and then I got an extensive explanation on* [laughing] *why pravastatin was the first choice and had to sit through* [it] *before ..."* (QU:10:49)

Having sat through her lecture, she had convinced the physician to accept her recommendations, but was disappointed in the initial response she had received which contrasted with her usual working experience. An interprofessional dialogue like this may have a negative influence on their interprofessional collaboration (Michalsen et al., 2019). When discussing their main work, the nurses interviewed often spoke in terms of '*We*', expressing collaboration with physicians and articulating more explicit contributions to clinical reasoning related to the patient's signs and symptoms and pharmaceutical side effects (QU:10:34).

> *"… but that lady has some varying blood pressure and the … is known to the neurologist with uh ... I think … fibro-neuralgia which of course also can lead to syncope and blood pressure being difficult to treat … she was sent to us by the neurologist … we wanted to do blood pressure ... I think a two-hour measurement … she sat with us on a recliner ... we could really check … and she had a fall in blood pressure … became unconscious ..."* (QU:10:34)

For this participant, the ability to see and explore what actually happened enabled her to work with the physicians to utilise strategies and evidence beyond the guidelines (outside the scope of guidelines) (QU:10:21). By discussing options within a safe work environment, they could develop the best possible treatment for each patient. However, the nurses also pointed out

that once they start to work in this type of partnership, the physicians were perceived as expecting more from the nurses and to appreciate their contribution to the patient's care. Within such strong collaborations, they reported that nurse and physician are able to discuss patient cases more rapidly, with physicians being more open for suggestions and more willing to make exceptions to the medical treatment policy. As one physician pointed out (QU:30:129).

> *"… you shouldn't think that everything should stay the same … … that's very dangerous … … I mean I can have a picture of someone* [patient] *… but if she* [nurse] *says that the image [of the patient] isn't quite right then you have to be able to adjust it* [listen to the nurse] *I think ..."* (QU:30:129)

All participants reported that good rapport with the physician enhances the communication process (QU:5:104).

> *"... he does appreciate me ... but I have two nice physicians to work with … and that just goes very well … they are easier to approach … if you have a better click …"* (QU:5:104)

The lead in communications seems to mainly come from the nurses, with physicians responding rather than initiating communication, particularly when it comes to nurse prescriber authority. However, they recognised that this made the ability to use EBP even more important (QU:7:30).

> *"… and then I can see if EBP … use all studies* [I can find] *to see if a certain drug could have an added value for this patient …"* (QU:7:30)

Although the nurses mainly instigate contact, the physicians in their responses have accepted the change in task orientation of the nurses and changed their expectations of the nurses since they gained prescriber authority. They now expect the nurse to proactively formulate and discuss possible changes to medical treatment regimens (QU:34:1), not only focusing on administration of medication (QU:34:2).

> *"… well of course where nurses have often had a supporting task of course they are now working on making policy … and I think that you need EBP … yes to more proactively deal with that ..."* (QU:34:1)

and

> *"… of course they* [nurses] *were approached were we as physicians with the same study information … in particular … new information … they were ... very much focused on global insulin and tablets in the past ... but much more on the*

> *tools that were available … … but they often added less in terms of content ... now they use with … comparative studies …"* (QU:34:2)

The physicians had also noticed that the drug representatives visit the nurses more often now, bringing scientific literature with them. The data indicated that most physicians have accepted this, but as previously cited, for a few physicians this had been difficult, because the move to allow another professional group to prescribe meant accepting a move into unknown territory where they had less overall control. As one nurse reported (QU:10:148),

> *"… but that bit of accountability and also the bit of clinical reasoning … he still has a low expectation of us … whether he thinks that we are not capable … or that he just thinks that it belongs to him … I don't know …"* (QU:10:148).

In this example, the nurse was still working to demonstrate her expertise and have her level of knowledge and competence accepted. The nurse thought this was possibly because this physician had been unaware of the extent of legal changes, found their impact on practice, difficult to accept. However, where they were accepted, the nurse participants reported that physicians' expectations towards the nurses, particularly when no junior doctors are involved, are higher and the professional bond between them has become stronger (QU:10:97).

> *"… in the location1 we worked with physicians and the nurse and especially where I worked were no resident physician ... so there was already a much stronger bond …"* (QU:10:97)

Some responses from the physicians interviewed were unexpected, as it emerged that some are not very interested in EBP. One reported that he does not choose to work with academics and has no affinity with scientific research (QU:30:110), so had chosen not to work in an academic hospital. (In the Netherlands there is a distinction between general and academic/research hospitals).

> *"… and of course those* [academics with scientific interest] *stay in academic hospitals … and I'm not such a physician … "* (QU:30:110)

However, this physician went on to state that working with dedicated nurses helps him to stay alert, not relying solely on practical knowledge, but reviewing ideas for the patient's well-being based on the nurse's information. Their practical knowledge about the patient was perceived as relevant for clinical decision-making, and this participant also stated the importance of nurses contributing to multidisciplinary consultations (QU:34:39).

> *"… often very practical information … more disease history … so anamnesis with names … they obviously have more time* [with patients] *and are therefore very*

> *well informed about additional factors … while we I think often see things more medically ... … with the medication they use ... … then perhaps applying evidence of new medication how you could use that with patients ..."* (QU:34:39)

Another unexpected response by a physician was that after the diabetes nurses' first year of EBP training, he didn't see much difference in the way they worked (QU:30:2), but there was a clear contrast with nurses already educated to advanced nurse practitioner level (QU:30:3).

> *"… I also work with* [nurse x the advanced practitioner] *… … of course I work with her more than with* [nurse y] *… I must tell you very honestly … … that I have not noticed anything at all ..."* (QU:30:2) *"… nurse y is busy with her studies, hey, we have talked a lot, I have noticed that she is thinking more and looking ..."* (QU:30:3)

The physician recognised that this nurse-initiated contact because of assignments from the college of nursing (QU:30:4), and had become more critical when it came to prescribing (QU:30:8). However, for this physician the expectations were wider, and he expected consultation when any changes in a patient's physical parameters required adjustment to the patient's prescription. He stated she could make suggestions and would discuss them, but the emphasis was on him having to approve the changes, as he, the physician remained in charge (Pritchard, 2018) and he still considered himself to be responsible for all final decisions in patient treatment (QU:30:72).

> *"… for example adjusting medication … that's always in consultation with me ... she can … she may prescribe it … but she talks to me about … his blood pressure is very high … I want to raise the Candesartan … do you think that's ok …"* (QU:30:72)

The interviews also revealed that in general the physicians interviewed, did not know the processes used to educate nurses in using EBP (34:29). They were aware that they had some EBP education, were welcome to attend 'oral patient case presentations' (QU:34:34) and could be asked to present patient cases. They did report that even where they had seen few changes in practice, during multidisciplinary in-service training sessions, nurses were becoming more proactive and asking more questions (QU:34:57-58).

> *"… not directly in daily practice … … well when indeed have policy meetings ... also during in-service training with both physicians and nurses ... that they are proactive to ask critical questions ... so I think that they … have learned and are learning to look more critically ..."* (QU:34:57)

However, some of the nurses pointed out that although physicians expect nurse prescribers to take responsibility for (prescribing) actions/activities, each time they must prove that they are as accountable as physicians (QU:9:16). Where their contact with Pharmaceutical Sales Representatives was questioned, it caused surprise and for some confusion, as it was interpreted as a criticism (QU:9:137).

> *"… I was surprised at first … because I really wanted that conversation and ... my intention was very different from how it was interpreted ... because it was by 'phone I didn't know it was with a smile … or was it at that moment a serious opinion ... so that was difficult to interpret ..."* (QU:9:137)

This nurse had not felt free to discuss this with the physician, so remained puzzled and concerned. In another case, a physician asked the nurse to administer insulin to a pregnant non-diabetic patient. Because at the time she did not understand the purpose, she felt she could not take responsibility for administration expecting the physician to take full accountability (QU:8:140; QU:8:142).

> *"… that was a lady who already had a number of miscarriages and when the physician said … you make her inject this … I thought … I cannot take responsibility for that ... I do not understand ..."* (QU:8:142)

However, she thought that now she probably would have asked for more information, but at the time she had not known how to ask or to search for the relevant information to address her queries.

Whenever they think the patient would benefit from a switch from protocol-based medicine to tailored medicine, they make suggestions/proposals to the lead physician, sometimes compiling a formal report before discussions with the physician.

> *"… uh what I actually always do is make sure I have written my story down … explain what I want … what the issues are … what I want to achieve … and why I would like to prescribe …"* (QU:7:7)

For the nurses, physicians who are not familiar with diabetes care tend to have a knowledge deficit about how to treat diabetes patients, opening the door for the DSNPs to share knowledge and pass information to the physician (QU:7:130). It was an explicit strategy used by participants to earn goodwill (trust) by proposing well-grounded suggestions/proposals (QU:7:69).

> *"… you first have to get some goodwill and show … that that's really going well and that it's evidence based … and that you work with the right formulary ... but*

> *okay those are also those … who are hearing for the first time … that we already had the first … prescribing authority five years ago ..."* (QU:7:69)

A final important point from the physician interviews was that some physicians admitted that since working with the nurse as a collaborator, they were more inclined to look for new evidence instead of relying on accepted knowledge (QU:30:125).

4.2.4 Mediator to patient and physician

One of the role changes is to review and discuss medication assessing if it is appropriate, and if it is effective. As diabetes specialist nurses they had not had the knowledge or authority to prescribe, therefore, during the transition period, nurses had still had to discuss changes in medication with physicians. Their perception is that now, things have moved on, and whenever they think the medication should be changed, they will be heard and can make a difference, improving patient care. This role initially identified as advocacy on behalf of the patient was translated after the re-analysis into "mediating", since this comes closer to the understanding of the nurse prescribers' behaviour and is considered to be a part of the diabetes specialist nurse prescribers' Health Advocacy role, as described in their professional profile.

Mediating in this study arose when a nurse prescriber was involved in a professional conversation representing the patient and included when the nurse spoke on behalf of the patient, due to either that patient's perceived lack of power or knowledge, or where the patient couldn't be present when decisions were made (Abbasinia et al., 2019). One nurse participant reported frequently finding herself in the role of mediator (QU:9:149) pleading with physicians to consider an alternative treatment when patients were struggling with the regimen prescribed. They reported that this could be difficult when the physician in charge is, for example, a surgeon who strictly follows protocols (QU:7:95).

> *"... the problem is … hospitals think in boxes ... the endocrinologist prescribes medication … but … the surgeon is responsible for the first 24 hours … and works purely according to protocol ... looks at what medication someone has … sometimes working from information from the pharmacy … not the latest medication ... and that's where it goes wrong ..."* (QU:7:95)

In those cases, the nurse sees it as her duty to inform (educate) the physician (surgeon) in order for them to agree to appropriate treatment (QU:7:132).

> *"… but in itself it may an interaction … and within that leeway ... I think you can train each other … you can coach … may educate or whatever it is ..."* (QU:7:132)

The nurse's challenge is that it is normal to follow protocols and to change medication using clinical decisions based on extensive knowledge of the patient, but this is not always easy for physicians or surgeons who have little knowledge of the patient's life and lifestyle (QU:7:98).

> *"… then I have that patient … I explain who I am … what I am going to do … … and why I am going to do something ... if I can report it correctly … can inform the department in the appropriate manner … and from that point on I can actually implement my entire policy ..."* (QU:7:98)

Demonstrating their ability to be proactive and knowledgeable, earning physicians trust (QU:7:132) was reported as making it easier for these physicians and surgeons to accept advice.

Self (self-image)

The concept of Self, although its emergence was part of the re-analysis was, or seemed difficult to integrate, or position, in the changing situational presentation given in figure 4.3. Nurses reported being critical of themselves and the quality of care they deliver, arguing the need for updating through reading scientific medical research articles (QU:7:110) but they found it hard to articulate this clearly. To try to explain they focused on their feelings of increasing confidence, using examples of how knowledge of pharmacology and EBP enhanced the feeling of confidence in clinical decision making and medical prescribing (QU:3:78).

> *"… then I just notice that you have more experience in the field of diabetes ... then you dare to use a different drug and whether to increase or decrease the dose more quickly … more experience to say … it's not that … medication .... … you are an equal conversation partner ..."* (QU:3:78)

They also described how increased confidence had strengthened the feeling of being a valued Mediator (interlocutor) to both patients and physicians, particularly junior physicians (QU:3:32).

> *"… I feel more confident … to discuss ... we had the whole pharmacology* [education] *and the whole EBP ..."* (QU:3:32)

Although they did not refer to self-concept, they talked about needing to have courage and confidence when discussing pharmacological issues on behalf of particular patients (QU:3:42).

> *"… I never felt inhibited to go to a junior doctor to ask for something ... although I really have to admit that it is easier for one* [that you know well]*… purely because you work a lot more with him and that you know them better ... and with the junior doctors it gives me more … since the training … more confidence ..."* (QU:3:42)

It seemed that they had developed an intrinsic motivation arising from the feelings of responsibility for patient care and quality of life that had encouraged them to take on the role of R-EBP-P, knowing they could do better using their recently developed and acquired knowledge (QU:3:56-57).

> *"... in my opinion … … we have come a step further on that ladder … also … in terms of the responsibility you have to take for that* [prescribing] *… … now more is expected of me ... because I have shown that I can apply evidence based practice … then they expect it ..."* (QU:3:57)

In this role, the participants are also expected to use their knowledge to provide the patient with explanations (QU:9:129).

> *"… giving explanations to the patient … getting familiar with the medication … looking at what happens by the* [medical] *care of the physicians and then that it will actually be prescribed by us ..."* (QU:9:129)

One aspect is to discuss the cost of the drugs with the patient (Resource Stewardship) with new drugs being more expensive than established ones. They recognised that as once a year a working group (policy group) of physicians and nurse prescribers (diabetes specialist nurses) meet with the purpose of knowledge exchange and sharing regarding newly developed diabetes drugs they need to know and understand the different costs, and what is likely to be accepted by hospital management (QU:9:37).

> *"… how we make sure that information ... is available for the entire team and proposals for the 'policy group' … physicians and a few of the nurses ... we meet annually a kind of retraining session ... about new medicines … how do we use them ..."* (QU:9:37)

The nurses themselves liked their increased professional freedom for '*stopping or changing medication*' for the good of the patient, accepting that they needed to spend time on searching, reading and appraising papers (QU:6:25). Also, that when they were discussing a patient, they needed to take into consideration not only the perspective of the patient but also that of the physician (QU:7:17).

Collaborator to physician

The role of the Collaborator was connected to the concept of the work relationship between nurse and physician. One of the reasons for the EBP programme with its Journal clubs was to give the nurses the skills to debate with the physicians regarding patient tailored care (QU:7:28).

> *"… at least one of the goals of the evidence based was ... that we could be a be an equal discussion partner ..."* (QU:7:28)

Increasing their skills to appraise and use evidence was essential because to keep up to date in the field of diabetes care, the nurses visit symposia and attend additional training, including that provided by the diabetes nursing association (EADV). In addition, accreditation points need to be collected to retain registration as a nurse prescriber (QU:8:107).

> *"… registration is every five years which need a series of points achieved across various subjects so you follow different training sessions …"* (QU:8:107)

In the opinion of one interviewee, after the EBP training, being involved in departmental medical scientific research, has become easier and has more meaning to the nurse (QU:3:47) in part because of a better understanding of research methodology gained during the EBP meetings.

> *"… formerly … they* [researchers] *asked … do you want to screen for patients who meet those and those conditions … and you did that … … now you're going to think more ... yes you're just … more conscious … who can I ask … what is expected … what will be the research output ... the conclusion you don't know but you can think about what might come out of it … and what consequences could that have ..."* (QU:3:47)

Feeling the responsibility of not making mistakes in prescribing and thereby preventing harm to the patient, is an intrinsic motivator for learning more of the ins and outs of medication. For some it is now easier to find relevant information (evidence) because of their recently acquired knowledge and skills (QU:3:53).

> *"… then I also need to know more … but now I can also know more … because I now know how to find that information* ..." (QU:3:53)

This may help them to find and keep the confidence to act accordingly even when working beyond protocols. It may also have a positive influence on nurse prescribers' relationships with physicians or patients.

Managerial perceptions on Nurse Prescriber as a Professional

There are agreements about nurses' professional boundaries when it comes to acting in the medical field (QU:34:26) and prescribing medicine. This was confirmed by a manager interviewee who was very specific, stipulating that nurses work within the agreed professional domains (QU:35:23).

> *"… I think it is important that they do not go outside that book* [book of prescribing protocols (Houweling et al., 2013)] … *if you* [nurse] *like to use a medicine that is not in that book … than you have to adjust that* [using formal paths] *..."* (QU:35:23)

Restrictions in prescribing are regulated (controlled) by the electronic prescription system (ICT). While accepting this, at the same time, managers referred to 'empowering the nurses' to enable them to fulfil their role (QU:35:1; QU:11:6). In the managers' opinion nurses, in particular the advanced practice nurse, have to '*push*' physicians to let go of responsibilities linked to nurse prescribing or they may tend to maintain traditional divisions of roles (QU:35:28) and resist the implementation of nurse prescribing. They argued that

> *"… physicians find it difficult to let go of things* [introduction of nurse prescribing] *... that is much broader than just medication … I think when you look at the place as a nursing specialist … you really have to conquer ... you know it is not an automatic right ..."* (QU:35:28)

Further, they argued that change can be achieved by acting professionally and earning trust. Evidence based practice can contribute to that process (QU:35:38) and can be demonstrated during professional activities and interdisciplinary collaboration.

> *"… I think that professional contact between different disciplines … I think that EBP certainly can have a big role ... in supporting links …"* (QU:35:38)

Managers were committed to encouraging nurses to prove themselves as nurse prescribers (QU:11:148) confirming that the nurses themselves took initiative more or less as a reaction to the nursing 2020 document (QU:11:194).

> *"… but you will have to prove yourself … … I say as a supervisor … yes prove yourself … prove that you can ..."* (QU:11:148)

> *"… it actually came from the group itself ... and knowing as manager of that is just going to happen … and also standing behind them as manager …"* (QU:11:194)

The manager put the nurses on a path to plan for continuous education focusing on the re-registration / accreditation process (QU:11:77), arguing that education and training should be embedded in the subculture of all departments (QU:11:192).

> *"… you have a certain amount of hours for that … just make a plan to say … how am I going to organise that … … just make a plan … well of course they were not used to that ..."* (QU:11:77)

> *"… this will be our cultural heritage … that's how we want to make work of it … we want to talk … this will be our mission ..."* (QU:11:192)

When one manager left, a new one was installed who felt she was starting with a backlog needing to earn the trust of the nurses before change would be possible (QU:35:5). She considered EBP as important and noted that the nurses have adopted the concept (QU:35:16) and try to act according to it (QU:35:17).

> *"… I started badly… there was very little trust in management … you have to earn it* [trust of the nurses] *… I said we are going to do it together ..." (QU:35:5)*

> *"… in team meetings but also if you give them an assignment … that you see they also take things … and really do find literature ..."* (QU:35:17)

For the nurses it is important to have the support of the manager for implementing/using EBP techniques in(to) daily practice within working time (QU:3:66).

> *"… given the opportunity to apply it … I have … let me put it very carefully … a very busy role … let me put it that way …"* (QU:3:66)

Evidence based practice implementation can be challenging, resulting in feelings of stress. For some it was evident that whenever a manager has affinity with EBP and considers it to be important to nursing, employees will have support for EBP implementation, otherwise they described it as a "*mission impossible*" (QU:13:3).

> *"… I am convinced that a managerial works according to … EBP and that it is of paramount importance that if management tries to create space … employees and put it on the agenda … it works ... if there is no support from management you can largely forget it ..."* (QU:13:3)

As nurse prescribers still work within boundaries of protocols and have technical limitations to prescribe, the managers argue that physicians still have to let go of their doubts. Strategies to facilitate this change are nurse education and professionalisation, but both nurses and managers recognised the need for managerial backup in order to make the changes needed for full implementation of EBP and nurse prescribing.

4.3 Summary

Becoming a Nurse Prescriber is, as described previously, in some instances formalization of accepted common practice, but this study found that it has acted as a strong motivating element for changing professional behaviour. Being restricted by the established system of

medication control can inhibit nurse prescribers from taking the initiative, although the need to act in the best interest of the patient has increased their recognition of the need for EBP. It is the combination of the roles, together with seeing professional practice differently, that motivated them for change and made them seek help to implement the EBP they need to instigate and implement change. When reflecting on this, they reported that to implement EBP in what they now saw as collaborative practice, they needed a supportive collegiate relationship with the other professionals (including physicians) and for that, having professional confidence in themselves is a facilitator (Clarke et al., 2021). Working collegiately and being perceived as a Collaborator by the physician was described as helping them to be at their best during discussions and to make them want to prepare well. They accepted that to debate medical treatment they have to be knowledgeable in all aspects of a case.

They reported having become accustomed to finding themselves sometimes placed between the patient and the physician as a Mediator advocating and, in some instances pleading for change, while at the same time, working with the patient and advocating for the treatment regimen. Discussing the Mediator role, it seemed the concepts of advocacy and trust are of most importance. If the nurse is not able to advocate for the patient, knowledge cannot be used effectively and if there is no trust from the patient and/or the physician advocacy is ineffective (QU:29:5). Thus, the "*core here is advocacy and protecting the patient*" (QU:29:8).

As a member of the Nursing Profession, a hospital nurse prescriber has far-reaching obligations, needing to practise to a high standard in a range of roles of which prescribing drugs and adjusting prescriptions are just one part. These nurses have to be committed to hospital policies and regulations, which in turn limit professional autonomy, even when they are advocating for working outside the established protocols, a somewhat contradictory situation, which participants in this study hope in the long term to see change. In the case of the Dutch DSNP, there is currently a national diabetes specialist prescriber protocol and local arrangements with physicians restricting nurses' degrees of freedom to tailor diabetes care to the patient's needs.

Reviewing the findings from the re-analysis, it appeared that giving the nurse a voice in medication planning and prescribing with solutions tailored to address a patient's problems based on the latest research and insights was a trigger for nurses to use EBP. From a Symbolic Interactionist point of view nurse prescribers are engaging in EBP activities in their new roles, whenever they interpret gestures from significant others in a way that the perception of 'Me' changes. They responded most clearly to the need to deliver the best possible care for their patient caseload, perceiving that a 'Me' that differs from 'I', facilitated an internal dialogue resulting in developing an individual, broader scope of professional autonomy. Their reasons

for wanting to use EBP arose from recognition of the personal and professional responsibilities, which they had willingly embraced. This may help the individual nurse to use their newly acquired confidence to initiate implementation of EBP activities and to sustain their use. With these insights, the situational presentation was adjusted in preparation for participant sharing to check context and use of the data, with the aim of participant validation of the findings.

The outcomes of the re-analysis substantially changed the insights and understanding of the development of the role of the nurse prescriber. It was evident that the initial situational presentation's basic principles were much too complex. Therefore, it was necessary to go back to this, to look at each element, and simplify the situational presentation. The next chapter takes this review and developments made using the re-analysis to describe the development of the conceptual framework.

Chapter 5 Findings and the development of the conceptual framework

5.1 Introduction to the findings and development of the conceptual framework of R-EBP-P role taking

The present study involved working with Dutch diabetes nurse prescribers to ascertain and increase understanding of their reasons for applying or rejecting evidence based practice (EBP). However, as with all qualitative research the data are led by the participants and can differ from what has been anticipated. It was important to stay true to what the participants had said, and the iterative analysis presented in chapter four, which has been used to develop the conceptual framework, directly represents their responses. The starting point was to try to develop a conceptual map as a concise visualisation of possible concepts for the framework, identifying any links and/or interrelationships. By this point in the study, it was evident that what had started as a journey in search of an educational model to help nurses meet the government requirement for the introduction of EBP was much more complex than originally envisaged. As the analysis progressed, it eventually led to a social-interactional model, which included the nurse prescribers' professional identity, enhanced reflective EBP and professional role taking.

In the first data-analysis round the focus on the data-exploration led to the identification of the contextual situation of the respondents, revealing a tripartite structure of patient, nurse and physician and accompanying collaboration processes. However, as chapter 4 illustrates this was not adequate and a re-analysis was used in which the focus shifted from the contextual situation to the inclusion of stakeholders' (inter)actions within that structure and drew attention to their roles in what could be described as a 'professional playground'. This still did not result in a better understanding of the processes underpinning nurse prescribers' practice, use of, or reflections on the use of EBP within professional role taking. Although the study was originally designed and carried out using the classical grounded theory approach first described by Glaser and Strauss (1967), it became evident that to generate a logical construct of concepts from which a theory could possibly emerge, a further theoretical perspective was needed, one that fitted within the use of grounded theory and supported understanding of the very essence of the data. Therefore, the decision was made to add in the use of the 'Symbolic Interactionist Magnifying Glass' (Bryant and Charmaz, 2007; Glaser, 2005) to further delve into the data. This included reviewing the data to identify how the nurse prescribers in this study chose to implement EBP, and this brought stakeholders' social-interactions to the surface, uncovering

the role taking processes enhanced by professional identity formation (growth) through nurse-physician collaboration.

The development of the conceptual framework presented below was only possible because of the advantage of iteration in grounded theory analysis (Corbin and Strauss, 2015; Creswell, 2006; Glaser and Strauss, 1967); it allowed for different processes and concepts to be used with the raw data, which in turn led to new categories emerging. The combination of these different rounds of analysis led to the concept of professional identity emerging only at the very end of the data-analysis, namely during the participant check of the conceptual framework (map), discussing the relationship of 'Self' and the social interactions of nurse prescribers to other stakeholders. The description of the development of the conceptual framework starts with a summary of the outcomes of data analysis round one and the initial situational presentation (fig. 5.1), then goes on to outline the processes used to move from this initial situational presentation to the final contextual framework. At some intersections of concepts and categories, propositions have been formulated to illuminate their relationships.

5.1.1 Outcomes

The core themes identified in chapter four revealed a clear tripartite relationship (fig. 5.1) between nurse prescriber, patient, and physician, and this therefore was used as the starting point, as indicated in dark blue in the situational presentation below. The nurse prescriber also has to relate to the professional body to which she/he belongs. This relationship, while a core component, which impacts on their practice, is part of each individual nurse and was not seen as the leading element of the emerging framework. The data was then reviewed and re-analysed, and additional themes were added to the situational presentation to explain how the tripartite links worked. It was evident that there were situational and practice categories that needed to be added, to complete the picture of how the nurse prescribers act within the organisational structure.

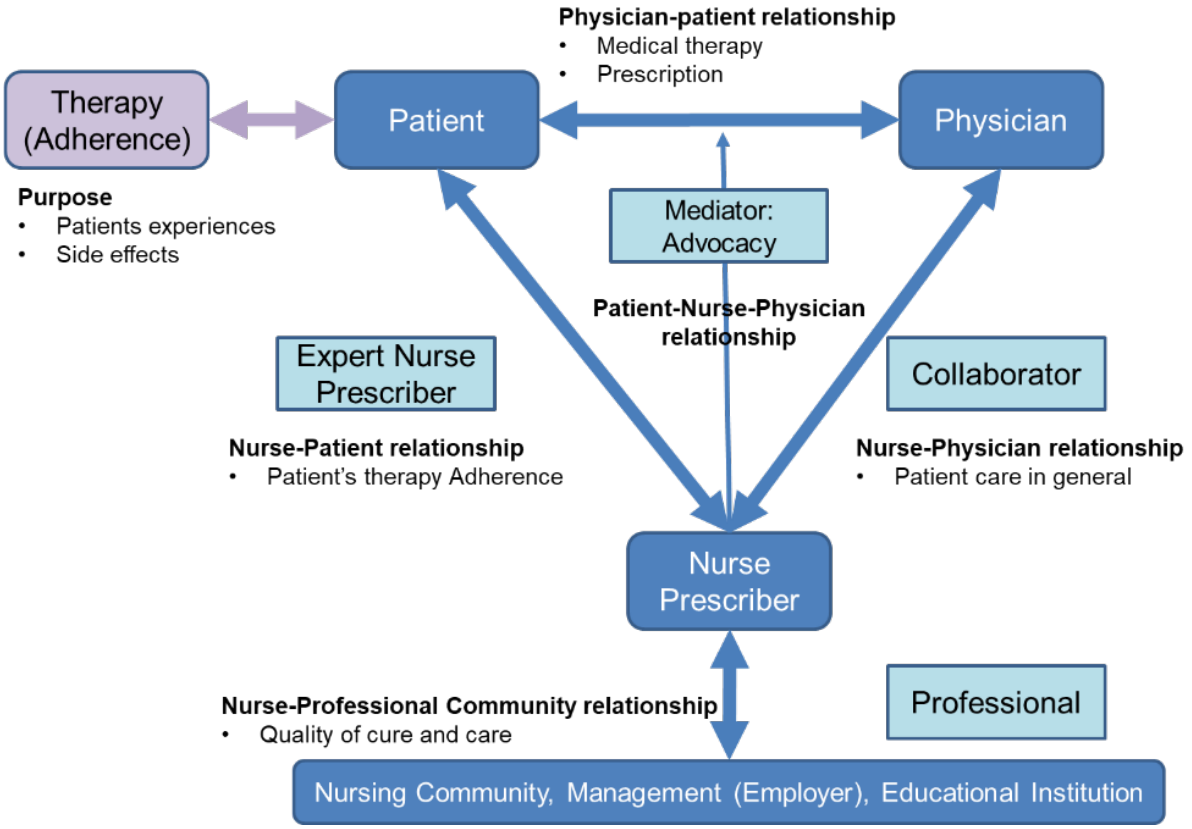


Figure 5.1: Situational presentation (repetition of fig. 4.3)

Blue = situational building blocks; Purple = practical application

For clarity, these additional categories have been colour coded. The pale blue categories indicate the roles that the nurse prescriber takes when interacting with the other professionals in this tripartite relationship. Nurse prescribers' focus of practice (in purple) is focused on their role with patients including therapy adherence/compliance and facilitating or compounding factors such as patient's lifestyles and (pharmaceutical) side effects.

5.2 Preview on the developed conceptual framework

Reviewing the tripartite relationship, it was evident that for EBP to be successfully implemented it needed to be central to all activities, and integral to all elements of the nurse prescriber's role. Using this as a starting point the conceptual framework was then developed. For clarity, a summary is given below, and then the chapter focuses on explaining how the interlinked elements were developed and the framework created. For sustainability, the inter-linked components (or elements) all needed to be considered, for clarity as was indicated in chapter 4, these were initially described individually and have been combined to develop the conceptual framework as EBP needs to inform work priorities and underpin all decisions (Bos et al., 2013). Therefore, the frequently used comment that work priorities prevent

implementation is in reality a contradiction in terms. Consequently, in the diagrammatic representation EBP has been placed in the centre of the professional playground, with the core components separately discussed and compiled (fig. 5.2).

Figure 5.2: Evidence Based Practice in the centre of the professional playground

The theoretical underpinning for the final conceptual framework (see fig. 5.3 below) was a symbolic interactionist perspective, as this facilitated recognition of the ways in which the nurses interacted together symbolically and in reality. Using this, the iterative analysis led to the emergence of a process through which the nurses shaped their perceived individual professional identity acting the new development of their professional roles. This cyclic process (fig. 5.3) consists of five steps, namely:

1. Professional Identity Formation; developing a strong professional identity through the outcome of reflection on the personal status of being trusted and seen as a trustworthy (and recognised) healthcare professional (nurse prescriber),
2. Developing the Mediator role (collaborator); encouraged by increased self-confidence emerging from the new professional identity that is enhanced by improved interaction with others (e.g. collaboration with physician),
3. Developing the Reflective-EBP-Professional (R-EBP-P) role; motivated by the acceptance of the professional need for EBP and enthused/encouraged by the assumed expectations of others,
4. Reflecting on personal professional expertise and learning needs; seeking proficiency as a nurse prescriber and engaging in professional development activities which can contribute to patient care, progressing towards becoming an expert, and
5. Reflecting on being trusted; seeking and evaluating ways to adapt professional actions and interactions to develop the characteristics of a trusted professional (trust formation).

These steps interlink the emerged categories of Professional Identity Formation, Patient's Mediator role taking, and R-EBP-P role taking (with its incorporated subcategory of Reflective Professional).

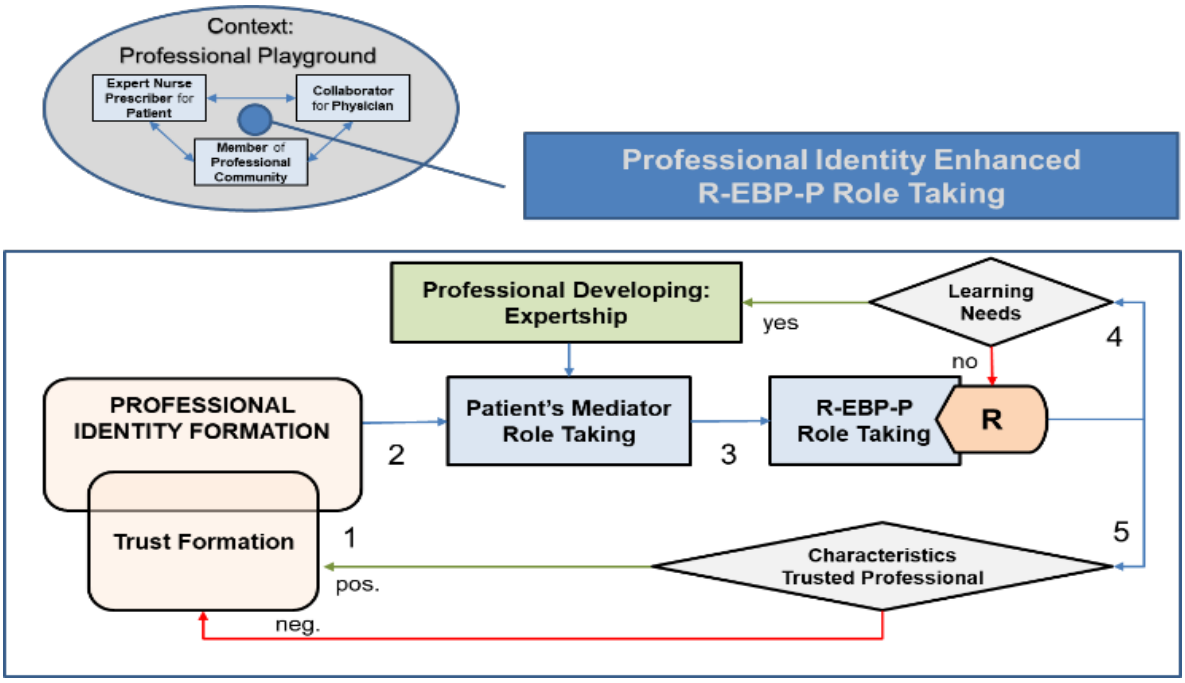


Figure 5.3: Conceptual Framework of Professional Identity enhanced R-EBP-P role taking

The professional playground (fig. 5.2) is built upon three specific aspects:

- firstly, the diabetes specific tripartite healthcare delivery system which includes the specialist nurses' role in chronic care settings with both patients and physicians,
- secondly, (shared) care decision-making processes, and
- thirdly, the nurses' social interaction processes are trusted within specific care multi-disciplinary contexts, specifically with physicians.

These together have a spinoff effect on professional identity formation, which in turn strengthens self-confidence and the nurses' role as mediators, enhanced through the use of EBP (fig 5.3). The data sets revealed that Professional Identity Formation (PIF) acts as a catalyst for stimulating the specialist nurses' use of EBP. Providing support to guide participants through the professional identity formation process, through a tailored professional development programme, encouraged development of the role of R-EBP-P. This in turn enabled the nurses to extend their professional role and strengthen them in the role of patient mediator/ advocate.

5.3 The context of DSNP: a tripartite healthcare delivery system process

Section 5.3 describes the diabetes specific tripartite healthcare delivery system (professional playground) in more detail as it emerged from the research data, with the Professional Identity enhanced R-EBP-P role is explained in paragraph 5.4. The starting point of the contextual description of the tripartite constellation has to include recognition of the stakeholders within the healthcare delivery system, and the importance of sharing with them how EBP has informed the decisions being made and checking that they have all understood the positives and challenges accompanying decisions (Michalsen et al., 2019). In this context based review of diabetes care, the three main stakeholders are: the diabetes patient who is seeking medical and nursing care, the physician (endocrinologist) who is the medical practitioner for the diabetes patient and the diabetes nurse prescribers who, as members of a specialised professional community of nurses, work with the patients to help them to maintain their health, keeping blood sugar levels within acceptable medical limits (see fig. 5.4).

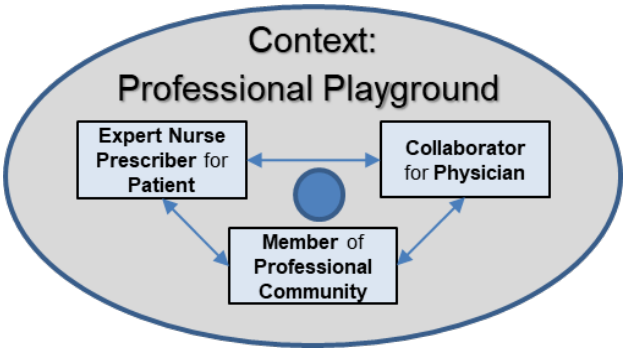


Figure 5.4: Professional playground tertiary diabetes care

Diabetes care has been presented as a workspace referred to as a "Professional playground"; a collaborative workspace where professionals from diverse professions work together with, and on behalf of patients. It is important to note that the supplementary prescriber authority has affected the internal dynamics within the playing field, and the manner in which these professionals work collegiately together (van Tuyl et al., 2020). The impact can be seen in how they share explicit and tacit knowledge to inform shared decision making, and how they introduce innovations to enhance the quality of patient care.

In this specific context, the stakeholders relate to each other through the patient's specialised healthcare needs. The nurse prescribers are key, not only taking care of the nursing care, but also evaluating medical treatment, and making (medication) treatment adjustments when required. For the first time they are formally entering into the medical domain, a new and challenging change in professional practice for all concerned. Nurse prescribers aim to improve patient therapy adherence through individualised personal care plans. They have the responsibility of explaining medical decisions and medication, exploring the patient's response and assessing their potential to adhere to planned treatment. When patient noncompliance is identified, adherence proves problematic, or medical treatment has negative side effects, the nurse prescriber can either adjust the medication, or if deemed necessary meet with the physician to seek changes in medical treatment.

For the nurse prescribers, this added independence in the nurse-patient relationship is grounded within the national protocols in diabetes care (Houweling et al., 2018) and derived local (institutional) protocols. Comprehensive consultations can now be flexible, with timing delineated by the 'expert nurse prescriber', so can be longer than traditional physician/patient consultations. This extended role is dependent on professional collaboration through nurse prescriber-physician relationship, within which consultation is still needed for medication outside the protocols (physician prescription only drugs) and for overall physician led medical treatment. The nurse participants in this study are keen to fully embrace their new role, and frequently expressed their desire to be recognised as an equal partner in these inter-professional dialogues. However, they did accept that as a new role this would take time, with physicians needing to see successful outcomes from their independent professional decisions.

The nature of the patient-physician relationship in this Dutch context is different, with reduced contacts because the patient sees the physician only for diagnostic tests, treatment review or revision, in consultations that only last for a few minutes (van Dulmen et al., 2020). In this context, the diabetes nurse prescriber role has become pivotal in the patient-physician relationship as a part of a bidirectional approach. It includes provision of patient information on treatment purpose, regimes and implications (patient education), and collaboration with the physician on behalf of the patient (advocating) to develop individualised care. In this context, this bidirectional communication is referred to as 'Mediating', one aspect of their role as 'Mediator' (advocate for the patient). Each nurse is also a member of their own professional community and must fulfil his/her own professional role and responsibilities in their ward/departmental (nursing) team, as well in the hospital and wider nursing communities. To deliver high quality, state of the art care and safeguard patients, the nurse prescriber has to integrate knowledge, expertise and competence, legal frameworks, professional guidelines and protocols, ethical principles, while maintaining and extending their own education.

With the professional playground and its core components identified, the next step was to ascertain how these impacts on the use (or not) of evidence based practice, to do this, the results of the first cycles and final alternative cycle of data analysis were integrated. From this, one overarching conceptual map was developed which describes the complex representation of Reflective Evidence Based Practice Professional role taking (R-EBP-P) and illustrates how. The nurse prescriber acts and interacts within the tripartite relationship.

5.4 Development of the conceptual framework's categories and concepts

To illustrate how the conceptual framework was derived, each component is individually presented with its concepts and sub concepts as presented in figure 5.3.1.a. For clarity, the conceptual framework and a visual presentation (category view) of the categories' components have been incrementally presented.

5.4.1 Category: Professional Identity Formation

Description of the building blocks

The data revealed the concept of Professional Identity Formation (PIF) as key, so it was essential to ascertain how it developed (Formation) to underpin their new and extended role (Category view 1). As described earlier in this thesis (chapter 2) PIF is a process of a person's extrinsic validation of whether you matter as a professional by reflecting on feelings about self, based on the perspective of the professional relationship with others.

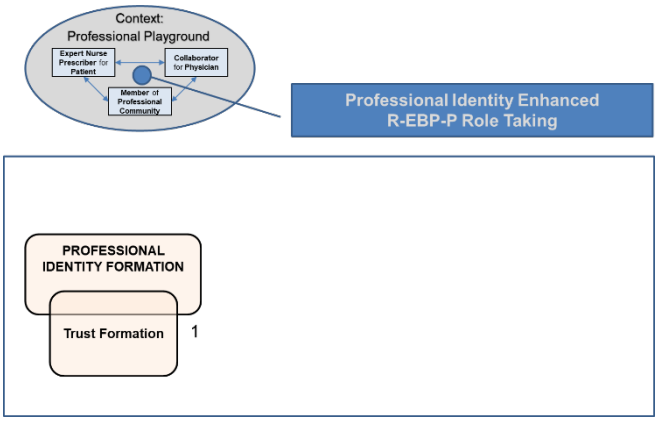


Figure 5.3.1.a: Professional Identity Formation and Trust Formation

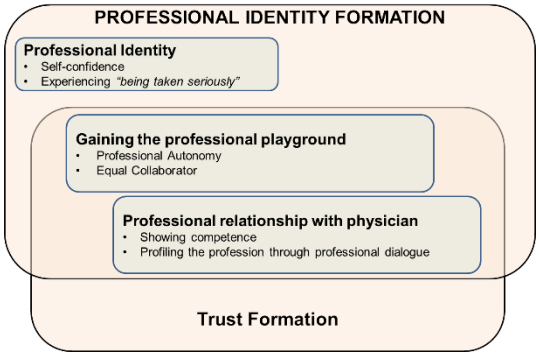


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

Concept 1: Professional identity

The concept of Professional Identity emerged in two ways, elliptically following data exploration using the symbolic interactionist looking glass (Aldiabat and Le Navenec, 2011) and explicitly during the participant validation meeting (participant check).

> *"… if we are going to get a clear role and place … our professional group within the hospital ... and for the doctors will become clearer ... what we can do … what we are allowed to do … and also come into its own better in consultation situations … those are necessary things to be taken seriously ...*
>
> *… and to be a good advocate and … I think … that belonging to a strong profession makes me stronger as a person ... not only the group but also me as an individual …*

> *knowing what is allowed and therefore better able to lead and advocate …"* (QU: 10:110)

The challenge for this study was that while the concept is internationally acknowledged and debated, there always have been, and still are, different definitions (Fitzgerald, 2020). There are common themes: the ability to perform agreed professional functions, evidence of individual and collective expert knowledge, identification within a specific community of practice and knowledge of, and adherence to, the values and ethics of the profession (Fitzgerald, 2020). Surprisingly, in view of their accepted extended role, at the start of the study participants did not appear to have formally considered this concept. However, as the study progressed, they began to reflect on their personal identity, level of self-confidence and experiences of *"being taken seriously"*, and how these related to their interactions with patients and physicians. They needed to recognise how personal identity (the Self) and individual professional roles can be affected by, or conflict with, patient demands/expectations (QU-f:39:50), and how these fit with ethical practice and the need to be true/(sincere) to professional standards (Brewington and Godfrey, 2020; Cruess et al., 2015; Jussupow et al., 2018; Rasmussen et al., 2018). As one explained,

> *"… your own behaviour … how should I explain … when I read this* [the situational presentation] *… oh I have to stay true to myself … to who I am … not become someone the … diabetes patient likes to see me as … that doesn't work … yes I adapt to work with each patient ... that is key … we have to click with the patient ... but … you have to stay true to yourself …"* (QU-f:39:50)

The comment of "*being truthful / honest / faithful to yourself …"* (QU-f:39:50) was made repeatedly through the study, frequently linked to personal values and the norms expected from professionals.

Linked to this was the challenges they faced of being expected to give "*added value*" to the services offered. They were concerned that management tended to focus on quantifiable medical care and financial costs (QU-f:39:53), not the enhanced (nursing) care that arose from their extended role. This may in part be because managers need to see outputs in terms of cost benefit, and the impact that the nurses have on a patient's quality of life, their individual disease trajectory and disease management are difficult to quantify:

> *"… it's … the doctor… focuses on the quality of medical care ... but nursing is much more … it's about the whole patient … their way of life … but they* [managers] *do not see that in their numbers ... that is the problem …"* (QU-f:39:53)

They saw a clear difference between the medical and nursing roles, with the physicians' role being to treat disease, while nurses focus on the patient and their individual life issues, seeking to deliver holistic care that offers tailored support that enhances treatment compliance. However, for this to be effective there needs to be multi-disciplinary acceptance of their professional responsibilities and expertise (professional identity). They wanted to be accepted as valuable members of the team (specialist care team), as consummate professionals.

