

## **Evaluation of an international health partnership to capacity build emergency, trauma and critical care nurse education and practice in Zambia: An Experience from the Field**

### *Abstract*

*Aim:* To evaluate an international health partnership project that capacity build emergency, trauma and critical care nurse education and practice in Zambia.

*Background:* Zambia continues to face a significant workforce challenge and rising burden of communicable and non-communicable diseases, compounded by the Covid-19 pandemic. In response to these the Zambian Ministry of Health is investing in specialised nurses. Emergency, trauma and critical care nursing education and training were seen as one of the solutions. North-south partnerships such as this one, have been identified as a force for good to capacity build and develop emerging specialities.

*Sources of evidence:* Using an evaluative approach, which desk research, a rapid literature review and documentary data analysis from published papers, government reports and project documentation. Ethics committee approval was sought and gained in both Zambia and the UK.

*Discussion:* A critical review of the evidence identified three key themes; challenges with changing education and practice, developing Zambian Faculty for sustainability and the effect of an international health partnership project on both Zambia and UK. The outcomes from this project are multifaceted, however, the main achievement has been the implementation of emergency, trauma, and critical care graduate programmes by the Zambian Faculty.

*Conclusion:* This experience from the field outlines the benefits and limitations of a North-South Partnership and the importance of transparency, shared ownership, and collegiate decisions. It has facilitated knowledge exchange and sharing to capacity build emergency, trauma, and critical care nursing.

*Implications for nursing practice:* Lessons learned may be applicable to other international nursing partnerships, these include the need for deep understanding of the context and constraints. Also, the importance of focusing on developing long-term sustainable strategies, based on research, education, and practice.

*Implications for nursing policy:* This paper outlines the importance of developing nursing education and practice to address the changing burden of disease in line with Zambian national policy, regional and international standards. Also, the value of international nursing partnerships for national and international nursing agendas.

*Key words:* Critical Care Nursing, Emergency & Trauma Nursing, Evaluation, North-South Partnership  
Bi-directional learning,

## **Aim**

Evaluation of an international health partnership project in capacity building emergency, trauma and critical care nurse education and practice in Zambia.

## **Background**

Recognising, developing and valuing nurses is crucial in order to protect the future of healthcare systems and maintain high-quality care (Lamb et al., 2020. World Health Organization [WHO], 2020). Zambia has a population of approximately 16 million and according to the United Nations Human Development Index, is ranked 146 out of 189 countries (UN Human Development Reports, 2022). In many countries, nurses are the backbone of healthcare services (WHO, 2020. Benton et al 2020) and the Covid-19 pandemic has highlighted the need for a highly skilled emergency and critical care nurses, to respond to the high numbers of patients that require emergency and critical care nursing. However, the Zambian Strategic Health Plan developed before the pandemic, made limited reference to critical care services and emergency and trauma (Ministry of Health [MOH], 2018), because these are new specialities that are still in the process of being formally recognised. The Strategic Health Plan (2018) also points out that an ongoing challenge for Zambia is a significant healthcare workforce shortfall in all areas (MOH, 2018). As a result the doctor and nurse ratio to population is well below the recommendations of the WHO (WHO, 2022a). The current National Human Resources for Health Strategic Plan 2018-2024 (MOH, 2018) point out this low ratio inevitably impacts on service provision and ultimately the health of the community. The situation has now been further compounded by the effects of the pandemic and increased recruitment of Zambian nurses by high income countries (Royal College of Nursing, UK, 2022).

North-South Health Partnerships have been identified as a force for good and support the strengthening of healthcare systems of all involved (United Nations [UN], 2022). Mormina and Pinder, 2018. Spies et al., 2017). The importance and value of such partnerships have also been recognised by the joint report by the WHO and International Council of Nurses [ICN] (2020) as a model for good

practice for capacity building in nursing. The partnership described in this paper used a participatory approach to knowledge exchange and sharing, with key strategic stakeholders in Zambia and Birmingham City University [BCU] a UK Higher Education [HE] provider (Carter et al., 2021). The partnership was initiated in 2015 and began with a scoping visit, which identified the urgent need to capacity build critical care and emergency and trauma nursing. This led to a national needs assessment, completed in partnership with the Ministry of Health [MOH] and BCU. It was seen as essential to devise an approach that built upon existing expertise, using knowledge exchange, and sharing to enable all partners to contribute their expertise to the development of specialist nurse education, training, and practice. Emphasis was placed on identifying the shared and differing challenges for each healthcare system, following which a series of partnership projects were devised to incrementally build upon each other, each one moving the nursing agenda forward (MOH, 2018).