> *"… we need to be very professional* [in our actions] *... but we are not always seen … as core experts in the team ... sometimes yes … sometimes not …"* (QU-f:45:67)

The data revealed that they had willingly taken on the additional role, of advocate for specialist practice, repeatedly explaining the nurse prescriber's positive contribution to (in their case) acute sector diabetes care (QU-f:39:70), and what would be lost without this extended role. They spoke with passion, articulating that their professionalism was guided their Professional Identity, and was informed by their expert practice.

> *"…* [we need to] *to further indicate the importance of what we do … and why we do something … and how and what … so that he* [the manager] *hopefully makes choices based on what we do … eventually seeing us* [as a] *key* [component] *within the annual plan …"* (QU-f:39:70)

They wanted this, and their interpretation of Professional Identity was strongly emphasised in the conceptual framework, with them pointing out that the patient only saw the nurse because of their professional role and function. They were all aware of the differences between their professional and personal identities, and ranked professional identity high above personal identity, arguing a physician sees patients because of his/her expertise, not because of personal attributes, and they too as nurse prescribers, were experts in their field, and should be accepted as such (QU-f:39:46). They believed that without professional recognition, it would be difficult for them to be fully accepted in their new role. They were adamant that

> *"… for that patient you are simply the professional …* [but] *you must also radiate that and … and pass it on to the patient ... if that doesn't happen … the patient may not follow advice … or comply with proposed treatment plans … but may continue thinking it* [their current way of living] *is fine …"* (QU-f:39:46)

They accepted that in practice these professional and personal identities are inextricably intertwined, but that no matter how difficult or challenging the situation, they respond first and foremost as professionals. In their evaluation of the initial programme in 2017, they started

debating the importance of professionalism and the interdependence of the professional prescriber's authority, role as a caring nurse and as an individual (QU-f:45:13).

> *"… we also have to see ourselves as professionals … we have to catch up a bit there ...* [and accept that] *we also* [need to] *see ourselves as practitioners and authorised to prescribe …"* (QU-f:45:13)

Part of the challenge was that their role was still not fully understood, with colleagues questioning how it differed, and they recognised that it would help illustrate the differences if they could be seen as contributing to scientific research (QU-f:45:64), something that they had not considered previously:

> *"… you … see national developments … how …* [to] *deal with them … there is scientific research … … but how do we fit in* [to research] *… you think … how … what is our contribution … how do we contribute ...*" (QU-f:45:64)

There was no easy answer to their concerns; that was partly why they had sought help and the study had commenced. As the study progressed with its reviews and evaluations, they became much more articulate, moving closer to devising their own definitions of professional identify. They started addressing the themes and functions of their extended role and how being *'the core expert'; resulted* in *'adding value'* to specialist diabetes care (QU:8:41).

> *"… yes the way we work … really has to change because otherwise … yes ... then a whole lot will come back to the doctors' plate …" (QU:8:41)*

Over time, they increasingly recognised and debated the need for identification within a *specialist* community of practice and the importance of demonstrating their values and ethics, accepting that to be taken seriously as prescribers they first had to believe in themselves (*'seeing ourselves as a professional').* Each time an aspect of the core elements emerged and evolved, it was discussed individually and collectively, with increasingly sophisticated debates of how each one was associated with professional identity formation.

Sub concept: Self-confidence

It was evident that the nurses had recognised that they needed to develop strategies that enabled management to understand, recognise and appreciate what they could individually and collectively add to service provision (QU-f:39:51). As management were also adjusting to the changes in nursing roles, the onus was on the new prescribers, to demonstrate that they had the expertise and competence to successfully sustain their extended role (QU-f:39:51).

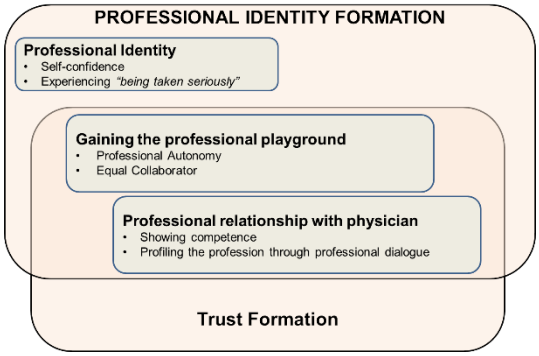


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

> *"… yes … … just if a manager that doesn't understand … from that manager … you would actually have a bullet* [negative response] … so *you need to be able to tell people* [management and peers] *how you do it …*" (QU-f:39:51)

However, maybe in part because of the recent nature of the changes in legislation, there was another concern, that of gaining unquestioning trust, with repeated reference made to the need to be seen as 'trusted professionals'. They accepted that until recently, physicians had had full control of all aspects of patient care, with nurses following instructions. During that time, management had developed clear quantifiable indicators of nursing activities and controlled nursing roles. The ability to prescribe had totally changed the care landscape, and inevitably, some of their colleagues (physicians and managers) had adapted more easily than others. Some, while officially appearing to accept the changes, still struggled with releasing control to nurses, and the participants saw 'gaining their trust and acceptance' as key to fully implementing and sustaining legislative changes in practice. The discussions and debates revealed that participants saw this study as providing a vehicle through which they could extend awareness and understanding of their professional identity, learning to devise individual and collective strategies to enhance acceptance of their role and expertise.

Across the group as a whole, the nurse-physician social interactions varied in level of acceptance and transfer of activities, entailing both negative and positive connotations for the prescribers. Such mixed reactions, made it difficult for participants to adjust to their new responsibilities, impacting on their self-confidence, which in turn influenced their professional choices and actions (Fry and MacGregor, 2014). Some had found, that after searching for appropriate literature to implement EBP, as part of their practice, they had been informed by management that it was not part of their role and was not time supported (QU-f:45:30-31). This caused two concerns. Firstly, this view contradicts the government edict regarding EBP, and

secondly it meant that their evidence based findings were not considered relevant to managerial decision making.

> *"… they have the idea ... that … that we have self-care … that's the thing at the moment ... the outcome they want … a "new way of working" … there is a lot of literature … but if we say we have read about or studied it ... it's not wanted … or valued …"* (QU-f:45:31)

Their disappointment made it clear that they had not expected this type of response, which was slowing down the implementation of evidence based practice, leaving this group in the position of being unable to follow government edicts. They described this management rejection of proffered evidence, and negation of their efforts to implement EBP as demoralising. For some it had adversely affected their self-image, and professional identity formation, making it harder to move nursing forwards. They knew they should not let management responses impact on their responsibility to offer high quality of care and should make every effort to maintain their professional persona, using state of the art evidence. They needed patients to gain understanding of their specialist expertise to accept their devised care plans, to accept the advice offered, and comply with the medical treatment offered.

> *"… for that patient having to be the professional …"* (QU-f:39:46).

They were adamant that it was this perception that gave patients the confidence to follow and adhere to the regimes provided, even when they experienced side effects, or their condition deteriorated. For the participants, the challenge was to remain objective, however much they sympathised with the patients, arguing that to do so, and provide the best care possible, professional values need to be underpinned by personal values and norms (QU-f:39:50), an essential element of the nurse prescriber role (McIntosh et al., 2016).

In order to be able to implement EBP, the nurses need to develop a professional identity, prompted by self-confidence, which enables them to make full use of their new legal professional powers (table 5.1: proposition 1).

Sub concept: Experiences with *"being taken seriously"*

The data also revealed (dis)congruence within the group regarding whether they felt taken seriously as prescribers and making a clear distinction between *"being taken seriously"* and *"being recognised"*. For the former, the nurse needs to be seen as a competent professional of value to the totality of the health care process, able to use '*tacit*' knowledge gained from years of experience, as well as their newer prescribing expertise in clinical decision making. However, they accepted they needed to develop ways to demonstrate their ability as they take "*bigger steps forward*" that come with prescribing authority (QU:3:37)

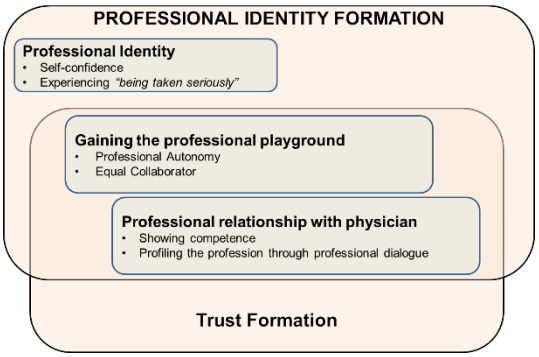


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

> *"… and then … you have more experience … in diabetes … and … you dare to reach for a different drug … or to increase or decrease the dosage more quickly … far more experience … of … the* [different] *insulins to use … than they* [interns/ junior doctors] *do…* [they] *don't always consider … with that drug … did you look at kidney function … you have to stop that drug …"*

This participant went on to add that the usual response by junior colleagues was to say

> *"… oh … I didn't think about it … and that …* [so]*…yes it has made me more certain* [self-confident] *… more of an equal discussion partner for them …"* (QU:3:37).

Their knowledge had been recognised and accepted when they only had informal prescribing rights (extended arm construction), but the formalisation of their role through legal authority had increased their willingness to interject and influence medication being prescribed. Now, in their interactions with medical interns/junior doctors they increasingly acted as informal practice supervisors and were pleased and proud to be seen as 'equal collaborators'. They spoke with confidence and passion, seeing this safeguarding role as crucial for reduction of the risk of errors made through inexperience. Thus, for them, *"being taken seriously"* concerns more than clinical decisions, but includes guiding and supporting junior colleagues, and ultimately leads to extending the utilisation of their official position across the hospital organisation (QU:10:208).

> *"… if we are given a clear role …* [for] … *within the hospital … among the physicians it … will become clearer … what we can do … what we are allowed to do improving our consultations … its essential … to be taken seriously"* (QU:10:208)

This official 'sanction' of their extended role seemed to have a positive influence on their collaborative relationships with the doctors, with management who started to see them as leading (the changes) by example, a key component of leadership and change management. However, not all nurses were so positive. Some gave examples of instances where physicians knew very well what they were capable of, but still appeared to have low expectations of their clinical reasoning skills (QU:10:148). For these doctors, changes in role regardless of the capabilities of the nurses, were difficult.

> *"… has quite a good idea of what a nurse can do … but that bit of accountability and … clinical reasoning … he still has low expectations of us … whether he thinks that we're not capable … or he just thinks that it belongs to him … I don't know …"* (QU:10:148)

The nurses thought that for these physicians, patient management remained strictly their preserve, with nurses needing medical supervision. One participant reported managing to change such perceptions using extensive pharmaceutical knowledge and expertise. This included a detailed analysis of the patient's characteristics and lifestyle circumstances discussions, following which the physician accepted her view and agreed to her proposal. Choosing not to use direct confrontation, but to accept his view and counter by illustrating her knowledge and expertise, had led to her *"being taken seriously"*. However, achieving this recognition was not easy, requiring expertise in communication and negotiation, as well as the requisite clinical knowledge and expertise.

The same issue arose when Pharmaceutical Representatives invited them to presentations of product information, with some physicians, not expecting them to be included in such '*medical'* activities (QU:10:207). The nurses accepted that these meetings were

> *"… industrial talk … but we have discussed research reports and figures …* [the EBP course and the Journal Club] *… that sales talk … you listen … and then you have to look at the facts that appear from research and … uh decide…"* (QU:10:207)

Some felt that despite the examples given above, they still were not "taken seriously". They encountered physicians making decisions using only their own existing scientific knowledge, disregarding the nurses' theory and practice-based knowledge, expertise and experience (QU-f:39:61). These participants felt that their nurse education and training were seen as not scientific enough, resulting in their suggestions being vetoed (QU-f:39:56). Some saw the situation compounded by a perception of zero support from management, who chose to follow suggestions from physicians rather than the nurses, even where it involved evidence based and quality assurance activities (QU-f:39:55) from the nurses in line with government requirements. For instance, regarding digital care:

> *"… but what I find frustrating is … ... if you look at … quality model of digital care … for example … I have mentioned it before ... to me … the evidence from the literature … a nice model … you can use ... and then you get zero response ... it's correct… the quality is the same … only how can you present it* [to be accepted] …" (QU-f:39:55) & (QU-f:39:39)

Examples were given where management appeared to do little to demonstrate that the quality of the annual audit of outpatient nursing care is similar to the physician outpatient services (QU-f:39:39) and that of other members of the multi-disciplinary team. They saw this as not being taken seriously, causing frustration and having a negative influence on their working relationships, which could ultimately adversely affect and weaken their Professional Identity. Thus, the sub concept of experiences with *"being taken seriously"* was found to be linked to the sub concepts of showing competencies and being an 'equal collaborator'. Experiences with *"being taken seriously"* seems to be an important focus of the Reflective Professional.

If nurses are taken seriously and recognised as valuable professionals by management and physicians, the professional identity formation of nurses will be influenced positively as well as their engagement in interprofessional collaboration and use of EBP (table 5.1: proposition 2).

Summary Professional Identity Formation

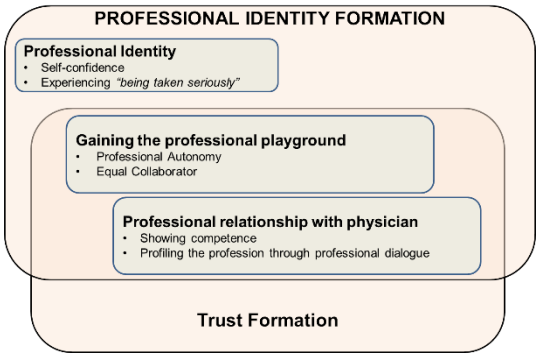


Figure 5.3.1.b: Category view: Professional Identity and Trust Formation

Professional and personal values and norms contribute to an individual's professional identity formation. This is dynamic, changing with the situational context, and including the setting of, or extension of authority, professional freedom and personal perspectives of the profession. In consequence, adverse effects on professional identity can have repercussions on personal identity. The relatively recent addition of (diabetes specialist) nurse prescribing means there is limited evidence of its effectiveness, with descriptions and references for professional status needing to come from within the profession itself. Activities need to be made more visible, illustrating extended specialised care. Professional behaviour must show the knowledge, skills and attitude necessary to affirm that participation in the medical domain is appropriate, illustrating adaptation to the new role and advocating a place in the multidisciplinary team. This must include examples of implementation of evidence based clinical practice, critical dialogues with other healthcare professionals and dissemination of domain-specific knowledge and skills through journal clubs and workshops.

A keystone for an enhanced professional identity with its wider professional role and increased professional autonomy, is gaining trust from both the multi-disciplinary team and management (Hauer et al., 2015; Ten Cate et al., 2016). This encompasses adaptation to the ever-evolving working environment and use of higher-level competences. Although a decade later, this study resonates with work by Jarvis-Selinger et al. (2012, 1185-1186), who suggested identity formation consists of integrated professional responses and personal development, occurring simultaneously at individual (personal psychological development) and collective level (socialization of the person). They argued that through this complex process, each individual works through their own professional identity formation (an internal dialogue about being and becoming), resulting in a coherent image of self with integrated status, roles and experience. Catalysts for change in professional identity, were cited as previous learning events, conversational interactions with significant others (e.g. mentors), individually focused, and/or context specific social interactions (encounters) and ultimately personal reflection on interactions and practice.

The findings also illustrate Fitzgerald's (2020) argument that there are attributes necessary to form professional identity. These are autonomy, responsibility, confidence, clinical judgement, ability to collaborate, to work independently as well as in a team, and to utilise management

resources appropriately. However, Fitzgerald (2020) goes on to use Zarshenas et al.'s (2014) belief that attributes alone are not enough; a sense of belonging to the profession is needed, as is a sense of pride in the role and a desire to promote it. This is not easy, particularly in the early stages of professional role change, when (as with the advent of nurse prescribing), there are few nurses who can act as role models, and supervisors and educators take on increased importance to the nurses. Satisfaction with appropriate support and guidance from educational supervisors have the strongest influence on professional identity formation (Fitzgerald, 2020). The data showed that self-confidence and belonging to the prescribing profession (experiencing *"being taken seriously"*) are paramount for the nursing participants.

5.4.2 Category: Trust Formation

Description of the building block

This key category (fig. 5.3.1.b) encompasses a process through which an individual builds a trusted working relationship with significant colleagues/ stakeholders within their specific care setting. In this study it focuses on peers and colleagues seeing and accepting clinical examples of professional competence, which ultimately influences Processional Identity Formation (Pullon, 2008), and supports extrinsic validation of professional added value (Andrew, 2012). Although trust by all peers and colleagues was important, the data in this study revealed that trust by physicians was of paramount importance for the nurse prescribers. Where there were problems in developing this key relationship, the data indicated that management could be asked to serve as mediators. The category has two main concepts: Professional Relationship with physician and Gaining the Professional Playground.

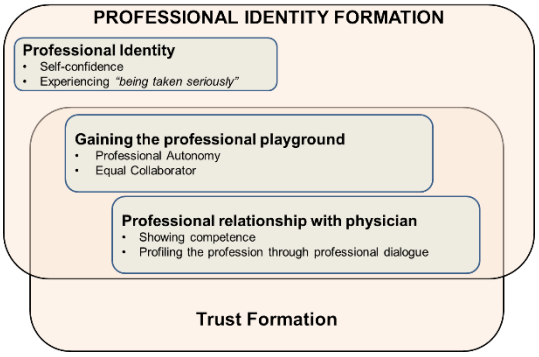


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

Concept 1: Gaining the professional playground

This concept (fig. 5.3.1.b), one of the hardest challenges for the nurses, covers two related and interlinked sub concepts which comprise their struggle to be recognised as experts, with all the sub concepts impacting on their ability to gain the professional playground. These encompass professional autonomy and 'equal collaborator' strongly related to the role in 'gaining the professional playground'.

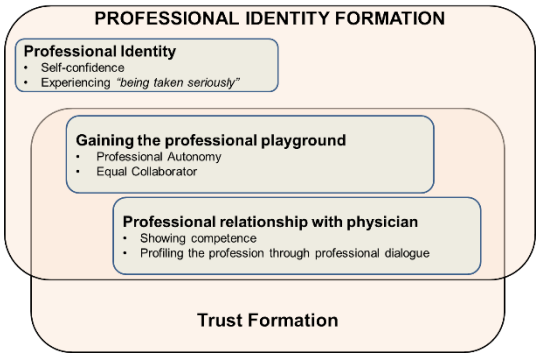


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

In their professional playground, there is some additional freedom of action, however, their governing protocols are formalised, and can only be revised in collaboration with local physicians and pharmacists. Thus, while the law officially gives freedom, gaining the right to exercise their legal authority, their freedom is to some extent controlled by hospital physicians and pharmacists. Local rules of nurse prescribing are reviewed and documented during six monthly protocol agreement meetings. In reality, for some the changes are titular, and not yet fully possible in practice. The prescribers accepted that physicians do not share prescriber authority easily (Pritchard, 2018) and that the way in which the law was phrased in The Netherlands has meant for those resistant to change, there is a mechanism that can delay and/or prevent full implementation. There is a contradiction in that while that law permits prescribing it has at the same time found a way to restrict change and maintain the status quo. The nurses argued that full acceptance of prescribing rights should improve medication adherence, patient satisfaction, and health-related quality of life, and so they want the law fully implemented (Weeks et al., 2016). Nevertheless, they remain bound by the local prescribing frameworks and the willingness of physicians to support their extended role (QU:4:92).

> *"… yes … those frameworks … must be clear in your workplace … agreements are made with each other … but it* [the framework] *also states … that you consult with the doctor at intervals … … you have to … it must all be described …"* (QU:4:92)

To gain maximum changes in their professional playground, nurses must in addition to their already full-time role, negotiate with the physicians, management and pharmacists. As each of these groups is likely to have their own perspective, this is not easy, and it may ultimately need further legal changes before full freedom for nurse prescribers can be achieved. Crossing

into the medical-professional domain is very new, and while making prescription adjustments is not new, deciding which drug should be prescribed or stopped is (QU:4:101; QU:4:106).

> *"... yes well … in certain situations uhm … you have to … well there is still too much insulin being injected and yes well … the patient's blood sugars are much too low … I have the freedom to say … yes … in this case stop …"* (QU:4:106)

At the time of data collection, the transition to full (supplementary) prescribing autonomy was in progress, with some physicians either still adjusting to the change or not fully aware of exactly what the nurses could now do. This situation was compounded because the nurses too were adapting, to having prescribing independence for the first time (QU:5:7).

> *"… now I'm not* [just] *a diabetes nurse … but that's how I see it … well you say to a patient … or to a carer … hey … they also call … let that patient inject this or that this afternoon … but no doctor is involved in the decision …" (QU:5:7)*

For some of the participants, realisation that the decision was now theirs, and in most circumstances not the physician's, had been a culture shock. It had been hard to gain confidence to challenge the status quo and defend their right to prescribe. Where physicians seemed to have the opinion that nurses did not need to know details of pharmacological information, the nurses reported that it adversely affected their confidence (QU:4:87).

> *"… you may … know … more background* [knowledge] *… and yes … well … for us it is new learning and we should also think about it ... well in the end … we're not the ones who decide whether or not it's going to happen …"* (QU:4:87)

These nurses need to focus on gaining confidence to use the additional knowledge they now have to gain the trust to take up their new freedom (QU:4:83).

In the Netherlands, implementation of nurse prescribing has been in phases, starting with the most commonly used insulins (QU:6:83), and regarding these, the nurses were satisfied with the professional playground they had acquired.

> *"… for the moment … but with the doctor … we said uhm … let's start with the standard medication … so the most used insulins and tablets and let's start with that … let's test it for a year and let's take a look in a year … or maybe a little later uh …*

They knew the legal framework gives more professional freedom than they could currently access, but recognised that their situation was new, and likely to change as their role became more accepted as normal practice. They hoped the six monthly and yearly reviews would help the changes be accepted.

> *… every year when we look at that … of course uhm … what more should we add … because there are of course several more uhm … and … and … are we going to add … whether or not … we can …legally … we now have say two-thirds … three-quarters … so basically … all common insulins and tablets and uhm …"* (QU:6:83)

There was a realistic acceptance that taking this slower route, whereby they could demonstrate their competence and then gradually add more and newer drugs to their own prescribing lists, was an appropriate way to move forward with a gradual handing over, based on mutual discussion and acceptance. When asked if they knew of hospitals where nurses have less freedom to implement the extended role than the nurses in this study, responses varied, some colleagues had found it "*problematic to get it off the ground"* (QU:4:95), but others had been able to progress and implement some if not all the possible changes. Nevertheless, ultimately, they all wanted to be able *"… to stop, pause, or change any clinical medication …"* (QU:7:86).

Participants also reported differences in prescribing rights between inpatient care and outpatient services with more freedom in decision making regarding prescribing with the latter. However, they were adamant that an enhanced professional playground in both clinical settings would be advantageous for patients (7:87; 7:99; 10:149). They believed it would help prevent patient complications from treatment, as they saw it as their responsibility to follow the patients through all stages of care, regardless of whether they had been referred to other consultants for treatment of comorbidities. They were adamant that if they did not actively check on patients, then they ran the risk of having to wait for medication to be adjusted. They believed that other teams, might have less specialist diabetes expertise, resulting in the patient running the risk of increased or compounded side effects from other treatments impacting on their diabetes (QU:7:87).

> *"… well we always have problems when they are admitted … and then operated on ... day care do the admission assessment … they're in the OR within an hour … two hours later they are in the ward ... now the problem is … I never really know where they are … I always have to search for them uh via the beds list … via the system … there is no designated way ... do you see …"* (QU:7:87)

Just as they had accepted the responsibility for following these patients, they also retained the responsibility of notifying GPs of patient treatment and outcomes. This was somewhat difficult when they first had to find them and then establish what treatment they had undergone.

> *"… and then … I send a letter to the doctor who referred them … saying how it was while they were an inpatient here … so for example if they had a hypo … what medication they are on ..."* (QU:7:99)

This was an unexpected addition to their professional role, willingly embraced, and it illustrates just how their professional playground has expanded exponentially. They had had to learn an additional set of negotiation strategies to become accepted by the other professional groups who previously would have contacted the physician. That they had been accepted and had had the discharge role handed over to them, is a tribute to the way in which they had learned to collaborate with others in this wider professional playground.

Perhaps not surprisingly, changing their terms of collaboration had not always been smooth, with some physicians resenting what they saw as nurses trying to take the professional playground for themselves, instead of waiting until they, the physicians, decided it was time to "*let go"* (QU:34:19).

> *"… there is also tension … yes and that is … I mean … there is also a lot of diversity … some individuals are more likely to … than others ... and we can't make it uniform … we can't say everyone has to do exactly the same …"* (QU:34:19)

Interestingly, while some nurses reported such challenges, overall physician participants spoke of a "*satisfying collaboration"* with the nurses and accepting patient related suggestions/proposals for changes in medication. However, they wanted to keep and follow the standard protocols and processes, which still retained some physician control (QU:34:22), perhaps because some (disappointingly), reported that nurse prescribers seldom referred to EBP *"… they don't do it yet … well …*", comparing them with other groups of advanced practice nurses who they argued did, citing professional meetings (QU:34:33).

> *"… yes … and everyone is welcome there … then I also say … well come on … uhm but … they rarely come … while the nurse specialists go there more often ... so I can learn something from that myself…"* (QU:34:33)

Similar situations were reported applying to seminars and other ongoing shared meetings and education opportunities. This finding was in contrast to the reported attitude of nurses in this

group but does indicate the need for all prescribers to be offered educational opportunities such as journal clubs.

Sub concept: Professional autonomy

In view of previous sections, it is not surprising that to the nurses, professional autonomy (freedom to act or function independently) was important, giving the freedom to design and deliver care as they saw fit, including approaching other care providers as they prescribe. This sub concept (fig. 5.3.1.b) is about the desired outcome of the process of 'gaining the professional playground'. They need to be able to deliver their legally defined role with its delineated competences, using their professional 'independence' (QU:4:86), if they are to be seen as professional practitioners, with a recognised and accepted role (Houweling et al., 2018). Asked to explain how they actually acquire their prescriber rights and extended role in clinical practice, they gave somewhat complicated descriptions. For some, it had been very difficult (QU:35:28; QU:35:30-33).

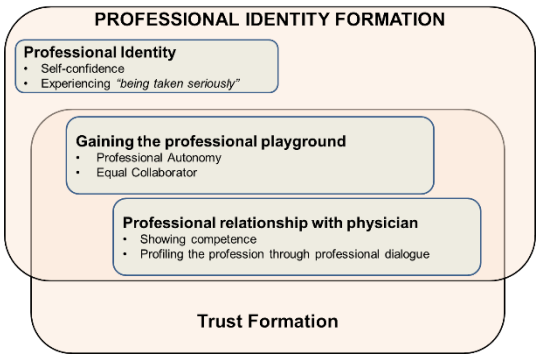


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

> *"… I do think doctors have a hard time letting go ...* [for them] *it is much bigger than just medication … when you see their* [perspective] *… as a nurse specialist … you can see their fears* [of loss of their authority] *… you have to learn how to help them … conquer their fears and accept the changes …"* (QU:35:28)

There was considerable debate regarding how they can convince doctors to accept the altered prescribing authority, with a range of strategies being suggested, and agreement that there was no one successful approach. They had found there were, *"still a **lot of undercurrents here and there** …"* (QU: 35: 30). They knew prescribing was a major step forward in nurses' autonomy, but nevertheless, the extent of the resistance some had faced when trying to use their new authority had been unexpected. It seemed (to them) that some physicians disapproved of, and/or doubted the wisdom of nurse prescribing, and (in some instances) were deliberately obstructive.

> *"… he will focus on that ... he puts the focus on me being in the wrong … …* [he] *needs to accept the law has changed … that choice is made … we need to move on ..."* (QU:35:32)

This ongoing struggle needs to be resolved. Physicians expect to be respected, so they in their turn need to respect the nurses' knowledge and expertise, acknowledging their extended professional boundaries. Even those who had been more successful in initiating their new role reported that it had taken considerable time and repeated explanations, with initially, each instance of prescribing explained and discussed, but slowly, over time trust and acceptance had been gained. They were disappointed that, as De Bruijn-Geraets et al. (2015) found, gaining acceptance of prescription autonomy was so slow, and realised that to increase the speed of acceptance their crucial task was to convince their professional peers that once they execute their legal professional autonomy to its full extent, patients will be safeguarded with an enhanced quality of care (QU:6:8-9).

It seemed the 'professional playground', the 'professional space' in which they work, could only be expanded when the nurses were clear about the context in which they work, and had the autonomy to make their own decisions. They need to work within situational analyses that both patients and peers can understand and accept. This includes full discussions of medication with physicians, with informed choices, made in the light of medication strengths, limitations, and possible side effects. This is critical, and as the new extended role includes advocacy, they need to use a format that can be translated for patients. This fits with the wealth of evidence indicating that patients prefer to discuss queries with nurses, finding them easier to understand and with more time to give detailed explanations and reassurance (Gielen et al., 2014). However, it has to be recognised that today, social media and the internet have changed the traditional situation leading to patients accessing a wide range of information that is not necessarily accurate or applicable to them. The participants in this study recognised that this had given them an increased role in checking and sharing information, arguing that management urgently need to accept and support them in this additional advocacy role (QU:6:111).

> *"… and I think* [initially] *… yes … the supervisor* [manager] *didn't think it was that important ... uhm … but that … that's a bit suggestive maybe … but I think something got left there* [management support] *..."* (QU:6:111)

Some were concerned about how long it had taken for this new advocacy role to be recognised, formalised and implemented into their extended role, but were realistic, recognising that they (the nurses) *"… really have to look at ourselves …"* and work with management to find strategic ways forward. Blaming management or any one individual for delays in change *was* not helpful, and in some instances exacerbated problems (QU:6:110). Some were faring better than others at gaining the management acceptance and trust needed to have the professional space necessary for change.

One manager outlined a recent example demonstrating the new role, with a physician with a very high workload. The nurse prescriber not only saw the issue of the quality of care for all patients, but also researched possibilities to improve care, identifying strategies that could be safely managed by a nurse prescriber. The nurse then created a sub-group, listed the patient records and discussed the possibilities with the relevant physicians, creating a nurse led dedicated patient group (QU:11:116; QU:11:119). At need patients can be referred back to the physician, but this approach has freed up physician time to focus on patients with more complex needs. This practical example not only improved care, but gained professional recognition for the role, which in turn extended the professional playground.

> *"… well, uhm … nice example uhm … we were talking about production figures … and the nurse … sounded very business-like … came to me … says … I'm concerned … ... what can I do … I said … well what do you think you can do about it … yes he* [physician] *has a lot of diabetics … uh … … so she reported … there are some is … almost never sent to the diabetes nurse ... … I said … shouldn't we go to …* [physician] *… well she sat with …* [physician] *said what she thought and he* [physician] *was convinced …"* (QU:11:116)

This manager was clear that introducing changes through multi-disciplinary agreements meant they were more likely to be sustained, becoming normal, accepted practice. The example fitted with the management view that it was not enough for the nurses to have knowledge, to expand their field of work, they needed also to be seen as academically and professionally credible by their peers (physicians in particular). Doctors were used to their traditional roles, and to give nurses their freedom, was such a major move that it was essential for them (doctors) to be given good reasons and examples couched in medical terms. One manager went on to add:

> *"… if nurses don't participate … do nothing … or don't take that path … of ... in a way it is pioneering uhm … but you expect* [to understand] *from each nurse … there must be competence … well … they* [doctors] *want knowledge, facts … information … do you understand what I mean ..."* (QU:11:122)

This manager was willing to support the nurses but was adamant that they must work towards recognition themselves, management could not do it all for them, but would seek every chance they could to help them develop their role. They could then gain ground within their professional sphere, exercising their responsibility to use research and EBP (QU:11:121-122 & QU:11:146-148).

Nurses, making the transition from specialist nurse to nurse prescribers, need to aim to enhance autonomy and advocacy, which will increase acceptance and trust and ease the use of EBP. They need to develop guidelines for professional behaviours, including EBP, that will lead and guide the development of their professional identity (table 5.1: proposition 3).

Sub concept: Equal collaborator

The nurses' strongest statements were reserved for discussions on being 'equal collaborators' (fig. 5.3.1.b), with repeated references to "*being taken seriously*" and "*recognised"* for their expertise. They saw positive appreciation, as acceptance of their changed roles, of the interlinked nature of the concepts, and acceptance of the need to achieve proposition 10 (QU:3:60).

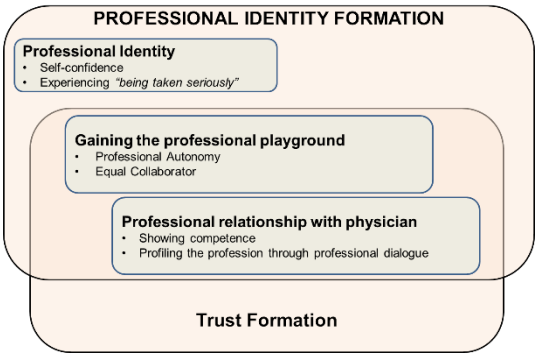


Figure 5.3.1.b:.Category view; Professional Identity and Trust Formation

> [Asked about relationship between nurse prescribing and EBP] *"… well … in my opinion … we are* [now] *more … equal on the ladder* [hierarchy] *… for us a demarcated area … of diabetes … but … the step where the doctor stands … in treatment of the patient … we are on the same step … more equal …."* (QU:3:69)

Until taken seriously by all members of the multi-disciplinary team and management, the nurses believed they would struggle to fully implement their new role. They need to be professionally proactive, not just reactive, and seek out opportunities to demonstrate expertise, competence and to use professional actions to develop, supplement and support their individual roles (propositions 5 and 10). They need to formally 'claim' their official position within the organisation, laying a sustainable foundation upon which to build. Part of the added value that they offer comes from (patient) advocacy, where the nurse acts as a 'Mediator', between patient and physician representing patients' interests (QU:10:123). This positive role over time can lead to nurses becoming the natural link between patient and physician, utilising state of the art knowledge and evidence to demonstrate their expertise and the authority inherent in their new position. When patients need to be given clinical information, the nurse and physician meet to discuss and plan the forthcoming consultation. This important role can influence Professional Identity Formation and improve the nurse-physician relationship.

Using EBP as a strategy to support collaborative practice provides access to develop acceptance, where the nurse prescriber is seen as an equal employee. This supports institutional recognition of the new role (table 5.1 proposition 4).

Concept 2: Professional relationship with physician

Traditionally, the professional relationship between nurses and physicians has been hierarchical, and this study revealed that although the law has changed, for many physicians, in medication prescribing, the hierarchy remains unchanged. The doctors interviewed were clear that, despite nurse prescribers' professional autonomy (fig. 5.3.1.b), as cited earlier, they still expect nurses to consult them before prescribing medicine to patients (QU:30:72).

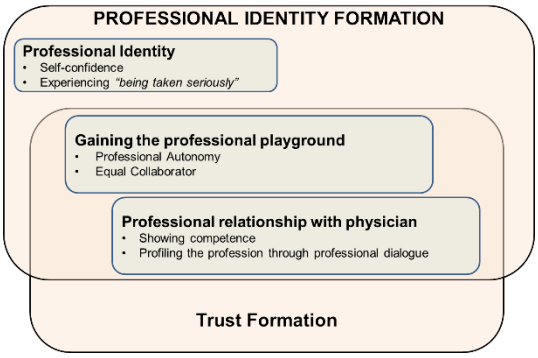


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

> *"… adjusting medication for example is always in consultation with me ... she can eventually change it … because she can prescribe … but that she discusses* [decisions] *with me …"* (QU:30:72)

Members of this group (of physicians) still saw prescribing as totally within their jurisdiction, as part of their role in supervising all care. Some physicians were trying to adapt to the changes, but for this group, professional relationships included reference to setting boundaries. In addition, a minority of physicians openly stated that nurses were not to consult other physicians without (their) stated permission, nor request diagnostic tests, prescribe drugs (for example antibiotics) or set up blood transfusions. It has to be noted that most of these activities are incorporated in the new legislated role, but for the group of doctors who saw themselves as carrying the ultimate responsibility (QU:30:73), such activities still remain solely within the medical domain. They saw the changes in role as very difficult to accept, seeing themselves as supervising a group that they regarded as novice professionals, and unwilling to recognise that the law has given the right to such activities

> *"… the same goes for antibiotics and blood transfusions ... they may propose the need … but it will only really be carried out after they inform me ... because in the end I am ultimately responsible …"* (QU:30:73)

Maintaining such a conservative attitude has restricted the nurses' professional behaviours, preventing them from achieving their full professional and legal role, and was reported to have a far-reaching impact. One manager argued that where physicians imposed such professional

restrictions on the nurses, it affected the manner in which the nurses presented themselves, and prevented the new legislation being fully enacted (QU:35:24).

> *"… the differences between physicians … has to do with* [attitudes to] *medication … also to do with being able to let go* [physician] *... also to do with … I always say … how to profile yourself as a nurse …"* (QU:35:24)

According to this manager nurses working with conservative physicians showed less assertiveness in meetings, and less confidence in trying to initiate changes in practice (QU:35:24). The manager accepted that 'letting go' or releasing some areas of practice into the hands of the nurses was not easy. He/she stated that some physicians were trying to 'hold on' to their previous role, and it needed a strong nurse to have the negotiation skills and confidence to work with conservative physicians, using practice to illustrate competence, and slowly working towards gaining acceptance and respect for their knowledge and authority. The nurses,

> *"… have to prove that …* [they are] *just as responsible … I think … with prescribing … as they* [doctors] *are ..."* (QU:9:16)

There was recognition that nurses need to demonstrate their competence (Schuurmans et al., 2012) to prescribe medication, to individually tailor patient medication, to take accountability for their decisions and act as reflective, self-critical practitioners (QU:8:133). This includes explaining clinical decision-making processes, citing the evidence and rationale underpinning their decisions and recommendations, articulating and reporting concisely the

> *"… reasons why you do something ... you … justify yourself … why you make these decisions in such … and such a case …"* (QU:4:108)

Accompanying this, must be the ability for each nurse to admit when support is needed or when mistakes have been made. This awareness of individual limits of competence is an essential, aspect of reflexive practice and part of all professional behaviour:

> *"… should always be a factor ... I think you should always be very critical of yourself and look … ask yourself what am I going to … prescribe to someone ... and why …"* (QU:8:133).

Nurses need to remember it is,

> *"… a real responsibility … to be up to date … know what you are doing … because you can do damage …"* (QU:10:52)

This enhanced individual accountability, which expands their professional playground (autonomy), means that nurses have to learn new professional behaviours. How to respond appropriately and defend their clinical decisions in a new and very different arena, using terms and risk assessment strategies that cross individual professional boundaries and can stand scrutiny by others (including physicians), and indeed, the whole multi-disciplinary team. This core component of their role gives them the expertise to mentor, guide and lead other nurses to make clinical decisions and use EBP appropriately and to work with other healthcare professionals.

To be able to carry out their extended role in partnership with physicians these nurses need to develop the evidence based professional behaviours that enable them to demonstrate why they have been given the new responsibilities. They also need to be able to demonstrate these professional behaviours in partnership (equality) and not as a junior team member (table 5.1: proposition 5).

The individual professional relationships between nurses and physicians are complex and influenced by a variety of factors (QU:30:111). When effective, they facilitate the multidisciplinary, specialised team, where each professional has their own role responsibilities. The dynamic processes that occur within good nurse-physician relationships can result in what appears to be a "*natural"* crossing of professional boundaries, particularly when as now, the traditional boundaries are in a state of flux. Such instances are consequently difficult to define but remain dependent on the individuals involved. For the physicians, as the quotes given in previous sections indicate, the need to know the nurse was essential for trust in knowledge and expertise. A very different approach to the automatic respect they bestow on their medical colleagues. This is a historical situation, and it will take time before doctors accept that nurses they do not know, are competent to make legally permitted decisions. Thus, for the foreseeable future nurse prescribers have to accept that physicians need to work with them, before they give sufficient trust to enable them to execute their professional autonomy, facilitating the delivery of optimum care (De Bruijn-Geraets et al., 2015).

The data sets also indicate that there is a local clinical subculture, within which physicians distinguish (QU:10:100) between knowledge intended for only for medical practitioners and knowledge meant for nurses. Described by the participants as paternalistic, this hinders the dialogue between physicians and nurses. Where a physician claims knowledge only for his own professional group, then it restricts sharing, limiting the nurses' role, also in the implementation of EBP. They argued that this outdated view needs to change (QU:10:111), but they were aware that such paternalism is one of the hardest things to address.

> *"… a larger hospital and more specialists were working and I notice that we have to come a long way to put that nursing group on the map ... but we* [still] *have a way to go ..."* (QU:10:100)

The nurses wanted to be full team members (equal collaborators), able to work directly with the patient, communicating the outcomes of their interventions with the doctors (the prescribing law does not change this).

> *"… so not only the group but … me as an individual … knowing what is allowed and therefore better in that conversation* [able to work in the team] *…"* (QU:10:111)

This change is essential for consistent state of the art information to be available for the patient. The participants reported that to offer individual evidence based proposals, they continually research pharmaceutical information to ascertain which would support initiatives to support patients (QU:4:87)

> *"… you … want to know … more ... and yes … it is also learning for us … we research it ... well … even when we're not the ones who decide whether or not it's going to happen …"* (QU:4:87)

They recognised the need to use critical thinking with each other and for all activities (Stuurgroep Verpleegkundige Visie Maxima Medisch Centrum, 2015). They wanted to attend multidisciplinary team meetings with other healthcare providers, collaborating with them, an area of work that together with face to face meetings with physicians, has increased since the changes started in 2014. They were pleased with the changes and plan to sustain and extend this role (Stuurgroep Verpleegkundige Visie Maxima Medisch Centrum, 2015) (QU:5:48).

> *"… we think this is good for our patients … … then let the dietician take a look ... because it also contains nutritional advice … and … show it to the doctor … well this is what we want to pass on to our patients …"* (QU:5:48)

This approach fits with the participants' hospital statement (2015) that this is a key role, with nurses working within their own professional domain and needing formal recognition. However, management stipulate that these dedicated/assigned physician dialogues, or as the manager called them "duos", are not explicitly described, but that nurses work with several physicians, and each collaboration will be different. Each duo needs to be based on (practical) clinical reasoning, judgement and patient interventions (QU:35:27). However, in the nurses' extensive working hours, only a relatively short time is spent with designated physicians, thus, the nurses had their own view of how things worked:

> *"… of course … you actually have a kind of a carousel … with the patient in the middle and regular players round the outside … with fixed points of contact ... they may be linked to others ... and of course depending on their contract hours ... there can be differences ..."* (QU:35:27).

When a nurse wants to prescribe different medication than the physician (QU:13:38) he/she needs to have the confidence and knowledge to justify their chosen prescription, using EBP to demonstrate their reasons for their clinical decisions. The management perspective is that such differences can cause dilemmas, with ongoing 're-education' of the doctors (who the prescribers work with) a permanent role for prescribers. Each time there is a different physician, the same arguments seem to emerge, and need to be addressed.

It had taken different periods of time for participants to adapt. One reported taking more than a year to settle into the diabetes care domain and several more years before developing the confidence to develop new protocols (QU:7:34). The outcome was that having finally managed to effect change, the physician (in the duo) had fed back his appreciation, which was reported as reassuring and very positive

> "… *it was clear … that it was certainly right for this patient ..."* (QU:7:24).

The nurse had used EBP as a major part of her discussions with the physician, and it was evident that this had been well received. Reflecting on this, the participant reported that it was hard to believe:

> *"… I actually worked as a diabetic nurse for 7-8-10 years … so to speak ... before I really started trying things out ... seeing if there were more roads* [I could use] *that lead to Rome ..."* (QU:7:34).

She was clear that her approach was essential if the nursing role was to change as it gives the doctor time to develop trust [confidence]. This also applies to practitioners from other medical disciplines (e.g. cardiology) (QU:5:13), as it recognised the way that doctors developed trust (QU:9:30). Nurses working to support patients with comorbidities had to study additional drugs, and their side effects for each of specialities involved. They had found that some doctors were conservative (QU:9:113) in their approach to medication:

> *"… means that* [these] *doctors may be reluctant to prescribe new medication and that prevents us from prescribing some new medications … just because of lack of enthusiasm for change … for example …"* (QU:9:113).

In their approach to gain more freedom and autonomy for their professional actions, nurses need to accept that they still need to focus on "building Interprofessional trust" using both the opportunities given by the status of their profession and individual evidence based professional performance (table 5.1: proposition 6).

Trust, which can include reliance on another person/professional, has long been recognised as an essential concept for all successful professional working relationships (Henneman et al., 1995: in Gonzalez, 2017; McComb et al., 2017). Not surprisingly, this study was no exception, although as with previous studies the participants found articulating what they actually meant by trust very difficult. They gave examples (QU:3:30), but not definitions.

> *"… I work a lot with one doctor … well that's an endocrinologist who is really aware … and other colleagues* [nurses] *work with … nephrologists who also say* [things like] *… yes I'm just a lot less aware than you* [nurses] *are … about all the new insulins … so I trust you blindly …" (QU:3:30).*

They could describe instances of trust and indicated that it encompasses all elements of building and maintaining professional relationships with significant working partners and the client/patient, arguing it was enhanced by demonstrations of competence (QU:6:49).

> *"… well what I do is that I do discuss xxx* [patient] *… what has now been established … and this is the state of affairs … and uh … I'm going to do … this is the approach we have on diabetes regulation …"*

Some were confident that what they said would be accepted by the physician without question, with one stating

> *"… I would be very surprised if the doctor said … no ... I want something different ...* [laughter] *I can't imagine that …"* (QU:6:49).

Should the physician disagree, she was confident that they would have a positive discussion and resolve things. Her relationship was secure and strong enough for them to be able "*to argue and debate differences in opinion and treatment*", with trust providing a professional meeting point, based on mutual recognition and acceptance of professional judgment. This includes using EBP to demonstrate to other members of the multidisciplinary team, and primarily physicians that their decisions are based upon research and clinical evidence, and not as suggested by some physicians from being influenced by others such as pharmaceutical representatives. The nurses themselves, argued that they are well able to withstand the

representatives' persuasiveness, and could be trusted to make appropriate decisions based on clinical evidence.

Throughout the study, there was debate in the group over the role of pharmaceutical company representatives with some participants reporting that initially physicians apparently thought the nurses could be influenced too easily. Not surprisingly, the nurses themselves disagreed with this perception, arguing that they are well able to withstand the representatives' persuasiveness, and could be trusted to make appropriate decisions. They recognised that initially they had had to be

> *"… ready to prove that's not the case … that we … yes … think carefully that we go through articles … we learned with the EBP course and have a good idea of what we think about it* [specific drug] *… it is not the case … if the representative … has a nice story … that we immediately accept it …"* (QU:9:119).

However, as trust developed, they found this perception reduced, with recognition that new medications were chosen on knowledge not persuasion. According to one manager, how the nurse reacted, impacted on the speed in which trust developed, and the strength of such trust (QU:35:24). This manager wanted all nurses to gain negotiation skills and be able to convince physicians they could be trusted to prescribe and argued that the nurses needed to accept that they should take the lead in developing and maintaining professional relationships (QU:11:130).

> *"… who had that … yes I saw two nurses … doing this uh … who were initially very modest and quiet … uh … but they have developed and gained standing in the group … yes … saying … guys this is how we are going to do it ... this … we are going with this first ... we must have clarity ... based on information* [evidence based] *…"* (QU:11:130)

Knowing how to share knowledge is crucial and precedes changes in role and the transfer of patient care from totally physician to shared nurse-physician (QU:30:120). As one physician had found,

> *"… and they have often talked about that hey … in the beginning hey … I would have said … yes I got calls again … but at some point the calls fades away ... now … no I just trust her …"* (QU:30:120).

To work with, and support patients, nurses must be confident in their knowledge, and for some this recognition of the need to take responsibility, had caused uncertainty and anxiety.

> *"… look if you … if you cannot find the right knowledge for the patient then that isn't good … have the feeling of … oh I am doing it wrong … if you say something …you then think maybe not quite correct … it makes you feel insecure … feel dissatisfied …"* (QU-f:39:40).

This nurse was concerned that anxiety could adversely affect the relationship with that patient, and wanted to find ways to prevent damaging trust, and through that their professional relationship.

Trust is seen as a key element for the development of a professional relationship, which facilitates professional dialogue. However, nurses must develop and maintain the evidence based knowledge and expertise necessary to demonstrate competence and earn trust (table 5.1: proposition 7).

Sub concept: Showing competence

Each professional group develops its own code of conduct to which members need to adhere, and which outlines the behaviours expected of them. Thus, professional behaviour, although not always easy to describe, is based upon inherent and intrinsic values that govern actions and interactions, encompassing professional attitudes (Ginsberg, S. et al., 2000: in Morrow et al., 2014). As with trust, participants, found it difficult to articulate exactly what it entailed, but all agreed on it being the combination of professional actions, attitudes and their application in service delivery. In addition, that professional behaviour enables nurses to meet expectations arising from their designated professional profile and professional status (QU:9:107).

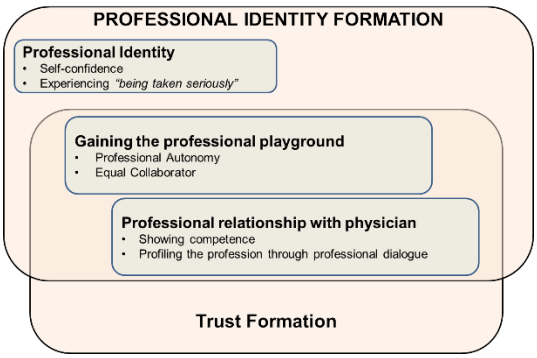


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

> *"… really prescribing … became legal … I think that's great for our profession … as a diabetes nurse … but it also entails responsibilities ... I think … all together … you have to realise that you can't rely … on the knowledge or skills of a doctor or a fellow nurse … you are responsible* [attitude] *for your own knowledge and skills* [behaviour] *…"* (QU:9:107).

For these specialist nurses, a key element was their ability to deliver and show (fig. 5.3.1.b) the unique higher-level competences of practice, inherent within each specialist professional role. They are expected to exhibit behaviours and lead practice in the delivery of high-quality

nursing care, following government requirements, for example working to implement EBP, positively influencing the image of the profession, and demonstrating leadership skills in collaboration with others (Schuurmans et al., 2012).

Showing competence as a strategy

Demonstrating their competence emerged as an important strategy in the process of "*being taken seriously*" (by the physician or patient) and building a trust based professional relationship. Nurses accept that part of their ongoing registration is the demonstration that they have maintained competence, with higher level competencies as they extend their skills and increasingly become an expert. As part of their new role, specialist nurse prescribers need to be seen using their competencies and offering added value in interdisciplinary care provision. They need to know their professional strengths, weaknesses, and the limits of extended competences, self-knowledge that develops from reflective practice, and evaluative professional dialogues. This is easier where there is frequent or ongoing collaboration with colleagues and peers, and more difficult where this collaboration is rare (QU:10:51).

> *"… I think it's … because they know you less and think they should keep an eye on you more often ... not knowing exactly what your knowledge and skills are …"* (QU:10:51)

Recognising the challenge of repeatedly having to demonstrate their competence to physicians, on occasions with issues regarded as having little importance, they chose to comply with physicians wishes. They accepted the importance of not debating every point and focusing on the important possibilities this new role offered (QU:9:35-36).

> *"… so I was like yes … okay … I myself am … inclined to say sometimes … oh it's okay … never mind ... yeah so I let it go … yeah …"* (QU:9:35-36)

Competence is part of building trust and should therefore help acceptance of other (inter)professional activities.

Showing competence for role clarity

The nurses argued that for good collaboration, within a team there has to be role clarity. Some reported that they had gone to physicians, sat with them, gone through the planned changes in their role, explaining the changes in the legal system, and detailing exactly what their new role entailed. In some instances, this had taken time because it was a major change in responsibility. Overall, the doctors had listened, questioned and then discussed the implications. This process helped with building trust as the physicians knew exactly what to expect from their nursing colleagues (QU:10:16). As one said,

> *"… it was necessary … because I mainly work with one specific group* [of patients] *and doctors who have known me a long time … what I like is … I have built up trust … and we have good cooperative relationship …"* (QU:10:112).

The willingness to explore the changes, and debate or discuss the pros and cons of the changes, was greater when there was already an established relationship with good teamwork.

> *"… there are two doctors I work with a lot … I have a good working relationship with both ... that uh … we trust each other … know where the boundaries are and know what we can do … uh I think they value me ..."* (QU:10:124)

These participants accepted that building a good work relationship is time-consuming and felt fortunate that the change in the law had come after they had developed their collaborative working relationships (30:116; 34:44). Thus, they had already laid the groundwork for acceptance of their new role through repeated and consistent interactions (QU:34:44), demonstrating over time their knowledge, expertise and competence. They had used relevant evidence and research in practice, which in turn increased the physicians' acceptance of their suggestions and recommendations.

> *"… of course … partly just a lot of consultation with each other … over time … you see how someone works uhm … and you can ask … but … yes relationships take time ... we have EPD* [electronic patient/health record] *… so … you can actually just read what someone's overall thinking is … … and that … that sometimes makes a difference ..."* (QU:34:44)

In case of uncertainty regarding the patient treatment, these nurses and physicians always consulted each other, so they saw the legal changes as merely an extension of what they already did, illustrating the outcome of a nurse *"being recognised"*, taken seriously and trusted by the physician (QU:10:49). However, they found it more difficult when there were locum physicians covering clinics and inpatient care.

> *"… I notice if they* [the usual doctors] *are not there … for example … because they've gone to a conference ... and someone else stands in … then you get that* [the questions] *… they know me less well and I know them less well ..."* (QU:10:47)

This was to be expected, because it is a new role, and it is possible that no one explained the changes to these physicians and the different role the nurses now had within the team.

Nurses need to develop strategies demonstrating competencies, including EBP competencies, to increase and enhance trust (table 5.1: proposition 8).

Sub concept: Profiling the profession through professional dialogue

The nurses in this study were well aware of the importance of profiling themselves (QU-f:39:46) to patients, across the hospital and to the nursing community as a whole (fig. 5.3.1.b). In line with the National Nursing Profile (Schuurmans et al., 2012), they needed to demonstrate that they could devise, implement and evaluate the care they give (QU-f:39:51; QU-f:39:64) and be a member of a team taking a united approach:

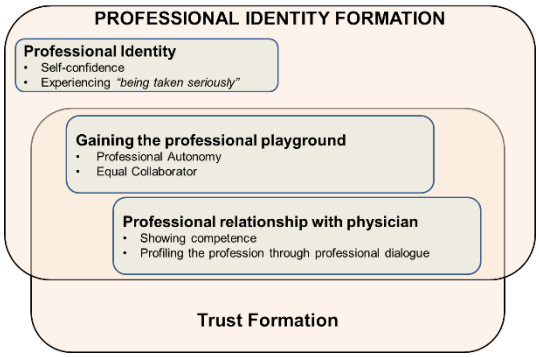


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

> *"… but* [you] *have to have that peace from being in a team …"* (QU-f:39:64).

The nurses admitted that they are still learning how to profile themselves in their new professional role. They participated in multi-disciplinary meetings (QU:35:44) and tried to make use of their required EBP skills (Bos et al., 2013). Some argued for the need to profile professional (nursing) practice, particularly in the light of the expanding pharmaceutical formulary (QU:35:24). The traditional nursing approach was not designed to recognise change, thus they needed to stress the changes in a positive way. Perhaps the best illustration was the comment that "*… you must radiate that …"* (QU-f:39:46) to others. They pointed out that part of the confusion came from within themselves, realising that they themselves were still in a time of change, and needed to have confidence to lead the way forward (QU:35:24). The participants were aware of the importance of demonstrating their professional/personal identity, (QU:10:110), accepting that nurses have had a long journey to put themselves on what they described as the 'professional map' (QU:10:100).

> *"… and to be a good advocate and … I think … that belonging to a strong profession makes me stronger as a person ... not only the group but also me as an individual … knowing what is allowed and therefore better able to lead and advocate …"* (QU:10:110)

While some managers were encouraging them to be more proactive in profiling themselves, (QU:11:171; QU:11:172; QU:11:199), examples were given where in principle the support was there, but managers were more likely to retain their traditional approach and see the physicians' advice as being of a higher level (QU-f:39:54).

> *"… but I think* [my manager] *is more guided by doctors' proposals and arguments …"* (QU-f:39:54)

The nurses still had some way to go before they were fully recognised as consummate professionals. They emphasised the difference between the nurse specialists they had become and the nurses who have specialised in a subject. Nurse prescribers see themselves as the former, the latter are nurses with some specialised knowledge, but not independent practitioners legally prescribing and making their own clinical decisions. They believed that sharing scientific (research based) explicit and tacit knowledge with their peers and the nursing community would be helpful in positioning them as nurse prescribers and ultimately, leaders. Thus, they saw being a member of the professional community as very important, but linked to this was an additional issue: the need to lead on external nursing issues, and to represent their peers on local, regional and national professional nursing boards and committees (QU:6:26).

> *"… contacts with my professional association … I am the chairman of an uh, of uh, south region …"* (QU:6:26)

They pointed out that this could include educating their peers, in their own institution as well as in the wider local and national nursing community. As an outcome from this study, they saw organising a journal club (analysing research articles) as an appropriate mechanism to both profile their extended role, sharing and disseminating their findings, while at the same time educating others and enabling them too, to move on. Nevertheless, as one pointed out, while they are happy to further the nursing agenda, it is very tiring and time consuming to have to repeatedly explain how and why the extended role works to further healthcare.

Nurse prescribers need to gain the skills to professionally profile themselves as nurse prescribers with extended evidence based knowledge and expertise, supporting the development of the nursing profession (table 5.1: proposition 9).

The professional dialogue

To establish a good professional relationship with other professionals and in particular with physicians, professional dialogue is key. The nurse is entering the doctor's field. From the manager's perspective, for successful dialogue with physicians on medical issues, some

prescribers need to develop more skills. Those who have adapted easily were keen to move practice forward, while others needed support to gain the confidence to take the lead in discussions to change and advance current practice. Dialogue with management was reported as not always easy, with in some instances, responses appearing to threaten continuation of the new role (QU-f:39:52).

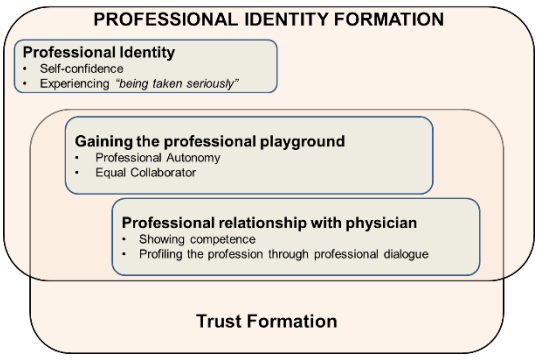


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

> *"… so in that sense it's what you actually do … what you demonstrate and ultimately a justification and indication of your right to exist so …"* (QU-f:39:52)

Nurse prescribers offer individualised value-based care (QU-f:39:52), reducing the need for hospital attendance/admission costs, a key issue for management. Participants argued that the level of care they offered extended into the community. General practitioners have limited time, so cannot focus on each area of specialist practice, and therefore need to link with the expertise of the specialist nurse prescribers who are able to focus on early identification of problems, preventing escalation and reducing service need.

One manager admitted that, although not personally very familiar with EBP, the change in the nurses' professional role and behaviour was recognisable (QU:35:53) and argued that it is management's role to support and facilitate their practice, including efforts to implement EBP.

> *"… the authority to prescribe … I see mainly a change in nurse professionalism … I especially see the change in … the use of evidence based practice …"* (QU:35:53)

This manager had given added support to the nurses as they gradually developed ability to carry out all aspects of their extended role, and went on to add,

> *"… but that … has to do with how I see or manage things ... I really believe in nursing potential ... I also* [try to] *convey that a lot ... possibly that's because I am a nurse …"* (QU:35:53).

By encouraging and facilitating the staff and recognising their changed role, the manager gave a clear message to all staff and followed government guidance regarding national implementation of EBP application. However, differing approaches by management mean that while some nurses have been able to implement their new role, others have had to focus on

developing professional dialogues that enable them to gain acceptance by demonstration and negotiation.

Participants described a wealth of opportunities for professional dialogue with other healthcare professionals such as dieticians and on occasion the pharmaceutical representatives (QU:5:48). They accepted that it was important to have the evidence to underpin their decisions, and it seemed that for some, for the first time, there was realisation of the need to use research and evidence to make their assessments, to enable them to participate in discussions, debating more effectively with other professional groups. Only in that way could they use their full authority with confidence, consulting a physician when they decided it was necessary. Examples were given of how, having developed their own patient education resources, they had been confident that the knowledge was correct but had chosen to discuss and check the content with other professional groups involved in the patient's care (QU:4:96).

> *"… I developed … pre-diabetes* [booklets] *myself and uh … and then looked at them together with* [nurses] *checking … … that it says enough* [information] *… then let the dietician look ... because it contains nutritional advice ... and the doctor …*" (QU:5:48)

These positive dialogues were beneficial in terms of information for a patient, aiding the nurse to gain acceptance for their evidence based knowledge and skills across the multi-disciplinary teams (QU:13:38). Nurses need to develop strategies to initiate dialogue, particularly when they and the physician disagree, providing evidence based justifications for their choices in a manner that enables physicians to appreciate why they have made a specific decision.

> *"… it can be difficult if you find what you prescribe* [as a nurse] *… differs from what the doctor wants … and can lead to tension … you have to be pretty strong to hold your stance and … justify your choices you … and it … feels damn good if manage to substantiate your decision …"* (QU:13:38)

One explained how, with a doctor she did not know, she had realised that without an established relationship with a physician *"… I had to approach this differently …"* (QU:10:48). She had not entered into direct confrontation or debate but had chosen to listen to his '*lecture'*, and only afterwards offer reasons for a regime change. Listening to his perspective, and then using her answers which were evidence based, she reported she was able to demonstrate that while she accepted his view, she was able to outline and discuss additional research and evidence issues that needed consideration. He accepted her arguments, and agreed to change the prescription, an example of how EBP can inform professional dialogue and through this mechanism illustrate their changed role.

The participants were adamant that their ability to have effective professional dialogue was improved because the journal clubs gave them the ability to read and use research, leaving them feeling much more confident about their knowledge (QU:9:25). They also reported that they found it much easier to use a scientific justification when presenting professional arguments in larger meetings with health professionals (QU:9:33-35). This reinforces the need for those preparing nurses for an extended role, to include a focus on adapting and changing professional behaviour to instigate and carry out their new role. In addition, to help them to improve negotiation skills and strategies (professional profiling) to demonstrate clinical decision making.

To overcome professional restrictions and base practice on evidence, nurse prescribers need to establish working relationship through professional dialogue (table 5.1: proposition 10).

Summary: Trust Formation

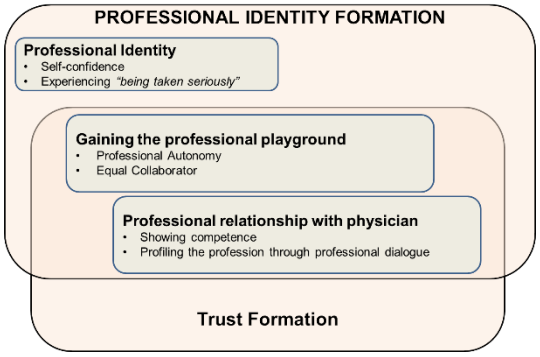


Figure 5.3.1.b: Category view; Professional Identity and Trust Formation

For the nurse participants, the concept of trust was of exceptional importance, in their new role with its responsibility of *"being trusted"* and entrusted with (prescribing) clinical and non-clinical activities. For most of the nurses, this trust had been gained in the healthcare team, making the nurse feel they had become an indispensable member. Trust recognition and *"being taken seriously"*, provided a pathway that helped the nurse prescribers make full use of their professional playground, enabling participants to achieve their extended role. To strengthen their professional identity, they need to be able to develop trust and recognition from the patients, co-workers, and most importantly, the physicians with whom they work. Showing competencies and profiling the profession facilitate that process of trust formation. From the symbolic interactionist point of view, the professional social interactions in which the nurses participate include interpretation, recognition and trust, through which they can assume the role of 'equal collaborator' with physicians, creating a positive professional appearance and gradually gaining self-confidence. This in turn strengthens their professional identity, a perspective that is part of their perceived image of Self and facilitate self-evaluation.

5.4.3 Category: Patient's Mediator role taking

Description of the building block

This category (process conditional to R-EBP-P role taking) is the Patient Mediator role (fig. 5.3.2.b), the process of representing a patient's healthcare interests with the treating physician to optimise patient care. It consists of the concepts: Care decision-making, Patients' Mediator to physician, and Gaining acceptance for EBP proposals. This category is closely linked to the R-EBP-P role with the role of Patient Mediator (Advocacy) enhancing care. How the nurse prescriber performs in the role of Patient's Mediator has strong implications for Trust Formation. Hence, the connection between the Trust concepts 'Individual Professional Relationship' and 'Equal Collaborator' with the concept of 'Patients' Mediator to Physician' concept of the 'Patient's Mediator role taking' is described below.

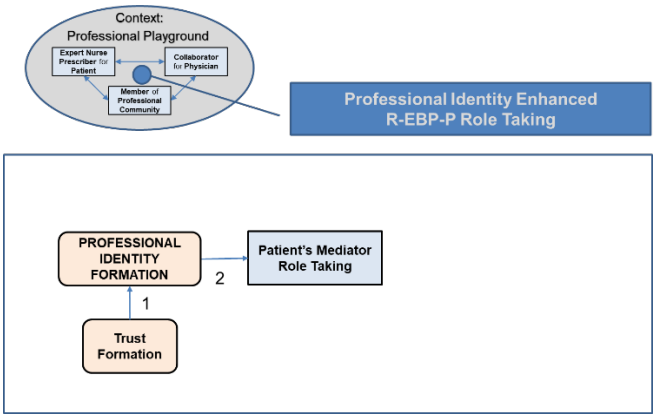


Figure 5.3.2.a: Patient's Mediator

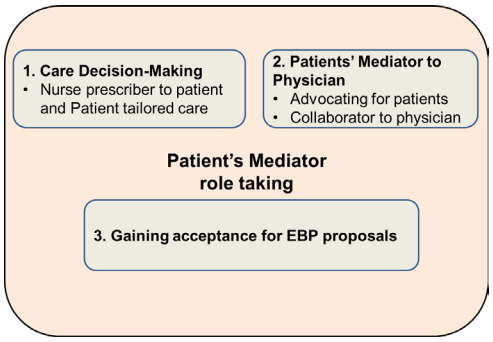


Figure 5.3.2.b:Category view; Patient's Mediator

Concept 1: Care Decision-Making

This concept consists of the sub concepts 'Nurse prescriber to patient' and 'Patient tailored care', with promoting 'therapy adherence' a key goal. The main focus of care decision making is an individualised programme tailored to each patient to increase adherence and treatment plans and medication. Consultations with patients focus on both medication and individual lifestyle advice, and there is evidence that patients are more satisfied with nurse prescribers (Van Ruth et al., 2008: in Kroezen et al., 2014a) and are more likely to adhere to medication treatment than if treated only by medical specialists (Andersson et al., 2008: in Kroezen et al., 2014a).

Nurse prescribers' goals are set and achieved through 'informed and critical decision-making'. They see a clear need to check that patients are fully aware of what their treatment is and why they need to undertake it (QU:9:87).

> *"… hypoglycaemia … so low blood sugar levels … and this happened regularly to her … and we not only adjusted the medication … but also gave her more*

> *insights into what the blood sugar levels were … by having a sensor* [biofeedback to patient] *worn ... … where she could also see for herself what happened to the blood sugar values and react in time ... so … through collaboration* [with patient] *… helps interpret … … and in that combination she became even more stable …"* (QU:9:87)

They check patients have sufficient information to understand treatment aims, and the advantages and limitations of prescribed medication and interventions, as only then are patients able to make 'informed choices' about their care. They underpin their advice with evidence (convincing), enabling the patient to choose and accept the treatment offered, rather than just being given a specific treatment. Interestingly, as the study developed and discussions with the group continued, they began to change their phrasing and the descriptions of their role. During the participation validation, the participants corrected the term 'informed' to the term 'shared', because for them this better connects with their intentions (QU-f:39:30).

> *"… yes … but it does mean that we are increasingly discussing the options with those patients and ... and I think that shared decision making comes to the fore a lot more …"* (QU-f:39:30)

Informed decision-making is supported by the application of EBP including pharmaceutical information. However, when prescribing, nurses predominantly use the national diabetes nurse prescribers' drugs formulary, sharing with the patient what they see as essential. They emphasised the personal relationship, almost asserting ownership of the patient and the physician, repeatedly calling them "*my patient*" (QU:3:12; QU:8:89; QU:5:43) or "*my physician*" (QU:7:7; QU:10:5; QU:10:20).

Interestingly, in view of their previous comments on paternalism, they seemed to see no disconnection between discussing personal, professional and patient autonomy and the use of possessive pro-nouns. For them, what appeared initially to be possession was actually a way to identify those with whom they work. When asked to reflect on this, they reported feeling being connected, being responsible for their patients and willing to take ownership of the nature of their role. They saw the connections as reciprocal, emphasising the importance of *"being trusted"* by stakeholders and entrusted with prescribing activities.

Sub concept: Nurse prescriber to patient and patient tailored care

The nurses accept that with authority to prescribe comes responsibility for maintaining and extending their own competencies. Selection of medication inevitably includes medication dosage, something challenging for nurses and physicians alike, and for which additional training is essential as "… *you are certificated for prescription authority ...*" (QU:4:89). This

change from their previous focus on patient education leads to the need for education on developing professional confidence and competence. However, in reality, the new situation meant formalisation and legitimation of what these diabetes nurses were already informally doing in daily practice (QU:9:154).

> *"… really prescribing only becomes legal* [recognition of] *what we have already being doing … actually ... I think that is so great for our profession as a nurse … …"* (QU:9:154)

This is almost a contradiction in terms, indicating that it was previously accepted by physicians that they had the requisite knowledge and skills, but once formalised the situation changed. Although they had undergone additional education and training and actually gained a higher level of knowledge, there was suddenly less acceptance of their expertise and competence. Although for some, there had been little real change in practice. The nurse still collects and assesses all laboratory values prior to consultations (QU:6:15), then adds in the information received from the patient's story, and adjusts the medical treatment. The main difference is that now it is legally the nurse's responsibility (not the physician's) and for minor alterations, there is no need for formal recognition of the changed prescription (QU:6:15). They still have to consult a physician before any major change in medical treatment but are more confident now and report being able to present a well-founded evidence based proposal to the doctor, and to the patient.

The nurses stressed that increased insight about patients' medical issues and their personal preferences and values, enables them to listen and discuss concerns, tailoring patient care appropriately (QU-f:45:11 and 16; QU-f:45:20).

> *"… but precisely what emerges is personalised medicine … what is best for this patient … what is the best treatment for that patient … … I think that we as nurses often have much more insight into the patient … into what the patient knows … what choices the patient makes …"* (QU-f:45:16)

Patient tailored care is designed to improve care outcomes and improves patient adherence through effective prescribing that serves the patient in terms of side-effects and applicability. It may on initial consideration not be the only treatment possibility, but one that is more likely to achieve high medication adherence and is therefore the best medication for that specific patient. Mediating in these circumstances means proposing the treatment and holding where necessary extensive dialogue with the treating physician..

Concept 2: Patients' Mediator to Physician

Being the patient's mediator, advocating with the physician entails collaborating with the physician (Collaborator to physician) on behalf of the patient or for a group of patients (fig. 5.3.2.b).

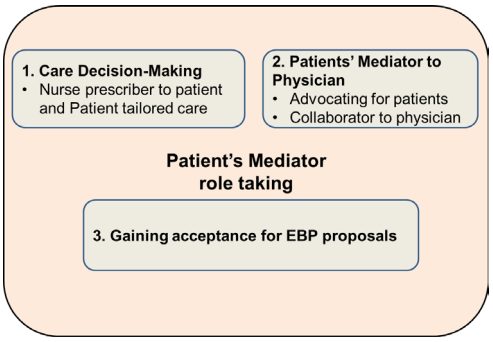


Figure5.3.2.b: Category view; Patient's Mediator

Sub concept: Advocating on behalf of individual and groups of patients

The nurses described themselves as being "in-between" the patient and physician, having an important advocacy role, which, often meant in their own words "*pleading*" with physicians to tailor the treatment to a regime that the patient felt able to follow, and would therefore improve the patient's quality of life (QU:9:149).

> *"… we are very often in between … as the patients' advocate … actually pleading for them ... to be able to achieve* that *… this medication might be easier … or better for the patient's uhm ... yes quality of life …"* (QU:9:149)

However, it also has to be accepted that in a time of financial constraints, in some instances the financial situation of the patient can affect choices, as can the cost effectiveness of proposed treatment to the hospital (Frank et al., 2015) (QU:7:26; QU:7:106; QU:34:7). The nurse prescribers found advocacy included 'speaking up' on behalf of the patient on issues other than straightforward physical and medical concerns. Currently, Dutch health policies have changed, resulting in restricted/limited access to secondary psychological care for some diseases including diabetes (QU-f:31:1). Hospital management find themselves in the position where they have to follow health policies, which can be challenging. The nurses reported trying to compensate, by taking up the general healthcare questions and completing their own screening for psychological issues, focusing on self-management support (QU:38:5). These nurses had extended their role to continue offering holistic care for these patients.

One of the physicians interviewed confirmed the nurses' perspective, agreeing that the advocacy role had developed as the nurses' responsibilities increased. This was seen as a welcome extension of their role, and as a result, physicians were now more likely to accept that in retrospect their choice of medication needed reviewing, in the light of family circumstances, lifestyle and major changes in condition. In these instances, the additional details from the nurses proved invaluable (QU:34:54-55), particularly where the changes meant referral to other medical teams. Both physician and nurse prescribers have accepted their new place "*in between*" the patient and the doctor and the role of mediator, adjusting treatment in a way that the individual patient can follow the treatment with the best possible

outcome, encompassing all elements of holistic care, and where necessary, arranging additional care for after discharge (for inpatients) or for at home (for outpatients).

The nurses made every effort to follow all new information, medical trials, general research and evidence. They reported that the journal clubs had helped them to understand the different types of research studies, giving them both knowledge and confidence. They now felt able to raise and discuss when they thought a specific medication should be included in the nurse prescribers' formulary (QU:7:51; QU:7:55), and to discuss overall medication issues, "*entering the medical domain"* as they advocated for the patient (QU:7:69; QU:7:75). They were adamant that this was a distinct change from before they attended the programme. In the past, although they might have wanted to change things, they had not felt confident enough to argue for the change. They were pleased to have entered into what they saw as a new domain for them and to have become accepted and trusted partners and advocates in the multi-disciplinary teams.

Sub concept: Collaborator to physician

As stated previously (paragraph 2.5) nurse prescribers' collaboration with physicians is based on an interdisciplinary working relationship. Their role is to review the patients' healthcare in total. This includes, but is not limited, to assessment, diagnosis, treatment, follow-up and evaluation. The effectiveness of the shared patient reviews is dependent on the strength of the collaboration. Reaching this position had been a long and arduous journey (QU:10:100). Relationships with the physicians varied. Some were well-defined and some less clear, with some physicians claiming specific fields of knowledge and excluding the nursing workforce, using a paternalistic attitude (QU:10:100; pp. 144-145, see Trust formation, Concept 2, Proposition 6, page 147). This was a barrier to dialogue and an impediment to changes in practice, including the implementation of research and evidence based practice. As previously argued this needs to change (QU:10:111), to enable a standard approach to the role or be developed, instead of the current situation where the role varied from hospital to hospital and department to department, making it difficult for the nurses to develop a consistent approach (QU:10:137).

> *"… then I went to* [location2] *and and I noticed the role of the nurse was different there ... less contact with the physicians … just further away … and they knew less about you … and I think a little less trust ..."* (QU:10:137)

For the nurses to be effective collaborators, both the nurse's and physician's position statements about health plans (treatment results) and care provision need to be recognised as being of equal importance (QU-f:45:8) in the decision-making process. As one put it *"… look my opinion should be* [recognised as] *weighted as much as the opinion of one of the physicians …"* (QU-f:45:8) This needs to apply to all aspects of patient care, including the yearly patient

record meetings to update a patient's personal medication programme, as well as short term treatment decisions (QU-f:45:4), based on demonstrable professional equality.

> *"… but you are a diabetes team … then you have to ... get to each other I guess … work it out together … I think …"* (QU-f:45:4)

> *"… we also have to see ourselves as professional … and I think we have to catch up a bit there too ... that we also see ourselves as a practitioner/therapist and …"* (QU-f:45:13)

Equality was seen as the essence of collaborative relationships (need for trust) between nurses and physicians, not only on an individual basis (supported by: Tang et al., 2013), but also for the team as a whole. Although they recognised and accepted that the professional status (functions) never have been and are still not equal (doctor-nurse), nevertheless, the input from different disciplines into a multidisciplinary dialogue can still be seen as equally important for the patient, *"... and then you are actually a good debating partner [knowledgeable] …*" (QU-f:45:5), which enables the physician to reflect on their decision and consider other options.

Physicians need to see that following the nurse's extended and specific training, nurses are more knowledgeable about scientific research and searching for appropriate evidence (QU:30:3), which in the physicians' eyes, gives them an enhanced value. Critically, physicians need to be given opportunities to understand and appreciate the nurses' contribution to care, as this gives them a respected colleague, with whom they can discuss care in detail. Under the new legislation, with its sharing of responsibilities for medical care (e.g. prescribing), the old hierarchical practices of doctors are inappropriate and need to change. However, to sustain the changes nurses, in their turn, must understand and meet the expectations of other professionals, because that improves the interprofessional collaboration and will lead to increased respect and better patient care.

Concept 3: Gaining acceptance for EBP proposals

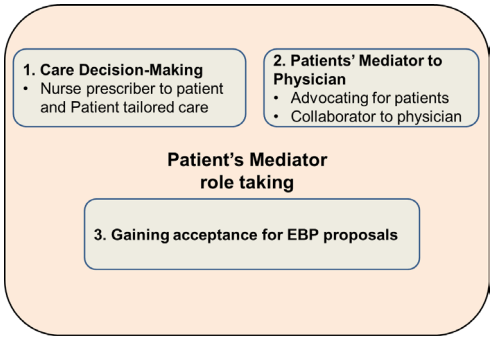


Figure 5.3.2.b: Category view; Patient's Mediator

For the nurse participants, the new role of making their own proposals to physicians and entering into in-depth dialogue about patients' treatment, had gained another dimension that they really valued (QU:9:6). They could clearly see the differences that had arisen as a result of the changes in the law, and (QU:9:6), argued their hard work had led to them becoming established in their extended role. As one participant made clear, her new role meant that she needed to have developed the answers to the patient's problems before meeting with the physician and proposing adjustments to a patient's medication. It was essential to be very precise and explicit, giving the evidence as well as the reasons for the change, if she did not, then she found she was asked what they should (the two of them) do about the problem (5:27-28).

> *"… I can't go to the doctor uh … and say … yes that patient has such awful stomach-ache from the medication … because then the doctor will say to me … and what is your proposal … what are we going to do …"* (QU:5:28)

In some ways the changes were a two-edged sword, once accepted as a collaborator, they could no longer go to physicians and just ask to discuss the patient's problem. They were now expected to have considered all angles and have one, or sometimes two, possible scenarios regarding the way forward. This is rewarding in professional and personal terms, but it reinforces the responsibilities that accompany the extended role and prescribing rights. Making a proper proposal for (adjusting) patient treatment was a new competency for this group that they needed to learn (QU:10:11). They were aware that when they first took on their new role, they did not have the skills or confidence needed to do this. They saw the journal clubs as having given those strategies to develop the necessary skills in assessing evidence and the competence to construct clear, concise, detailed arguments with the appropriate evidence attached.

> *"… did learn a lot there … and* [now] *actually make good proposals …"* (QU:10:11)

They were clear that these skills needed to be included in training for prescribing and that it was not enough to simply learn pharmacological principles, or the effects and side effects of the various drugs. They needed to learn how to share this information professionally. The courses they had undertaken had only given them theoretical information, it was not until they attended the journal clubs that they learned how to assess the varies research studies and

their relevance for their own caseload. Their competence now, was such that they felt able to make proposals even for the use of medication that falls outside the prescription authority of the nurse (QU:7:6).

> *"… I have a patient where I have a uh ... who thought that uh … early in the morning had hypos ... due to long-acting insulin … well there you go … … you can't go with the standard medication … solving that … with a SU or with metformin … you really have to look at a different kind of medication … and in this case it was a DPP4 inhibitor ..."* (QU:7:6)

At the start, they had not even considered that they would reach the point where they would be researching and asking for changes outside their own prescribing competence. As one physician interview confirmed, the nurse prescribers do now make such proposals about a widening range of patient treatments (QU:30:97&99), a change also accepted by management (QU:35:21-22). These are real and measurable changes in role recognition. It had always been accepted that nurses know their patients well, but now they are accepted as having expert knowledge previously regarded as outside the nursing domain (QU:30:99). When the journal clubs started, they had limited belief in themselves or their underpinning knowledge and understanding of research and evidence, so they found it difficult to challenge the status quo, now they see it as normal practice. As one physician reported:

> *"… I have indeed experienced a number of times with* [nurse a] *… that she's really said strongly to me … well that blood pressure is actually way too high … and actually we should get more medication … but not those* [specific drug] *that lady always gets so sick on those … my suggestion is ..."* (QU:30:97)*; "… you really notice the added value of a nurse ..."* (QU:30:99).

This is perhaps one of the most positive outcomes of the conceptual framework developed from this study: the professional identity of the nurses was secure, and they trusted their own knowledge and skills. When they propose changes in patient's treatment plans, this comes in the first instance, from person centred knowledge gained from the professional relationship and trust (Dinç and Gastmans, 2013), linked to the increased time with the patient, with EBP underpinning the aim for achieving patient centred care (QU:30:62). For other areas, such as prescribing antibiotics or blood transfusions (code red medicine or code red treatments), the nurse may propose but the physician makes the final treatment decision (QU:30:80-81). The nurses with their new and extended knowledge of EBP see this as the next area to work on and to change. They were aware of the need for careful preparation, writing detailed case notes before presenting their arguments to the physician, needing a moment of time (in peace and quiet) to write a concise but detailed report (QU:7:9).

"… what I actually always do is make sure I have written my "story" …" (QU:7:9)

Proposing through dialogue has taken on a completely new dimension since legalised prescribing was introduced. They had learned that being respected and trusted as an employee came with the expectation of being an expert, for which they needed to be able to use EBP to provide care beyond the use of protocols and entering into professional dialogues with fellow nurses and other healthcare professionals using research and evidence.

Summary Patients' Mediator role taking

Acting as the patient's Mediator for a Dutch (supplementary) nurse prescriber, according to the professional profile, means exercising tripartite collaboration with the patient, and physician or other healthcare providers (including nurse co-workers) to safeguard the patient (Schuurmans et al., 2012; Verpleegkundigen & Verzorgenden Nederland, 2019). It is dependent on knowledge and expertise, implemented using state of the art EBP and research.

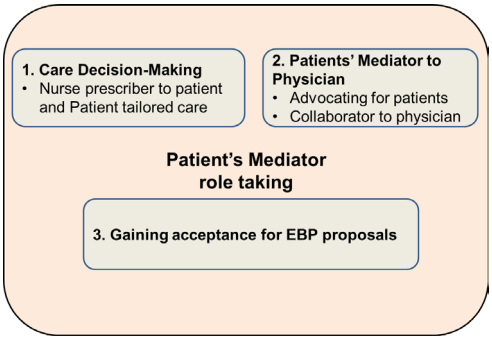


Figure 5.3.2.b: Category view; Patient's Mediator

The role of patient's mediator (fig 5.3.) is important for the individual patient and for the quality of care for the whole/overall patient group (Abbasinia et al., 2019). As a mediator, the nurse prescriber respects patient's preferences and values as part of personalizing (tailor) and enhancing patient care in general. The nurse's representation of the interests of the patient, gives patients a voice in the decision-making process of their treatment, so supporting moving care planning towards shared decision making, and away from traditional medical paternalistic decision making (Driever et al., 2020).

However, there are also instances when this mediation/collaboration is reversed, with the nurse prescriber acting as a Mediator on behalf of the physician (or other healthcare professional such as a dietician), explaining and reinforcing the physician's planned treatment and where appropriate medical prescription to the patient (coach/advisor). This can be in consultation situations with the patient when the physician is not present, a valuable role in increasing patient compliance with treatment.

In all aspects of the mediator role, through the process of self-evaluation on their professional performance the nurse gains increased insights into their effectiveness in this role and is able to maximise the extent to which their knowledge and expertise can help and support patient

care in the future. This process impacts on professionalism and ultimately influences professional identity formation.

When nurse prescribers take on the role of mediator for the development of patient-tailored care, they need to be clear on how each specific relationship works if they are to substantiate their proposals and ultimately strengthen their position in interprofessional dialogues (table 5.1: proposition 11).

5.4.4 Category: Reflective Evidence Based Practice Professional role taking Description of the building block

This category which emerged from the data is the R-EBP-P role taking, representing a process of an individual nurse prescriber in substantiating intended care decisions or in supporting physician proposed medical adjustments to patient's care plan with evidence from several sources (fig. 5.3.3.a). It consists of the concepts: Meaning and necessity of EBP, Managerial Support, and EBP education and Protocol Based Care. The reflective element of this category can be described as a separate entity in itself and therefore has been included as a subcategory. It is this building block that closes the circle of the process of the 'Professional Identity enhanced R-EBP-P role taking' with the subcategories of 'Reflection on Professional Identity' and 'Professional Development'.

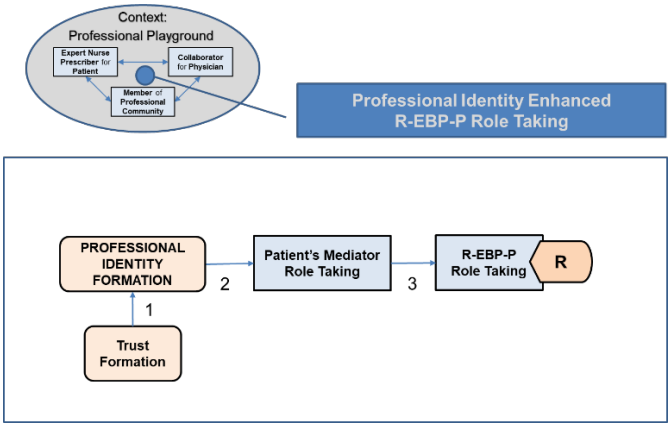


Figure 5.3.3.a: R-EBP-P role taking

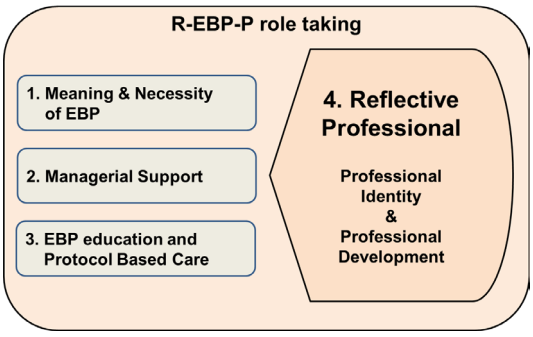


Figure 5.3.3.b: Category view; R-EBP-P role taking

For the participants it was seen as important to be ambitious and meet professional expectations. They recognised the need to commit to the ongoing study to keep their knowledge base up to date, and to be involved in professional activities in additional to their direct patient care. For the first time they had seriously accepted and were confident regarding the meaning of EBP and the role of R-EBP-P.

Practice and EBP itself are key to reflective practice and the development of specific expertise and professional behaviour, enabling the nurses to act as role models for others (Schuurmans et al., 2012) (QU:6:24).

> *"… how did I realise that ... uhm … yes good … of course following further training courses where necessary ... I have to say that I … read professional literature … uhm … outside my working hours uh … I look things up ... uhm I have a lot of contacts with my professional association … I am the chairman of uh … region south there ... so ... it's experience over time … I think that's important …"* (QU:6:24)

As chapter two indicates, R-EBP-P is one of several roles that is expected of all Dutch nurses reaching Bachelor's level and beyond and was clearly stated in the professional nursing profile published a decade ago in 2012 (Schuurmans et al., 2012). For participants in this study, it is key and encompasses all areas of practice. There is evidence that patients have their own expectations of the nurse's role and function, but until recently there was little expectation by patients, that they would be given research outcomes and evidence. The internet has totally changed the situation for many of the patients who have become health/illness information seekers (Armstrong and Powell, 2009; Villafranca et al., 2017; Weaver et al., 2010). This moves the role of EBP to a central professional activity with patients as well as physicians and other nurses (inter-professional collaboration). When prescribing first started, physician interviews revealed they did not really expect the nurses to act on EBP, instead expecting them to continue to follow procedures and protocols. The converse was evident from the interviews with the nurses who had recognised early the need to change and consistently acknowledged the need to extend their use of research and evidence. Indeed, if they had not been aware of the need to enhance their ability to understand and implement evidence based practice, this project would not have taken place.

As cited in the previous section, the nurses now use evidence when submitting proposals to physicians when the patient responds differently than expected to medication and where their proposal deviates from standard care. At the same times, they are using evidence with patients about what and why the physician has prescribed for them (QU-f:45:30).

> *"… sometimes look … I myself … sometimes have the idea that hum ... that we could look at the literature ..."* (QU-f:45:30).

They also dialogue repeatedly with the physician about the patient's condition, their wishes and needs (patient centeredness). However, while some nurses have always done this, for others it is new. In consequence, even though EBP is used to support dialogue and clinical

decisions, the nurses sometimes still have doubts regarding whether to simply follow their prescribing protocols (formulary) or to choose to implement EBP, to convince a physician to change medication or a patient to adhere to treatment (QU-f:39:60).