Stakeholders included the MOH, Nursing and Midwifery Council of Zambia [NMCZ] (the nursing regulator), Zambia Union of Nurses Organisations [ZUNO] (a professional body and trade union), universities and Colleges of Nursing and representatives from clinical practice were involved in all stages of the project. Activities took place between 2017 and 2021, using the scoping exercise (2015) and two national needs assessments (2016 and 2020), which were submitted and accepted by the MOH, this led to recognition of the need to increase the numbers of trained emergency, trauma, and critical care nurses (Carter et al., 2020). These key nurses have the responsibility of supporting their peers and junior colleagues, helping them to reduce the theory-practice gap, raising and enhancing the quality of care delivered. The project was designed to be delivered in two phases. It was recognised that for sustainability the project needed to be incremental, with each phase being closely linked to current practice while at the same time developing a pathway to move practice forwards, that fitted within National Strategic Health Plan and documentation (MOH, 2018). Phase I focused on documentary data analysis (including policy documents), a comprehensive review and revisions to the Advanced Diploma in Critical Care. This phase was completed by an NMCZ led international, multi-stakeholder re-validation of the programme, that met regulatory requirements and could be

embedded into the health system (Nurses and Midwives Act, 2019). This was seen as essential for sustainability and to future proof service provision. It is important to note, Zambia needs to maximise the effectiveness of any new initiative by ensuring that it follows Ministerial policy and legal requirements. Phase II then utilised the outcomes from phase I to develop and validate Zambia's first specialist Bachelor of Science (BSc) in Critical Care Nursing. Phase III utilised templates from phases I and II to develop emergency and trauma nursing. At the same time it was recognised that to retain these qualified staff, the Zambian critical care nursing definition, scope of practice, a mentorship model and programme were developed which encompassed a recognised and approved nursing career structure as essential elements (Carter et al., 2021).

### **Sources of Evidence**

An evaluative approach to this study was used, to gain meaningful in-depth information, rather than superficial descriptive datasets (Vaessen et al., 2020). As Morgan (2022) point out this has been an underused approach in research and is increasing being accepted as a valuable that enables researchers to focus on the advantages and limitations of project and policy documentation (Price et al., 2021). In preparing this experience from the field, research and evidence were sourced using a desk-based research approach (Guerin et al., 2018). The inclusion criteria involved searching the WHO, ICN and MOH webpages for key policy documents about specialist nurses, critical care and emergency nurses and nursing workforce development. A rapid review of the literature was conducted to search international peer-reviewed articles relating to emergency, trauma, and critical care nursing in Zambia (Tricco et al., 2017). In addition, searches of partnership records for project documentation (including logical frameworks, reports and records of decisions, Faculty reports and dissemination activities) were conducted. Exclusion criteria were policy documents not related to specialised nursing, non-peer reviewed articles and non-project related documents. Also, a timeframe of 8 years was set, to coincide with the lifetime of the project. Gathering qualitative and quantitative experiences from the field were

part of the monitoring and evaluation of the capacity building projects. All of these had received Ethics Committee approval from the UK and when necessary, from Zambia.

## **Discussion**

Following a review of project documentation and key local and international policies, the following lessons learned were identified, in three key areas: challenges with changing education and practice, developing Zambian Faculty for sustainability and the effect of an international health partnership project on both Zambia and UK.

### *Challenges with Changing Education & Practice*

There are complex challenges when reviewing and developing any specialist areas of practice that are new, and in resource-constrained settings these are compounded by the limited workforce, Faculty, and expert practitioners (Brysiewicz et al., 2021). This is a 'catch 22 situation', deciding where to start was not easy, however, north-south health partnerships offer benefits as they combine local, national and international expertise facilitating the exploration of this conundrum. Our partnership recognised the challenges and together decided to avoid the risk of short-term fixes, instead focusing on moving the nursing education agenda forward and in line with WHO recommendations developing sustainable graduate specialist nurse education programmes (WHO, 2016), while working within the current Zambian systems for regulation, policy, education, and practice. This was not an easy decision as stakeholders and funders had to accept short term instant changes were not what was needed. This would have given an indication of success, but would not have addressed the long-term issues, as they do not offer sustainability.

To address this, all activities were multi-disciplinary, with representation from each stakeholder, all of whom were given time to present, discuss and debate their perspectives. To maintain equity in the various workshops and meetings, the role of the Chair rotated round the different stakeholders. This approach was welcomed and seen as exemplifying the importance of health partnerships crossing

over education, practice, regulation and policy, as without all sides of the equation being considered, the revised programme may not have meet the needs and requirements of all involved.