> *"… but what I ask myself about … we have a nursing formulary … there is EBP ... I think to myself when I will leave my formulary … when do I choose to use the protocoled care for conversation with he ... and when do I choose the EBP to convince a doctor or to convince a patient …"* (QU-f:39:60)

This is in part because they have many years of using protocols and procedures and prescribing is still new. However, they have rapidity of their acceptance of the outcomes of the journal clubs and awareness of their responsibility for their own knowledge and skills (QU:9:155), and the responsibility to stay up to date, indicates they will adapt to always using EBP to help them as they,

> *"… dare to initiate discussions with doctors* …" (QU:9:155).

For some it has not been easy, but they could see the advantages of the extended role, and accepted the need to underpin their proposals with evidence. They have increasingly sought for nursing research and publications (QU-f:45:31). This led to some surprises, as they had become aware that for physicians, keeping up to date on diabetes pharmacology, if this was not their primary role, was difficult. This resulted in the nurses finding themselves in the position of having to find the evidence for physicians as well as themselves (QU-f:39:62; QU:7:62).

> *"… the more critical the patient … the more preliminary work you actually do … where you actually expect …" (QU-f:39:62)*

> *"… always behind in reading the professional literature … they* [physicians] *still have to catch up … you notice that …"* (QU:7:62)

They had realised as their role evolved that it was not only difficult for them, but that some of the physicians were also struggling to find and apply appropriate evidence (pp. 115,129,132). This has added to their role as support and guide to the professional colleagues.

Nurse prescribers R-EBP-P role taking is not only essential to Inter-professional clinical decision-making but also to discuss clinical decision-making with patients especially those who are illness information seekers (table 5.1: proposition 12).

Concept 1: Meaning and necessity of evidence based practice

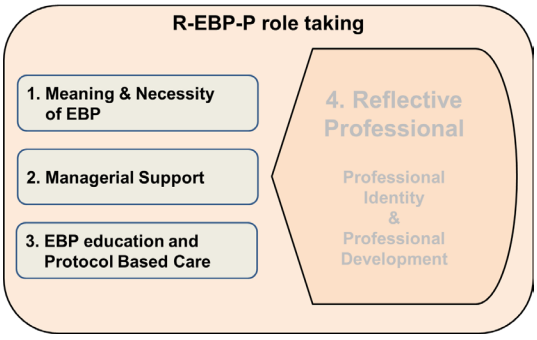


Figure 5.3.3.c: Category view; R-EBP-P role taking, meaning and necessity of EBP

EBP has become much more important, as they learned to base clinical decisions on evidence and to accept that they are legally responsible for each and every decision they make. This is a big change, because previously even if they had informally changed medication, the physician was responsible, even if the nurses had changed the medication. Only with a high level of knowledge could they gain the self-confidence to prescribe medication safely (QU:3:1-2; QU:7:1; QU:6:113). Their later responses regarding the meaning of EBP demonstrated the change in perspective as the study progressed, for some it had meant having a "*framework …"* from which to work.

> *"… uhm well what it means to me is uhm ... can I responsibly prescribe medication for my patients and … uhm how can I research it …"* (QU:3:1)

For them the difference was that they continued their nursing practice while at the same time accessing state of the art evidence, a necessity to become "*better diabetes nurses"* (QU:7:38). They needed to consciously search for and use the latest research, using their critical decision-making skills to decide to apply or reject it. It had taken time to accept that their decisions were now open for scrutiny, and they could "*no longer hide … behind a doctor"* (QU:3:15) or accept without checking, what they had been told was appropriate. Now they needed to demonstrate that they had made their own checks and assessments, using critical appraisal tools, and evidence from different designs e.g. systematic reviews and randomised controlled trials (QU:3:15&20; QU:7:39). They needed to know which search engines to use, and how to work with patients, helping them to understand how and why medication and treatment plans were suggested.

> *"… look, I will first look at the patient … from there look at what kind of problems he has … what kind of therapy could be applied to it … if they are different from the standard paths* [protocols] *… … then I can use EBP … so all studies …. to see whether a particular drug could have added value for this specific patient …"* (QU:7:2)

To support their clinical choices and safe prescribing, the nurses, somewhat to their own surprise, considering how they felt at the start of the study, have embraced EBP. They have understood that this not only helps to guarantee the patient safety, but also above all contributes to being able to show they can carry out their new and extended responsibilities.

For nurse prescribers, EBP means that they can have confidence in their own clinical prescribing performance and present themselves as a competent prescriber to patients and physicians (table 5.1: proposition 13).

For the nurses, this project had been essential, because although they had been given additional education and training on medication prescribing, there had been little attention in the programmes on how to identify, assess and accept or reject evidence. Nor had time been spent on explaining hierarchies of evidence, something that is essential for safe prescribing. They already knew about the varying medications available, but now they could critically read, and assess, validate and/or reject the evidence presented (QU:3:12).

> *"… the diabetes training … there was little or no evidence based practice … just the pharmacotherapy it was … and uhm … yes I did … certainly too short … so I was glad that we could … further expand … certainly … you will be authorised to prescribe anyway … these medicines … but … I also need to know what I prescribe … and uh … what I can do with that patient … and how reliable it is …"* (QU:3:12)

Now they find themselves involved in EBP on a daily basis, extending their literature research whenever when newly developed drugs were introduced (QU:3:18; QU:4:129; QU:4:136; QU:5:99). The nurses feel the responsibility of providing good care, while working independently from the physician where possible.

> "… *so I am in fact formally responsible and accountable for the decisions I make … that has substantiated the need for evidence based practice … uhm or has become more necessary ..."* (QU:6:116)

The nurse participants recognised the importance of the group support the journal clubs had provided, honestly admitting that although they did have an enhanced awareness of the need for EBP, working on their own they had thought and talked about it, but had not actually done anything to implement it (QU:6:116; QU:6:123).

> *"… yeah … but I do think it [the prescribing authority] for us, uhm … accelerated the need to uh … read articles about medication and the … it … I think we talked about it a lot … but it never really got off the ground …"* (QU:6:123)

Although critically appraising single articles was something discussed by the diabetes nurse associations agenda (QU:6:127), they had had no practical guidelines and they realised that single critiques, were time consuming and did not really address the totality of the topic/ drug

under consideration. It was not until the journal club they had learned how to combine different studies in their assessments and how to critically appraise the findings and the strengths and limitations of the various studies. However, learning these new skills had taken time, thus as the journal club progressed, they had found themselves choosing to use additional time to study, showing their motivation to develop the ability to use EBP effectively (QU:6:132). They knew now how to show evidence of learning to retain their registration and licence to practice and had recognised that implementing evidence based practice was complex, so they needed to use their own time in addition to the journal club time.

From the perspective of a nurse educator, looking at and reflecting on local and national curricula, at that time there was very little, and in some instances, no attention paid to EBP (QU:13:17). Ideally, it should be part of all programmes, and included in the clinical element, so nurses learn to see it as part of the nursing competence. However, as this study has shown, for that to be effective, facilitators who understand the process of research and have a good understanding of strategies to implement evidence in practice are needed (QU:13:20). A nurse prescriber should be capable to use critical clinical decision-making skills and teaching his or her peers and junior colleagues. However, until there is a conscious decision to include much more about evidence based practice in specialist programmes, the situation found at the start of this study is likely to continue. The nurse participants acknowledged the problem, and the need to change education and training, pointing out,

> *"… yes … I think that is only possible if you … if you do that through departments … where at least someone … knows what it's about … and yes … when it comes to using knowledge and justifying your actions that … there are relatively few people … able to say something meaningful about evidence based practice I …"* (QU:13:20).

The nurses were aware of the need for evidence based practice and thus additional education and training. The choice for journal clubs and workshops served them well, because they provided a bridge to address their own identified gap in knowledge and they could influence content and the education process.

Concept 2: Managerial support

The need for direct access to, and support from the managers (fig. 5.3.3.c) to implement EBP in clinical care was evident (QU:3:66). As one manager pointed out to be successful, EBP needs to become embedded in the departments' culture, and used in its entirety and not "*watered down"* (QU:11:192). All aspects of EBP, not just small parts of a study need to be implemented with a challenging manager's role; coaching the nurses to identify what could practically be introduced, and what could not. (QU:11:192). Management could clearly articulate the nurse's role and also saw how their approach needed to change so they could meet the DA-TMTH's targets (Samenwerkende Topklinische Ziekenhuizen, 2019). They saw this as *"… our mission …"; "… set the goal …"* (QU:11:192) and that improved, higher quality care and patient safety should follow. They accepted that this change in approach impacted on individual time management, which needed to be reflected in workload planning and in the nurses needing continuing professional development, to support their reregistration/ accreditation process, which was now more specific regarding levels of education, something new for the nurses (QU:11:77).

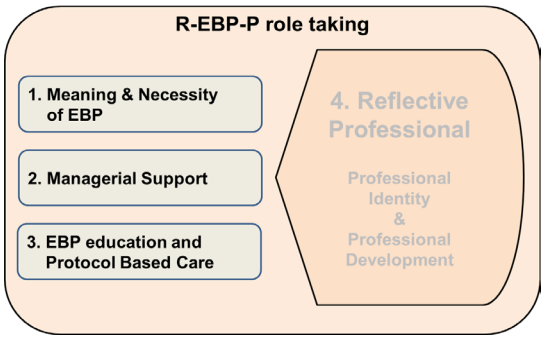


Figure 5.3.3.c: Category view; R-EBP-P role taking, meaning and necessity of EBP

> *"… you [nurses] have to make a training plan because … yes you have to get your accreditation in two years uh … you have to have your accreditation …"* (QU:11:77)

When a new manager came into position, in the past there had been a straightforward handover. Now the diversity of activities arising from the differences in practice as nurses worked to implement EBP needed to be carefully transferred, and the trust of the nurses gained. One explained what had happened when starting her current job, although there was supposed to be management support for EBP implementation, to her it was evident that from the nurses' perspective, managerial intentions had not translated into practice, and there was no smooth implementation process (QU:35:5).

> *"… I started off badly ... there was very little confidence in management … it was also clear to me I was going to have to earn it* [trust of the nurses] *... so … I said we need to go back and start seeing how we can work together ..."* (QU:35:5)

The manager had had to work hard to understand the nurses' viewpoint and find an acceptable way forward to meet managerial targets, while at the same time, the nurses felt valued, and

the manager gained their trust. Although it had taken time, from the nurse participants' perspective, the management support was becoming recognised (QU:6:130-131).

> *"… yes uh … or I think they see the added value … I have not had any conversations about that … but that seems to me … because otherwise they say … we are not going to do such* [ebp course] *a training ... uh with or without authority to prescribe … it benefits the institution … uh otherwise of course they wouldn't* [implement EBP] *..."* (QU:6:131)

The nurse participants were led by management that understood the need for EBP in nurse prescribers' practice, but there were accepted challenges in acceptance into individual nursing roles (pp. 85, 111, 123).

Concept 3: EBP education and Protocol Based Care

EBP is essential for safe prescribing and the delivery of high-quality care with minimised risks for patients. Nurse prescribers must be able to demonstrate the mechanisms used to substantiate their clinical decisions. However, all participants agreed that prior to the journal club, while the pharmacology training did provide detailed drug information there had been little emphasis on how and when the data was gathered, and how appropriate the sample was for their own patient group (QU:3:8-10).

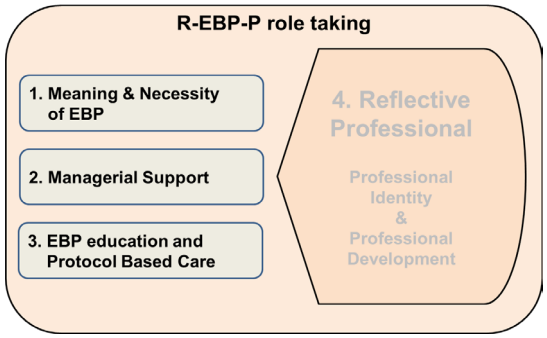


Figure 5.3.3.c: Category view; R-EBP-P role taking, meaning and necessity of EBP

> *"… I did the Bachelor of Nursing … uhm … as the first training … as a nurse and there was a very small part about research studies* [critical appraisal of a topic] *… very basic … uh then I … specialised as a dialysis nurse … uhm … we used even it less there … I cannot recall … studying evidence based practice … but that* [training] *was more based on practice …"* (QU:3:10)

They pointed out that the educational approach used to help them learn about EBP in this study was totally different. The facilitation enabled them to learn at their own pace (QU:5:69; QU:5:84), and they benefited from the ongoing extensive time period (QU:6:122; QU:8:153).

> *"… all of us reading the same article and* [the facilitator] *explaining every word … that's how it got us into it very slowly … and … yes … I really enjoyed that …" (QU:5:69)*

> *"… and always prepared very well … and* [the facilitator] *read those articles … hey … even more extensively than we did … and ... knew exactly what was where …"* (QU:5:84)

They described the study as having given them "… *a really good foundation … and now it is up to us to make progress …"* (QU:8:153). Nevertheless, they knew implementing EBP is difficult, time-consuming and can only be achieved over a long period of time.

In the Netherlands, protocol-based care has been described as the backbone of supplementary nurse prescribing. In the change in the law, it was seen as important by the Dutch hospitals to use a national formulary protocol as a source. In this national formulary, medicines have been colour-coded to make implementation easier (Houweling et al., 2018). This formulary is used by physicians to define, in consultation with the local supplementary nurse prescribers, the actual extent of their prescribing practice. Thus, they are aware of the agreed content from within the local formulary (QU:4:91). This provides safety for the nurses, just starting to act as prescribers, with considerable detail regarding how to prescribe each medication (QU:4:93). They are clear what they are allowed to do without consulting the physician. Although protocol-based care may positively help nurses just increasing their autonomy (Rycroft-Malone et al., 2008) and could serve as a starting point for autonomous nurse prescribing, it does have constraints for experienced prescribers. Once nurses are familiar with prescribing, deviation from the protocols is possible, but only after dialogue with the physician (QU:30:5).

One physician referred to external protocols from specialist organisations such as the Dutch Federation of Nephrologists (Nederlandse Federatie voor Nefrologie, 2021) or the UpToDate® (clinical decision support) organisation (QU:30:20-22). In his view the availability and use of protocols, made looking into scientific literature un-necessary or redundant, even for physicians (QU:30:21), which could be seen as devaluing EBP. For another, when studying evidence based practice, she chose to explore some aspects of research further, but was honest in admitting that she had not made connections with local protocol (QU:30:20). However, the interviews revealed how a nurse's proposal to work around protocols (QU:30:37), could serve as a trigger, with one doctor reporting,

> *"… well look … she sees patients of mine of course and then it is actually automatically that I ask her … what is your proposal … that is of course also a bit of a learning moment … when she calls me … I have Mr. Jansen* [imaginary name] *who has this blood pressure … in the beginning* [start of prescribing] *it was natural for a nurse to say to me … what should I do now … and then I said … do that and that … … now I say … what is your proposal … so in that respect there*

> *is a big difference in how I dealt with nurses a year and a half later ... and I have to say that* the nurse *always makes the proposal ..."* (QU:30:40)

If the protocol does not offer adequate or appropriate patient care, it is the trigger to continue looking for alternative treatment methods and to deviate from the protocol. They then use EBP to substantiate medical treatment proposals that are discussed with the attending physician.

Concept 4: Reflective Professional

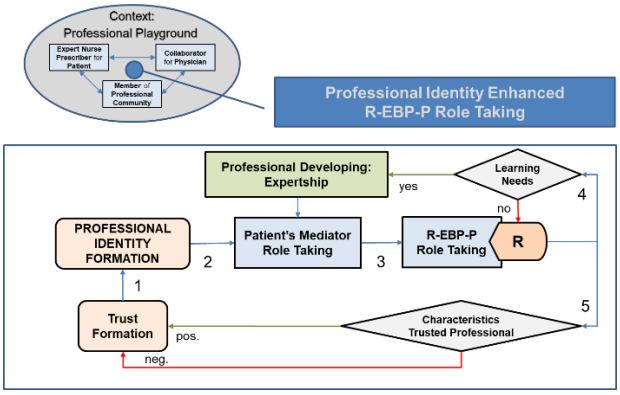


Figure 5.3: Reflective Professional closes the cycle

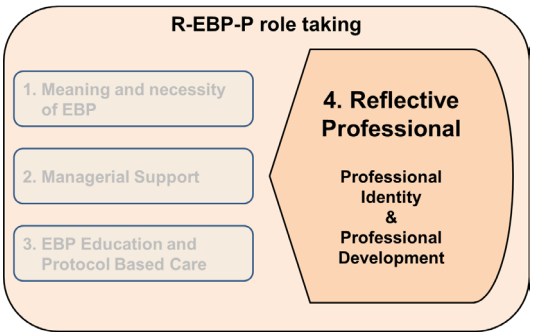


Figure 5.3.3.d: Category view; R-EBP-P role taking, Reflection on PI&PD

The Reflective Professional (internal process) is a concept which did not initially clearly emerge from the data. The Reflective Professional is represented as a personal internal reflection process about two concepts: reflection on 'Professional Identity' and reflection on 'Professional Development'. This subcategory represents the "Reflective" of the category R-EBP-P role taking, as it is also described in the Dutch professional nursing profile as a translation of the CanMEDS Scholar role (Schuurmans et al., 2012).

Reflection on professional identity concerns individual nurses mirroring themselves to the image of a professional diabetes nurse prescriber, with the aim of refining their Self-image of their personal professional identity. This Self-image of the current individual professional identity is benchmarked against the perceived image of that of significant others (physicians, patient, fellow co-workers, and management) using the criteria of professionalism of the diabetes nurse prescriber. This reflective process results in a recalibrated image of Professional Self. As already demonstrated in the descriptions of the previous categories for the nurse participants, '*"being trusted"* as a nurse prescriber and *"being recognised as an equal collaborator"* along with *"being taken seriously"* and being an 'equal collaborator' seem to be intangible, intertwined core concepts. These had emerged from the shared experiences of the nurse participants (as quoted in the above paragraphs). They are of importance in giving meaning to nurse prescribers' self-image, defining their professional 'Self', and derived self-confidence arises from them, as do significant issues for professional identity formation. Nurse

prescribers see them as desired values. In this study, the nurse participants acted on these values by seeking EBP education and facilitation to gain expertise and through that radiate professionalism.

It is however in the nature of social objects, that their importance depends on the value that others (e.g. physicians and patients) place on them. Therefore, this reflective process contributes positively to nurse prescribers' professional Self (Professional Identity Formation) as they perceive that the significant others in their collaborative working relationship (environment) value them during their interaction. Interpretations of value concepts seems to be:

- **being a trusted nurse prescriber;** others (patients, physicians, hospital management) are willing to take the risk of putting pharmaceutical care decisions in the hands of nurse prescribers and trust that what the nurse prescriber says is true,
- **being taken seriously;** a positive appreciation of someone given by another person by treating somebody as important to a cause and deserving respect,
- **being recognised;** is to be generally accepted in a particular position (seen as), in this case as a qualified nurse prescriber who adds value to diabetes healthcare, and
- **being an equal collaborator;** being accepted as a meaningful healthcare collaborator to physicians and other healthcare professionals whose professional input in general counts equally in the care decision process.

These social attributes are objects of language. Within the social interaction nurse prescribers look for expressions (language) that fits with these social objects, the choice and construction of the words give direction to their meaning. Using the word 'being' highlights the importance of active meaning. The expressions not only elucidate the obvious meaning of the symbol like 'I am respected as an important contributor to patients' healthcare' but for the nurse participants also give meaning to professional self and the decision to take action in taking a professional sub role (meaning). To act as an (reflective) EBP professional is instrumental to *"being recognised"* and trusted, and to being an 'equal collaborator' to physicians. This can be illustrated by nurses in the context of nurse prescribing, in advocating for patients' interests through their role of mediator. To do so nurses have to have a strong Professional Identity and be able to meet the requirements of being a professional.

The Reflection on Professional Development refers to reflecting on themselves and their actions, based on what each individual thinks the practical implementation of the care of a diabetes nurse prescriber should be, with an overall objective of evaluating performance and uncovering learning needs. The use of reflection for the purpose of professional development

in nursing education and practice, as well in other sectors is prominent (Boud, 2010: in Hargreaves, 2016). This process utilises the reflection process on personal and professional aspects (Epstein, 1999: in Mann et al., 2009). Some aspects (personal beliefs, attitudes and values) are related to their professional identity, with others related to 'critical reflection on experience and practice' and 'active approach to learning' underlying the development of a self-aware professional (Mann et al., 2009).

The data revealed that a strong individual professional identity is seen as supporting the individual to proactively act as a competent and confident diabetes nurse prescriber who expands prescriber authority to its maximum. At the same time, it reveals professional development needs. For nurse prescribing this implies not only current knowledge about the specification and application of a specific medicine, but also awareness of how it can be administered using a patient-centred approach, for which EBP is essential.

Summary R-EBP-P role taking

The importance of EBP cannot be overestimated (Orta et al., 2016) and must be implemented in practice to meet government requirements (Klink, 2010a). It is seen as one of the important competence areas of the professional and is included in the professional profile. However, as this study demonstrates, there has been insufficient investment in education and training to support changes in practice (Bos et al., 2013). EBP underpins conscious, informed clinical decision making when prescribing medication, and is crucial, with prescriber authority bringing legal responsibility for each decision, making these nurses think carefully before proposing any change, or move away from standard protocols. EBP implementation also means moving practice forward professionally, with nurses able to act positively as patient advocates, offering clearly substantiated therapeutic proposals. However, this is still relatively new for them, and they still feel the need for support from management to advance practice based on state-of-the-art evidence and research. This approach has seen them taken more seriously by physicians, patients and their families.

Although nurses see the benefits of EBP implementation and are self-determined to learn and apply EBP skills, traditional barriers of EBP implementation still have to be addressed by management to scaffold nurses who take the role of R-EBP-P (table 5.1: proposition 14).

The R-EBP-P role taking process is explained by using the principles of symbolic interactionism with the symbolic interactionist process seen as a bidirectional communication process based on gestures defining the image of 'Self' eliciting behaviour assumed to be

appropriate in a given context. Given the tripartite constellation of the context, the focus is on the behaviour of nurse prescribers with the patients, other healthcare professionals and managerial staff, and how these impact on the nurse prescribers' decision to implement EBP into their daily working lives. Although the strongest focus of the participants was on their inter-professional relationship with the physicians with whom they work on a daily basis, participants reported that that other healthcare professional stakeholders in diabetes care are also part of their model. Further, the nurse prescriber has to relate to influences of professional managerial staff (actors) such as institutional management, government, educational institution, and of course their own professional association. All professional stakeholders may have influence on how the participants' defined their professional 'Me' and eventually their professional identity 'Self' as a nurse prescriber.

In the implementation of EBP, where attention is strongly focused on professional development and the practical influencing factors on the implementation process, attention to Professional Identity as an enabler for nurses who want to take up the role of R-EBP-P deserves more attention in practice (table 5.1: proposition 15).

5.5 Summary to the development of the conceptual framework

Based on the concepts that emerged from the data, a conceptual framework has been developed that give explanation to how the concepts relate to each other. It also allows for making predictions of the process and the circumstances that contribute to nurse prescribers' adoption of the EBP. This construct of concepts, the 'Professional Identity enhanced R-EBP-P role taking' conceptual framework, illuminates how nurse prescribers, given a specific care context (in this case diabetes care), can/may act professionally with the scaffold of a strong Professional Identity though strategies that build Inter-professional trust. This conceptual framework allows derivation of propositions (table 5.1) about changes for the nursing work environment (situation and interactions) to help nurses in fully taking up their professional role and implementing EBP more easily.

Category Professional Identity Formation

Professional Identity

- **Self-confidence:** *In order to be able to implement EBP, the nurses need to develop a professional identity, prompted by self-confidence, which enables them to make full use of their new legal professional powers* ***(proposition 1)****.*
- **Experiences with "being taken seriously":** *If nurses are taken seriously and recognised as valuable professionals by management and physicians, the professional identity formation of nurses will be influenced positively as well as their engagement in Interprofessional collaboration and use of EBP* ***(proposition 2)****.*

Category Trust Formation

Gaining the professional playground

- **Professional autonomy:** *Nurses, making the transition from specialist nurse to nurse prescribers, need to aim to enhance autonomy and advocacy, which will increase acceptance and trust and ease the use of EBP. They need to develop guidelines for professional behaviours, including EBP, that will lead and guide the development of their professional identity* ***(proposition 3)****.*
- **Equal Collaborator:** *Using EBP as a strategy to support collaborative practice provides access to develop acceptance, where the nurse prescriber is seen as an equal employee. This supports institutional recognition of the new role* ***(proposition 4)****.*

Professional relationship with physician

To be able to carry out their extended role in partnership with physicians these nurses need to develop the evidence based professional behaviours that enable them to demonstrate why they have been given the new responsibilities. They also need to be able to demonstrate that they can carry them out as a partner (equality), not a junior team member ***(proposition 5)****.*

In their approach to gain more freedom and autonomy for their professional actions, nurses need to accept that they still need to focus on "building Inter-professional trust" using both the opportunities given by the status of their profession and individual evidence based professional performance ***(proposition 6)****.*

Trust is a key element for having a professional relationship, which facilitates professional dialogue. However, nurses must develop and maintain the evidence based knowledge and expertise necessary to demonstrate competence and earn trust from their peers ***(proposition 7)****.*

- **Showing competencies:** *Nurses need to develop strategies demonstrating competencies, including EBP competencies, to increase and enhance trust* ***(proposition 8)****.*
- **Profiling the profession through professional dialogue:** *Nurse prescribers need to gain the skills to professionally profile themselves as nurse prescribers with extended evidence based knowledge and expertise, supporting the development of the nursing profession locally and nationally* ***(proposition 9)****.*
- **Profiling the profession through professional dialogue:** *To overcome professional restrictions and base practice on evidence, nurse prescribers need to establish working relationship through professional dialogue* ***(proposition 10)****.*

Category Patients' Mediator role taking

When nurse prescribers take on the role of mediator for the development of patient-tailored care, they need to be clear on how each specific relationship works if they are to substantiate their proposals and ultimately strengthen their position in interprofessional dialogues (proposition 11).

Category R-EBP-P role taking

R-EBP-P role taking

Nurse prescribers R-EBP-P role taking is not only essential to Inter-professional clinical decision-making but also to discuss clinical decision-making with patients especially those who are illness information seekers ***(proposition 12)****.*

- **Meaning and necessity of EBP**: *For nurse prescribers, EBP means that they can have confidence in their own clinical prescribing performance and present themselves as a competent prescriber to patients and physicians* ***(proposition 13)****.*

Although nurses see the benefits of EBP implementation and are self-determined to learn and apply EBP skills, traditional barriers of EBP implementations still have to be addressed by management to scaffold nurses who take the role of R-EBP-P ***(proposition 14)****.*

In the implementation of EBP, where attention is strongly focused on professional development and the practical influencing factors on the implementation process, attention to Professional Identity as an enabler for nurses who want to take up the role of R-EBP-P deserves more attention in practice ***(proposition 15)****.*

Table 5.1: propositions of the PIF enhanced R-EBP-P conceptual framework

Chapter 6: Reflection and Critique

6.1 Introduction to reflection and critique

Inherent within grounded theory are processes of reflection, which accompanies analysis. This includes reflection on my positionality as the researcher. Only when these reflections are completed can conclusions and tentative recommendations be made. Therefore, chapter six looks back on the research itself and the EBP education offered to the research participants. It reflects on what worked well, issues that challenged the project as a whole, and what could have been done differently (Guba and Lincoln, 1989). It has to be accepted that as this study was written in my third language, translation while maintaining the contextual meaning took time. Fortunately, one supervisor was Dutch but bi-lingual, and the Director of Studies, although English, was fluent in Dutch and able to read, write and discuss core issues that arose. Both independently checked all aspects of the study, paying particular attention to the context as well as the literal translation of quotes. However, while essential, these processes did delay completion of the study. It should also be noted that in part because of them, my understanding and use of English grew exponentially as the study progressed. Lessons learned during the study have also been addressed as part of my reflection and critique, together with aspects that may need consideration when planning further research with the conceptual framework, moving it towards the development of a theory that explains more exactly how Professional Identity Formation influences the Reflective Evidence Based Practice Professional role taking.

6.2 Participant check of the conceptual framework

Once the process of how and in which ways nurse participants are ‘driven’ to take the professional role of R-EBP-P, and the conceptual framework had been identified, the findings were presented to and discussed with the participants. In this phase they could check these findings against their perceptions to help establish the trustworthiness and credibility of the research process. It is recognised that there has been debate overusing this approach (Morgan, 2020; Yu and Smith, 2021), with some researchers suggesting that this approach introduces bias as participants may be selective in the aspects they accept. However, this is part of the ongoing debate regarding the different approaches to grounded theory (Rieger, 2019) and the measures used to assess the quality of the study (Charmaz and Thornberg, 2021). This was a constructionist grounded theory study, in which the quality criteria of resonance, originality and usefulness are key, and it is accepted that this process is part of

establishing resonance and usefulness (Charmaz and Thornberg, 2021). Therefore, I argued that for this group, who were professional registrants, it was important to discuss and debate the findings, enabling them to review the processes used for analysis and comment on whether from their perspective the analysis and context were accurate and appropriate. In no way, were they asked to change the outcomes of the analysis, but to share together the outcomes (resonance) and then feedback to the researcher (Charmaz and Thornberg, 2021). As Charmaz (Charmaz, 2006; 2014) argues, this is part of the trust relationship between researcher and participants and increases the transparency of the study as whole. The outcomes from the verification process were then used for further refining of the framework to reinforce trustworthiness and to provide insights to others. This use of participant verification is also referred to as member check or respondent validation, following which the researcher must review the responses from participants against the original findings, and where a major difference is found, then a repeat analysis should take place before implementing any changes in the documentation (Birt et al., 2016).

In constructivist grounded theory however, it is argued that the purpose of exploring the participants' resonance with the constructed concepts is not to validate them but to verify that the researcher has not changed the context and to explore how the concepts help the participants to understand their own experiences (Charmaz and Thornberg, 2021). Using a focus group, for this study, as a means for checking the participants' resonance for the findings is logical since they are a group of professionals who jointly try to implement EBP in their professional practice acting as a community of practice, in which participants accept each other opinions. Using focus groups was therefore preferred over individual interviews with their disadvantage of missing dialogue between participants, or sending interview transcripts to participants, as this can lead to participants trying to reconstruct their narrative based on experiences no longer current or present them negatively (Birt et al., 2016).

The insights gained from leading this study were twofold. Firstly, it supported the participants' aim of improving the quality of patient care, and secondly, it helped them recognise that the data revealed they were subconsciously driven by the need to be recognised as an important (knowledgeable and skilled) care provider within the multidisciplinary team. In the focus group, they were surprised by the extent to which they had all spoken about the need to be trusted as a respected team member. In addition, that gaining this trust was seen by the participants as the moment at which they '*had arrived'* and had successfully *'made it'* to the role of accepted nurse prescriber (QU-f:45:16; QU-f:45:13; QU-f:45:5). They could see how they had had to learn to balance personal and professional identity, and being truthful with themselves, which had not been an easy process. Trust as a professional, was recognised by the participants as possibly the most important supporting factor for the PIF. Being trusted facilitated the

development and implementation of the values needed to build their professional identity and thereby gain the self-confidence to establish and maintain good relationships with patients. This was also described by the participants as a necessity for them to be able to take up the role of Mediator, and through that, tailor patient care. They could see that by identifying themselves as a community of practice within the context of an interdisciplinary working context, respecting the norms and values of the nursing profession, they had changed and grown professionally, an important characteristic of professional identity formation (Fitzgerald, 2020).

Participants reflected on the study, and reported on how it had changed them, discussing that prior to the study they had not seen the role of EBP as a means for Mediating on behalf of the patient. However, they now saw it as a logical step in the process of care, as it supports quality care and also serves to substantiate their position when arguing care issues with other healthcare providers. In addition, they reported it have become an integral element of being a trusted and recognised professional. Thus, it appeared from these discussions that reviewing the conceptual framework developed in the study had given them additional new insights and a fresh conceptualisation of their role taking process. It helped them to understand what they actually were doing when taking the role of R-EBP-P. They stated in this final review that they hoped all nurses would be offered the education that they had had, seeing it as an essential component of professional development.

The findings of the study contribute to a better understanding of EBP, and also increased the participants' awareness and insights into its application by revealing the importance of professional identity formation as an intrinsic motivator for learning and in this case the application of EBP (Cruess et al., 2014; Jackson, 2017; Matsuyama et al., 2019; Xu et al., 2023). The findings needed to be integrated into the conceptual model, to give a possible explanation of the processes nurse prescribers were now using to start to apply EBP in their daily role. It also gave them, for the first time, an insight into their own, underlying motivation. As the focus of the study shifted from the participants' use of EBP to 'why' they use it, so did the findings and their application in the conceptual model, a not uncommon outcome of GTM (Rieger, 2019). From the initial analysis (chapter 4), it became clear that the application of the conceptual framework needed to be interdisciplinary, as it was designed for nurses working in and using clinical processes within an interdisciplinary work field. It was evident throughout the study that all the nurse prescribers were constantly interacting with physicians in the context of specialist care. Since other forms of specialist care in the Netherlands are also offered in an interdisciplinary manner and the organisation, legislation and regulations for these, the contexts are similar to those for diabetes care. Therefore, it is seen as possible for the conceptual model to be translated for use with other professional groups in comparable care

situations. It is therefore recommended that a further study be carried out to investigate the possibilities.

The value of evidence based practice (EBP) is that it offers theoretical underpinning to clinical decision making and planning for long term care (Brouwer de et al., 2012) both for the provision of care to individual patients, or patient groups in general. Its use is influenced by external motivators such as: increasing the quality of care, efficiency (time and resources) in using EBP based protocols and standard guidelines and encouraging patient-centred care and shared decision making. The findings of this study demonstrate that individual professionals or a group of professionals may also have other internal professional motivations that increase use of EBP, and these include the wish to increase their own competence and level of practice (QU-3:1; QU:7:2; QU:6:116). Recognising and accepting their own motivating factors can help them work with trainers and managers to motivate other professionals to use EBP by addressing their motivators, such as 'trust' and 'professional identity' (QU:6:24; QU:6:116;). Addressing the professional's attitude towards EBP, is known to affect directly the professional's willingness of implementing EBP (Kitson et al., 2008).

6.3 What Worked?

6.3.1 Methodology

Reflecting on the methodology / grounded theory approach: I started the study with the intention of following the Straussian grounded theory approach (Strauss and Corbin, 1990; 1998), as on initial study, this seemed appropriate for this study. However, it quickly became apparent that the processes being planned were more in line with a Classic/Glassian grounded theory (Glaser, 2016; Glaser and Strauss, 1967) approach. For this research project it felt more appropriate to not start with a rigid research question but instead with a broad, formulated research aim, which could be flexibly followed as the study progressed, for classic grounded theory was not seen to be problematic (O' Connor et al., 2018). As soon as the project started, interaction with the participants made it increasingly clear that the ultimate conceptual framework should be a representation of their perceptions of what was needed to enable them to understand, use and implement evidence based practice. This fitted well with grounded theory, as the iterative approach would enable participants views and discussion to be analysed and re-analysed to identify the core elements and to move towards consensus, and ultimately to use these to generate the conceptual framework and ultimately theory.

Giving participants a voice in Classic grounded theory also means that the researcher needs to study literature at intervals through the study to familiarise themselves with a wide range of

theoretical perspectives, based on the data emerging as the study progresses rather than completing one extensive literature study prior to, or at the start of the study (O' Connor et al., 2018). Thus, as the study progressed the literature sought also changed and deepened, as the initial more quiescent interviews developed into very interactive and non-structured interviews. The data itself led to a review of the GTM approach being used. The structured format of the processes being used for initial analysis did not facilitate the identification of shared issues and concerns. Therefore, after careful consideration and repeated reviews of the way in which data had been collected, a change was made, and the constructivist approach described by Charmaz (2014) was made. It was immediately apparent that this approach did support detailed analysis and ultimately led to increased insights and understanding of how the study participants gave meaning to becoming and then being a nurse with prescribing authority, and how the changes are manifest in their actions. The use of CAQDAS ATLAS.ti7 not only led to the identification of key issues and concerns, it helped reveal links between the emerging categories and concepts, while at the same time providing a clear audit trail, with all data analysis steps registered and provided with a date and time stamp. Using Seidel's model of "Noticing things, Collecting things and Thinking about things" as an application within ATLAS.ti7 grounded theory data analysis (Friese, 2014; Friese, 2016) proved to be helpful and flexible enough to convert the analysis process from the (post)positivist orientated approach to a constructivist approach.

The first data analysis led to an initial situational presentation of the tripartite constellation of the context of diabetes care provision. Therefore, an additional data analysis phase was initiated, but this time the principles of the Symbolic Interactionists concepts of Looking Glass Self and role taking were included. By doing this "meaning" became the core of the research question (Handberg et al., 2015), and the process of Professional Identity enhanced R-EBP-P role taking emerged from the data. The final revisions concerned assigning concepts to the mean categories (open coding). The coding and memoing used were also extremely useful and supported the process that ultimately led to PIF becoming the core category. Eventually the interrelationships between the categories became clear, hence the emergence of the conceptual framework, which shows a sociological process of interrelated concepts. This system of concepts explains and helps predict the role of applying EBP for nurse prescribers in acquiring an entrusted position within the interprofessional playground of chronic care enhancing the professional identity formation (Timonen et al., 2018).

As the conceptual framework began to emerge it was discussed with the supervisory team over and over again, and supported by the development of a conceptual map, illustrating the relationship between the categories in the process of role taking. The supervisory meetings helped to refine the conceptual framework and map, making it more accessible to other nurses

and nurse educators. The outcomes from this study need to be seen as a stage in the theory development process, challenging the researcher to reveal personal thoughts and perceptions regarding the categories and their interrelationships.

Research context and participants: During the study, it was evident that all nurse participants had high motivation regarding mastering EBP skills, because of their new role. Over the lifetime of the study, the participants became a research group with members strongly bonded by their profession, and willing to learn with and from each other, notwithstanding being constructively critical. This group has continued since the project concluded because over the time of the study, it became an integral element of their shared working. Investigating DSNPs taking on the role of R-EBP-P as the nurses gained their prescribing authority, was appropriate for two reasons. Firstly, nurse prescribing is an element of medical substitution policy which was new, and therefore for which there was little evidence or research to help this group as they developed their new role, so was seen as of key importance to the Dutch healthcare system. Secondly, because they were starting to prescribe medications, they recognised the need to understand, use, implement and sustain the use of EBP seeking appropriate help when necessary. This recognition needs to extend across the profession if government targets regarding the sustained use of EBP are to be met. Further, the choice to base the study within the hospital setting of the participants worked well. As a result of my earlier participation in an EBP project in that hospital, it was not difficult to access the organisation and gain permission for the study, or to enable participants to be released from practice to join the study. The participation of the hospital librarian was of utmost importance, as she not only participated in the EBP education and was supportive to the nurse participants but was the key person who directed me and paved the way to executives and other stakeholders of our project. This facilitated all the steps and institutional processes needed to implement and carry out this study.

With the participants informed about the primary focus of the study, it was feasible that the researcher-participant relationship could have biased the research findings (Lindheim, 2022). Participants might have felt they needed to alter their feelings about EBP and act upon their perception of the researcher's expectations of the study or felt incorrectly interpreted (Lindheim, 2022). However, every effort was made to avoid this, through checking and reviewing every step of the study. This included participant checks at intervals, and at no time was the researcher perspective given priority over the data sets gathered. In addition, the analysis process and progress were only revealed after data gathering was closed and the concept of the conceptual framework was developing into a relatively stable framework, and therefore could be presented to the participants for participant checking. Nevertheless, it has to be recognised that as the researcher had a positive relationship with all participants, this

may have positively contributed to participants' motivation and progress in mastering EBP skills, like an EPB facilitator or mentor does (Cullen et al., 2018). Future studies will need to bear this in mind and check for any links and impact from the researcher-participant relationship.

Conducting and writing up the thesis being a non-native speaker: As indicated in the introduction, one of my secondary goals of applying for the PhD study in the UK was to gain proficiency in speaking and writing in the British language. Making that choice and knowing that I would conduct the research in my own country the Netherlands, meant that I would have to translate at the very least, the relevant data, writing up the findings and constructing the conceptual model in English, more precisely, British English. Maintaining the core of the meaning of the language used is key and was an ongoing process during the entire research process that was included in each supervisory meeting.

Starting with gathering and initially analysing the data, I worked in the Dutch language, which enabled me to better understand the participants' expressions. However, I converted to using partly English terms early in the coding process. I first started writing memos and text sections in the first language and then translated them later. Initially I thought I could use Google translate, dictionaries and what I learned from reading English scientific literature. However, it rapidly became clear that Google translate was unreliable for scientific writings and I started using it only for directional indicators of possible translations. That was also the point that I realised that I needed to start writing directly in the English language. Gradually I improved my English language skills and began thinking in English while analysing and writing. Nevertheless, it is important to state that writing in the English language slowed down the progress of the study.

As the study progressed, it became clear to me that the dialogues about the correct translation with the supervisors allowed for a much richer and more in-depth discussion about the emerging concepts. I had the luxury to have not only an English supervisor who understands the Dutch language, but also a Dutch supervisor who is proficient in the English language. They facilitated the translation process by questioning me over and over again, especially when defining the concepts and constructing the conceptual framework. I believe that this led to a better final result and an accurate representation of the findings.

6.3.2 Education

Teaching strategies: Looking back (2014-2017) at the facilitation of the nursing group, the teaching strategies were designed to be as interactive as possible, guiding the nurses to formulate their specific learning objectives and working activities (Appendix 3). As result, each session focused on existing practical problems relevant to their clinical nursing practice, more

or less following a five step EBP model of formulating an answerable clinical question, which enable the participants to focus on the steps they needed to follow. They started by searching and finding relevant papers (1) and as the findings indicate over time, they had become much better at finding relevant material. Critically appraising the selected papers (2) was one of the reasons they sought help, and it was rewarding to find that at the end of the study they took it for granted that they could search and evaluate these articles and were even indignant when assumptions were made that they would be influenced by the pharmaceutical representatives (3). They can now demonstrate how they integrate their newly acquired knowledge from a range of sources (4) and formulate their own answers to clinical issues. In addition, they now routinely utilise what they have learned in practice and are well able to evaluate the outcomes (5).

The educational programme used the teaching principle of prior preparation, thus the participants had self-completion assignments, with the meetings used to help them start to apply learning by practicing EBP activities. The assignments were often split in parts for the participants to work individually or in small groups (two by two), to prepare. This reduced the study load, helped them to use individual competencies and develop a community of practice to support each other. Participants were asked to share information (oral presentations) with their co-workers offering the opportunity to demonstrate their knowledge and expertise, which in turn seemed to improve their motivation and confidence as they saw their peers accept what they presented. When necessary, meetings were partly or entirely turned into workshops or lectures, for example when the participants felt the necessity to review or gain information regarding learning gaps. Discussions about how the newly acquired knowledge could be applied to practice were always part of the agenda. Learning strategies used in this research project were in line with the outcome of a thematic literature review focused on teaching strategies for EBP initially at the start of the study, and repeated part way through the study. The outcomes from this study support (Horntvedt et al., 2018) argument that using interactive teaching strategies based on clinically integrated group work, facilitates the gaining of research knowledge and expertise better than lectures.

Part way through the study, the participants wanted to use their new skills for meetings with pharmaceutical sales representatives, as they saw this as a way to test their EBP skills and ability to be objectively critical and expose any gaps or bias in the PSR's marketing information (Goldacre, 2012; 2013). Prior to this hospital management had been recommending not exposing prescribers to information provided directly by pharmaceutical companies. This was because there was a concern that it could lead to a higher prescribing frequency, higher costs or a lower prescribing quality (Chen, 2022; Spurling et al., 2010). The participants were clear from the outset that they knew that the PSR's primary goal was to sell their company's

products, using the information they provide to physicians and nurses to try to increase use. They recognised that they were being provided with up-to-date information in the form of recently published scientific articles, but that the PSRs were likely to prefer articles that show positive results to publications with negative ones. Also, that promotional information could lead to biased or inappropriate use of medicines (Leonardo Alves et al., 2019). At the start of the study there was evidence that doctors who receive PSR office visits prescribe less according to guidelines (Raad voor de Volksgezondheid en Zorg, 2009). This can be considered to be a problem when the alternative medicine is equally or less effective but more expensive, and as Leonardo Alves et al. (2019) point out PSRs are still welcome guests of physicians. They go on to argue that a review of pharmaceutical use of studies has shown that oral presentations by PSRs often omit information about harm, that inaccurate information consistently favours the promoted product, and that serious side effects are rarely reported. This can lead to a state of cognitive dissonance (inconsistencies) in which the doctor recognises the conflicts of interest but does not act on them (Chimonas et al., 2007), which can ultimately lead to therapeutic or managerial errors (Saposnik et al., 2016).

Promotion techniques of pharmaceutical companies are not limited to the use of PSRs; the participants also had to consider the use of pharmaceutical advertisements and key opinion leaders (Leonardo Alves et al., 2019). Therefore, while emphasis was placed on discussing these issues and encouraging the participants to research things for themselves at no point were PSRs used as educators for these prescribing healthcare professionals. However, following meetings with PSRs the participants discussed what they had seen using the meetings with PSRs as test cases to explore and debate with them, and to learn how to probe and appraise information offered.

Learning theory including Peer assisted learning: In essence, the linear build-up from the pedagogical approach to andragogical and heutagogy approach (as discussed in paragraph 2.4.3) worked well (Halupa, 2015). It helped participants to reach approximately the same competence level in a relatively short time, making it easier to facilitate learning. The diversity in expertise and competences within the group meant that individual participants could have a positive contribution to the learning process. It challenged them to use their personal expertise to support other group members in their learning. It also gave the opportunity to make use of the ‘More Knowledgeable Other’ within the group (peer teaching), as this recognised the individual variations in knowledge, and enabled them to work as a team to support each other, with the group gaining as a whole. They could support each other in reading the English articles (native speaker), better understand the methodological approach used in the articles (research nurses), and very specified diabetes-related matters. However, of key importance was the shared psychosocial support of their social learning (Kantar et al., 2020).

Genuine interest of the facilitators: Participants reported that their confidence in the facilitators (co-worker and researcher) was strengthened because they recognised the knowledge that the team had, that they apparently *'radiated'* (QU:5:69; QU:5:84) enthusiasm and demonstrated that they wanted to work with participants to help them become skilled DSNP who could understand, use and implement evidence based care (QU:5:84). Giving the learner attention and actively listening to them, responding to their expressed needs and showing respect and trust as well as always being present when expected, can encourage people to give their best, and to continue, not to stop or give in when it is not easy. These aspects all influence positive learning environment (Kantar et al., 2020). In this study, these were clearly factors, which influenced and increased the success of the programme. Their positive comments were unexpected, as throughout the programme I had worked as I always work, to support my students, focussing on what they want and need, where they aim to go, and who they can be as a professional. In this case emphasis had been placed on always reassuring participants that I had confidence that they could master, albeit step by step, evidence based practice and reach the level of practice expected from a specialist diabetes nurse, guiding them through their zone of proximal development (Kantar et al., 2020).

Community of practice approach: From the start, the participants were a functioning group of individuals who had a common goal, namely the learning and practical application of EBP skills. Due to their longstanding working relationship, they accepted and respected each other and were constructively critical towards each other regarding professional matters. Getting to know the individuals in the group as quickly as possible and discovering what meaning they had for each other was an important first step in the study and worked well. I immersed myself in diabetes care so that I could not only understand them when they spoke medically about specific cases but was also able to show that I was really interested in their learning context. That they were willing to let me in to their world was fundamental to the success of the project. The fact that the group functioned as a starting Community of practice consisting of like-minded nurses with similarly focused interests was critical for the cohesion of the group and for the benefit of group dynamics in their activities (Wenger, 2010).

Making it real: Conducting journal clubs in which appraising scientific articles based on critical appraisal tools was combined with simultaneously teaching research methods, worked better than hoped. They offered an experience of learning in the real working environment (Ryan, 2016; Snoeren, 2015). However, preparation for the facilitator was multi-faceted and very time-consuming. Activities included reading the article, making a CAT of the article, thinking about what article-related methodological learning questions participants could have, thinking about how those questions might be addressed best during the journal club meeting, and finally converting all of that into a PowerPoint Presentation. All that effort led to effective learning

activities each time the participants met. However, the major time commitment and expertise necessarily need to be considered when planning to set up a journal club. Having completed the study, it is recommended that a mentor with the appropriate background be found to share the teaching load, or if possible, a team be developed to share the activities. It is logical to follow the approach of this study and organise learning (workshops and Journal clubs) within the working space. This not only has practical advantages, such as time-efficiency, but also gives the participants security as they are on known and familiar ground, and the feeling that it is just a part of their daily work. A good example of this is the recognition of the need for adequate preparation prior to meeting with the pharmaceutical representatives.

Building support from within: Having a co-worker (Medical Information Specialist) who is part of the organization in which the research has been conducted was of evident importance. Not only because she was helpful in finding the right people in the organization and approaching them for the educational programme and research, but precisely because she turned out to be a key person for various stakeholders when it comes to EBP implementation in the hospital, including the DSNPs. She also offered a 'sounding board' during preparatory sessions giving me the opportunity to explore and discuss activities prior to implementation.

6.4 What did not work?

6.4.1 Methodology

Preparation to study: At the time I started with the study I was not familiar with Symbolic interactionism, nor had I extensive knowledge or experience with grounded theory research. This was a disadvantage when the decision was made that a grounded theory approach would be the leading research design for the presented study. Looking back, I would have preferred to have had a more extensive study of not only grounded theory but also symbolic interactionism before starting with the research project. That probably would have prevented me from struggling with the various approaches of grounded theory methods and would have speeded up the data analysis. However, part of my learning is accepting the paradox that prior to the study, I did not know what I did not know.

When carrying out data analysis my focus was, in the first instance, on the nurse prescribers' contextual aspects, which probably distracted me too much from what I should have done, namely looking into the things participants gave meaning to. The result was that although I was able to paint a picture of the nurse participants' contextual situation, finding all the links to traditional barriers for EBP implementation proved difficult. The initial findings served as a partial answer to the research question, but did not fully address the issue, leaving me

unsatisfied, and with limited understanding of the nurses' perspectives, issues and concerns. However, this too is part of the learning of a PhD study, changing and enhancing knowledge and understanding of the processes of developing implementing and completing research. It was only when I stepped outside my comfort zone and looked at other theories, bringing into the study the Symbolic Interactionist perspective, that I saw how the data could be analysed with codes and categorise arising from deep within the data, not from what was already known or had been considered prior to starting the study. This proved to be the breakthrough I needed. Using that perspective, I was able to see what meaning EBP implementation could have for novice nurse prescribers. It was the recognition of the importance of phrases like *"being taken seriously"*, *"being recognised",* and *"being trusted"*, that allowed me to better understand the participants' perspective (sympathetic Introspection) and understand that nurses' feelings about *"being trusted"* could somehow influence them, and their willingness, to try or to ignore EBP. In hindsight, making more extensive use of "memoing" earlier in the project, instead of focusing only on analysing the data, would have been more effective (Charmaz, 2014). However, accepting that a PhD study is a research training, I can see that I have gained the expertise to explore and probe data and to trust and follow the processes of analysis specific to the method used. Prior to the study, I thought I had an idea of qualitative data analysis, but the reality proved to be so very different as I learned how to let the data lead the discussion and my own perspectives had to be left to one side, although I did check at the end that they had not crept back in and biased the findings. This expertise will be used in other projects, and in all the teaching I do with nurses studying at the University of Applied Sciences.

6.4.2 Education

Adjusting the learning process: the final phase was particularly important, as this was the point when the participants indicated that they would continue to take the initiative of implementing EBP for themselves and were confident that they had the skill. As a result, meetings were in some instances cancelled as they took the initiative and did not need such close mentorship. At this time, I became less available because of family issues and personal medical problems, and while I initially thought I would need to find a substitute, I did not need to. They had developed the relationship mainly with me and were keen to reassure me that they could manage but would make contact if they needed help. This confirmed for me the need for a bigger team to support activities when planning any such future project. It was co-incidental that my personal issues arose when they were able to take the initiative, and in some ways, it prompted them to step out on their own. However, had this occurred a year earlier, it could have adversely affected the whole programme, and contingency planning does need to be included for all such future projects.

Far-reaching educational customization: This study has shown that in the longer term, such an intensive preparation role for the facilitator cannot be sustained if the facilitation time allowed is based on conventional calculations, or if there is not an adequate number of staff in the team. A new and realistic system for calculation of the time needed by the facilitator for each of the activities needs to be developed. This must include the time needed for research into domain-specific knowledge (in this study diabetes care), and to develop customised learning materials, as well as the time to deliver individual support if needed. The time needed by participants also needs to be carefully considered. Although in the beginning it seemed that the study participants had full support from management, they too had not realistically calculated for how long they would need to release staff. In reality, they had only asked for time for the sessions, but the work needed outside each journal club was considerable, and it says much for their commitment that they willingly gave their own time in addition to professional development time allocated.

In addition, although promised at the start, there was in practice little attention or support from managers to embedding the newly learned skills in practice, such as increasing the involvement of nurses in pharmaceutical medical consultation with physicians or interprofessional referral meetings. This was a missed opportunity because for the nurse participants such professional activities can also contribute to strengthening the Professional Identity of the DSNP. For such studies in the future it is seen as important to make more explicit and concrete agreements with management accepting the time needed for structural embedding and allowing time to scaffold the nurse participants (Nur Diyana Sapri et al., 2022) as they develop their skills in the process of EBP implementation.

6.5 What did I learn?

6.5.1 Methodology

Facilitation as a way to gain access: As the study progressed, I realised that all the educational interventions were in reality an additional tool that helped to gain familiarity with the participants, and to support establishment of a trusted relationship. The journal club acted as an additional series of social interactions which paved the way to a more in-depth relationship of trust and reliance (trust, confidence), facilitating not only the educational actions and interactions (Young et al., 2014), but also the openness in the interviews, focus groups and evaluation meetings. This helped me to understand the participants better, giving me insight into why, in some situations, they remain in the background instead of taking the spotlight in leading the cause of tailoring patients' care. From this I developed additional

activities within the journal clubs to encourage them to start to take the lead in practice, having been able to practise in a safe, supportive environment, where peer instruction can take place (Mintzes and Walter, 2020). The opportunity to respond to participants and to share the research, an inherent element of participative research, was something I thought I understood, but the reality was much better than I expected or hoped. It really is worth every effort. Not only because of the research results, but also because of reciprocity in the participant-researcher relationship, and the feeling of moving forward together, something that still stays with me.

Unpredictability of grounded theory method: I learned to accept that grounded theory is not only a flexible design from the start of the study, but also a research approach that develops from the data gathered, not pre-set ideas. A path emerges that the researcher needs to accept and follow. Starting with what I thought was a straightforward idea and research plan based on the method chosen, once in the process of the research, I found myself in a confusing research world, which offered a range of approaches. It took a while before I understood how qualitative research works, that it is all about searching the data for participants' "meaning" of things, not seeking to find or reinforce initial thoughts and ideas. It took me even longer to understand how this worked in reality and that I needed to record and use what the data revealed and not what I thought it did (or should) show. Having worked for some years in and with a competence based and led profession I now had to accept that this was strictly accurate. For example, it was not the evidence based competency that led to the role taking of R-EBP-P, but the meaning of being seen as a trustworthy nurse prescriber (professional). I learned that the grounded theory approach leads you onto unexpected paths, that when you trust the data and follow the at times convoluted path, it offers new insights and understanding with unexpected codes, categories and concepts emerging and dictating the way forward. This meant that I set out to do one thing and ended up with something entirely different, with a framework that I could never have envisaged. The thesis gives some indication of this as it follows the journey I took and illustrates what I did and found, not what I set out to do.

6.5.2 Education

Learning theory: Following a too linear educational approach from pedagogy via andragogy to heutagogy could have been an obstacle to the learning of the group. The approach used in this study needed to be flexible and move at the pace of the participants (Kantar et al., 2020). It requires the facilitator to have the skills to switch between the various possible teaching approaches as and when necessary. Learning activities needed to be developed depending on participants' sense of need and urgency, choosing between the different learning theoretical formats seen as feasible for each activity. The challenges in this study arose towards the end, when the trusted facilitator was ill, and the participant having placed their trust in him, chose to wait for sessions when he could be available, working independently in between sessions.

In this study, it was fortunate that much of the development work was complete, and their trust in what they had learned was such that they felt able to go ahead alone. This emphasises the importance of the student-centric self-determined approach chosen, which had been designed to build confidence and independence, and to enable the participants to grow into their new role (Bansal et al., 2020). The timing for independent practice, and their readiness to take over, was slightly earlier than planned, but shows the relevance and importance of facilitation and participatory learning (Kantar et al., 2020). For the participants this was very different to previous more traditional approaches to EBP and research education and training. In addition, that participants needed to have trust in the facilitator and the long term aims of the programme, rather than seeing each session as an entity in its own right. For this the facilitator and participant's expectations should be aligned (Kantar et al., 2020). However, the timing of illness cannot be planned, and had it been earlier, with the small size of the team it would have damaged the whole study. It is seen as crucial that for any such future study a larger team be recruited and be part of the whole process. In that way, all sessions are of great value whichever member of the team delivers them, and illness of one member cannot disrupt the learning of participants. As a result of the choice to use facilitation, the participants were involved in the choice of the situational educational approach (personalisation) (Blaschke, 2016; Terry et al., 2020), and this proved to be pivotal in their learning, as at all times they felt part of every process and that they could choose how to move forwards both individually and collectively as a team (Langlois, 2020; Lingard, 2016).

Aiming for team competency: It is usual for (clinical) educators to focus on the personal competence level of each individual in a learning group (Langlois, 2020; Lingard, 2016). The aim is for every participant at the end of the educational process to have achieved the requisite minimum educational level. Working with the nurse participants of this study the insight gained from the whole study is that for a team it is probably a better strategy to focus first on team competency, with members supporting each other, and complementing the overall competency level. From the team perspective, this team of novice DSNPs should already have had a high level of EBP team competency, because of the composition and professional background of the team. Their previous education had been designed to enable them to search for scientific literature and to prepare them to be involved in evidence based protocol development but had not led to any significant change in practice to implement EBP (paragraph 3.5.1). One of my strategies had been to maximise confidence for participants in mastering the competencies together, and then moving on with personal learning needs. However, reality proved to be very different to expectations, with all of them uncertain and unsure of their expertise and in consequence, the first steps took much longer than expected. Hence the suggestion for future studies to start by focusing on team competency as a more realistic aim

in the short term, participants can help each other, while individual participants are able to ask for help and support in a safe environment. The study also revealed that for a workable level of EBP team competency no individual needs to fully master all EBP skills, as the participants willingly shared their expertise, with the team competency covering them in totality. It also appeared from the study findings and the evaluation meetings that an additional positive effect was team learning (peer learning).

For outside observers, and other members of the multi-disciplinary team it sometimes appears that physicians are skilled in EBP, but nevertheless some of the interview findings were unexpected, when they revealed that some physicians' work is mainly protocol-based. Interest in and implementation of EBP activities, such as attending lectures and frequent reading and assessment of scientific articles, appeared to depend on the individual professional, with some using it and others remaining with tried and tested approaches. The findings support suggestions that bringing nurses and physicians together to master EBP skills could benefit both, and at the same time, bring them closer together as a team (Carta et al., 2018; Hunt, 2006).

Prior knowledge about EBP: Early in the study, the lack of knowledge regarding EBP among nurse participants was evident. This was unexpected as they were all graduate (Bachelor level) education. In addition, some had recently had training in EBP while others had many years of professional experience. However, this latter group had gained their Bachelor's degree over ten years ago. Nevertheless, the assumption was that nursing education, together with additional professional development education for specialisation and nurse prescribers prepared nurses for EBP. Yet the findings from this study fit with Alving et al. (2018), who found that hospital nurses still rely on Google and peers, and not scientific texts when it comes to information in relation to evidence based nursing. In this study, similar comments were made with the primary reason given for this approach being lack of time. Relying on peers and quickly accessed internet sources as Google, rather than detailed searching of research and evidence, brings a high risk of retrieving unreliable information and through that poor clinical decision making. Alving et al. (2018) divide nurses into two groups, arguing that nurses educated before the year 2000 were not trained for EBP, and therefore cannot and do not approach or use research literature effectively. However, while accepting this viewpoint, years of experience in teaching post registration nurses at Master level suggests to me that the same conclusions can apply for students educated post 2000. Although repeatedly taught the principles of EBP, it appears that EBP competencies fade very quickly, particularly as few are actively trying to implement it in practice (Dierick et al., 2017). What this means in education terms is that every time educators have accepted that participants will have limited knowledge in this area and that and approach to teaching EBP must be found that will support the retention of competence

and its application in practice. The fact that these participants now appear to be retaining and using the knowledge suggests that the participatory approach used engaged the nurses to such an extent that it has helped them overcome the barriers they saw to using EBP. It would therefore seem an appropriate use for other institutions and educators to consider as they work towards meeting DA-TMTH Nursing Research Network targets for nursing research and EBP (Dierick et al., 2017).

6.6 What would I do differently

6.6.1 Methodology

Observations: Although, the title of the method suggests theory will be developed, it has to be accepted that GT usually does not lead to a fully elaborated theory (Timonen et al., 2018). In retrospect, although theory generation was not the main intention of the presented study, I would have liked to analyse observations of situations where the novice or advanced DSNP proposed patient-related pharmacological treatment adjustments in consultation with the acting physician. This would have provided a better theoretical understanding of how social interactions can lead to changes in diabetes nurse prescribers' PIF and the coherence between the different categories. However, because the participants were only seen during educational activities, individual and group interviews (evaluations and focus group meetings) the study had not been designed to facilitate this. However, it could be included in future studies. All studies have practical constraints such as limited time, and with clinical studies, the service demands may well affect the study. For example, the interviews had to be held in the holiday period, as this made it more feasible for the participants to schedule time out of clinical practice due to the lower seasonal workload. In hindsight, I think it would have been better if I had gathered the interview data over a longer period. However, as this was my first major qualitative study, I had not realised just how much data I would have, and how long it would take to analyse. An extended time period would have given me more time for data analyse and constant comparison; I will certainly be more realistic in future studies. This might have enhanced the emerging process of the concepts presented in the framework, but the consistency of the data is such that I do still have confidence in the findings.

6.6.2 Education

Facilitation regarding implementation: During the conduct of the EBP education, especially from the third year on, as part of a planned exit strategy, I took a slightly more distant attitude towards working with the participants, to give them the space to start to take the EBP implementation into their own hands. As mentioned previously by coincidence my own

personal health issues impacted on the study at that time, and I gradually placed my role as a researcher above my role as a facilitator. In hindsight, this was perhaps a little too early for the participants, but they did manage and as a result less meetings were held overall as they returned to focus on their clinical activities. I realise that they would have found it helpful if I had spent some time, emphasising being self-determined, and had made sure that someone could provide the support if they needed it. Again, this reinforces the need for a larger team of facilitators and acceptance of the wider team by the participants. In my opinion, overall, it would have been beneficial to be able to continue with the previous level of proactive facilitation for EBP implementation, providing structural reminders of previously made agreements, to keep coaching on track to maintain high levels of motivation. To make the project a success for each individual, participants need to be aware of their own responsibility in keeping not only their own learning process alive, but also that of the team (Harvey and Kitson, 2016). The study clearly revealed that the sudden absence of the key facilitator did have an adverse effect, but that participants were able to move on as the problem arose towards the end of the study.

Transition from homogeneous to heterogeneous group: To embed learning more in daily practice with hindsight we could have considered the nurse participants joining in interprofessional meetings (e.g. with physicians and allied healthcare providers) at an earlier stage of the study. I found in the interviews that some physicians did not have highly developed EBP competences, and they could have benefited from joining in with the nurse participants. However, it has to be accepted that they may have preferred separate sessions, as at the time of the study they were still adapting to the nurse prescriber role. An additional benefit of this could have been that the trust relationships between professional groups (nurse prescribers and physicians) improved contributing to nurse prescribers' sense of equality and therefore their PIF. Now that the nurse prescriber role is more accepted and increasingly seen as usual, legally validated practice (Bruins, 2018), in any future studies inter-disciplinary learning should be considered.

Estimate desirable learning pace: Temporizing and adjusting the learning process proved to be more difficult than I had assumed. In planning any future studies there needs to be a better estimation of the participants' background expertise and preparation, as this influences productivity of the initial sessions. Mapping possible activities and individual learning potential (English and research skills) would probably have helped to enhance the learning productivity and is recommended for any future studies. Further, although in this study it was not a problem, tension between fast and slow learners could have occurred and needs to be considered. Walk-in sessions for individual guidance, could be used to keep the gap between fast and slow learners as small as possible as that would further facilitate the shared learning of the community.

Researcher: Although not well documented, reflexivity was an integral element of the study, with issues discussed during the regular supervisory meetings. During these meetings, it became clear that I had underestimated my own contribution to the nurse participants' professional development and probably their PIF. My role as a facilitator who was supportive and worked with them probably enhanced their feeling of confidence and belief in their capability to learn and eventually master EBP competencies. By putting my trust in them and showing it, I may also have contributed in part to their PIF. A high level of trust is more likely to result in enhanced team confidence, which supports risk taking when deciding to come forward and propose treatment alternatives (Holleman, 2014).

Dependence on the external facilitator and building support from within: On reflection, facilitation by an external EBP expert, without any backup in case the expert could not be available, makes the study processes very fragile. It was an unexpected finding that the clinical educators, at that time, like the nurse prescribers, had poor or no EBP competencies. The clinical educators were therefore unable to facilitate EBP processes, increasing the burden on the facilitator. This had been one of the reasons why the nurse participants had asked for help. The need for this additional training had not been envisaged at the start of the study but it is recommended that any future studies should consider starting the project, with training for the clinical educators and specialised academic personal. If carried out consecutively with the training of the nurse participants, it would enable them to participate in the EBP transition. Librarians, who can support the professionals with critically appraising of research focused activities, should also be key participants and access to statisticians would help the participants understand scientific papers.

Reflecting on this study, it is essential that when starting an EBP implementation project researchers are aware of the temporary nature of their role and make contingency plans for continuity, and if the potential replacements came from within the host institution participants can seek support within their own hospital. In addition, although hospital employees have access to an institutional healthcare-oriented library and research department, at the time of data gathering it appeared that these facilitations were mostly allocated to medical staff members, and additional access for the participants had to be negotiated. It is recognised that there is a high chance that EBP education enhances participants competencies, but often does not lead to embedding EBP in the institution, or to structural change of behaviour (McCluskey and Lovarini, 2005). Therefore, management need to consider how to facilitate not only the evidence based education, but also the implementation of EBP and clinically based facilitators adding this into their recognised workload. This would make it easier to negotiate time out of their usual practice for meetings not only for quality improvement projects, but also journal

clubs. Safeguarding the sustainability of the EBP transition required more attention than realised at the start of the study, but I learned what is needed for the study to succeed.

Confidence as key to success: No matter how much effort was put into customizing the education, it seems from this study that enhancing confidence was equally important. Although for me this is internalised knowledge and I unconsciously act upon it when teaching people, given the results of this study, in future I will be more conscious about how to enhance PIF process of the learner. It is the educator who has to explore and understand what meaning learners give to education and then make the educational content meaningful to the group. In the case of EBP education it is not only professionals gathering information to substantiate their clinical decisions but taking the risk to come forward with substantiated solutions for clinical problems and being listened to because previous proposals sparked confidence.

6.7 Conceptual Framework

6.7.1 Contribution to knowledge

The study found that the new conceptual framework of Professional Identity did enhance R-EBP-P Role Taking adding new insights to the existing EBP implementation knowledge framework. It illustrated that individual practitioner's self-image can be either a barrier or a facilitator to one's individual EBP activities uptake. This approach consists of recognising a decision scenario followed by applying a simple contextual strategy (such as protocol-based care) and where appropriate transferring to more customised care to resolve discrepancies between guidelines and specific patient needs (Falzer and Garman, 2009; Guerra-Farfan et al., 2023). In this study, DSNPs were just doing this, tending to seek professional dialogues to tailor patient care, but the research findings also demonstrate that a strong professional identity is an enabling factor for clinical decision making.

Over time, many different EBP implementation models have been developed (Oermann et al., 2017). However, they all have in common that they offer an approach for EBP implementation, at different organizational levels, from point-of-care (individual), through unit (team-based), to hospital (organisation-wide). This study took a different approach, and in consequence, the 'Professional Identity enhanced R-EBP-P Role Taking' framework differs in that the focus is on the individual professional's transition into applying evidence into practice. In this case in the context of DSNP. However, during the study, literature reviews revealed limited scientific literature in this area, although Alatawi et al. (2020) reported four barriers of evidence based nursing implementation, which were found in this study. Firstly, a lack of nurses' knowledge, skills and awareness regarding use the evidence based practice. Secondly, a lack of

professional characteristics, which in this study was linked to profession identity. Thirdly, nurses' attitude to, and experience of using EBP and finally a language barrier in using or implementing EBP. Some of these findings have been recognised for over a decade, when DeBruyn et al. (2014) linked lack of use to a lack of professional autonomy (or professional respect) with evidence based nursing implementation.

More recently Pursio et al (2021) argues that professional autonomy supports the freedom to make clinical decisions and act accordingly (Pursio et al., 2021). While no links are directly made to PIF, it would not be inappropriate to associate this category with the concept of professional autonomy. Particularly as a thematic analysis of evaluation data from a wide-scale nursing education intervention to engage clinical nurses in EBP, led to the emergence of the theme of professional identity (Bagnasco et al., 2019, p. 185). Professionalism and professional autonomy in relation to EBP has thus been mentioned in the literature, but the explicit association between PIF and the use of EBP as indicated in the conceptual framework was not made prior to this study.

6.7.2 Contribution to practice

For educators the framework clarifies the importance of the participants' perception of the practical applicability of knowledge and skills, and how these contribute to self-image (Simmonds et al., 2020). It shows the significance that acquired knowledge and skills have for the individual. Thus, incorporating PIF into the EBP curriculum could serve as a powerful facilitator for professional role taking, and more specifically developing the role of a Reflective Evidence Based Practice Professional. Although at the start of the study, the nurses had not reached a level of EBP application that covered use and implementation, after the second year of facilitation they demonstrated a confidence level that allowed them to apply EBP activities for themselves. The study findings indicate that what enhanced that process (uptake) was that the facilitation approach used as this focused on giving them the feeling of *"being taken seriously"*. This study's findings demonstrate that this way of working was of outmost importance for them to start using EBP.

The educational plan for the study was developed together with the participants and brought to them as an ongoing negotiable and flexible process. This was done by working with them (person-centred) rather than working for them (knowledge broker) (Cullen et al., 2018). This process supported self-determined learning outcomes, and as the study progressed, led to adjustments in the timetable, working methods and learning content. Fortunately, the first years of facilitation were not adversely affected by the need to demonstrate immediate cost-effectiveness, although the long-term benefits were identified. Nurse participants had the time

to accept and understand EBP at their own pace and were assured of ongoing support and guidance by the team that they had reported trusting.

The facilitation was designed to “Making it [EBP] real”, organising education activities in their location, using educational content that served topical/current clinical questions, and working from a team-based approach. EBP education was incorporated into daily practice, in the educational activities that took place in the workplace, and related to real practical issues the participants were dealing with. They therefore could see the reality in daily practice, unconsciously shifting the perception of EBP from a top-down necessity to an instrument whose use contributes to personal professionalism and identity (Harvey and Kitson, 2016). It was rapidly clear that simply "transferring" knowledge would not be the right approach to achieve the participants' objectives, which included being able to engage in dialogue with other professionals and pharmaceutical representatives. Over time, this tailored education gave them the courage for make their own choices and they committed to using EBP in their new role and made it easier to talk about change using appropriate supporting evidence.

6.8 Summary

Reviewing and reflecting upon the study confirmed the decision that a grounded theory approach was appropriate for exploring the process of nurse prescribers’ engagement in EBP. It led to a new conceptual framework that explains how nurse prescribers act when it comes to taking up a professional role, in this case the role of the R-EBP-P. Conducting this research was challenging. Not being familiar with grounded theory methods at the starting point of the research meant it was easy to get lost in, and confused by, the various forms of grounded theory methods. I recognised that this research method is flexible and not linear, and that made it easier to focus on the data analysis process instead of the method structure. Grounded theory method process steps from the approach chosen (Charmaz, 2014) were carried out, with attention paid to constructivist research quality criteria. The study findings yielded a wealth of rich in-depth data to develop the conceptual framework, and this provides a fresh and original perspective regarding nurses taking the role of evidence based practice professional. In the evaluations this found resonance with the research participants (QU-f:39:46; QU-f:45:13; QU-f:45:51; QU-f:39:30; QU-f:39:60).

One of the successful outcomes of the facilitation educational approach (Kantar et al., 2020) was the mastering of EBP demonstrated by participants (QU:5:84). However, currently applying this educational approach on a wider scale will take time: it is time-consuming, labour-intensive and must be maintained for an extended period to be effective. Nevertheless, this

study demonstrates that this time was well spent as it did enhance knowledge and competence and nurses did start to use EBP in their daily practice as required in The Netherlands. Over the time of the study, the concepts of the framework became clearer and more cohesive. However, it took a while before analysis of the data revealed the relationships between the participants and lead me to map the concepts, identifying how they use and implement EBP. The frequent and regular monitoring meetings were extremely helpful in this regard and should be seen as key in any similar study, and they have enabled the participants to be in a position to disseminate their EBP knowledge and skills to their colleagues. This will contribute to higher quality patient care and thereby support the Dutch government requirement for all care to be evidence based.

Chapter 7: Conclusions and Recommendations

7.1 Introduction to conclusions and recommendations

This chapter gives a summary of whether the aims have been addressed, the contribution to new knowledge, and then concludes with general conclusions and tentative recommendations. This study came about because a group of specialist nurses came and asked for help. Although evidence based practice is an integral part of the Dutch nursing curriculum, and has been for over 20 years, they were not confident in their ability to apply the principles in practice. This fits with the Dutch government's finding that there was limited use of research and evidence in care delivery, and their statement that the situation needed to be addressed with evidence based care implemented by 2020. As cited previously, to support the process of change, and help nurses to introduce research and evidence in practice, the Dutch Nursing Research Network (2013) set evidence based practice objectives for nurses in their associated hospitals that were seen as achievable by 2018. The timing was selected to allow two years for consolidation before the government deadline of 2020.

However in the absence of any evaluation, it is difficult to ascertain whether or not all or any of these ambitious objectives have been achieved, but recently the Dutch Chief Nursing Officer reported to the Dutch Ministry of Health, Wellbeing and Sport that there was still little sign of progress regarding strengthening the professional autonomy of the nurse in The Netherlands and the implementation of EBP (Buurman, 2020). This report regarding nurses' use of EBP fits with the findings of this study. The chief nursing officer argued the need to position and facilitate the profession, enabling nurses to learn how to optimise their roles. In addition, to demonstrate how the nurses discharge their professional roles and functions, through the implementation of knowledge, skills and competence, and the development of evidence and research to support their practice. It was also suggested that there should be an increased focus on professional development, as the accompanying higher-level knowledge and expertise can enhance professional identity and role, enhancing nurses' satisfaction with their professional status, the respect afforded to them by others, and their passion for the profession, all of which are supported by this study.

This study was carried out with diabetic specialist nurse prescribers, who clearly articulated their struggle to meet the Dutch Association of TMTHs' Nursing Research Network edict (Bos et al., 2013). Their request for help fits with other research identifying that nurses are not alone in needing help and guidance (Saunders et al., 2019). Despite decades of evidence based practice being an integral element of the nursing and healthcare professionals' curriculum, the majority report their evidence based practice competencies are insufficient to deliver care that

meets the stated standards of evidence based practice (Saunders et al., 2019). While acknowledging these findings, nevertheless it was a cause for concern that a group of specialist and advanced nurse practitioners, who are the clinical leaders of the nursing profession, reported being unable to translate best evidence to underpin their clinical decision making. Also, that they were not implementing the accepted steps of evidence based practice in their daily practice, because they could not appropriately appraise and use scientific research. The journal clubs increased the participants' competences in this field, which meant they could guide and support each other and their nursing peers (Saunders et al., 2019), something that they were keen to do.

The initial aim for this study was to develop and pilot a new approach (educational model) of Continuous Education (with means of Self-directed Lifelong Learning). The model was to have been designed to extend Critical Thinking Processes and Skills to facilitate adoption of evidence based practice methods and through this, enhance practice. For implementation, this study used a complex educational research design with multiple cycles. However, following initial meetings with the nurses it was evident that the project needed to be modified, as the original premise that their request was only for help and guidance to implement evidence based practice, did not fit with their reality. They were actually asking for three separate things, Firstly, help in extending their abilities to understand and use research in practice. Secondly, for strategies to help them share their knowledge and expertise with professional colleagues (such as doctors), thirdly, to enable them to learn how to utilise research and evidence in their own practice. In consequence, the project was adapted to meet their clearly expressed needs.

The overall study question was appropriate, but the aims were adjusted to start with an exploration of their actual needs, as advance practitioners and prescribers, together with identification of solutions to support the implementation of evidence based practice. The project needed to focus on ways to enable these advanced practitioners to adapt their practice to adopt the behavioural processes needed to firstly utilise, and secondly to implement evidence based practice. This change in the detail of the aims facilitated the development of a study that focused on what actually influences, supports and leads to the behavioural changes in nursing practice needed for them to fulfil the Dutch Reflective Evidence based Practice Professional role, a key element of advanced practice (Hanze Hogeschool, 2018; Stuurgroep LOOV, 2015).

Looking back on the study, working with the study participants, who were aware of their need of change, offered a unique opportunity to develop and implement a new, and contextually tailored educational programme which would enable them to gain the competence to deliver

evidence based practice (Dogherty et al., 2010). The planned approach had to be discontinued and a new education approach had to be specifically designed to meet their learning needs. This was only possible because the facilitator was accepted and trusted by the group, and this trust facilitated the creation of an open and accepting atmosphere (Dogherty et al., 2013). This not only helped the participants learn to work together, as they studied to gain a better understanding of evidence based practice. It also helped me to work with the participants and to conduct the research needed to review the effectiveness of the revised educational approach.

What started out with a research design based on Glaser and Strauss (Glaser and Strauss, 1967) and had been considered to be a structured and rigorous way to collect and analyse data, actually developed into an inductive research study using Charmaz's (2014) approach to grounded theory. This in turn led to the introduction to symbolic interactionism. The addition of this theoretical underpinning elucidated the importance of social actions and interactions when a professional behavioural change is required (Glaser and Strauss, 1964; Redmond, 2015). As the study progressed, the activities used gradually coalesced into a clear education programme, and ultimately a conceptual framework, that accepted the nurses as independent, expert practitioners who nevertheless needed support as they struggled to complete their clinical role which increasingly (through the use of evidence based practice) improved the quality and level of care offered. At the same time, the iterative processes that constitute grounded theory have facilitated an increased understanding of, and awareness of the factors that affect (positively and negatively) the implementation of evidence based practice. Using the data gathered, translating the conceptual framework and repeating the processes used in this study with other groups, would support the development of consensus regarding the factors influencing acceptance of, and implementation of evidence based practice. Thus, this study is seen as the first step in the emergence, from within the data sets, of theory that can be used to underpin the implementation of evidence based practice across all the fields of nursing, and possibly, ultimately other healthcare disciplines.

7.2 Contribution to knowledge and practice

7.2.1 Contribution to knowledge

The conceptual framework developed demonstrates that 'professional identity enhanced reflective evidence based practice professional role taking' adds new insight to the existing evidence based practice implementation knowledge framework. It also reveals that the individual practitioner's self-image can be either a barrier or a facilitator to their intention to implement evidence based practice.

The results illustrate that, within the context of diabetes, specialised care nurse prescribers try to follow given prescribing protocols. However, if they find that following the protocols will have an insufficient or even counterproductive effect, they are willing to take the initiative to deviate from the protocols and discuss evidence supported alternative treatment strategies to tailor patients' care. It has been suggested by Falzer and Garman (2009) that medical professionals (in the context of Mental Healthcare) follow a three-step movement of evidence based decision making. This approach consists of recognising a decision scenario, followed by applying a simple contextual strategy (such as protocol-based care) and if necessary transfer to a more customised care plan in order to resolve discrepancies between guidelines and specific cases (Falzer and Garman, 2009). In this study diabetes specialist nurse prescribers were accustomed to following this approach. They tended to seek dialogue with relevant physicians to argue for tailored patient care, discussing how or where protocol-based care was ineffective or difficult for patients to adhere to. However, the findings also demonstrate that for these nurses to do this they have to have a strong professional identity.

In past decades many evidence based practice implementation models have been developed (Oermann et al., 2017). As discussed in chapter 2, some of these models are based on the evidence based practice process, more or less following the steps of: identifying a problem, developing a question, searching for and appraising evidence that could answer the question, making a decision of what should be done in practice, implementing the change and evaluating the result. Others focus on the change process of evidence based practice implementation. The path they take is not necessarily linear in order, but includes assessing the readiness for change of the organisation (recipients), identifying barriers and facilitators to the process (context), identifying persons who can carry out the change, followed by implementation of the evidence (innovation & facilitation) and evaluation of the outcome.

What the models have in common is that they offer a structure to support the use of evidence based practice, for different organizational levels, point-of-care (individual), unit (team-based), and hospital (organisation-wide). Some models are more explicit about the importance of barriers and facilitator for implementation, for the unit or organizational-wide level. However, none appeared to have led to implementation of EBP, or sustained improved and enhanced practice. This study with its new conceptual framework has identified and addressed some of the key issues that can enhance or hinder implementation, and therefore offers a way forward as nurses move into new and increasingly extended roles, each of which bring its own responsibilities.

The 'Professional Identity enhanced Reflective Evidence Based Practice Professional Role Taking' framework differs from the previously established evidence based practice

implementation models in that the focus is on the individual professional's transition into their new role, which includes applying evidence in practice. Recurrent literature searches revealed little research or other documentation in this field. It is accepted that Alatawi et al.'s (2020) literature review did reveal four individual barriers to evidence based practice implementation: nurses' lack of knowledge and skills and awareness regarding use the evidence based practice, lack of professional expertise, nurses' own attitudes and experience in using evidence based practice and language barriers in using or implementing evidence based practice (Alatawi et al., 2020).

Johnston et al.'s (2016) study did identify the theme of professional identity, arguing that evidence based practice plays a key role in reinforcing nurses' own professional identity and improved patients' perception of the image of nurses. No suggestions were made, however, as to how this could be achieved, and neither of these studies make any suggestion as to how nurses can develop their professional identity, instead focusing on the results of having done so. Therefore, while professionalism and professional autonomy in relation to evidence based practice have begun to be cited in the literature, the explicit association between professional identity formation and the use of evidence based practice has not been made or discussed prior to this study.

7.2.2 Contribution to practice

The framework offers educational practice clarification of the importance of the participants' perception of the practical applicability of knowledge and skills, and how these contribute to professional identity development. It illustrates the significance that the acquired knowledge and skills have for the individual. Findings from this study suggest that incorporating professional identity formation into the evidence based practice curriculum could serve as a powerful facilitator for professional role taking, giving a more specific description of the role of a Reflective Evidence Based Practice Professional.

Although it has to be accepted that the nurses had not yet reached a level of evidence based practice application that covers all the practical issues, after the second year of facilitation they did reach a confidence level that allowed them to apply evidence based practice activities in their own practice. The study findings indicate that the process (uptake) was enhanced from the very beginning, because the whole study was based on facilitation. There were repeated comments that the approach gave them the feeling of *"being taken seriously*", and that this was of utmost importance for them to begin to study and use evidence based practice. Working with them, a person-centred approach was used, instead of what had been for them the more traditional approach whereby the tutor was seen as a knowledge broker. The educational plan for the programme, developed in partnership with the participants, enabled them to review,

discuss and negotiate their needs at all stages. However, while this resulted in supporting the self-determined learning outcomes wanted by the group, it also led to repeated adjustments in the timetable, working methods and learning content. The time given for the first years of facilitation meant nurse participants had the time to find strategies to review and critique evidence, and through that start to accept the role of evidence based practice in nursing care delivery. Every effort was made to make sure that the educational activities were in not only the workplace, but also the learning content was related to real practical issues that the participants themselves raised as problematic. The Journal clubs and workshops proved popular, and participants reported that they could see the reality of each issue in practice. They slowly shifted shifting their perception of evidence based practice from a top-down necessity to an instrument whose use contributes to personal professionalism and identity, while at the same time, improving the quality of care offered. Emphasis was placed on not only enabling them to learn how to apply evidence in practice, but on facilitating self-exploration of their understanding of how evidence based practice contributes to their professional self-image. It rapidly became evident that simply "transferring" knowledge would not be an appropriate mechanism to achieve the participants' objectives. In addition to wanting to use evidence in practice they wanted to be able to engage in dialogue with physicians and debate with pharmaceutical representatives, exploring the information given and judging for themselves if it was appropriate for their patients or not. The tailor-made education programme ultimately gave them the courage for what they needed to do, commit to the implementation and daily use of evidence based practice in all elements of their role. This in turn enables them to demonstrate their knowledge and competence making it easier for them to engage in dialogue with physicians to discuss patient care and where change was needed give supporting evidence for their choices to the physicians.

The main outcome of the study, developed through the use of a grounded theory approach, is a conceptual framework (and additional conceptual map) that captures the uptake process of evidence based practice. It focuses on the influencing factors and allows for formulating hypotheses to further investigate the validity of the inductively derived theory. This conceptual framework has been specifically designed for, and based within practice, enabling the nurse prescribers to reflect on, extend and develop their competence and clinical leadership skills. Using the skills, expertise and confidence gained through the application of the conceptual framework, they can not only improve their own practice, delivering higher quality evidence based care, but they can lead, guide and mentor their colleagues using an approach described as scaffolding instruction (Clinton and Rieber, 2010; Daughhetee et al., 2010; Kantar et al., 2020; Vygotsky, 1978; Wood et al., 1976) through their professional identity.

Conceptual framework of PI enhanced R-EBP-P role taking

The study revealed that when they need to blend different sources of evidence to facilitate clinical decision-making, this is still an ongoing process, especially where it includes initiating dialogue about uncertainty and doubt with colleagues who are perceived to be higher in the (informal) hierarchy (The Council for Public Health and Society, 2017). The "Professional Identity enhanced Reflective Evidence Based Practice Professional role taking" conceptual framework (Fig. 7.1) provides a description and visualisation of the professional social processes of (mutual clinical) decision-making activities between individual professionals (or different professions) bound by the health interest of the patient. The participants could recognise and accept the study findings.

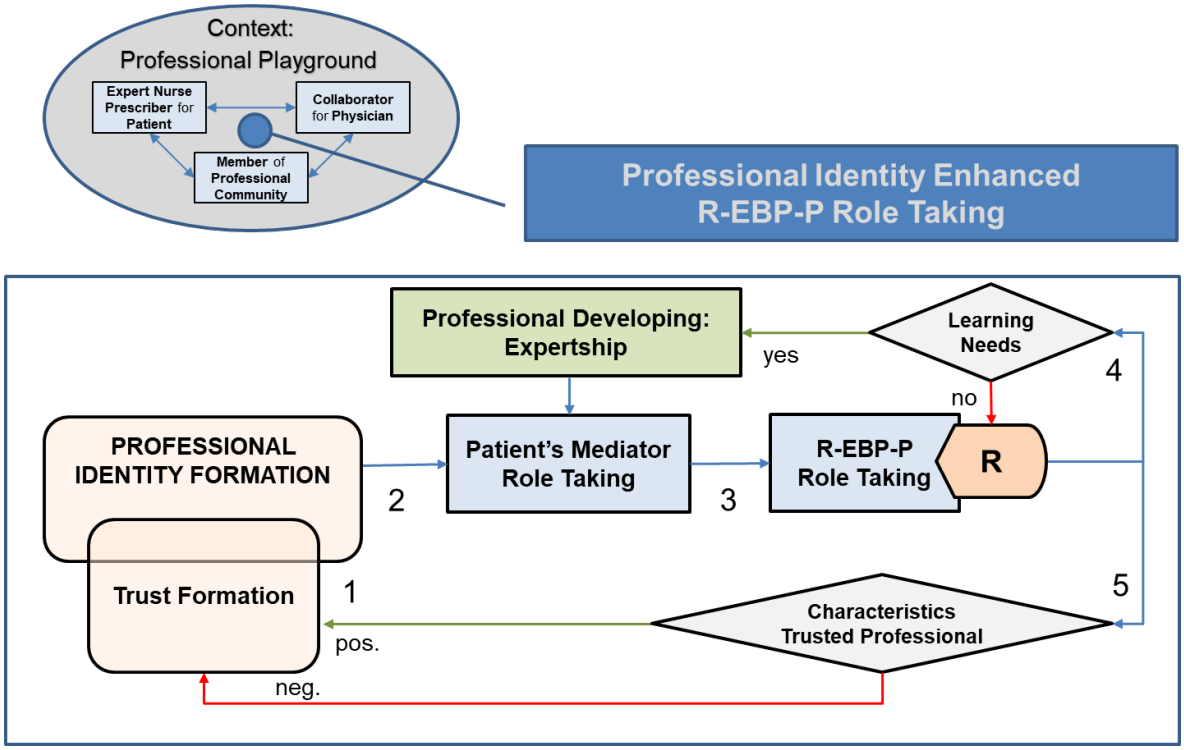


Figure 7.2 Conceptual map of Professional Identity enhanced R-EBP-P role taking

The construct of concepts illuminates how specialists nurse prescribers, when given a specific care context, can take on the role of professional leader, enhancing and extending their original role. It can be used to increase awareness and understanding of the essence of nurse prescribing, and how in specialist care settings, nurse prescribers establish evidence based practice for clinical decision-making.

7.3 Conclusions

The findings of this study, with its new framework, offer new insights into how specialised nurse prescribers change and adapt their practice once they have the skills to use evidence based clinical decision-making skills. It discusses how they perceive their professional position, their clinical roles and their responsibilities, including their extended and enhanced professional identity (role taking). The overall analysis gives some indication as to how evidence based practice could be used to focus on policy, supporting implementation of established polices, and developing new policies, at department, institutional and ultimately national level. However, the data sets also clearly indicated where evidence based practice education could be improved upon, to become a 'real time' way to learn and extend knowledge and expertise (education).