Having carefully considered the Zambian healthcare system and regional practices, the stakeholders made a strategic decision that has permanently affected specialist practice. While some neighbouring African countries combine emergency and critical care nursing as one nursing speciality (Scott & Brysiewicz, 2017), the stakeholders rejected this approach. Instead they chose to propose to the MOH and NMCZ the need develop these specialities as independent programmes. They acknowledged that there is overlap between these two areas of practice, but believed in the light of advancing medical care in Zambia, combining the two programmes in the long term would constrain the effectiveness of advanced nursing practice (Carter et al., 2021).

All stakeholders were adamant that developments needed to include future proofing, as they wanted a programme that could be relatively easily adjusted to reflect the changing disease burden (IHME, 2022). This proved to be a crucial decision, as when the Covid-19 pandemic hit Zambia, it was possible to add in Covid-19 content to the programme without triggering another review and re-validation. Changes also included a review of clinical placements and the introduction of an attachment to a rural district hospital, as many of the students will return to such settings (Carter et al., 2021). Therefore, they needed to see not only the facilities of tertiary referral hospitals, but also the reality they would face once qualified. This meant that the combination of revised Covid-19 content and rural placements could support the cascade of information during and after specialist training, essential given the few specialist nurses and doctors nationwide. To support the limited number of expert nurses developing the programmes, stakeholders requested an external peer review of activities. The UK partners identified independent expert nurses to carry out this activity. The reviewers were selected from an UK wide open call for emergency and critical care nurses who had experience of working in resource limited settings. Reviewers were supplied with a template which included regional and international standards for emergency and critical care curricula to benchmark the Zambian programmes (African

Federation of Emergency Medicine, 2022. World Federation of Critical Care Nurses, 2022). The subsequent reports were fed directly back into the multidisciplinary workshops to support and guide developments.

#### *Development of Zambian Faculty for Sustainability*

Another lesson learnt was the importance of developing the Faculty for sustainability. The capacity building approach did not use role substitution, as this does not provide long-term sustainability (Bauer, 2017), but focused on the importance of sufficient numbers of the Zambian Faculty, developing the expertise and confidence to own the project outcomes and become self-sufficient (Plamondon et al., 2021). In consequence, a train the trainer's approach was used, as this approach is seen as best practice for sustainability, (Mormina and Pinder 2018). Topics covered in the train the trainer programme had to include staff education development such as curriculum design, mentorship and assessment of students and the use of simulation (Carter et al., 2021). In addition, Faculty on the train the trainer programme, together with Stakeholders participated in all curriculum design workshops. The health partnership had identified that in the last decade, Zambia has introduced several new post-basic programmes and recognised these as a sustainable platform to build on for a sustainable future. The NMCZ held experience in curriculum development and design and agreed to support the stakeholders and the train the trainers programme to facilitate implementation of the new programmes. Evaluation of this programme were positive, with respondents identifying the personal and professional lessons learned:

*'the review of the diploma curriculum as well as the development of the first bachelor's curriculum in critical care nursing ... to see it evolve was so good'* (Strategic Stakeholder Evaluation [SSE], respondent 3)

Similarly, for another respondent, seeing the long-term outcome proved to be very rewarding:



*'The best part was that after developing the advanced Diploma curriculum for critical care nurses, it went through validation in 2018 and was implemented it and it is operational'* (SSE Respondent No. 2).

With few in-country and regional opportunities to obtain a higher degree in emergency, trauma and critical care, the challenge for Zambia, was to develop a sustainable faculty that could deliver the new higher level programmes. They asked for assistance in pump priming Faculty and leaders in advancing practice, therefore, BCU offered a one-off delivery of a Master of Science programme for 20 students which began in 2021. The main outcome of this programme was to enable Zambia to have a critical mass of Master's level nurses across the country, that will bridge education and practice until the locally developed programmes start to produce graduates, a sustainable output beyond the lifetime of the projects.

*Effect of an international health partnership project on both the Zambian and UK Faculty.*

Goal 17 of the United Nations Sustainable Development (UN SDG) is to “strengthen the means of implementation and global partnership development” (UN SDG, 2022), which allows for sharing of knowledge, expertise, technologies and financial resources (Matenga et al, 2019). However, studies over the past decade have continually identified challenges including power imbalance, communication, different priorities and agendas and limited capacity-building in partners (Parker et al., 2016. Walsh et al., 2016). Therefore, in this partnership project, every effort was made to use bi-directional learning to share and exchange knowledge and expertise as this reciprocal process helps to balance differentials (Lenhard et al., 2022). In consequence, activities were designed to prevent ‘intellectual dependency’ and promote equity (Matenga et al., 2019). Thus, the views of partners through the capacity building process were essential for the success of the project. As part of project monitoring, evaluation, and shared learning, in 2020 an anonymous e-survey was circulated to stakeholders in Zambia. In 2022, this was repeated with individual interviews with UK staff involved in

the project. Both these activities resulted in data which identified that the health partnership had been able to develop share ownership, transparency, and evidence of bi-directional learning.