These nurses were already under the spotlight, being among the first to benefit from the new prescribing legislation. This development was welcome and had been sought for some years, yet it entailed a change in role and extended responsibilities. Pharmacological prescribing, which for the first time had featured in their domain, has developed from a strong research background, with detailed knowledge of trials, medical effectiveness, side effects and contra-indications. It was therefore essential (and inevitable) for the nurses to place emphasis on learning all aspects of their prescribing role, and on reflecting on state-of-the-art evidence. Offering them the opportunity to learn the crucial components of medical prescribing in a safe environment, through the medium of evidence based practice, proved to be both practical and rewarding. It enabled them to place this aspect of their role in perspective, seeing it as an integral, but no longer overwhelming element of practice, which could ultimately be applied to the broader field of diabetes nursing practice.

Looking back at this research, the main questions for this study were addressed. The data does reveal how these nurse prescribers work, and although initially struggling with evidence based practice, they changed over the lifetime of the project. They started to use evidence based practice and were clearly able to describe how and why they chose to use or reject evidence in their daily work. In addition, the prepositions developed at the end of each main section as the framework developed, offered various action points for the nurses to consider. However, it was evident early on in the study that the first aim developed as the project began, was subsumed in the other aims. The nurses had come and requested help to develop evidence based practice, as on their own admission they had insufficient knowledge and expertise in this field. Thus, the whole programme was designed to enable them to gain and extend their skills, to meet government guidelines and implement evidence based practice in their daily roles.

The use of a grounded theory approach was appropriate; the iterative processes that are integral elements of grounded theory enabled the study to focus more clearly on the data gathered. Over the repeated cycles of data collection and analysis, the data slowly transformed, revealing that the education and facilitation approach used had led to evidence based practice becoming a scaffold for Professional Development. This was crucial for the study as a whole as evidence based practice was a central component of the final conceptual framework, which in turn supported increased awareness and understanding of professional identity. The research questions were appropriate, as applying the core context terms to the data reveals. The nurse prescribers' perception of their own professional identity in the context of diabetes care nurse prescribing with the confidence and understanding, and able to enter into an equal non-hierarchical relationship with physicians, are the most likely to apply evidence based practice.

Regarding their professional status as a trusted nurse prescriber, the social interactions that enhance nurses' perceptions of being accepted and recognised as an equal professional collaborator reinforces their professional identity. These findings would not have emerged if another method than grounded theory been used. The ability to review the iterative analysis processes and accept the importance of following the data, rather than trying to place the data in identified areas, led to the discovery that enhancing nurses' professional identity is a key element (core concept) in the nurses' professional processes. This needs to be recognised if they are to fully take on the role of reflective evidence based practice, nurse prescriber in daily practice. This group of nurses were in a unique position, as pioneers in a new and extended role, with management prepared to support and facilitate the provision of dedicated time to study and increase their understanding and use of evidence based practice. It had been unexpected to find that at the start of the study, this group of nurse specialists, while keen to embrace their new role, lacked confidence in something that they had been taught from the start of their training. However, it was important to recognise their professionalism in knowing this was a limitation for them as they tried to take on their new role. Their openness and their determination to seek help and guidance to address their concerns, in order to change and improve their practice has to be commended. They had identified the researcher, as someone who could support them, and their choice was approved by senior management. This gave them access to help and support from a range of other professionals, their direct manager, some dedicated physicians, librarians, EBP knowledge experts as well as the facilitators. The support was in part because their new professional role, while it offered a degree of freedom to act within the medical domain (prescriber rights), it also demanded that they could demonstrate their increased expertise, and how research and evidence supports the informed

decisions they made and tailored medical care to the patients' needs in their own right. What started as a journey in search of an educational model eventually led to a social-interactional conceptual framework of role taking. Firstly, data-analysis led to exploration of the contextual situation of the participants revealing a tripartite structure of patient, nurse and physician. The focus of the analysis shifted to stakeholders' actions within that structure, but this did not result in a better understanding of the processes of evidence based practice uptake. Changing the final iteration of data-analysis with the use of symbolic interactionism gave the breakthrough in identifying core concepts.

Two key conclusions from this study are firstly, that Professional Identity formation may well be a major facilitator for individuals (or professions) for professional role taking, in this case the role of Reflective Evidence Based Practice Professional. Secondly, the personal construct of "Self" can either form a barrier or be a facilitator for professional role taking, in this case the role of "Mediator" for which taking up the role of R-EBP-P is essential. While traditional teaching of evidence based practice skills may enhance participants theoretical understanding of evidence based practice and the competencies necessary for its implementation, time has shown that it does not lead to change in professional behaviour regarding actual implementation and/or use of evidence based practice in clinical settings. For this to occur recognition and resolution of identified barriers and inhibiting factors need to be addressed. The advance of the facilitation approach used is that nurses can seek advice in a safe environment and individual queries and concerns can be explored and resolved.

This study revealed as with other studies, evidence based practice implementation is affected by barriers that include English-language proficiency, including understanding of research terminology and methodology, dedicated time to learn essential implementation strategies and an attitude that recognises the importance of evidence based practice (Kahouei et al, 2015: in Shayan et al., 2019). Other factors that adversely affect nurses' confidence in themselves and hence willingness to try to implement evidence based practice include lack of recognition of nursing as an autonomous profession, and lack of professional autonomy and respect (DeBruyn et al., 2014). One advantage of the conceptual framework that emerged in this study is that it identified that a strong professional identity provides specialist nurse prescribers with means to fully take the role of reflective evidence based practice professional.

The interviews with participants revealed that Dutch diabetes specialist nurse prescribers have embraced the role and responsibilities that have accompanied the revised legislation and have developed a system whereby they now work in a tripartite constellation with their patients and the patient's physician. In this constellation, the nurse prescriber has developed a prominent role in tailoring patient care and facilitating treatment modalities that facilitate adhere medical

recommendations and prescriptions. Their new role has an extended and sometimes challenging role as mediator (advocate) for the patient representing their needs and interests with the physician. The participants were clear that the use of evidence based practice facilitated good, substantiated mediation, and was helpful in advocating for changes in medical treatment. In addition, that good (professional) mediation leads to a trust based professional relationship with other health professional and supports extension of professional autonomy.

The study result shows how the nurse prescribers regarded their professional interactions with patients and other healthcare professionals, including physicians, could scaffold nurse prescribers to proactively participate in evidence based practice processes being critical and resourceful in prescribing medicine to patients. To represent the patient's interests the nurse needs to act as a Mediator between patient and patient's physician, not only discussing the need for and the assumed effects of the treatment with the patient (to establish shared decision making), but also aligning with the patient's physician to seek for the best treatment regime, taking the role of a collaborator to the physician. To be effective in this role the nurse has to bridge the traditional hierarchical distance, for which expertise and being reliable are supporting factors. As the conceptual framework emerged, it became evident that it was necessary to review and evaluate the social interaction processes that take place between nurses and patients or healthcare professionals such as physicians who collaborate with them. Further, strengthening the collaborative triangle by encouraging a trust-based relationship between nurse, patient and physician, is vital for tailoring patients' care. It is further suggested that the findings indicate that establishing a trusted relationship between nurse prescribers and physicians is key to nurses to be motivated to adopt reflective evidence based practice.

7.4 Applying the conceptual framework

Considerations of the way forward after completion of this study have been given above. In research theory terms, applying a whole grounded theory approach is not a necessity (Glaser, 2014) and that applying an abstract grounded theory concept may improve clinical practice. The assertion is that for appropriate application, the subject under study must be relevant to the participants, must be understandable and yet still give the researcher and research, some control. Using this approach, possible practical applications of the conceptual framework on diabetes specialised nurse prescribing teams, need to be considered in other specialist fields, and among nurses with different levels of prescribing authority. This will help them to understand their professional behaviour and offer the means to advance the theoretical constellation of the conceptual framework through further research using constant comparative analysis.

The conceptual framework of "Professional Identity enhanced Reflective Evidence Based Practice Professional role taking" describes what really happens when nurse prescribers started applying evidence based practice to clinical decision-making, entering the medical field. It is not only instrumental but serves higher aims/objectives like *"being trusted"* and *"being recognised"* as a professional who can claim increased professional autonomy. The relevance to the user is that it helps understanding of what is assumed competence and is therefore a way of growing a strong professional identity that helps to establish professional autonomy and gain the extended professional playground.

Reflecting on the study, it has achieved much more than expected for participants, but as is often the case with interpretivist research, the outcomes were not as expected. This underlines the importance of recognising and using categories and ultimately themes that emerge from the iterative analysis to develop new knowledge and insights into the phenomenon being studied. Working as a facilitator was challenging. It meant offering strategies and activities that the nurses would accept as appropriate, and which would enable them to take ownership of the outcomes. The conceptual framework, developed from the key findings within the data, offers a new way for teaching and learning for continuous professional development. The approach is effective, and the next steps have to be the translation of the framework for use with other groups of nurses and healthcare professionals, and an evaluation of its use with other groups.

Confirmation of the applicability of the conceptual framework through further research is needed. However, the consistency of the findings reveal that nurse prescribers are more likely to act in accordance with what may be expected from a reflective evidence based practice professional, when they have established a strong professional identity and find themselves in a trusted professional relationship with (dedicated) physicians. Patients were reported to respond positively to the new role and appreciated the roles these nurses play in practice (motivated by the role of patient advocate) and been recognised by significant members from the (institutional) professional nursing community.

7.5 Recommendations for research, policies and educational practice

In the light of the findings from this qualitative study, the consistency was such that some tentative recommendations have been made. For clarity they are presented in three sections, for research, for policies and this section includes recommendations for managers and management, and finally for educational practice.

7.5.1 Recommendations for research

As in every research report, an important recommendation is the call for more rigorous research to follow up on the key findings of this study, as the conceptual framework emerged from grounded theory.

There needs to be:

- a repeat of the study with a wider sample to review and refine the framework,
- research focused on the professional role taking processes that are needed to develop a strong Professional Identity, and
- research to identify which (managerial) interventions are appropriate and how to apply these interventions in daily healthcare practice within specified contexts.

This was an initial qualitative study in which hypothesis testing was neither appropriate nor possible. However, it may be possible to utilise the findings to develop research into the associations of the conceptual framework's categories and its concepts. The scope of the applicability of the conceptual framework would be further clarified by research into:

- how the conceptual framework can be cascaded within other diabetes specialist nurse prescriber teams, or other nursing teams working under similar conditions,
- how the conceptual framework can be cascaded in what remains in many instances a highly hierarchal clinical environment,
- how the conceptual framework can be modified/ translated for cascade within other mono-disciplinary / independent nursing subjects where nurses are not required to collaborate with other professionals, and
- how the conceptual framework can be modified/ translated for cascade across other specialised nurse prescriber groups.

7.5.2 Recommendations for policy makers and management

Evidence based practice facilitators and leaders need to be aware of the finding that competency does not automatically lead to enhanced or changed performance and that for role taking, skills and competence are fundamental, but are impacted by the influence of social interactions arising from collaboration with other healthcare professionals. Supporting and enhancing the conditions for good and effective professional interactions is key to the implementation of evidence based practice. However, for this to occur

- there needs to be processes being used that aid the development of a positive sense of self, and self-perception which recognises the importance of their role.

In the last three years the Ministry of Health, Wellbeing and Sport recognised their 2020 target for national multi-professional evidence based practice was not going to be reached and sought for ways to need to provide high quality essential care, directing the National Health Care Institute to identify incidents of ineffective and unnecessary care. This study led to the discovery that, at the very least, given the context of nurse prescribing, investing in good interdisciplinary relationships (between nurse prescriber and physician) benefits the quality of care, with nurse prescribers more likely to take their role as reflective evidence based practice professional, and equally importantly take on the role of mediator to protect and improve patients' quality of care, and safety.

There needs to be:

- a work environment in which interdisciplinary professional relationships can develop into true relationships of trust through which professional identity can reach full maturity and professional input is heard,
- strengthening of the multi-disciplinary team and organizational culture changes to facilitate the development of equal professional relationships between healthcare professionals, especially between nurses and doctors, and
- further research to review and substantiate the finding that professional identity is a substantial factor for Reflective Evidence Based Professional role taking, as a strong professional identity is needed for nurses to take on the role of reflective evidence based professional practice.

For management the study identified factors that either can positively or negatively impact on the development and practice of nurse prescribers. The data clearly revealed how important the support of the managers was as the new and extended role was implemented for the first time. Some of the factors are directly related to nursing, but others link to working with physicians and to the organisation as a whole.

There needs to be:

- the implementation of a programme that supports Professional Identity building to enable the nurses to learn how to take up the role of Reflective Evidence Based Practice Professional,
- the development of detailed professional institutional directives delineating the roles and responsibilities that are part of the extended role,
- training programmes developed for not only nurses, but also physicians (and other healthcare professionals) to enable them to develop the strategies to work in full collaboration and partnership using the new nursing legislation and changed roles,
- the development of an organisation wide culture to support the delivery of high-quality care and professional growth, and
- an increased focus on the use of evidence based practice as part of the social interactions between nurses and other health care professionals.

7.5.3 Recommendations for evidence based practice educators

The systematic review by (Ahmadi et al., 2015) revealed that there was no convincing evidence for the effectiveness of evidence based medicine education in supporting the ability to transfer theory into clinical practice. Some evidence based medicine training was found to have the potential to slightly improve knowledge, attitudes and skills in undergraduate medical students, but this does not correlate with positive changes in practice. The outcomes of short training or teaching programmes (seminars, workshops and short courses) have been shown to be inconclusive, showing no or positive effects on behaviour or appraisal skills. Although it has to be noted that their research showed high risk of bias. E-learning was found to be as effective as traditional teaching sessions but, overall searches of the literature revealed that studies of evidence based medicine teaching generally is weak.

For this study providing it was a precondition that the participants be provided with evidence based practice education, for them to be able to develop the knowledge and competence to become comfortable in preparing for dialogue with other healthcare professionals. For me, as researcher/facilitator it also provided a means for establishing a trust based relationship with the research participants, an essential for qualitative research. Although the study progressed well, there were lessons learned and these have been presented as recommendations for evidence based practice educators. This approach was chosen because there is little evidence of nurse educators developing programmes to enable nurses to meet the government directives regarding evidence based practice. The study illustrates that preparing for the implementation of evidence based practice is a long educational journey with skills in using

evidence based practice difficult to learn and implement. Therefore, a stand-alone course is not likely to help nurses learn to apply evidence based practice skills in practice.

Educators need to accept there needs to be:

- the inclusion of scaffolding of professional identity in nurse education curricula and in CPD programmes to support sustained change,
- the development of links with practice as educators need to establish a tutorial relationship with students, to help them to succeed (trust that they can do it) in their learning as this can enhance reflective evidence based practice role taking,
- recognition that to act as a facilitator, education needs to fit within the participants' context, as familiarity with their domain and acceptance enhances the learning process, to "make it real",
- a focus on the scholarly activities (journal club facilitation etc.), and on paying attention to scaffolding professional identity, and
- a move towards interdisciplinary evidence based practice (clinical decision making) to support a high-quality level of social interaction between nurses and physicians, patients, and managers. This will give nurses the opportunity gain confidence and prepare them to be an equal discussion partner in academic and clinical settings.

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Appendices

Appendix 1a: Participant Information (Dutch)

Informatieformulier voor deelnemers van onderzoek

Datum:

Titel van het onderzoek:

"Development of a conceptual framework/toolkit for the implementation of evidence based practice by nurse prescribers' specialist care settings in The Netherlands."

(Ontwikkeling van een conceptueel kader voor de implementatie van evidence-based practice door Nederlandse verpleegkundigen met voorschrijfbevoegdheid.)

Locatie: Ethische Commissie Ref:

Naam hoofdonderzoeker: Telefoon:

Introductie

Graag wil ik u vragen deel te nemen aan de bovengenoemde studie. Deze studie is een onderzoek naar de ervaringen van verpleegkundigen die wettelijk medicijnen mogen voorschrijven en focust op de wijze waarop deze verpleegkundigen vakbekwaam blijven. U behoort tot deze groep. Voordat u echter besluit deel te nemen is het noodzakelijk dat ik u voorzie van enige informatie over het onderzoek, zodat u de keuze tot deelname weloverwogen kunt maken.

Wie voert het onderzoek uit?

Het onderzoek wordt uitgevoerd door [naam onderzoeker] in het kader van een promotietraject. Hij wordt daarbij ondersteund door drie promotoren. Twee professoren die werkzaam zijn aan de Birmingham City University en een Lector verbonden aan Fontys Hogescholen. Verder zijn bij het onderzoek personen betrokken die geluidsopnames op schrift uitwerken.

Wat is het doel van het onderzoek?

Met dit onderzoek wil de onderzoeker komen tot een conceptueel kader voor evidence-based practice implementatie in Nederland voor verpleegkundigen met voorschrijfbevoegdheid. Er wordt geëxploreerd welke factoren dit proces beïnvloeden en welke rol de verpleegkundige daarin zelf heeft. Met de resultaten van het onderzoek wil de onderzoeker beleids- en praktische aanbevelingen doen voor een effectievere evidence-based practice implementatie.

Wie betaalt dit onderzoek?

De kosten voor het onderzoek worden gedragen door Fontys Hogeschool Verpleegkunde, waar de onderzoeker een dienstverband heeft.

Waarom ben ik benaderd voor deelname?

U bent voor deelname aan dit onderzoek benaderd omdat de onderzoeker denkt dat u over informatie beschikt die waardevol is voor het doorgronden van het proces van evidence-based practice implementatie van verpleegkundigen met voorschrijfbevoegdheid. Daarvoor is het niet noodzakelijk dat u zelf een evidence-based practice methode toepast.

Ben ik verplicht deel te nemen?

Deelname aan dit onderzoek is geheel vrijwillig, en u kunt dus zonder opgave van reden afzien van deelname.

Wat zijn mijn rechten als ik van gedachte verander en niet meer wil deelnemen aan het onderzoek?

U kunt uw vrijwillige deelname aan het onderzoek opzeggen tot aan het moment van data-analyse. Na het interview zal de geluidsopname worden omgezet in tekst. Deze tekst zal, indien u dat wenst aan u worden verstrekt. Nadat de geluidsopname is omgezet in tekst wordt deze als data toegevoegd aan ander, reeds verzamelde, data. Met ieder interview bouwt de onderzoeker voort op de data die al beschikbaar was. Vanaf dit punt is het daarom niet mogelijk uw data te verwijderen.

Alle data worden voor de analyse geanonimiseerd en de analyse gebeurt op groepsniveau waardoor gegevens niet te herleiden zijn naar een individu.

Wat gebeurt er als ik besluit deel te nemen aan het onderzoek en wat betekent dat dan?

Als u instemt deel te nemen aan het onderzoek zal de onderzoeker u benaderen voor een interview van ongeveer 1-1,5 uur op een plaats, dag en tijdstip dat u schikt. De locatie van het interview kan uw werkplek zijn, uw privéadres, of aan de Fontys Hogeschool [adres]. Het ligt in de verwachting dat het onderzoek wordt afgerond in 2017. Als u hebt deelgenomen aan het onderzoek kunt u een kopie van de dissertatie te ontvangen. U mag zelf kiezen of u daar gebruik van wil maken. Het interview bestaat uit een aantal open vragen. De vragen zullen erop gericht zijn informatie te verzamelen over uw ervaringen met het voorschrijven van medicatie, behandel alternatieven, uw patiëntenpopulatie, en uw opleiding. Afhankelijk van uw antwoorden zal de onderzoeker verder doorvragen op voor het onderzoek relevante thema's.

Hoe zal mijn informatie vertrouwelijk gehouden worden? Bestaat er een kans dat ik herkend word?

Ter bescherming van uw identiteit zullen uw naam en werklocatie geanonimiseerd worden door een code of pseudoniem. Dit gebeurt voor alle deelnemers aan het onderzoek. De onderzoeker zal uw deelname aan het onderzoek vertrouwelijk houden. Als u over uw deelname aan het onderzoek spreekt met anderen, bijvoorbeeld collegae die ook deelnemen aan het onderzoek, is er een kans dat zij citaten die worden opgenomen in de publicaties verbinden met uw persoon, ook al zijn die citaten geanonimiseerd.

Wat zijn voor mij de mogelijke voordelen en risico's van het onderzoek?

Deelname aan dit onderzoek kent geen bijzondere voordelen. Wat als voordeel kan gezien worden is dat het interview u kan helpen te reflecteren op uw dagelijkse praktijk als het gaat om het voorschrijven van medicijnen. Het onderzoek levert informatie over voorschrijfgedrag van verpleegkundigen en is derhalve bruikbaar voor uw dagelijkse werk als verpleegkundige. Er zijn voor u geen voorzienbare risico's of ongemakken verbonden aan deelname aan dit onderzoek.

Wat gaat er gebeuren met de resultaten van het onderzoek en wat gebeurt er na het onderzoek?

Na het onderzoek zullen alle persoonlijke data vijf jaar geanonimiseerd bewaard worden door de hoofdonderzoeker. Alle papierendragers met persoonlijke data inclusief de informed consentformulieren zullen eveneens door de hoofdonderzoeker 5 jaar bewaard worden. De resultaten van het onderzoek zullen worden beschreven in een dissertatie en in wetenschappelijke artikelen. Daarbij kunnen geanonimiseerde citaten worden gebruikt ter onderbouwing van de bevindingen.

Wat als ik klachten heb?

Bij klachten in verband met de uitvoering van het onderzoek kunt u zich wenden tot:

[Nederlandse supervisor]

[Adres]

[Telefoon]

Wat als u meer informatie over aspecten van het onderzoek wenst?

Voor meer informatie over aspecten van het onderzoek kunt u zich wenden tot de hoofdonderzoeker:

[Onderzoeker]

[Email]

[Telefoon]

U wordt gevraagd een Informed Consent formulier te onderteken.

Het ondertekenen van een Informed Consent formulier is bedoeld ter verzekering dat de onderzoeker daadwerkelijk heeft voldaan aan diens verplichtingen. De onderzoeker dient namelijk potentiële respondenten, zoals u, te voorzien van informatie op basis waarvan hij/zij weloverwogen kan beslissen tot deelname aan het onderzoek. Door het formulier te ondertekenen geeft u te kennen dat de onderzoeker, naar uw mening, deze verplichtingen in voldoende mate heeft gerealiseerd.

Wie zal het onderzoek monitoren/begeleiden?

De promotoren van dit promotieonderzoek zijn:

- [Naam Promotor] [Universiteit] [faculteit]

Dank voor het lezen van deze informatie.

Appendix 1b: Informed Consent Form (Dutch)

Informed Consent Formulier

Titel van het onderzoek:

"Development of a conceptual framework/toolkit for the implementation of evidence based practice by nurse prescribers' specialist care settings in The Netherlands."

(Ontwikkeling van een conceptueel kader voor de implementatie van evidence-based practice door Nederlandse verpleegkundigen met voorschrijfbevoegdheid.)

Naam van de onderzoeker:
Deelnemer-identificatiecode:

	A.u.b. initialen
Ik bevestig dat ik het informatieformulier voor het hierboven genoemde onderzoek (gedateerd op: …; versie: …) heb gelezen en begrepen. Ik ben in de gelegenheid gesteld de informatie te laten bezinken, hierover vragen te stellen die vervolgens naar tevredenheid zijn antwoord.	
Ik begrijp dat mijn deelname vrijwillig is en dat ik de vrijheid heb mij op ieder moment (voorafgaande aan de data-analyse), zonder opgave van reden, terug te trekken van het onderzoek.	
Ik begrijp dat belangrijke geanonimiseerde gedeelten van de door mij, tijdens het onderzoek, verstrekte informatie/gegevens, gezien kan worden door individuen (begeleiders en betrokken onderzoekers) van de Birmingham City University en Fontys Hogeschool Verpleegkunde. Ik geef aan deze personen toestemming de data in te zien.	
Ik begrijp dat bij een groepsinterview, zoals een focusgroep, een tweede onderzoeker ter observatie aanwezig kan zijn. Ik geef aan deze persoon toestemming voor aanwezigheid en het maken van aantekening.	
Ik ga akkoord met het maken van een geluidsopname van mijn individuele en groepsinterview(s), mits dit iedere keer voorafgaande aan het interview kenbaar gemaakt wordt.	
Ik ga akkoord met het maken van een geanonimiseerd transcript van de geluidopname door een onderzoeksassistent.	
Ik ga akkoord met het publiceren van delen van mijn geanonimiseerde data en sommige citaten, als onderdeel van het proefschrift van de onderzoeker, eventuele presentaties op conferenties, en toekomstige publicaties in tijdschriften.	
Ik begrijp dat alle informatie vertrouwelijk is tenzij dit risico op schade kan geven voor personen, zoals beschreven in de beroepscode van Verpleegkundigen en Verzorgenden.	
Ik ga akkoord deel te nemen aan het hier boven genoemde onderzoek.	
De onderzoeker mag mij 's avonds* benaderen via Telefoon: of per e-mail:	

Indien er geen paraaf is geplaatst bij een of meerdere stelling zal de onderzoek contact met u opnemen.

* doorhalen wat NIET van toepassing is

Naam deelnemer/respondent: Datum: Handtekening:

Naam Informed Consent nemer: [naam onderzoeker] Datum: Handtekening:

Ik wil graag een informerend gesprek met de onderzoeker alvorens ik een besluit over deelname neem.		
Ik wil het transcript van het interview dat bij mij is afgenomen ontvangen voor dat verdere analyse plaatsvindt.		
Ik wil graag een kopie van de dissertatie ontvangen.		

Naam deelnemer/respondent: Datum: Handtekening:

Naam Informed Consent nemer: [naam onderzoeker] Datum: Handtekening:

Appendix 2a: Participant Information Form (English)

Participant Information Form (BCU)

Date:

Title of the study:

"Development of a conceptual framework/toolkit for the implementation of evidence based practice by nurse prescribers' specialist care settings in The Netherlands."

(Development of a conceptual framework for the implementation of evidence based practice by Dutch nurses with prescribing authority.)

Location: Ethics Committee reference:

Name of principal investigator: Telephone:

Introduction

I would like to ask you to participate in the above study. This study is an investigation into the experiences of nurses who are legally allowed to prescribe medication and focuses on the way in which these nurses gain competence. You belong to this group. However, before you decide to participate, it is necessary for you to have information about the study so that you can make an informed choice about whether to participate.

Who is carrying out the research?

The research is being conducted by [name researcher] in the context of a PhD project. He has three supervisors. Two professors working at Birmingham City University and a Lecturer at Fontys University of Applied Sciences. In addition, the research involve a transcriber for the audiotapes.

What is the purpose of the study?

The aim of this research is to develop a conceptual framework for evidence based practice implementation in the Netherlands for nurses with authorization to prescribe. It will explore which factors influence this process and what role the nurse has in this process. The results of the research will be used to make recommendations for policy and practical recommendations for a more effective evidence based practice implementation.

Who pays for this research?

The costs for the research are covered by Fontys University of Applied Sciences, where the researcher has an employment contract. [No separate grant was awarded and there is no payment for taking part.]

Why have I been approached to participate?

You have been approached to participate in this study because the researcher believes you have information that is valuable in understanding the process of evidence based practice implementation of prescribing nurses.

Do I have to take part?

Participation in this study is completely voluntary, so you can opt out without giving any reason [at any time without prejudice]

What if you change your mind and want to withdraw from the study?

You can cancel your voluntary participation in the study at any time. After the interview, the audio recording will be converted into text. This text will be sent to you if you wish. After the recording has been transcribed, it will be added to other data already collected. With each interview, the researcher builds on the data that was already available. All data is anonymised for the analysis and the analysis is done at group level, so that data cannot be traced back to an individual.

What happens if I decide to participate in the study and what does that mean?

If you agree to participate in the study, the researcher will contact you for an interview of approximately 1-1.5 hours at a place, day and time that suits you. The location of the interview can be your workplace, your private address, or at Fontys University [address]. It is expected that the study will be completed in 2017. If you have participated in the study, you will receive a copy of the thesis. The interview consists of a number of open questions. The questions will aim to collect information about your experiences with prescribing medication, treatment alternatives, your patient population, and your education. Depending on your answers, the researcher will ask further questions about topics relevant to the research.

How your information will be kept confidential? Is there a chance that I will be recognised?

To protect your identity, your name and work location will be anonymised by a code or pseudonym. This is done for all participants in the study. The researcher will keep your participation in the study confidential. If you discuss your participation in the study with others, for example colleagues who are also participating in the study, there is a chance that they might recognise things you have said in publications about the study, even though specific quotes have been made anonymous.

What are the possible benefits and risks of the study for me?

The interview can help you reflect on your daily practice when it comes to prescribing medication. The study provides information about the prescribing behaviour of nurses and is therefore useful for your daily work as a nurse. There are no foreseeable risks or inconveniences expected for you if you participate in this study.

What will happen to the results of the investigation and what will happen after the investigation?

After the research, all personal data will be kept anonymously for five years by the principal researcher. All paper carriers with personal data, including the informed consent forms, will also be kept by the principal investigator for 5 years. The results of the research will be described in a thesis and in scientific articles. Anonymised quotes can be used to substantiate the findings.

What if I have complaints?

If you have any complaints in connection with the execution of the investigation, you can contact:

[Dutch supervisor]

[Address]

[Telephone]

What if you want more information about aspects of the research?

For more information about aspects of the study, please contact the principal investigator: [Researcher]

[Email]

[Telephone]

For more information about aspects of the study, please contact the principal investigator:

Signing an Informed Consent form is intended to confirm that you have been given information about the study based on which you can make a well-considered decision to participate in the research. By signing the form, you indicate that you have read and understand the information and are willing to participate in the study.

Who will monitor/supervise the investigation?

The supervisors of this PhD research are:

- [Name Supervisor] [University] [faculty]

Thank you for reading this information.

Appendix 2b: Informed Consent Form (English)

Informed Consent Form

Title of the study:

"Development of a conceptual framework/toolkit for the implementation of evidence based practice by nurse prescribers' specialist care settings in The Netherlands."

(Development of a conceptual framework for the implementation of evidence based practice by Dutch nurses with prescribing authority.)

Name of the researcher:

Participant identification code: …

	Please Initial
I confirm that I have read and understood the information form for the above-mentioned study (dated: …; version: …). I was given the opportunity to let the information sink in, to ask questions about it, which were then answered satisfactorily.	
I understand that my participation is voluntary and that I have the freedom to withdraw from the study at any time (prior to the data analysis) without giving a reason.	
I understand that important anonymised parts of the information/data provided by me during the research can be seen by individuals (supervisors and involved researchers) from Birmingham City University and Fontys University of Nursing. I give permission to these persons to view the data.	
I understand that in a group interview, such as a focus group, a second researcher may be present for observation. I give this person permission to attend and make notes.	
I agree to audio recording of my individual and group interview(s), provided this is made known each time prior to the interview.	
I agree to an anonymised transcript of the audio recording by a research assistant.	
I agree that the researcher may utilise anonymised data in the final study report, conference presentations and peer reviewed journal articles.	
I understand that all information is confidential unless it could pose a risk of harm to individuals as described in the Professional Code of Nurses and Caregivers.	
I agree to participate in the research mentioned above.	
The researcher may approach me in the evening* via Phone: or by email:	

Name participant/respondent: Date: Signature:

Name Informed Consent taker: [name researcher] Date: Signature:

If no initials have been placed with one or more statements, the researcher will contact you.
*cross out what does NOT apply

I would like an informative conversation with the researcher before making a decision about participation.		
I would like to receive the transcript of the interview that was administered to me before further analysis takes place.		
I would like to receive a copy of the thesis.		

Name participant/respondent: Date: Signature:

Name Informed Consent taker: [name researcher] Date: Signature:

Appendix 3: Educational cycles: engagement and challenges

Introduction

This appendix presents the three learning phases the team of diabetes specialist nurse prescribers and vascular nurses went through. The process started with an initial educational cycle of the journal club to enhance basic evidence based practice skills. The main purpose of this cycle was addressing the confidence needed to interact with Pharmaceutical Sales Representatives. This was followed by a second educational cycle of the journal clubs focussing on understanding systematic reviews within the context of diabetes care and the application to practice of the evidence found. During these two phases, the journal clubs were facilitated by both the researcher and the institutional (TMTH's) information specialist. After that, the nurses felt confident enough to start a third cycle in which they took the lead to conduct the journal club meetings to provide for valid information underpinning a quality project. The phased process is presented in a chronologic order. Each phase represents a time frame of educational intervention and provided information to the researcher from which a conceptual model of nurse prescribers' evidence based practice professional role was developed.

Year 2013: Initiating the nurse prescribers' journal club

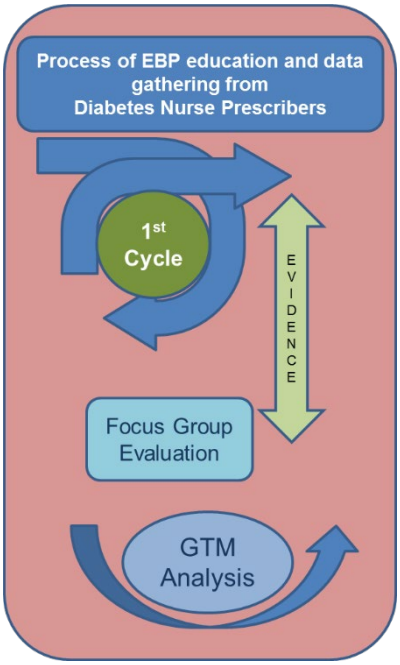
From the start of 2011 to the end of 2014, I worked at the TMTH as a seconded project manager of Fontys and was responsible for exploring how evidence based practice implementation could be started within the context of that specific hospital. This project was one of five subprojects executed by the TMTH in partnership with Fontys University of Applied Sciences School of People and Health Studies. A support worker was assigned by TMTH through which the manager of the TMTH's Knowledge Centre was appointed (Medical Information Specialist). The results of the subproject led to the conclusion that the TMTH has difficulties with supporting evidence based practice initiation and implementation for nurses although the nurses and managers were keen to do so. The major disenabling factors were that the TMTH organization at the time found itself in a financially constrained situation, and were unable to employ nurses with the higher level qualifications needed to implement EBP.

However, at the end of 2013 (October), an institutional team of Diabetes Nurses and Vascular Nurses approached us for evidence based practice education. The team member responsible, who was our liaison officer for the whole study, made contact for the planning of the teams' continuing education activities.

The nurses had become aware of their lack of knowledge in reading and understanding scientific research papers. Their awareness was raised by upcoming new legislation (February 2014) in which specialised diabetes, pulmonary and oncology nurses gained supplementary

prescribing rights. As a result, PSR began to contact the nurses and tried to convince them to prescribe newly developed products, sending research articles to underpin their claims. The nurses concerned found these difficult to interpret and were unable to decide if the research was high quality or appropriate for their patients. Prior to this, they had focused on using accepted protocols, and they found the changes difficult to manage. They realised that without additional professional development they would not be able to make appropriate, informed decisions and wanted to develop the competencies to discuss the evidence about both newly developed registered and over-the-counter (OTC) pharmaceutical products for patients with diabetes. Although supplementary prescriber rights came with national guidelines and protocols, these did not help with the interpretation of scientific materials. Additionally, the extra studies previously undertaken by these nurses had not focused strongly enough on scientific research for them to be confident in reading and using research articles.

Year 2014: CoP's first cycle of learning, the initial EBP programme



In the first (orientation) meeting (2013-11-04) with the diabetes nurse prescribers we discussed how to meet their learning needs and objectives. The group consisted of eight diabetes nurses and two vascular nurses, who happened to be from an internal medicine nursing team. For the nurses it was decided (by their team leader) that they could use their allocated annual continuing education time as they pleased. Therefore, the nurses chose to use this time to meet the requirements of the evidence based practice learning programme, which was added to their personal development plan. Practically this meant that the nurses had allocated time for four to five meetings each year. For both my co-worker and I it was clear that we had to facilitate the nurses' journey without additional hours, as no other time was available. The only condition we raised was that the division manager and the unit manager would grant time for the nurses to prepare for and be present at the meetings. This was documented in a course programme (document 43). Continuing Professional Development Certification were requested by the hospital's Education Department and granted by the Dutch Association for Nursing (V&VN). In doing so, a unique cooperation alliance had been established consisting of a practice representative of the nursing team, an educational representative of the TMTH Hospital Academy and a Fontys faculty member cooperating without financial constraints was granted by both management of Fontys and the management of the TMTH.

In close consultation with the team of nurses we decided to start with small group learning sessions using learning needs supporting working methods, establishing a diabetes oriented nurse prescribing journal club. This choice was made because at the time it seemed obvious that critically appraising literature and discussing results with co-workers was essential for implementing evidence based nursing practice. Alongside other strategies to enhance knowledge translation and evidence based practice the principles of a journal club have been shown to be positive, impacting on nurses' ability to read research articles, stimulating constructive collaboration among peers, and providing an incentive to read scientific articles about nursing practice (Gardner et al., 2016; Nesbitt, 2013).

The community of practice approach was embraced because it was known to be useful in evidence based practice (Armoogum and Buchgeister, 2010; McCreesh et al., 2016; Price and Felix, 2008). Most of all, the nurses voluntarily decided to start with an educational journey to gain knowledge of how to apply evidence based practice as a professional community (unconsciously) without being familiar with the concept of community of practice. Therefore, they were intrinsically motivated the different discipline (vascular nursing) were welcomed as members of the community, because they were members of the same department and also handled medicine prescriptions, but worked within a different focus and therefore brought a different perspective to the community. Since the group consisted of only ten persons, small group learning was an obvious choice. Further, using the structure of a journal club as an educational learning tool enhances life-long learning (Pato et al., 2013) which fits well with community of practice concept (Newswander and Borrego, 2009) with respect to knowledge accumulation, problem solving and creativity, and collaboration and peer-learning. The journal club format can also accommodate the natural evolution of a community of practice by allowing other professionals to become involved, introducing their perspective on practices or overarching themes. However, the nurses decided not to invite other professionals to participate in the journal clubs until they were confident enough to be regarded as a skilled evidence based practice professional.

The journal club themes were chosen by nurses themselves, motivated by practice issues with the focus on diabetes, in agreement with the vascular nurses. The main topic, nurse prescribing, adds value to not only the nurse's professional development but also to the patients' health and safety, the physicians' practice, and the organization's efficiency. Meetings started mostly with general discussions gradually shifting to the objectives of the meeting, setting an atmosphere of mutual respect and openness to each other's learning needs/questions. The challenge was finding a pace for the meeting that enabled participants to learn and to keep the community activities alive. On several occasions the journal club was postponed or even cancelled due to practice constraints; the group-maintained commitment

and always rebooked the sessions. From a more practical perspective, the purpose of the journal club was not only to consider newly developed knowledge about how to care for and treat diabetes patients, but also to be a vehicle to gain more knowledge about research methodologies, both quantitative and qualitative design and analysis techniques, and thereby enable group members to learn how to appraise scientific articles. We therefore included qualitative research papers, as well as systematic reviews and randomised controlled trails, since an emphasis on nursing practice qualitative research papers is particularly useful in answering the 'how to' question.

Initial Programme

The initial programme was aimed at preparing the nurses (ten persons) for a research based dialogue about the usefulness and efficacy of pharmaceutical products.

The nurses formulated the following objectives at that time:

- to understand what EBP is and how to apply it to enhance and improve quality of care,
- to focus on critical thinking with respect to EBP particularly with regard to pharmaceutical interventions for diabetic patients,
- to learn to recognise starting points for the application of EBP in daily practice
- to identify the role of nurse prescribers in inter-professional work relationships with physicians/internists,
- to us evidence to advise patients as part of the shared decision-making process so that they can make an informed decision (for example with respect to continuing or stopping certain treatments), and
- to reflect on their professional practice.

Therefore, in close cooperation with the nurses, four workshops were planned from April to September 2014 and a course curriculum was written in cooperation with the head of the TMTH knowledge and information centre (Medical Information Specialist). This curriculum was later member checked by the participants. They confirmed that the curriculum was in line with their learning goals. For every workshop, we scheduled three hours. The estimated self-study time was three hours per workshop, mainly for reading. However, when executing this programme it appeared that new learning needs gained prominence and so we changed the programme of the last two workshops.

The nurses challenged themselves to set up a meeting with the PSR who promoted a non-prescription product (2QR-complex), claiming it could be useful in diabetic foot care to prevent infections. The nurses contacted the pharmaceutical representative, scheduled a meeting and asked for the scientific evidence proving that the 2QR product was effective. Prior to that meeting, we planned a journal club to appraise and discuss the articles the pharmaceutical

representative had supplied. This meeting not only resulted in knowledge about the validity and reliability of the evidence provide, but also provided a discussion strategy.

Introductory workshop (7th & 8th April 2014): Teaching Skills - the clinical question and searching for best evidence

We started with an introductory workshop to develop literature searching and selection skills, also illustrating the evidence based practice process. The group were split into two subgroups (four and six attenders), each subgroup and attending the workshop on different days. The workshop aimed to address how to frame a clinical search question using PICOT, develop a set of search terms, translate Dutch search terms into English search terms, and develop a useful evidence based systematic search strategy to search CINAHL and PubMed efficiently. It also addressed how to scan and quickly select those articles which could provide information/evidence to answer the clinical question.

The evidence based practice process was explained and there was a demonstration on how to move from a clinical question to accessing relevant data using a clinical example from the diabetes care practice. A case study approach was utilised to formulate a clinical question and search terms were developed in interaction with the participants. A search exercise was completed after which the participants completed a hands-on literature search exercise in pairs. This demonstrated how the process of appraising an article is carried out and how different types of knowledge could be blended to answer the clinical question.

This workshop was evaluated with a 'Trash and Treasure' exercise. In general, the participants were enthusiastic about this workshop, and were keen to continue attendance. What the participants disliked were the numbers of new terms and their interpretations. Further, they wanted handouts of the presentation, and found it had taken a long time (three hours) to learn how to search for literature. Two participants would have liked more individual practice on a personal computer during the workshop. Finally, one would have liked to have search exercises given as homework as a way to continue to practise. They all reported appreciating how to learn to search and use the search engines (CINAHL/PubMED) and were much more confident about formulating a searchable question (PICOT) and the use of MeSH terms and search operators. Referring to the teaching approach, they appreciated that they were actively involved and being provided with clear stated practical instructions in an enthusiastic and easy to use manner.

We planned three additional Journal club sessions on 19th May, 24th June and 4th September. Two journal club sessions were selected by the nurses for appraising and discussing pharmaceutical randomised controlled trail studies. For each journal club I prepared a PowerPoint presentation based on a checklist to critically appraise a topic (RCT checklist from

the Dutch Cochrane Library, similar to CASP tool). For the journal clubs the nurses had to prepare themselves by reading texts about quality aspects of quantitative research and appraising the selected articles. During the journal clubs, the PowerPoint presentation was used to guide the appraisal process, challenging the nurses to answer the questions of the checklist first and then being provide with the answer, followed by a discussion about any different views. Socratic questioning was used to support active learning.

First journal club (19th May 2014): Critically appraise the evidence of a RCT study

This journal club was all about preparing the nurses to understand and appraise a pharmaceutical randomised controlled trial. The nurses had to read relevant chapters about appraising scientific articles (similar to CASP) about therapy, side effects and etiology from a Dutch evidence based practice book (Scholten et al., 2014, 57-80) and to watch the TED Talk of Ben Goldacre (2012). Further, they had to read the method section of the article chosen from the search result from the former workshop concerning the pharmacokinetic properties of insulin (Korsatko et al., 2014).

The journal club began with a short interactive lecture on experimental design and methodological issues influencing the quality of the outcome (effect modification, selection bias, information bias, confounding) and the application to practice (Korsatko et al., 2014). There followed a guided group discussion using the clinical question and PICOT from the former workshop, asking the participants to answer questions about the randomised controlled trail characteristics applied to that clinical question, and to think about the reasonable threats to validity and reliability, and finally to formulate an advice about how threats could be prevented. Further, the article appraisal was carried out using the appraisal tool created by Scholten et al. (2014) applied to the scientific paper of Korsatko et al. (2014) which describes the comparability of Ultra-Long Pharmacokinetic Properties of Insulin Degludec in Elderly and Younger Adults Subjects with Type 1 Diabetes Mellitus. After that, the Ted Talk of Ben Goldacre was discussed, and the journal club was evaluated.

Informal evaluation suggested the participants liked the workshop because it was a productive meeting. They were happy to see that some things were not as difficult as they thought previously. They were enthusiastic about having active discussions. Some expressed informally having experienced trouble reading English articles; while some needed more help to understand methodological issues.

Second Journal club (4th September 2014)

Part 1: Journal club preparation for the meeting with pharmaceutical representatives

The meeting of 24th of June was cancelled due to clinical constraints and was re-planned for the 4th September. However, shortly after postponing this activity the programme for that date was changed. The change was related to the nurses' reasons for learning critical appraisal of evidence: not only to apply evidence based practice to improve patient care, but also to hold a dialogue and discussion of their stance with the PSR. Therefore, they invited a PSR to discuss the product he recommended. The PSR provided two published articles and we held a journal club to discuss the submitted literature immediately prior to that meeting. Because we informed the PSR that we would appraise the literature provided and would like to discuss the evidence during the meeting, he asked a fellow company researcher (Scientist and Clinical Study Coordinator) to assist him and to ensure that all questions would be answered.

In preparation for meeting with the PSR, the nurses had read the two articles about 2QR provided by the PSR. This evidence was from the gynaecology/obstetric domain because there was no evidence for 2QR being effectively used within the diabetes population. One article (Bojovic et al., 2012) was published in the European Obstetrics & Gynaecology (A journal claimed to be a peer review journal, but no clear references could be found on the internet). The other was a report of the 2QR-complex In Vivo studies (Goedbloed and Pasho, 2013). The nurses engaged with and were severely critical of the methodologies, identifying key issues with both articles.

Part 2: meeting with the pharmaceutical representatives

Immediately following the critical appraisal, the nurses met the PSRs, the Over-The-Counter Firms' Business Manager, and the company's Clinical Study Coordinator, a researcher, to discuss the literature they had provided. Methodological issues were discussed, and additional information requested regarding the effectiveness of the product as well as information about the benefits for diabetic patients.

Evaluation

The meeting with the PSR was initially evaluated conform the Claims, Concerns and Issues model (Fourth Generation Evaluation) (Guba and Lincoln, 1989) to capture the participants' opinions about the quality of the preparation for and the meeting with the PSR, for the purpose of making adjustments to future activities. The nurse and pharmaceutical company participants were asked to state what they thought to be the positive aspects of the preparation and the meeting, what they thought to be points of improvement and any reasonable question they could raise (research document 44: claims, concerns and issues evaluation). The pharmaceutical representatives acknowledged some of the limitations of the research

identified by the nurses. However, the PSR also recognised the different approach this group of nurses took compared to other groups and was surprised that the nurses wanted to discuss the evidence instead of listening to a sales presentation and only requesting answers to practical issues.

In the eyes of the PSR, it was an exceptional idea to educate nurses in appraising research articles and rapports, and he brought a researcher with him, to answer additional in-depth methodological and statistical questions. They had not previously had a meeting with nurses like this one; normally their strategy was to let the nurses 'feel' their products (2QR ointments). However, for this particular meeting they had to prepare themselves differently. Now they had to focus more on the rationale behind the evidence. They claimed that for over-the-counter products, testing is allowed to be less rigorous than for registered medicine/drugs.

One month later (October 2014) we organised a focus group to evaluate the past activities and gain a perspective on how the nurse participants perceived what efforts they had made and to what extent they had met their learning needs. Almost all participants were present as was the head of the department. The educational programme was discussed and evaluated. This meeting was audiotaped, transcribed and analysed and member checked. Analysis was executed by hand looking for cues to answer the leading questions focussing not only on the quality of the learning activities, but also on the nurses' learning achievement with regard to their evidence based practice skills and the desire to interact with a PSR in a professional way.

Third journal club (4th December 2014)

Due to the 24th June's workshop being cancelled, an additional journal club was planned on 4th December. Eight participants attended this meeting. The nurses were provided with two articles and choose one to appraise. One article about prevalence and risk factors of lipohypertrophy in insulin-injecting patients with diabetes (Blanco et al., 2013) and another about incidence of lipohypertrophy in diabetic patients, including a study of influencing factors (Vardar and Kizilci, 2007). The second one was chosen to appraise. A PowerPoint presentation was made, using the Dutch Cochrane checklist developed by Scholten et al. (2014) (similar to CASP tools), to guide the appraisal activity. First, the methodology model of the RCT was explained to demonstrate that the method used in the study in question was a case-control design. Further, the slides contained only the appraisal questions and not the answers. Some statistical slides were added to the presentation to demonstrate how statistics related to risk were used in the article and what conclusions the statistical information would allow.

This meeting was informally evaluated by asking for verbal feedback on positive and negative aspects of the journal club. There were no specific issues raised. The participants were satisfied with respect to the process and achievements of this meeting. The course was

finished with a summarizing article in the hospital's Personnel magazine to celebrate the completion of the evidence based practice course (MMC, 2015).

Instead of attending a standard evidence based practice course these nurses had chosen for learning together as a team and looking for a facilitator. Unconsciously they chose for a practice based learning approach without being aware of the concept of 'community of practice'. Starting as a team, all participants joined the community (legitimate peripheral participation) including the two associated vascular nurses. At the time, one vascular nurse was in training for the Master in Advanced Nursing Practice programme and therefore would gain prescriber rights by graduation, and one remained a regular vascular nurse, without legal prescriber rights.

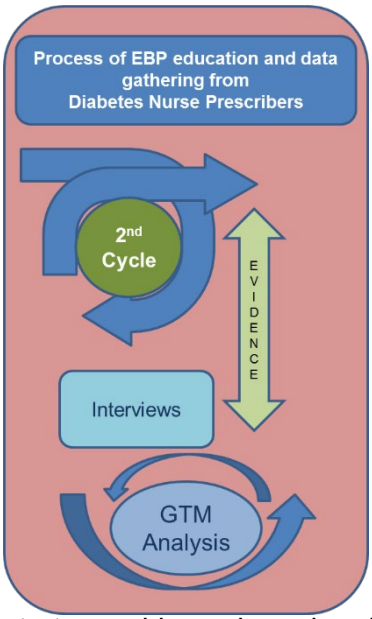
In fact, to be a specialised diabetes nurse, in essence, is to work independently. Starting in the morning taking their place in an office and having consultations with patients throughout the whole day, they do not have many opportunities to see each other's work. They do however, through agreement with management, have the means (time) to organise educational activities to stay up to date and to maintain their competence for prescribing practice. With prescriber rights had come the additional professional expectations and responsibilities and the need to be prepared for academic discussion and debates regarding medication

Conclusion first learning cycle

This group of nurses were able to close their evidence based practice knowledge gap by using domain-based journal clubs. Being supported by their management with continuing professional development time and having the opportunity to freely determine the content of the educational activities, they set their goal with respect to evidence based prescribing and succeeded in having a professional meeting with PSR. Facilitation of the journal clubs by a well-prepared medical information specialist and an evidence based practice expert was essential to them, as was linking theory with practice and the positive learning climate. This journey raised their professional self-esteem and their confidence to learn more about how to apply evidence-base practice.

These meetings took place when the research process was just beginning. In hindsight, I know that the participants were revealing an important concept (being an equal collocutor) of the still emerging theory. This concept and its revelation were clarified as the study progressed.

Year 2015-2016: CoP's second cycle of learning



A new set of six journal clubs were held from January 2015 to February 2016. In the first journal club, we appraised a qualitative study followed by three journal clubs concerning systematic reviews about diabetes care. For the fifth journal club a set of articles were evenly distributed across the nurses (in groups of two) which they reviewed, presented and discussed to define guidelines for their own practice. We completed this cycle with a journal club meeting dedicated to a discussing several papers considering core topics in diabetes care (2016). At that time, some participants asked for a training in basic statistics, which we supported two months later with an additional training in April. Following that, the participants decided they wanted to start an evidence based project on the topic of self-management, which would begin with the next educational cycle in the autumn of 2016.

Setting the tone for the second cycle

After appraising strictly (pharmaceutical) quantitative studies I suggested focussing for at least one session on a qualitative article, because qualitative studies can be very beneficial for nurses in answering the "how to" questions. Further, since for evidence based practice it is not possible to rely on a single paper, examining systematic reviews was also suggested.

First journal club (22nd January 2015): grounded theory

For this journal club eight nurses appraised a grounded theory article about the Lived Experience of Type 2 Diabetes in Adolescence (Protudjer et al., 2014). This article was provided by me and was intended to enable them to learn how to appraise a qualitative study and to simultaneously learn what it takes to conduct a grounded theory study. This was after all the method of this PhD study, which they had agreed to participate in. As with the previous journal club meetings, I prepared a PowerPoint presentation as structure for the journal club meeting, and a Dutch appraisal tool for qualitative research, from the Central Supporting Body for the Inter-Collegiate Review (CBO), was used as a framework (Centraal BegeleidingsOrgaan, 2013).

Second journal club (26th March 2015): Meta-analysis

Six participants were present during this journal club. We discussed a systematic review (with meta-analysis) about the reduced risk of hypoglycaemia with insulin Degludec versus Insulin Glargine in patients with type 2 diabetes requiring high doses of basal insulin (Rodbard et al.,

2014). A PowerPoint presentation was made following the Dutch Cochrane checklist for systematic review for intervention studies.

Third journal club (23rd April 2015): Systematic review

In this journal club, we appraised again a systematic review. Four participants were present. This time we discussed an article about the effect of a combination of Glucagon-like peptide-1 receptor agonist and basal insulin on glycaemic control, hypoglycaemia and weight gain in patients with type 2 diabetes (Eng et al., 2014). Participants found it useful as it addressed gaps in their knowledge.

Fourth journal club (28 May 2015): Systematic review

Only four participants could be present at this meeting. We discussed a systematic review about exercise for type 2 Diabetes Mellitus (Thomas et al., 2006) in this journal club. Once again an appraisal tool was embedded in a PowerPoint presentation to guide the discussion. We focused mainly on the statistical presentation of the results and implications for practice.

Fifth journal club (23rd June 2015): Critical appraisal of a topic

Six participants were present at this meeting. The participants appraised multiple articles in groups of two participants. Five articles (Becker et al., 2015; Bolli et al., 2015; Riddle et al., 2014; Shiramoto et al., 2015; Yki-Jarvinen et al., 2014) were chosen by the participants, all about Glargine 300 Units/ml and its effect on glycaemic control. The participants had to present their appraisal results to each other, and then discuss the implications for daily practice. The discussion was moderated by the facilitator structuring the discussion and using Socratic questioning as a teaching tool.

Sixth journal club (4th February 2016): Critical appraisal of a topic

The participants (9 present) prepared for presenting an article in subgroups of two persons. The article had to be related to the topic of 'Depression and the Diabetic Patient'. This topic was introduced by participants who had recently attended a symposium on diabetes care. The literature was suggested and provided by an internal medicine physician from within their department. The participants did not have a specific clinical question in mind, but they thought that they should be aware of evidence regarding this topic and the implications for nursing practice. Further, they chose to find out about depression and diabetes by each attempting to discuss the issue of depression with a patient who suffers from it.

The following articles were presented:

- Antidepressant Pharmacotherapy (Anderson et al., 2010),
- Depressive Symptom Clusters (Nefs et al., 2015),
- The Pathways Study (Katon et al., 2004),

- Guideline Signalling and monitoring of depressive symptoms in people with diabetes (Nederlandse Diabetes Federatie, 2013), and
- Working Together to Promote Diabetes Control (Jones et al., 2016).

After the presentations, the participants discussed the patient's spoken experiences with depression and their own experiences with diabetic patients suffering from depression. The available information was blended with the information from the literature to discuss implications for practice.

Evaluation of the second cycle of learning

For the first journal club meeting, the participants had only had three days' time in which to assess the article. For some nurses this period was too short for good preparation especially because it was written in English. Additionally, GTM was very new for them, so this journal club was more difficult. It was therefore adapted to become an oral presentation. Participants appreciated the change from a journal club to a lecture to enable them to add to their knowledge of grounded theory methods. The downside of this was that the interaction during the meeting was limited. However, the participants liked the meeting and they felt that qualitative articles contributed to the quality of nursing care.

Regarding the evaluations of the meetings, participants were not very specific about their opinions about the quality of the meetings. On average, they liked the way the journal clubs took place. Participants were satisfied with the way they were run, expressing their view that previously they had found appraising a systematic review very difficult and they were happy with the support from my co-worker and me. Some of them found the complexity of the meta-analysis study difficult, but with time and support, they could follow how it worked. It became clear that this group of nurses had struggled with the very same barriers as described so often in the literature.

Additional lecture (18th April 2016): Reading basic statistics

In this meeting the participants, as promised, were provide with a basic statistics lesson. This lesson was based on a small quantitative survey among teachers and students concerning university catering and demonstrated the process of gathering and analysing quantitative data. To gain an idea of what it takes to conduct quantitative research, the participants had to accomplish exercises during the presentation, such as filling in a data matrix and reading statistical tables and graphs. The lesson contained information about formulating a bivariate hypothesis, planning data collection, operationalisation of variables, building a data matrix, conducting a frequency analysis, interpretation of central tendency, and simple hypothesis

testing (univariate and bivariate analysis). The participants gained an understanding of what it takes to conduct a quantitative analysis and why using different statistical test sometimes is needed. They learned also, how to read test results: the aim was not to teach them to perform statistical analyses themselves, but enable them to use research evidence.

Evaluation lesson statistics: Seven participants were present. Although there was not much time to evaluate, I asked them for their thoughts on the lesson and whether it met expectations. The participants reported being very pleased with this lesson and especially the embedded exercises, reporting that the lesson was informative and that they once again had improved their understanding of how to read statistics. The most important message to them was that for understanding the presented statistics in articles, you do not have to be competent to perform the statistics yourself, as long as you know how to read and interpret the results (for example, interpreting the p-value).

After the lesson, we took 15 minutes to discuss what the next step could be in their evidence based practice journey. I suggested that the participants as a group (because there was sufficient individual knowledge and expertise within the group) were ready to take the next step forward, namely: to start a relevant evidence based practice project to develop practice, meaning that they could choose a quality of care issue and start the evidence based practice process with the intention to solve the problem. They initially suggested 'motivational interviewing' since this was a current topic within their hospital. However, eventually they decided to focus on self-management because this theme at the time was more relevant to their own practice. My co-worker and I offered them our support where needed.

On 21st April 2016 (three days after the statistics lecture) some participants wrote an email to the others suggesting that 'patients' self-management' could be a topic of interest to build on in order to start an evidence based practice project and probably could lead to a nursing research project. They asked the other participants (co-workers) per email who would like to participate in developing a clinical question and related PICOT in preparation for the next journal club meeting. A short draft project plan for implementing self-management support was written by the participants and sent to me on 11th July 2016. That project plan consisted of nine steps: orientation in subgroups on the subject of self-management, presenting that information in the next meeting, developing a research question, searching for literature based on PICOT acronym and appraising the gathered literature, discussing the results, writing an implementation plan, and arranging for management support for the team. They also included a dissemination plan for the project aimed at gaining support from the department nurses and for integrating the plan into the multi-year planning and continuous education programme.

The orientation-meeting project was scheduled for the 20th September 2016 to discuss the gathered preliminary information (propositional, professional, patient and local perspective). The first project meeting focussed on defining self-management and formulating a PICOT question. The participants prepared for this meeting by searching for initial information about 'patients' self-management' in subgroups. They focussed on information from:

- propositional knowledge (systematic reviews),
- patient associations,
- professional knowledge (professional associations), and
- local knowledge (guidelines, care pathways, institutional examples).

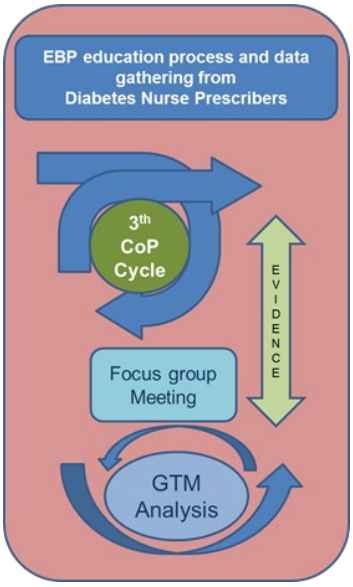
Although my co-worker (Medical Information Specialist) and I were present, we agreed to stay in the background and only participate when asked. Each group presented their findings. Although they had tried hard, it was evident that their research journey still had some way to go. The first group could not come up with a workable definition of patients' self-management and they could not reduce the search result to less than 541 hits. They needed help to develop a search strategy, with the participants responsible for the preliminary literature review concluding that working without a specific clinical scenario made it difficult to search for literature and narrow the findings down. They also admitted that the results partly came from previously conducted searches. Therefore, my co-worker (Medical Information Specialist) gave feedback on the search strategy with respect to the search result. The following search for patients' experiences was to some extent successful but the subgroup needed more time to try to analyse their articles. The third group had found a website about patients' self-management including a toolkit for self-management support. The fourth group came up with information gathered from the local advanced practice nurses. It was evident that for some participants, more work was needed on how to search the literature.

Evaluation of the first project meeting: Eight participants attended this meeting. Probably because they had to present their results, the turnout was higher than previous meetings. Despite the fact that they had visibly done their best, it was clear, that they still had to develop their evidence based practice skills and were in need of support and facilitation. In consequence, a special project meeting was scheduled for December 2016.

At the end of 2016, the nurses again asked us to continue facilitating the journal clubs, which we agreed, knowing they now were in a learning process for which they would not find any help in their organization. This became clear during an evidence based practice introduction course for the hospitals' nurse educators. This course revealed that the nurse educators, at the time, had limited understanding of evidence based practice and were unable to facilitate

the diabetes nurses with their evidence based practice implementation plans, therefore more work was needed.

Year 2017-2018: CoP's third cycle of learning



This third cycle of learning was meant to be aimed at translating gained knowledge and skill into practice, but participants still needed more support before doing this. Therefore, the participants decided to work towards an evidence based practice implementation project aimed at developing an effective counselling practice to enhance patients' self-management and thereby the effectiveness of diabetes care. This time, the topic of patients' self-management was embraced and discussed during several team meetings. They set out to continue this project in 2017. For that, they asked us to stay on the background and only contribute when asked to. Which we did.

To define what self-management means in diabetes care the liaison participant organised an orientation meeting (20th September 2016). Eight participants were present. In subgroups of two persons, they had to search for information about self-management. Each subgroup searched in a different source, respectively the scientific literature, patient association, professional association and the hospitals information centre. Despite the nurses remaining enthusiastic about their self-imposed quest, all planned meetings from December 2016 to November 2017 (7 March 2017; 1 June 2017; 3 October 2017) were cancelled due to staffing challenges and prioritization of regular clinical work activities and other management driven implementation projects. On 19th May 2017, I received a cc-email from the liaison participant in which the nurse's co-workers confirmed that the next meeting on 1st June had to be cancelled, but that the meetings on 3rd October and 7th December would continue. The meetings would not be concerned with the evidence based practice project, however, but would be used to appraise an article that came out of a search they had recently completed.

Because they didn't ask for support, I took the initiative (6th November 2017) to write the nurses an email, asking them to attend a focus group meeting in order to look back on the progress of their evidence based practice project. They agreed and the focus group meeting was scheduled for the 14th December 2017. Three of the nurses replied to my email and informed me of circumstances explaining their inability to commence the project. Their evidence based practice project had had to compete with the implementation of a new electronic patient file management system and other organizational changes. The only advanced practice nurse of the group was called to be project manager of a project to develop a new care pathway and

became involved with other implementation projects (positive health). Hence, they had had to postpone activities related to their own project about supporting patients' self-management.

Focus group meeting (14th December 2017)

Only four nurses attended the focus group meeting. We looked at the past and discussed how to continue journal clubs in the near future. The focus group meeting resulted in an agreement to continue the journal clubs in the first months of 2018 by scheduling three journal clubs (one focussing on reading statistics) and probably an additional one in preparation for a meeting with the physicians to discuss patient care policy. The first journal club focused on diabetes distress and depression. The liaison participant provided three articles. A systematic review (Chew et al., 2017), a quantitative (Lloyd et al., 2018) and a qualitative study (Fisher et al., 2015) with the purpose of getting an understanding of the phenomenon and the current state of this topic. She invited me to the journal club without raising the question of the need for facilitation.

The performance of the nurses during the second and start of the third learning cycle was discussed during this focus group meeting. The focus was not only on the nurse's experiences, but also on issues that could be picked up for an evidence based project. Attention was given to gaining influence on patient care policy, professionalisation, multidisciplinary consultation, and personalised care. It was also intended to give an impulse to their evidence based practice activities. The leading question was: What did the journal club add to your practice so far?

Prospect for the journal club

Those present expressed a desire to schedule four journal clubs for 2018 as preparation for meetings with physicians. It was also suggested to focus on statistics to be able to interpret presentations better. A potential topic, current for the nurses, was the use of the Depression Questionnaire for diabetes patients.

Follow up in 2018

From the liaison participant I received an email (cc to my co-worker) on 19th April 2018 in which she informed me about the upcoming journal club on the 1st June 2018. The chosen topic was diabetes distress and depression with the purpose of discussing the effectiveness of interventions for diabetes distress. To prepare for that meeting they provided three documents. A Cochrane Library systematic review about psychological interventions for diabetes-related distress (Chew et al., 2017), an etiological study about prevalence and management of depressive disorders related to diabetes (Lloyd et al., 2018) and an

assessment instrument development study about sources of diabetes distress (Fisher et al., 2015).

Two days before the journal club the liaison of the diabetes, nurses sent me another mail with an attached checklist to appraise the articles. It was an outdated checklist applicable to quantitative research offered to her by a TMTH Academy staff member. Therefore, I sent her up to date and method tailored checklists for the articles (a systematic review, a correlational study and a qualitative study) from the Dutch Cochrane Library. Because I only quickly scanned the abstracts, one article abstract had put me on the wrong foot, thinking it was a qualitative study but it turned out to be a study to develop an assessment instrument starting with an extensive qualitative interview study.

Before the meeting, I met with the line manager who was hoping for them not to linger too much longer in the process of critically appraising topics, but instead to start to changing practice based on their learning. The journal club commenced with only four nurses. The others were occupied with other responsibilities in clinical practice. It was clearly time to encourage the nurses to start their project with support from us.

Evaluation of the journal club facilitation 2016-2018

As the previous paragraphs illustrate, work constraints were increasingly affecting the nurses' ability to attend journal clubs, although they recognised that they still had the opportunity to call in facilitation. In addition, participants were becoming more and more independent and wanted to lead things for themselves. This was a welcome move and my co-worker and I stayed in the background in case we were needed. At the same time, however, my private situation changed dramatically and thereby my attention for the participants decreased, which may have influenced the participants' focus on the journal club as well. Nevertheless, they have continued and are now much more able to use scientific evidence and lead practice.

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Appendix 4: Example of a literature search

Literature search PIF in the context of DSNP

To substantiate the findings of the study I searched for literature (9th October 2022) following the critical appraisal of a topic (CAT) method described by Brouwer de et al. (2012). This method is similar to the Critical Appraisal Skills Programme (Critical Appraisal Skills Programme, 2022), and represents the perspectives of the patient, the expert and the scientific evidence. The method consists of seven fixed components, starting with writing a (clinical) focussed scenario that is clear and concise. In this case the findings of the study represented in the conceptual model. The second component is the formulation of the search question. For this, the developed question was, **which evidence can be find in the scientific literature that links Professional Identity Formation (PIF) and Trust Formation (TF) with professional role taking in the context of nurse prescribing?**

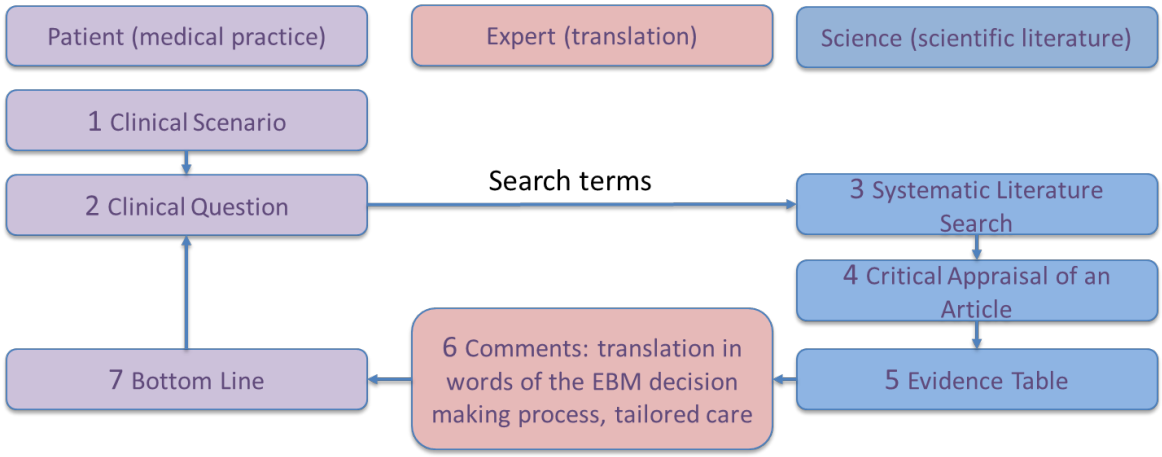

Figure 1 CAT Format: 7 fixed components (Brouwer de et al., 2012)

From the conceptual framework, search terms were derived to be used in a search strategy for a systematic literature search. The following **inclusion criteria were used:** the publication is written in the Dutch or English language and is not older than 10 years; the article should address the process of interdisciplinary collaboration between nurse prescribers and physicians with a focus on professional identity formation. The **exclusion criteria are** articles that only address implementation of nurse prescribing or quality of nurse prescribing, pharmaceutical knowledge or education, and evaluation studies of quality of nurse prescribing.

This search, conducted on 9th October 2022 resulted in **38 articles** of interest. The results of the literature search were then quickly appraised based on title and abstract and checked if an article's focus matched the search question.

PubMED search strategy		
Elements of Domain	**MeSH term / subheading**	**Free text term (Title/Abstract]**
Context: • Nurse Prescribing • Nursing (APN) • Inter-collaborative practice	Drug prescription Prescriptions Nonprescription Drugs Inappropriate prescribing Medication therapy Management	Drug prescription Drug prescribing Nurse prescribing
	Advanced Practice Nursing Nursing Student, Nursing Schools, nursing Nursing, Team	Advanced Practice Nursing Nursing* Nurs* Expanded practice Collaborative practice
Method (educational intervention) • EBP education • EBP implementation	Education Education, Professional Education, Nursing, Continuing Nursing Education Research	Education Professional Education Continuing Education Professional development
	Implementation science	Implementation science
	Evidence-Based Practice Evidence-Based Nursing Evidence-Based Medicine	Evidence based
Outcome • Professional Identity Formation • Trust Formation	Professional Role Professional Autonomy Interprofessional Relations Professional Practice Professionalism Trust	Professional Role Professional Autonomy Interprofessional Relations Professional Practice Professionalism Professional Identity Trust formation
Additional	Symbolic Interactionism Social Theory	Symbolic Interactionism Social Theory
Limitations	Articles written in English or Dutch language; Published in the last 10 year	
Table 1: Search strategy		

PubMed Search [step20]: (((((("Drug Prescriptions"[Mesh]) OR "Prescriptions"[Mesh]("Nonprescription Drugs"[Mesh] OR "Inappropriate Prescribing"[Mesh] OR "Medication Therapy Management"[Mesh])) OR (((drug prescription[Title/Abstract]) OR (drug prescribing[Title/Abstract])) OR (Nurse prescribing[Title/Abstract]))) AND ((("Advanced Practice Nursing"[Mesh]) OR ("Nursing"[Mesh] OR "nursing" [Subheading] OR "Students, Nursing"[Mesh] OR "Schools, Nursing"[Mesh] OR "Nursing, Team"[Mesh])) OR (((((advanced Practice Nursing[Title/Abstract]) OR (nursing*[Title/Abstract])) OR (nurs*[Title/Abstract])) OR (expanded practice[Title/Abstract])) OR (collaborative practice[Title/Abstract])))) AND (((((("Education"[Mesh] OR "Nursing Education Research"[Mesh] OR "Education, Professional"[Mesh] OR "Education, Nursing, Continuing"[Mesh]) OR ("Education"[Mesh] OR "Nursing Education Research"[Mesh] OR "Education, Professional"[Mesh] OR "Education, Nursing, Continuing"[Mesh])) OR ((((education[Title/Abstract]) OR (professional education[Title/Abstract])) OR (continuing education[Title/Abstract])) OR (professional development[Title/Abstract])))) OR ("Implementation Science"[Mesh])) OR (implementation science[Title/Abstract])) OR ("Evidence-Based Practice"[Mesh] OR "Evidence-Based Nursing"[Mesh] OR "Evidence-Based Medicine"[Mesh])) OR (evidence based[Title/Abstract])))) AND (((((("Professional Role"[Mesh]) OR "Professional Autonomy"[Mesh]) OR "Interprofessional Relations"[Mesh]) OR "Professional Practice"[Mesh]) OR "Professionalism"[Mesh]) OR "Trust"[Mesh]) OR (((((((professional role[Title/Abstract]) OR (professional autonomy[Title/Abstract])) OR (interprofessional relations[Title/Abstract])) OR (professional practice[Title/Abstract])) OR (professionalism[Title/Abstract])) OR (trust[Title/Abstract])) OR (trust formation[Title/Abstract])) OR (professional identity[Title/Abstract])))) Filters: in the last 10 years [38,07:51:22]
Table 2: PubMed Search

After quick appraisal (title and abstract) of the result, only three articles remained of interest. These three remaining articles should then be appraised for the methodological quality, using appropriate Dutch CASP-like appraising instruments published by Offringa et al. (2008) and additional institutional document of checklist for qualitative research. Before that the articles were examined more closely (result section) using speed reading, to gain a better idea of whether the content of the article actually matched the search query.

1: Cleary M, Kornhaber R, Sayers J, Gray R. Mental health nurse prescribing: A qualitative, systematic review. Int J Ment Health Nurs. 2017 Dec; 26(6):541-553. doi: 10.1111/inm.12372. Epub 2017 Aug 2. PMID: 28771922. (systematic review) 2: Lillo-Crespo M, Riquelme-Galindo J, De Baetselier E, Van Rompaey B, Dilles T. Understanding pharmaceutical care and nurse prescribing in Spain: A grounded theory approach through healthcare professionals' views and expectations. PLoS One. 2022 Jan 24; 17(1): e0260445. doi: 10.1371/journal.pone.0260445. PMID: 35073326; PMCID: PMC8786147. (Grounded Theory Approach) 3: Snell H, Budge C, Courtenay M. A survey of nurses prescribing in diabetes care: Practices, barriers and facilitators in New Zealand and the United Kingdom. J Clin Nurs. 2022 Aug; 31(15-16):2331-2343. doi: 10.1111/jocn.16052. Epub 2021 Sep 20. PMID: 34542207. (Survey)
Table 3: three remaining articles after quick appraisal

In the qualitative systematic review of Cleary et al. (2017) the concept of trust in the nurse prescriber is only tipped on referring to the nurse-patient relationship, and the concept of professional identity is only mentioned as an attribute of role change leading to ambiguity and conflicts in interprofessional relationships.

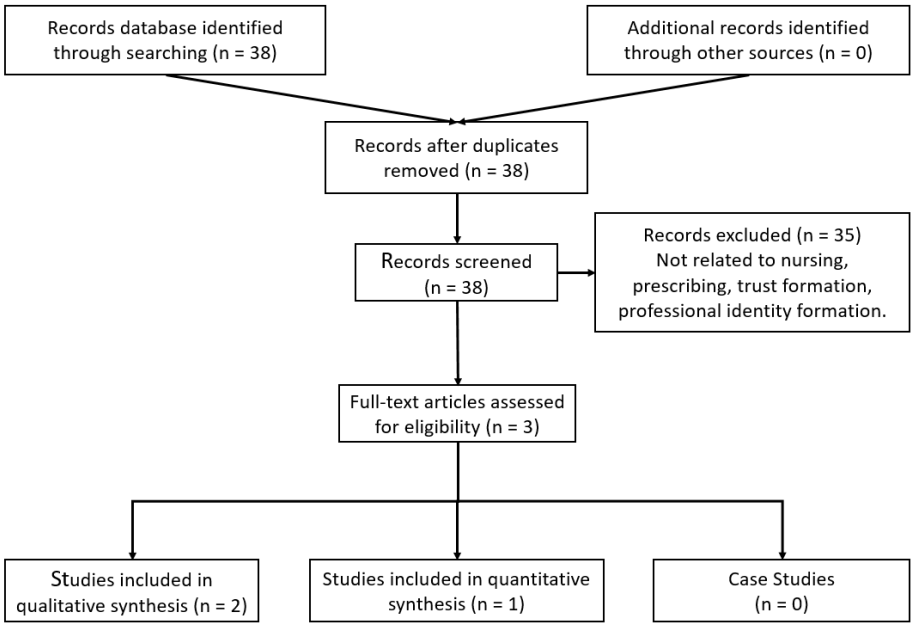

Figure 2 PRISMA flow diagram of papers for inclusion PIF and TF

Although the abstract of the GTM study of Lillo-Crespo et al. (2022) initially attracted attention it appeared that the presented core categories “Pharmaceutical Care Nursing Ideal Role” and “Nursing responsibilities and specific task”, although focusing on the role of nurse prescribers and interprofessional collaboration and communication, didn’t showed associations with Trust Formation or Professional Identity Formation. Therefore, the study was rejected for inclusion in the group of articles to be appraised.

After reading the article by Snell et al. (2022) it turned out to be irrelevant in terms of content. Although focusing on the prescribing experiences of nurse prescribers in the context of diabetes care, it did not reveal issues of Trust Formation or Professional Identity Formation.

In conclusion no matching articles were found with PubMed search strategy, that did justice to the focus of the current study. Therefore, it was not possible to develop an evidence table. It seems that the study findings appear to shed new light on inter-professional collaborative practice between physicians and nurse prescribers.

Critical Appraisal of the Snell et al. (2022) survey study

Because the Snell et al.'s (2022) study reveals findings about the effects of nurse prescribing experienced by nurse prescribers in diabetes care, and also identified their experiences with respect to the barriers and facilitators of nurse prescribing, it was believed that the results of this study would be useful for the present research. Therefore, the study was appraised.

The authors (Snell et al, 2022) used the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist (Von Elm et al., 2007) to check the article for reporting requirements. The authors provided supportive information by adding a completed checklist to the article. This list is used as a guide for the critical appraisal.

Because the study is based on a survey design neither the standard appraisal tools of Brouwer de et al. (2012) nor from Critical Appraisal Skills Programme (2022) could be used, because they do not provide a tool for appraising a survey (cross-sectional) study. Therefore, a tool from the Center of Evidence-based Management has been used (Center of Evidence Based Management, 2022). This tool is adapted from Crombie (2022).

Comments and bottom line

In view of the fact that this is a descriptive study in which opportunistic sampling was applied and no statistical testing was used to compare two contexts, it can be concluded that the results should be regarded as informative and indicative. The fact that not all questionnaires have been fully completed means that the reliability and measurement validity can be questioned. The internal validity (causality) for survey studies is typically weak, which also applies to this study. The external validity is also moderate due to the chosen sampling method. Therefore, the results of this study cannot be used to explain or support associations in another study.

Critical Appraisal of a Survey (CEBMa) https://www.cebma.org/wp-content/uploads/Critical-Appraisal-Questions-for-a-Survey.pdf			
Snell, H., Budge, C. and Courtenay, M. (2022) A survey of nurses prescribing in diabetes care: Practices, barriers and facilitators in New Zealand and the United Kingdom. *Journal of clinical nursing,* 31, 2331-2343.			
Appraisal questions	**Yes**	**Can't tell**	**No**
1. Did the study address a clearly focused question / issue? The objectives of this study were to explore: • The extent of registered nurse and nurse practitioner prescribing in diabetes care in NZ and in a subset of nurse prescribers in the UK • And compare facilitators and barriers to implementation of nurse prescribing in diabetes care in NZ and the UK • The governance structures (workplace guidelines, policies, etc.) that support nurse prescribers within both countries The focus of this study were to compare diabetes-related prescribing practices, barriers and facilitators amongst nurse prescribers in New Zealand and the United Kingdom. This gives sufficient direction to the study.	Yes		
2. Is the research method (study design) appropriate for answering the research question? The objectives of the study steer in the direction of mapping variations of patterns and associations of some variables in a sample of cases, making a cross-sectional design, such as a survey, obvious. In addition, the study wants to look at whether similar aspects can be found in two different regions.	Yes		
3. Is the method of selection of the subjects (employees, teams, divisions, organizations) clearly described? Opportunistic sampling method, where participants responded to an open invitation.	Yes		
4. Could the way the sample was obtained introduce (selection) bias? Because of the opportunistic sampling bias could be introduced. For example because some addressees may be less skilled in using internet applications such as survey tools. So some units in the population are more likely selected than others. This also could additional be affected due to the fact that two different geographic regions are compared, which may also introduce (sub-population differences in) sampling error. A probability sampling is difficult to achieve. No overall response rate can be calculated, due to the lack of insight into the total population.	Yes		
5. Was the sample of subjects representative with regard to the population to which the findings will be referred? Due to the opportunistic sampling technique, it is impossible to say how likely it is that the sample of subjects is representative. It is most likely not.		Can't tell	
6. Was the sample size based on pre-study considerations of statistical power? There was no knowledge about the absolute numbers of eligible nurses in the networks. The total number of 250 respondents divided into two groups, allows only for demographic statistical testing.		Can't tell	
7. Was a satisfactory response rate achieved?		Can't tell	
8. Are the measurements (questionnaires) likely to be valid and reliable? Authors reported that not all questionnaires were fully completed.			No
9. Was the statistical significance assessed? Results are presented as basic demographic analyses. No test statistics are used. I would have expected that for the rankings in Table 6.			No
10. Are confidence intervals given for the main results? Results are presented as basic demographic analyses. No test statistics are used.			No

11. Could there be confounding factors that haven't been accounted for? Not of relevance for this descriptive study.			No
12. Can the results be applied to your organization? The Dutch contextual situation may to some extent be considered similar to that of the NZ.	Yes		

Table 4: Critical appraisal of a article.

Adapted from Crombie (2022), *The Pocket Guide to Critical Appraisal*; the critical appraisal approach used by the Oxford Centre for Evidence Medicine, checklists of the Dutch Cochrane Centre, BMJ editor's checklists and the checklists of the EPPI Centre.

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Search strategy

Search number,Query,Sort By,Filters,Search Details,Results,Time
20 (limits: Dutch English; last 10 years),"(((((""Drug Prescriptions""[Mesh]) OR ""Prescriptions""[Mesh](""Nonprescription Drugs""[Mesh] OR ""Inappropriate Prescribing""[Mesh] OR ""Medication Therapy Management""[Mesh])) OR (((drug prescription[Title/Abstract]) OR (drug prescribing[Title/Abstract])) OR (Nurse prescribing[Title/Abstract]))) AND ((((""Advanced Practice Nursing""[Mesh]) OR (""Nursing""[Mesh] OR ""nursing"" [Subheading] OR ""Students, Nursing""[Mesh] OR ""Schools, Nursing""[Mesh] OR ""Nursing, Team""[Mesh])) OR (((((advanced Practice Nursing[Title/Abstract]) OR (nursing*[Title/Abstract])) OR (nurs*[Title/Abstract])) OR (expanded practice[Title/Abstract])) OR (collaborative practice[Title/Abstract])))) AND (((((((""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing, Continuing""[Mesh]) OR (""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing, Continuing""[Mesh])) OR ((((education[Title/Abstract]) OR (professional education[Title/Abstract])) OR (continuing education[Title/Abstract])) OR (professional development[Title/Abstract]))) OR (""Implementation Science""[Mesh])) OR (implementation science[Title/Abstract])) OR (""Evidence-Based Practice""[Mesh] OR ""Evidence-Based Nursing""[Mesh] OR ""Evidence-Based Medicine""[Mesh])) OR (evidence based[Title/Abstract]))) AND (((((((""Professional Role""[Mesh]) OR ""Professional Autonomy""[Mesh]) OR ""Interprofessional Relations""[Mesh]) OR ""Professional Practice""[Mesh]) OR ""Professionalism""[Mesh]) OR ""Trust""[Mesh]) OR (((((((((professional role[Title/Abstract]) OR (professional autonomy[Title/Abstract])) OR (interprofessional relations[Title/Abstract])) OR (professional practice[Title/Abstract])) OR (professionalism[Title/Abstract])) OR (trust[Title/Abstract])) OR (trust formation[Title/Abstract])) OR (professional identity[Title/Abstract]))))",,in the last 10 years,"((((""Drug Prescriptions""[MeSH Terms] OR ""Prescriptions""[MeSH Terms]) AND (""Nonprescription Drugs""[MeSH Terms] OR ""Inappropriate Prescribing""[MeSH Terms] OR ""Medication Therapy Management""[MeSH Terms])) OR (""drug prescription""[Title/Abstract] OR ""drug prescribing""[Title/Abstract] OR ""nurse prescribing""[Title/Abstract])) AND (""Advanced Practice Nursing""[MeSH Terms] OR (""Nursing""[MeSH Terms] OR ""Nursing""[MeSH Subheading] OR ""students, nursing""[MeSH Terms] OR ""schools, nursing""[MeSH Terms] OR ""nursing, team""[MeSH Terms]) OR (""Advanced Practice Nursing""[Title/Abstract] OR ""nursing*""[Title/Abstract] OR ""nurs*""[Title/Abstract] OR ""expanded practice""[Title/Abstract] OR ""collaborative practice""[Title/Abstract])) AND (""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms] OR (""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms]) OR (""Education""[Title/Abstract] OR ""professional education""[Title/Abstract] OR ""continuing education""[Title/Abstract] OR ""professional development""[Title/Abstract]) OR ""Implementation Science""[MeSH Terms] OR ""Implementation Science""[Title/Abstract] OR (""Evidence-Based Practice""[MeSH Terms] OR ""Evidence-Based Nursing""[MeSH Terms] OR ""Evidence-Based Medicine""[MeSH Terms]) OR ""evidence based""[Title/Abstract]) AND (""Professional Role""[MeSH Terms] OR ""Professional Autonomy""[MeSH Terms] OR ""Interprofessional Relations""[MeSH Terms] OR ""Professional Practice""[MeSH Terms] OR ""Professionalism""[MeSH Terms] OR ""Trust""[MeSH Terms] OR (""Professional Role""[Title/Abstract] OR ""Professional Autonomy""[Title/Abstract] OR ""Interprofessional Relations""[Title/Abstract] OR ""Professional Practice""[Title/Abstract] OR ""Professionalism""[Title/Abstract] OR ""Trust""[Title/Abstract] OR ""trust formation""[Title/Abstract] OR ""professional identity""[Title/Abstract])) AND (y_10[Filter])",38,07:51:22
19 (=18and16),"(((((""Drug Prescriptions""[Mesh]) OR ""Prescriptions""[Mesh](""Nonprescription Drugs""[Mesh] OR ""Inappropriate Prescribing""[Mesh] OR ""Medication Therapy Management""[Mesh])) OR (((drug prescription[Title/Abstract]) OR (drug prescribing[Title/Abstract])) OR (Nurse prescribing[Title/Abstract]))) AND ((((""Advanced Practice Nursing""[Mesh]) OR (""Nursing""[Mesh] OR ""nursing"" [Subheading] OR ""Students, Nursing""[Mesh] OR ""Schools, Nursing""[Mesh] OR ""Nursing, Team""[Mesh])) OR (((((advanced Practice Nursing[Title/Abstract]) OR (nursing*[Title/Abstract])) OR (nurs*[Title/Abstract])) OR (expanded practice[Title/Abstract])) OR (collaborative practice[Title/Abstract])))) AND (((((((""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing, Continuing""[Mesh]) OR (""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing,