Since the start of the partnership, a core project manual was developed which acted as a 'live document' and was used to monitor and evaluate progress. When necessary, it was updated collaboratively providing transparency and ownership at local and strategic level, as one respondent reported partnership objectives:

*'... are clearly defined [and] explained to all ... involved' (SSE Respondent No 10)*

While another respondent reported:

*'The Partners allows us to own the project fully' (SEE Respondent No 5)*

Many of the activities involved changes in education and practice. In consequence, the change process model required representation from a range of stakeholders from MOH to those in practice. At each event it was important for stakeholders to understand and accept the implications for education and practice in a Zambian context when making changes.

*'... BCU understand our ... situation [Zambia is]... a low [middle] income country ... when issues are presented ... we work hand in hand ... [to reach] ... consensus' (SEE Respondent No 6)*

To facilitate opportunities for UK Faculty, the project team used a 'hub and spoke' model (Carter et al., 2022). BCU acts as the overall lead organisation and 'the hub' to provide project leadership, coordination, governance and financial responsibility. While BCU is able to provide educators to support curriculum design, validation and masterclasses for Faculty and students, it was recognised that expertise would be needed from clinical practice. Therefore, National Health Service [NHS] hospitals who provided emergency, trauma and critical care nurses acted as the 'spoke' and provided a pool of nurses with clinical expertise. This model increased the number and experience of Faculty members and allowed access to the range of technical experts requested by Zambian stakeholders. In total since the start of the of the project activities, 212 nurses have completed the revised and re-

validated Advanced Diploma in Critical Care Nursing staff and the programme is now offered in three colleges of Nursing, 79 have completed the Advanced Diploma in Emergency and Trauma Nursing, 35 are studying the BSc in Critical Care Nursing and the BSc in Emergency and Trauma Nursing commences January 2023. In addition, during UK education visits, UK Faculty hosted Zambian counterparts to provide an insight into NHS emergency, trauma, and critical care nursing (Carter et al., 2021).

Co-ordinating staff from different organisations, and over geographical distances, was an identified risk, therefore, a detailed Faculty Handbook was developed. This handbook detailed the project aims, organisation and structure, risk assessments, information on Zambian healthcare and access to further reading. Each section included self-test and reflective activities to support individuals with the UK Nursing and Midwifery Council [NMC] Revalidation (NMC, 2022) and annual appraisals. To demonstrate transparency, and good governance, at the request of the Zambian partners, Faculty agreed to a set of Terms of Reference, with objectives agreed before departure. An induction day enabled new members to meet the project team, and enabled Faculty members to discuss any concerns and agree any specific activities to be undertaken. All Faculty members were selected and screened by both the UK Project Team and the lead Zambian partner for suitability. On return to the UK, individuals were requested to submit a post-trip report within two weeks. This was structured in a format that encouraged Faculty to review their terms of reference, planned activities, and progress with activities, any feedback and suggestions for improvement.

Although not a prerequisite, most of the Faculty had had experience of working in an overseas country. During the project, 11 UK Faculty members supported activities in Zambia, five of these Faculty members worked in HE, with a further six working in acute tertiary referral NHS hospitals. Nine Faculty members had worked in overseas settings such as Afghanistan, Ghana, Jamaica, Kenya, Oman, Sierra Leone, Somaliland, South Sudan and Vietnam.