Continuing""[Mesh])) OR ((((education[Title/Abstract]) OR (professional education[Title/Abstract])) OR (continuing education[Title/Abstract])) OR (professional development[Title/Abstract]))) OR (""Implementation Science""[Mesh])) OR (implementation science[Title/Abstract])) OR (""Evidence-Based Practice""[Mesh] OR ""Evidence-Based Nursing""[Mesh] OR ""Evidence-Based Medicine""[Mesh])) OR (evidence based[Title/Abstract]))) AND (((((((""Professional Role""[Mesh]) OR ""Professional Autonomy""[Mesh]) OR ""Interprofessional Relations""[Mesh]) OR ""Professional Practice""[Mesh]) OR ""Professionalism""[Mesh]) OR ""Trust""[Mesh]) OR (((((((professional role[Title/Abstract]) OR (professional autonomy[Title/Abstract])) OR (interprofessional relations[Title/Abstract])) OR (professional practice[Title/Abstract])) OR (professionalism[Title/Abstract])) OR (trust[Title/Abstract])) OR (trust formation[Title/Abstract])) OR (professional identity[Title/Abstract])))",,,"(((""Drug Prescriptions""[MeSH Terms] OR ""Prescriptions""[MeSH Terms]) AND (""Nonprescription Drugs""[MeSH Terms] OR ""Inappropriate Prescribing""[MeSH Terms] OR ""Medication Therapy Management""[MeSH Terms])) OR (""drug prescription""[Title/Abstract] OR ""drug prescribing""[Title/Abstract] OR ""nurse prescribing""[Title/Abstract])) AND (""Advanced Practice Nursing""[MeSH Terms] OR (""Nursing""[MeSH Terms] OR ""Nursing""[MeSH Subheading] OR ""students, nursing""[MeSH Terms] OR ""schools, nursing""[MeSH Terms] OR ""nursing, team""[MeSH Terms]) OR (""Advanced Practice Nursing""[Title/Abstract] OR ""nursing*""[Title/Abstract] OR ""nurs*""[Title/Abstract] OR ""expanded practice""[Title/Abstract] OR ""collaborative practice""[Title/Abstract])) AND (""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms] OR (""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms]) OR (""Education""[Title/Abstract] OR ""professional education""[Title/Abstract] OR ""continuing education""[Title/Abstract] OR ""professional development""[Title/Abstract]) OR ""Implementation Science""[MeSH Terms] OR ""Implementation Science""[Title/Abstract] OR (""Evidence-Based Practice""[MeSH Terms] OR ""Evidence-Based Nursing""[MeSH Terms] OR ""Evidence-Based Medicine""[MeSH Terms]) OR ""evidence based""[Title/Abstract]) AND (""Professional Role""[MeSH Terms] OR ""Professional Autonomy""[MeSH Terms] OR ""Interprofessional Relations""[MeSH Terms] OR ""Professional Practice""[MeSH Terms] OR ""Professionalism""[MeSH Terms] OR ""Trust""[MeSH Terms] OR (""Professional Role""[Title/Abstract] OR ""Professional Autonomy""[Title/Abstract] OR ""Interprofessional Relations""[Title/Abstract] OR ""Professional Practice""[Title/Abstract] OR ""Professionalism""[Title/Abstract] OR ""Trust""[Title/Abstract] OR ""trust formation""[Title/Abstract] OR ""professional identity""[Title/Abstract]))",150,07:50:20
18 (=17and13),"((((""Drug Prescriptions""[Mesh]) OR ""Prescriptions""[Mesh](""Nonprescription Drugs""[Mesh] OR ""Inappropriate Prescribing""[Mesh] OR ""Medication Therapy Management""[Mesh])) OR (((drug prescription[Title/Abstract]) OR (drug prescribing[Title/Abstract])) OR (Nurse prescribing[Title/Abstract]))) AND (((""Advanced Practice Nursing""[Mesh]) OR (""Nursing""[Mesh] OR ""nursing"" [Subheading] OR ""Students, Nursing""[Mesh] OR ""Schools, Nursing""[Mesh] OR ""Nursing, Team""[Mesh])) OR (((((advanced Practice Nursing[Title/Abstract]) OR (nursing*[Title/Abstract])) OR (nurs*[Title/Abstract])) OR (expanded practice[Title/Abstract])) OR (collaborative practice[Title/Abstract]))))) AND (((((((""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing, Continuing""[Mesh]) OR (""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing, Continuing""[Mesh])) OR ((((education[Title/Abstract]) OR (professional education[Title/Abstract])) OR (continuing education[Title/Abstract])) OR (professional development[Title/Abstract]))) OR (""Implementation Science""[Mesh])) OR (implementation science[Title/Abstract])) OR (""Evidence-Based Practice""[Mesh] OR ""Evidence-Based Nursing""[Mesh] OR ""Evidence-Based Medicine""[Mesh])) OR (evidence based[Title/Abstract]))",,,"(((""Drug Prescriptions""[MeSH Terms] OR ""Prescriptions""[MeSH Terms]) AND (""Nonprescription Drugs""[MeSH Terms] OR ""Inappropriate Prescribing""[MeSH Terms] OR ""Medication Therapy Management""[MeSH Terms])) OR (""drug prescription""[Title/Abstract] OR ""drug prescribing""[Title/Abstract] OR ""nurse prescribing""[Title/Abstract])) AND (""Advanced Practice Nursing""[MeSH Terms] OR (""Nursing""[MeSH Terms] OR ""Nursing""[MeSH Subheading] OR ""students, nursing""[MeSH Terms] OR ""schools, nursing""[MeSH Terms] OR ""nursing, team""[MeSH Terms]) OR (""Advanced Practice Nursing""[Title/Abstract] OR ""nursing*""[Title/Abstract] OR ""nurs*""[Title/Abstract] OR ""expanded practice""[Title/Abstract] OR ""collaborative practice""[Title/Abstract])) AND (""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms] OR (""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms]) OR (""Education""[Title/Abstract] OR ""professional education""[Title/Abstract] OR ""continuing education""[Title/Abstract] OR ""professional development""[Title/Abstract]) OR ""Implementation Science""[MeSH Terms] OR ""Implementation Science""[Title/Abstract] OR (""Evidence-Based Practice""[MeSH Terms] OR ""Evidence-Based Nursing""[MeSH Terms] OR ""Evidence-Based Medicine""[MeSH Terms]) OR ""evidence based""[Title/Abstract])",279,07:49:40
17 (=3and6),"(((""Drug Prescriptions""[Mesh]) OR ""Prescriptions""[Mesh](""Nonprescription Drugs""[Mesh] OR ""Inappropriate Prescribing""[Mesh] OR ""Medication Therapy Management""[Mesh])) OR (((drug prescription[Title/Abstract]) OR (drug prescribing[Title/Abstract])) OR (Nurse prescribing[Title/Abstract]))) AND (((""Advanced Practice Nursing""[Mesh]) OR (""Nursing""[Mesh] OR ""nursing"" [Subheading] OR ""Students, Nursing""[Mesh] OR ""Schools, Nursing""[Mesh] OR ""Nursing, Team""[Mesh])) OR (((((advanced Practice Nursing[Title/Abstract]) OR (nursing*[Title/Abstract])) OR (nurs*[Title/Abstract])) OR (expanded

practice[Title/Abstract])) OR (collaborative practice[Title/Abstract])))",,,"(((""Drug Prescriptions""[MeSH Terms] OR ""Prescriptions""[MeSH Terms]) AND (""Nonprescription Drugs""[MeSH Terms] OR ""Inappropriate Prescribing""[MeSH Terms] OR ""Medication Therapy Management""[MeSH Terms])) OR (""drug prescription""[Title/Abstract] OR ""drug prescribing""[Title/Abstract] OR ""nurse prescribing""[Title/Abstract])) AND (""Advanced Practice Nursing""[MeSH Terms] OR (""Nursing""[MeSH Terms] OR ""Nursing""[MeSH Subheading] OR ""students, nursing""[MeSH Terms] OR ""schools, nursing""[MeSH Terms] OR ""nursing, team""[MeSH Terms]) OR (""Advanced Practice Nursing""[Title/Abstract] OR ""nursing*""[Title/Abstract] OR ""nurs*""[Title/Abstract] OR ""expanded practice""[Title/Abstract] OR ""collaborative practice""[Title/Abstract]))",867,07:48:34
16 (=14or15),"((((((""Professional Role""[Mesh]) OR ""Professional Autonomy""[Mesh]) OR ""Interprofessional Relations""[Mesh]) OR ""Professional Practice""[Mesh]) OR ""Professionalism""[Mesh]) OR ""Trust""[Mesh]) OR ((((((((professional role[Title/Abstract]) OR (professional autonomy[Title/Abstract])) OR (interprofessional relations[Title/Abstract])) OR (professional practice[Title/Abstract])) OR (professionalism[Title/Abstract])) OR (trust[Title/Abstract])) OR (trust formation[Title/Abstract])) OR (professional identity[Title/Abstract])))",,,""""Professional Role""[MeSH Terms] OR ""Professional Autonomy""[MeSH Terms] OR ""Interprofessional Relations""[MeSH Terms] OR ""Professional Practice""[MeSH Terms] OR ""Professionalism""[MeSH Terms] OR ""Trust""[MeSH Terms] OR ""Professional Role""[Title/Abstract] OR ""Professional Autonomy""[Title/Abstract] OR ""Interprofessional Relations""[Title/Abstract] OR ""Professional Practice""[Title/Abstract] OR ""Professionalism""[Title/Abstract] OR ""Trust""[Title/Abstract] OR ""trust formation""[Title/Abstract] OR ""professional identity""[Title/Abstract]","461,640",07:46:07
15,(((((((professional role[Title/Abstract]) OR (professional autonomy[Title/Abstract])) OR (interprofessional relations[Title/Abstract])) OR (professional practice[Title/Abstract])) OR (professionalism[Title/Abstract])) OR (trust[Title/Abstract])) OR (trust formation[Title/Abstract])) OR (professional identity[Title/Abstract])),,,""""professional role""[Title/Abstract] OR ""professional autonomy""[Title/Abstract] OR ""interprofessional relations""[Title/Abstract] OR ""professional practice""[Title/Abstract] OR ""professionalism""[Title/Abstract] OR ""trust""[Title/Abstract] OR ""trust formation""[Title/Abstract] OR ""professional identity""[Title/Abstract]","65,440",07:45:18
14,"(((((""Professional Role""[Mesh]) OR ""Professional Autonomy""[Mesh]) OR ""Interprofessional Relations""[Mesh]) OR ""Professional Practice""[Mesh]) OR ""Professionalism""[Mesh]) OR ""Trust""[Mesh]",Most Recent,,""""Professional Role""[MeSH Terms] OR ""Professional Autonomy""[MeSH Terms] OR ""Interprofessional Relations""[MeSH Terms] OR ""Professional Practice""[MeSH Terms] OR ""Professionalism""[MeSH Terms] OR ""Trust""[MeSH Terms]","413,163",07:42:20
13 (=7or8or9or10or11or12),"((((((""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing, Continuing""[Mesh]) OR (""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing, Continuing""[Mesh])) OR ((((education[Title/Abstract]) OR (professional education[Title/Abstract])) OR (continuing education[Title/Abstract])) OR (professional development[Title/Abstract])))) OR (""Implementation Science""[Mesh])) OR (implementation science[Title/Abstract])) OR (""Evidence-Based Practice""[Mesh] OR ""Evidence-Based Nursing""[Mesh] OR ""Evidence-Based Medicine""[Mesh])) OR (evidence based[Title/Abstract])",,,""""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms] OR ""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms] OR ""Education""[Title/Abstract] OR ""professional education""[Title/Abstract] OR ""continuing education""[Title/Abstract] OR ""professional development""[Title/Abstract] OR ""Implementation Science""[MeSH Terms] OR ""Implementation Science""[Title/Abstract] OR ""Evidence-Based Practice""[MeSH Terms] OR ""Evidence-Based Nursing""[MeSH Terms] OR ""Evidence-Based Medicine""[MeSH Terms] OR ""evidence based""[Title/Abstract]","1,399,346",07:37:26
12,evidence based[Title/Abstract],,,""""evidence based""[Title/Abstract]","146,266",07:35:17
11,""""Evidence-Based Practice""[Mesh] OR ""Evidence-Based Nursing""[Mesh] OR ""Evidence-Based Medicine""[Mesh]",Most Recent,,""""Evidence-Based Practice""[MeSH Terms] OR ""Evidence-Based Nursing""[MeSH Terms] OR ""Evidence-Based Medicine""[MeSH Terms]","93,148",07:34:59
10,implementation science[Title/Abstract],,,""""implementation science""[Title/Abstract]","4,517",07:33:11
9,""""Implementation Science""[Mesh]",Most Recent,,""""Implementation Science""[MeSH Terms]","1,152",07:32:44
8,(((education[Title/Abstract]) OR (professional education[Title/Abstract])) OR (continuing education[Title/Abstract])) OR (professional development[Title/Abstract]),,,""""education""[Title/Abstract] OR ""professional education""[Title/Abstract] OR ""continuing education""[Title/Abstract] OR ""professional development""[Title/Abstract]","584,546",07:29:49
7,""""Education""[Mesh] OR ""Nursing Education Research""[Mesh] OR ""Education, Professional""[Mesh] OR ""Education, Nursing, Continuing""[Mesh]",Most Recent,,""""Education""[MeSH Terms] OR ""Nursing Education Research""[MeSH Terms] OR ""education, professional""[MeSH Terms] OR ""education, nursing, continuing""[MeSH Terms]","883,279",07:28:35
6 (=4or5),"((""Advanced Practice Nursing""[Mesh]) OR (""Nursing""[Mesh] OR ""nursing"" [Subheading] OR ""Students, Nursing""[Mesh] OR ""Schools, Nursing""[Mesh] OR ""Nursing, Team""[Mesh])) OR (((((advanced Practice Nursing[Title/Abstract]) OR (nursing*[Title/Abstract])) OR (nurs*[Title/Abstract])) OR (expanded

practice[Title/Abstract])) OR (collaborative practice[Title/Abstract]))",,,""""Advanced Practice Nursing""[MeSH Terms] OR ""Nursing""[MeSH Terms] OR ""Nursing""[MeSH Subheading] OR ""students, nursing""[MeSH Terms] OR ""schools, nursing""[MeSH Terms] OR ""nursing, team""[MeSH Terms] OR ""Advanced Practice Nursing""[Title/Abstract] OR ""nursing*""[Title/Abstract] OR ""nurs*""[Title/Abstract] OR ""expanded practice""[Title/Abstract] OR ""collaborative practice""[Title/Abstract]","699,755",07:23:49
5,((((advanced Practice Nursing[Title/Abstract]) OR (nursing*[Title/Abstract])) OR (nurs*[Title/Abstract])) OR (expanded practice[Title/Abstract])) OR (collaborative practice[Title/Abstract]),,,""""advanced practice nursing""[Title/Abstract] OR ""nursing*""[Title/Abstract] OR ""nurs*""[Title/Abstract] OR ""expanded practice""[Title/Abstract] OR ""collaborative practice""[Title/Abstract]","516,997",07:23:26
4,"(""Advanced Practice Nursing""[Mesh]) OR (""Nursing""[Mesh] OR ""nursing"" [Subheading] OR ""Students, Nursing""[Mesh] OR ""Schools, Nursing""[Mesh] OR ""Nursing, Team""[Mesh])",Most Recent,,""""Advanced Practice Nursing""[MeSH Terms] OR ""Nursing""[MeSH Terms] OR ""Nursing""[MeSH Subheading] OR ""students, nursing""[MeSH Terms] OR ""schools, nursing""[MeSH Terms] OR ""nursing, team""[MeSH Terms]","377,614",07:21:39
3 (=1or2),"((""Drug Prescriptions""[Mesh]) OR ""Prescriptions""[Mesh](""Nonprescription Drugs""[Mesh] OR ""Inappropriate Prescribing""[Mesh] OR ""Medication Therapy Management""[Mesh])) OR (((drug prescription[Title/Abstract]) OR (drug prescribing[Title/Abstract])) OR (Nurse prescribing[Title/Abstract]))",,,"((""Drug Prescriptions""[MeSH Terms] OR ""Prescriptions""[MeSH Terms]) AND (""Nonprescription Drugs""[MeSH Terms] OR ""Inappropriate Prescribing""[MeSH Terms] OR ""Medication Therapy Management""[MeSH Terms])) OR (""drug prescription""[Title/Abstract] OR ""drug prescribing""[Title/Abstract] OR ""nurse prescribing""[Title/Abstract])","5,580",07:18:03
2,((drug prescription[Title/Abstract]) OR (drug prescribing[Title/Abstract])) OR (Nurse prescribing[Title/Abstract]),,,""""drug prescription""[Title/Abstract] OR ""drug prescribing""[Title/Abstract] OR ""nurse prescribing""[Title/Abstract]","4,073",07:17:28
1,"(""Drug Prescriptions""[Mesh]) OR ""Prescriptions""[Mesh](""Nonprescription Drugs""[Mesh] OR ""Inappropriate Prescribing""[Mesh] OR ""Medication Therapy Management""[Mesh])",Most Recent,,"(""Drug Prescriptions""[MeSH Terms] OR ""Prescriptions""[MeSH Terms]) AND (""Nonprescription Drugs""[MeSH Terms] OR ""Inappropriate Prescribing""[MeSH Terms] OR ""Medication Therapy Management""[MeSH Terms])","1,574",07:15:06
Table 5: Search strategy

PubMed Search result

Items 1-38 of 38 (Display the 38 citations in PubMed)

1: Lillo-Crespo M, Riquelme-Galindo J, De Baetselier E, Van Rompaey B, Dilles T. Understanding pharmaceutical care and nurse prescribing in Spain: A grounded theory approach through healthcare professionals' views and expectations. PLoS One. 2022 Jan 24;17(1):e0260445. doi: 10.1371/journal.pone.0260445. PMID: 35073326; PMCID: PMC8786147.

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9: Smith C, Coucill C, Nuttall D. Organisational impact of the V150 nurse prescribing qualification. Br J Community Nurs. 2018 Aug 2;23(8):370-375. doi: 10.12968/bjcn.2018.23.8.370. PMID: 30063386.

10: Zarzeka A, Panczyk M, Zmuda-Trzebiatowska H, Belowska J, Samolinski L, Iwanow L, Gotlib J. NURSE PRESCRIBING. KNOWLEDGE AND ATTITUDES OF POLISH NURSES IN THE EVE OF EXTENDING THEIR PROFESSIONAL COMPETENCES: CROSS-SECTIONAL STUDY. Acta Pol Pharm. 2017 May;74(3):1031-1038. PMID: 29513974.

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12: Wilson M. A 5-year retrospective audit of prescribing by a critical care outreach team. Nurs Crit Care. 2018 May;23(3):121-126. doi: 10.1111/nicc.12332. Epub 2017 Dec 15. PMID: 29243331.

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17: Bell HT, Granas AG, Enmarker I, Omli R, Steinsbekk A. Nurses' and pharmacists' learning experiences from participating in interprofessional medication reviews for elderly in primary health care - a qualitative study. BMC Fam Pract. 2017 Feb 28;18(1):30. doi: 10.1186/s12875-017-0598-0. PMID: 28241789; PMCID: PMC5330158.

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Table 6: PubMed search results

Appendix 5: Reflexive paper

Reflexive paper to establish credibility

Reflexivity concerns being transparent about one's decisions in the research process, stating one's positionality and methodological procedures (including theoretical, epistemological, ethical and political perspectives) and their influence on the research findings (Engward and Davis, 2015). The extent to which this must be done depends on the researcher's epistemology and ontology. These perspectives, as already discussed, can vary largely in grounded theory methodology. Although my grounded theory method is close to the classic tradition in which extensive reflexivity is not obligated, I include this paper for the sake of transparency.

A useful practical model that assists the researcher in reflecting on potential influences on the research process and outcomes is that of (Alvesson and Sköldberg, 2009). Their reflexive model consists of four levels of reflexivity:

- problematizing the empirical material by scrutinizing the data gathering process and reflecting on the researcher's influence on the design,
- reflecting on the researcher's engagement (potential personal and a priori perspectives) during the interpretative process,
- classification of the political-ideological context by reflecting on how potential ideological and power relationships influenced the research process, and
- questioning representation and authority by reflecting on how language is used when writing up the research.

For this research project, which was conducted using a grounded theory approach situated near to the classic tradition, using Symbolic interactionism as a looking glass, the first two levels are of most concern. Therefore, I will mainly focus on these levels of the reflexivity process.

Problematizing the empirical material and researchers engagement during the interpretative process

According to Glaser and Holton (2004) the grounded theory product is "a set of carefully grounded concepts organised around a core category and integrated into hypotheses" that explains "the preponderance of behaviour in a concern of the primary participants". They stipulate that it be about the "findings, not accurate facts and not description". For them it is important to "use the complete package of grounded theory procedures as an integrated

methodological whole", using constant comparative method to weave new data into the sub-conceptualisation. It is not the grounded theory methodology itself but the a priori understandings of the researcher in question that silently influence the research outcome (Engward and Davis, 2015) and grounded theory therefore to some extent requires reflexivity.

Regarding the interpretative act one can focus on how the researcher has analysed the data and how that was influenced by the researcher's personal and a priori perspectives (Engward and Davis, 2015). However, in grounded theory the coding process differs depending on the chosen approach and whether or not the researcher uses qualitative data analysis software. In addition, as described earlier, depending on the grounded theory tradition used the interpretative act is more or less pronounced, with classic grounded theory considering a grounded theory to emerge and not been developed.

Before commencing a grounded theory study it is important to be 'theoretically sensitive', meaning that one has to maintain an analytic distance and remain open, develop new insights and turn these into a theory (Glaser and Holton, 2004). To become and remain theoretically sensitive one can use resources like the analytic process, personal or professional experience, and literature. The researcher has to be able to understand and give meaning to the data in order to see what is relevant in theoretical terms without pushing the prematurely developing hypotheses in a particular direction. The substantiation of my theoretical sensitivity is documented in the positionality section and argued with aspects of my personal background, past position as a healthcare professional and my current position as a lecturer in nursing science.

Personal perspective

It is undeniably true that I, considering my background, cannot been seen as a 'de novo' listener. Being familiar with the subject of evidence based practice implementation, working with and under the supervision of doctors (surgeons and anaesthesiologists), having experiences with adjusting dosage and administering medication for patients within the anaesthesia setting, have all influenced my perspective on why being knowledgeable is important for a professional, especially within a professional relationship with doctors.

In fact, during the initial data-analysis I took the path of focussing on contextual factors instead of digging more deeply. Once I understood the nurses' goal was to be an equal collocutor to the physician, seeking for equal involvement in the patients' health care, I realised that picking up the role of evidence based practice professional could be influenced by nurses' feelings of being an equal or unequal player in the field, being challenged to meet professional standards referring to professional identity. Maybe this insight points in the direction of professional emancipation.

Data gathering and establishing rapport with the participants

Data in this study is mostly gathered by semi-structured interviews with the participants (nurses, educators, physicians and managers), by focus group meetings with nurses, evaluations of educational activities, participant check, field notes, and memos.

When I started working with the participants, I was a seconded project manager who was exploring evidence based practice implementation activities and opportunities within their hospital setting. The respondents themselves took the initiative for an educational programme and approached my co-worker and I to facilitate their learning.

The respondents and I were not acquaintances and therefore they must have seen me as an external trainer/teacher. So perhaps I somehow was seen as an authority (power dynamic) at the beginning. From the very beginning, I made it clear that I like to work together to establish an equal learning relationship and see myself as a facilitator and not as an authority. Furthermore, to make the educational activities effective, we had to tailor the evidence based practice education programme to diabetes care together, since I was not familiar with diabetes care. This levelled the power relationship from the start and onwards. One year later, after the participants knew me well, I asked them to participate in the PhD research.

I was aware, that in order to make the teaching effective, I had to connect not only to the group but to each individual as well. Therefore, during the teaching I was constantly busy tuning into individuals, checking their understanding of what was taught. I gave feedback and asked Socratic questions, took a positive approach and was sometimes humorous. In retrospect, avoiding situations in which individuals would "lose face" while contributing to the groups' learning process was important to me. Socratic questions helped me to guide a particular person to answering her self-defined question. This contributed to a safe learning situation and environment and demonstrated that all questions can be asked and often can be answered by oneself.

For the data to be valid, it is necessary that the researcher establish a good rapport with the participants.

After the participants had approached my co-worker and I, and we had made acquaintance with each other, I felt that facilitating these nurses, who were taking their professional development seriously, could add value to their professional growth and would be worthwhile to support. I assumed that supporting them would mean that my co-worker and I had to contribute considerable time without the prospect of extension of working hours: the nurses

being sincere about their intention to learn about evidence based practice was therefore an important condition for us to get involved.

We agreed on a rather traditional evidence based practice educational process, that being education about critically appraising a topic with a focus on pharmaceutical papers concerning drugs treatment for diabetes patients. The goal for the first year was to be able to discuss scientific papers provided by pharmaceutical representatives in order to avoid assumed deception by the pharmaceutical industry. During this educational process, we had the chance to get to know and trust each other. It was an advantage that one of the participants was a trainee advance practice nurse, a student at the school where I worked, at the time.

I think that she introduced me behind the scenes, making it easy to be seen as a competent lecturer. In addition, I think my trait of being non-judgmental whenever interacting with students helped me to gain rapport with the nurse participants. Further, I was candid about my own background as an Operation Department Technician and about my own troubles coming to understand and learn about evidence based practice. Most of all, I think the fact that I have embraced this group and sincerely liked to support and facilitate them, witnessed my efforts to provide them with a tailored educational programme, must have contributed to the mutual rapport.

After several sessions with each other, it felt very natural to join this group of nurses in their educational journey. Further, I think that the positive evaluation of the educational programme helped me to gain their trust before starting the research interviews. Most of all, during the gatherings I experienced a warm atmosphere where everyone spoke freely and was not afraid to approach each other with questions. In addition, at the end of the research process after several month without contact, when I was writing-up the thesis, my co-worker and I were invited to a farewell reception of one of the participants who had decided to accept a job at another company. For me this was evidence that they counted us as significant to them.

Data gathering

The first interview was conducted in June 2015. This interview was transcribed and analysed before conducting the second one (end of July 2015) and so on. Additional interviews with the nurses followed in a period of about four months. Also interviews with lecturers, physicians, and managers were conducted. Collecting data and simultaneously being involved in data analysis by coding, recoding and constantly comparing new data with former to let themes emerge is key to grounded theory.

Because I was told by the participants that participating in interviews would be very difficult to arrange, I planned the interviews as quickly as possible, leaving only moderate room for transcribing and analysing the data before the next interview. Therefore, the interview data

were gathered in a relatively short period to take account of the limited availability of the participants. Beside my regular work activities as a lecturer, conducting and transcribing the interviews was time consuming and it was difficult to ensure enough room for constant comparison to inform the next interview focus. This may have influenced the data richness of the interviews. It may also have led me to be on the wrong track at the beginning. In retrospect, it probably would have been better to conduct the interviews at a slower pace.

Semi-structured interviews were used to facilitate respondents' narrative of how their relationship with the physician and the patient is shaped related to prescribing medication and how evidence based practice is relevant to them.

As a researcher, during the interview I was aware of the delicate balance between not giving too much direction and at the same time providing guidance to the interviewee so that they can tell that which is of importance to them, always aware that my body language or intonation should not give away my own opinion on the given issue.

Examples of open facilitating questions for leading the participant back in time toward relevant memories of important situations are:

> *'Can you go back in time to a situation with a patient where you have been very aware of medication issues, which is a special case for you?'*

To substantiate the answers I mostly rephrased what was said by the participant:

> *'I hear you saying; yes we are working outside the box …'* or I asked *'How did you …' questions.'*

Sometimes it was necessary to verify interpretations during the interview:

> *'So if I understand it well, you say there was a doctor who heard that you were at a presentation about a new insulin given by the pharmaceutical representative, and that doctor was of the opinion that you didn't actually belong there?'*

Data preparation

Interviews and focus group sessions were transcribed verbatim as quickly as possible after the interview and fully checked by the researcher against the audio recordings. Time markers were added to the text to make it easier to find sections of interest in the audio recordings. The transcripts of the interviews were offered to the participants for member checking. Transcriptions were uploaded into Atlas.ti software for coding.

Coding process

Data analysis was executed by using the NCT structure (Noticing, Collecting things, Thinking about things) as recommended by Friese (2016). Coding the first interview generated

extensive codes; these were used as a starting point for analysing the upcoming interviews (Atlas.ti provides a platform for the audit trial). I also looked 'backwards' to see if newly emerging codes were also present in prior interviews.

As a first time user of Atlas.ti, I learned to manage this Qualitative Data Analysis Software auto-didactically. In the beginning, this was a very confusing process due to the jargon differing to grounded theory jargon. In hindsight, it would have been better to first follow an extensive course instead of using it directly to analyse the research data. The lack of knowledge of how to use the Atlas.ti7 package slowed down the analysis process and probably partly distracted me from the content of analysis in favour of learning to manage the software. However, at the time, collecting the data was a moving train that could not be stopped.

After the final conceptual model was written down, it was presented to the participants of the study in a process of participant validation. Although not explicitly demanded within grounded theory methodology, I felt that this was an appropriate methodological step to check whether the theory made sense to the participants and whether they recognised themselves in it. I also felt it was necessary to communicate the results to the owners of the data as an act of respect. As it turned out, they recognised themselves in the model as described in the finding chapter. This was a valuable step in the validation process as although memos were written during data analysis, in hindsight this could have been done more substantially. I had therefore a less extensive evidence trail than intended. Participant validation helped strengthen the credibility of the findings.

Interruptions of the research progress

The total research process took from 2 February 2014 until 31 May 2023. During this period several major life events occurred, which influenced the research progress. One, in particular, had a major impact on the research progress and eventually led to a formal interruption of the study for a half year.

Life-threatening event (March 2017)

In March 2017 I suffered from a life-threatening anaphylactic shock, which withheld me from work for several weeks. The impact on my mental health was minor although it made clear to me that I am as vulnerable as anybody is.

Caring for family-member (2016-2017)

The most important event during my study was the sudden need to care for my mother. In August 2016, it became clear to my family and me that my mother progressively suffered from dementia-like symptoms. From that point on, I started to arrange care for her because I lived at a distance of more than 100 km from her. Within two months her condition deteriorated so much that I had to arrange for somebody in place to look after her and to keep her life organised

on a daily basis, so that she could stay at home as long as possible. From November 2016 on, I was able to arrange for her professional healthcare at home. However, during the first months of 2017 her health condition became terminally and her cognitive state became seriously impaired. After several hospital admissions, during which I stayed by her side 24/7, it became clear that she could not stay at home by herself anymore. Because of her terminal condition and her wish to stay at home as long as possible, I decided to move into her home to care for her, assuming this would only take a few weeks. However, this period lasted longer than anticipated, and disrupted my own life. Additionally, at a certain point she did not recognise me as her son, resulting in recurring and serious verbal altercations. This eventually led to her having to be admitted, in June 2017, to a hospice and for me traveling several days a week to visit her. At the time, I was physically and mentally exhausted. My Mum died within four weeks. Burnt out, I went with sick leave until November 2017. This event together with the former made that I could not spend any time or even thoughts on my research in 2017. I only managed to touch base with the research participants at the end of the year.

Suffering from bad visibility due to eye surgery (2018-2019)

During 2018, I restarted the writing process. However, at the time my vision deteriorated and could not be properly corrected with glasses. Therefore, I decided to have eye surgery in November 2018, which turned out to be a bad decision. The intraocular lenses were not tailored properly and additionally in both eyes the posterior vitreous detached, probably as a result of the eye-surgery (March/April 2019). Therefore, I needed two additional operations for additional lens implantations and vitrectomy. This process led to several interruptions in the writing process during a period of about ten months.

Impact of live events on research progress

Combining research activities and regular work is a challenging endeavour due to the different dynamics of both processes. This counts for me as well. In higher education, a high and irregular workload is everyday business. It was very difficult for me to integrate research activities into the daily schedule, like submerging into the sea to take pictures of beautiful but shy fishes, using a faltering air regulator which intermittently forced me to the surface, making it very hard to get into a creative flow and resulting in a process of starting over and over again.

I had the feeling that my own aging process also had a negative influence on the learning process by evoking live events and having doubts about one's own cognitive abilities. After most of the data were gathered, 2016 was a very busy year at work due to understaffing and from 2017 on; I was confronted with several life events. Consequently, the writing process felt like a Sisyphean task to me. Not feeling like I was making satisfactory progress in turn diminished the productivity and motivation, probably resulting in my being less creative during

the data-analysis and the writing process. This repeatedly led me towards thoughts of quitting. However, the point of no return had already been reached.

Clarification of the political-ideological context

The concept of 'equal collocutor' is in line with my own experiences as an Operation Department Technician: not being recognised as an equal player who contributes to patients' safety and health, can lead some healthcare providers to resign themselves to their fate. However, it also has the potential to motivate others to upgrade their knowledge and skills in order to be seen and gain trust and respect. Interacting with the participants and conducting this research revealed to me once more the importance of this process to my own professional growth.

I was motivated to conduct this research because I wondered what process could have a significant impact on nurses' willingness to be engaged with evidence based practice, especially when it seemed that the necessary educational and many enabling factors were in place. Having similar experiences as the participants could have made me more sensitive to the elements of the data that represent the attempt to level-up with healthcare providers, like the physicians. Ultimately, being accepted as an equal collocutor makes it possible to exert influence on (clinical) decision-making, and therefore equalizes power in the professional relationship.

Although I was not aware of this at the very start of the research, while writing up the findings I understood why it appealed to me to look for an internal process that enhanced nurses' engagement in evidence based practice, because it was similar to my own professional experiences although within a different context. Those experiences could have made me more sensitive to the given data and at the same time could have hindered the emergence of alternative concepts. However, while re-reading the initial interviews no extracts were found that seemed to indicate steering towards this concept of influence.

In the interviews with the doctors and managers from the hospital, I was aware that as an interviewer I could possibly give away information from the nurse interviewees due to the way in which questions were asked. A few of these participants asked more or less directly about aspects that concern individual nurses. I reacted evasively at those times with superficial answers. Therefore, I answered the question (retention of rapport) but did not disclose personal information.

The interviews focused on participants' experiences and understanding of prescribing and evidence based practice application. To some extent, power differentials were addressed by the interviewees regarding limitations on prescribing.

It also could be the case that because of my own experiences in administering medicine supervised by physicians (anaesthesiologists), that I was less critical in my understanding of the power issues between diabetes nurses and physicians, due to the fact that I had learned that prescribing is the jurisdiction of physicians. However, at the time of the interviews and data analysis, I had worked for more than ten years as a nursing science lecturer and was familiar with the fact that nurses in some cases can prescribe drugs.

Because this research is conducted within the context of achieving a doctoral degree, the idea of "not coming up with a theory" is no option. This lay a heavy weight on the research project and may have forced me into a less grounded theory. It also could draw attention away from representing the participants in the study toward self-serving to achieve the doctoral degree.

Consideration of questions of representation and authority: the way research is communicated.

At the start of the research process, the focus was on exploring knowledge and understanding of the diabetes nurses regarding the concept of evidence based prescribing practice to develop a conceptual framework/model for use in specialist clinical arears in the Dutch context. During the research, the focus shifted towards the exploration of the role taking process of the role of the 'reflective evidence based practice practitioner' within the context of nurse prescribing.

The desired outcome of a grounded theory study of diabetes nurse prescribers providing evidence based care would be a middle range theory that captures the uptake process of evidence based practice with a focus on influencing factors. Therefore, the steering question for this study developed to, 'What reasons (cause) do prescriber nurses express to apply or reject evidence based practice in the context of diabetes care in a Dutch tertiary medical teaching hospital (context and conditions) with regard to their profession (consequences) considering the nature and influence of situational variables (covariance and contingencies) and their understanding of evidence based practice (community of practice)?'

Finally, the focus was on the influence of the 'social alignment process' between nurse prescribers and other healthcare professionals with respect to patients' health care. It was aimed to explain patterns in the data of the particular context of nurse prescribers without addressing the whole social context, as grounded theory seeks for a substantive theory and not a major theory.

References reflexive paper

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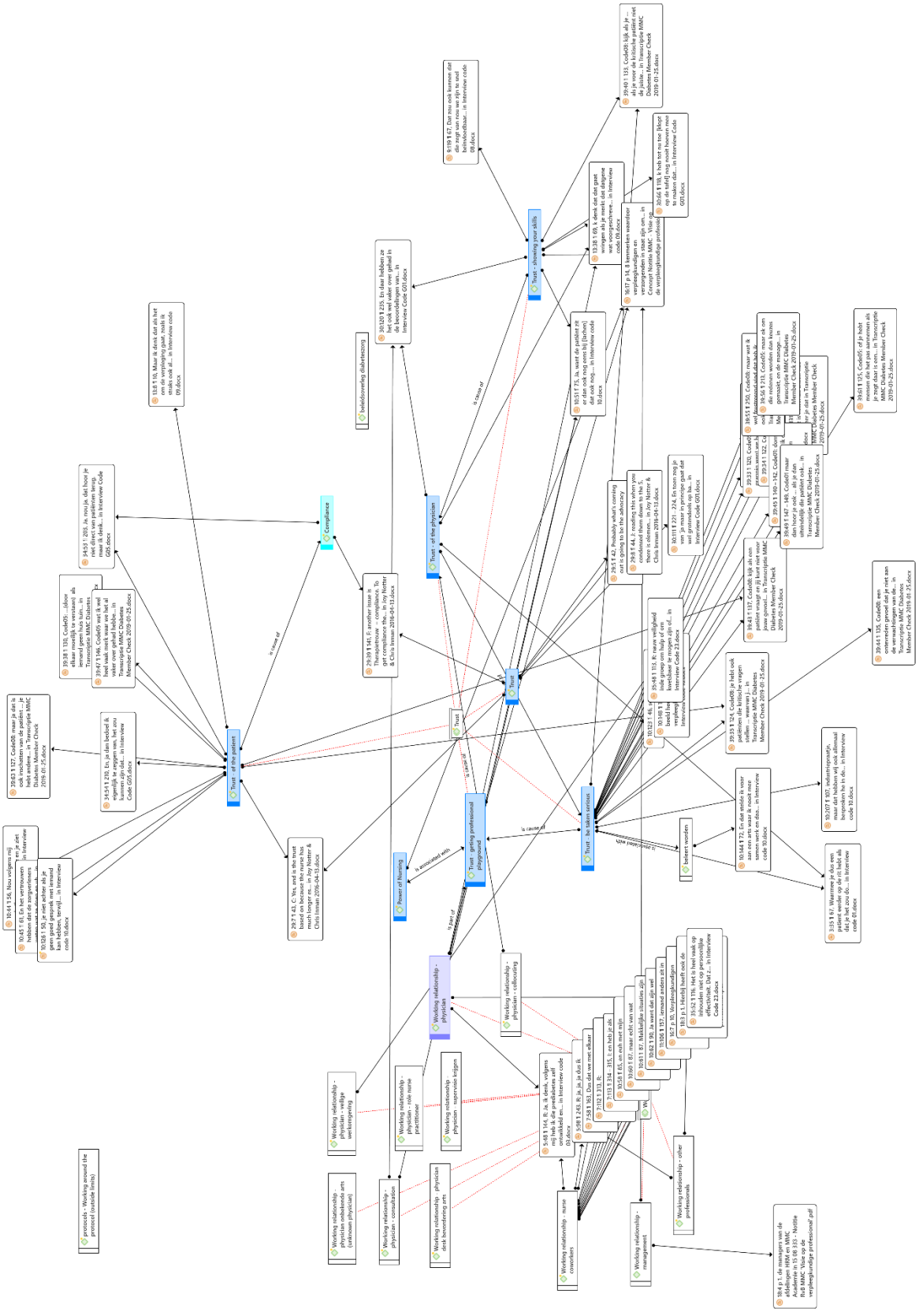
Appendix 6: Mind Map Trust

(enlarge image with CTRL & scroll)



Appendix 7: Screenshots ATLAS.ti

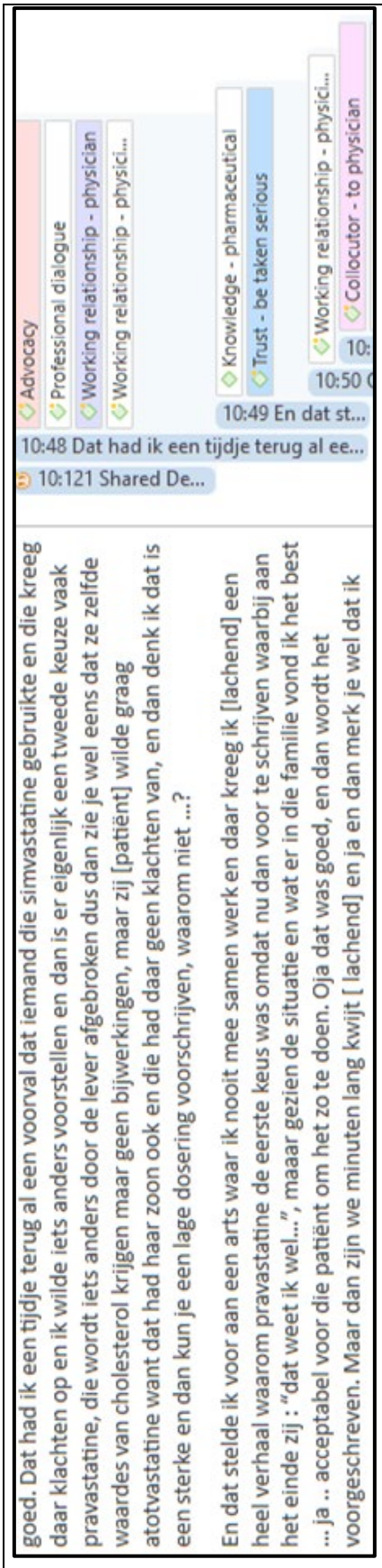


Figure 4.a: Visualisation of coding process first interview,QU:10:48 (in ATLAS.ti)

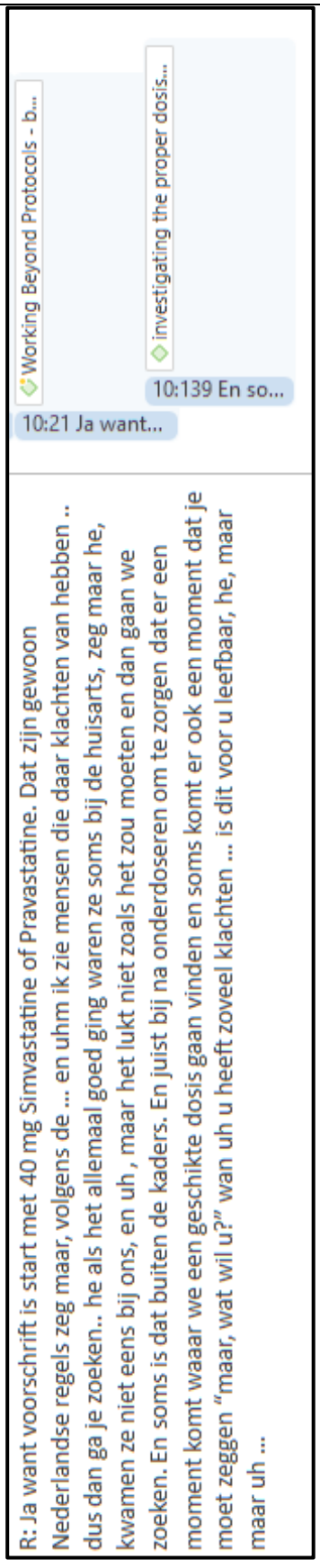


Figure 4.1b: Visualisation of coding process first interview, QU:10:139 (in ATLAS.ti)

Appendix 8: Screenshot ATLAS.ti network tool

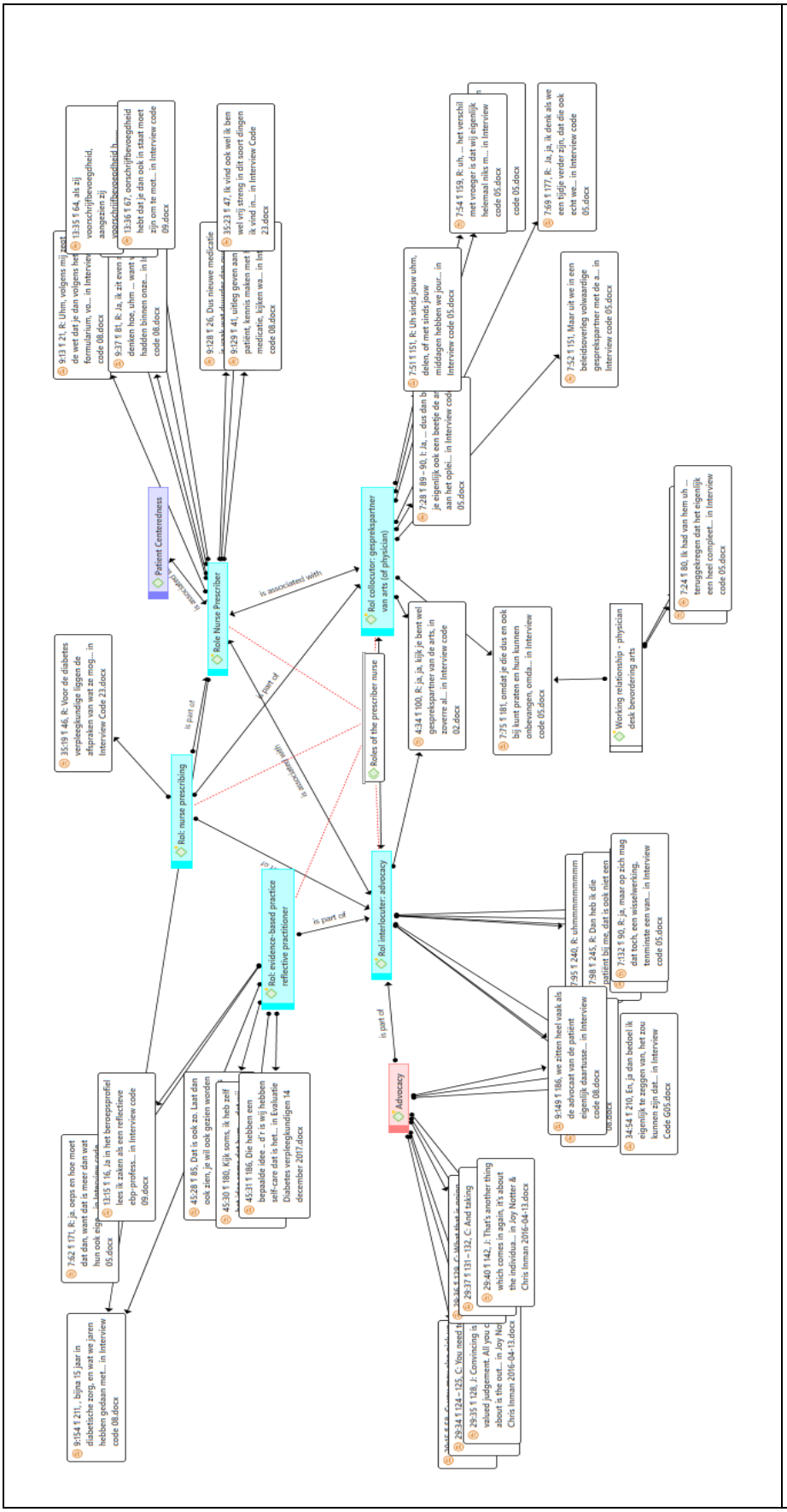


Figure 4.2: Visualisation of the initial model using the ATLAS.ti network tool