The partnership recognised early on, the crucial value of two way learning and that international experiences give participants the opportunity to review their own practice and to gain new skills, ideas, and initiatives for use on their return to their professional role (Notter & Carter, 2021. Health Education England [HEE], 2022. Lenhard et al., 2022). Understanding different perspectives and working together on projects was seen as important, as reported by one respondent:

*'They were easily competent in terms of essential teaching skills, but the approach was probably new, and the style of delivery... building a mutual understanding that enabled the workshop to develop and run using the best of both countries approaches to education was a fantastic experience.'* (UK Faculty Respondent 3)

Another respondent reflected on how the experiences had affected them professionally and personally:

*'It certainly helped develop my ability to work with other people bringing new approaches to a task... by the end of the two weeks ... we could sit back and watch the Zambian staff deliver the workshop and left confident that we had contributed to lasting development in the teaching resources at the school of nursing'.* (UK Faculty Respondent 2)

Faculty members acknowledged that over time the shared experience had proved to be one of knowledge sharing and the use of bi-directional learning had enabled them to learn valuable lessons from their Zambian counterparts. This was reflected by comments such as:

*'I found the longer I was there ... and the more conversations I had the better I understood how nurse education and nursing 'worked'... I felt this improved understanding led to better communication in the workshops and increased my ability to understand the points people were making' (UK Faculty Respondent, No 9).*

Working in a new environment and being exposed to a different culture, healthcare system and expectations towards medicine can be difficult for Faculty working abroad, regardless of whether they have experience of working in other country (McDermott-Levy et al., 2018).

*'It was about just how hard you have to work to try and understand how people may be viewing you ... you've been 'parachuted' into their country...workplace and what experiences are you bringing with you? What have their experiences been of other people going over there to [join their] Faculty?' (UK Faculty Respondent, No 5).*

The project used short-term placements ranging from 1 week to 6 weeks, because staff who supported activities could not take long periods away from their primary roles. This approach of short-term Faculty placements has been a successful model for many projects involving senior clinical and academic staff (Bould et al. 2015). To address this, the project used a logical framework which provided a clear plan of activities and a 'golden thread' identifying how these short-term visits link and build upon each other.

Working abroad can be a life-changing experience, which left the Faculty members with many good memories and lasting friendships (Health Education England, 2022). In this evaluation, they felt the experience was rewarding, they liked seeing the project and partnership develop and evolve over time.

*'We are all coming from our own experiences and lives ... actually in many ways we have more similarities than differences ... everyone goes to work ... relaxes after work ... and likes their days off! So... we're all the same ... but different enough that's it's interesting!'* (UK Faculty Respondent No. 8).

*'Zambia is a lovely place ... everyone really worked hard to look after us and welcome us to their workplace and even into their homes ... I've been there twice now and returning this year*

*it was even better seeing people I'd worked with the year before'. (UK Faculty Respondent No. 10).*

For Faculty, completing short-term placements, identifying impact was initially difficult:

*'Will anyone take any notice of what you've said when... just as suddenly as you arrived ... you've gone?'* (UK Faculty Respondent No 5)

However, they found that reflecting over time, clarified their role when in country, and identified what they had brought back to their various roles in practice and education.

### **Implications for Nursing Practice**

Some of the lessons learned may well be applicable for other international nursing partnerships. Firstly, understanding and acceptance of the differing constraints experienced by the stakeholders. Secondly, to resist the urge for a quick fix, and focus instead on developing long-term sustainable solutions to service need. Developing project proposals that are transparent, that enable funders and partners to see the benefits and potential impacts over time supports sustainability. For equity, the use of clear project documentation such as a logical framework provides overall structure and governance, which helps reduce power imbalances. The 'hub and spoke' model reduces the challenges of staff from one organisation being released to support activities and allows for a tripartite approach to project activities, with representation from research, education and practice (HEE, 2022). Nursing is a competency-based profession, and this collaborative approach allows for a whole systems approach to capacity building and embedding new practices.

### **Implications for Nursing Policy**

To maintain pace with the changing burden of disease, nursing education and practice needs to evolve to address the ever-changing healthcare needs (IHME, 2022). In many LICs emergency and critical care provision is limited but following the pandemic has now been recognised as an important element of strengthening the healthcare system and needs to be included in policy planning (Scott & Brysiewicz,

2017. WHO, 2020). Developing capacity within an already overstretched workforce and healthcare system remains a challenge. International health partnerships between different organisations are seen as one way to develop education and practice (UN, 2022). However, this is only possible where stakeholders from all areas combine to develop a shared vision, taking ownership of the project, its activities, outcomes and impact, using these to inform policy and strategic plans for healthcare delivery.

## **Conclusion**

This health partnership has proved to be challenging, rewarding and ultimately successful in delivering the requested changes in the education, training and practice of emergency, trauma and critical care nurse education and practice in Zambia. It took time for all partners to accept and recognise the capacity building approach, in which, key stakeholders start with, and retain full ownership of the project, with all decisions taken collegiately. Transparency in all activities was essential, with good communication crucial throughout the project. The north-south partnership between HE institutions in Zambia and UK has facilitated knowledge exchange and sharing with nurses working with nurses to support nurses and independently move the nursing agenda forward.

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