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## Increasing human resource capacity in African countries: A nursing and midwifery Research Summit



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### ABSTRACT

**Background:** As global efforts to increase the nursing and midwifery workforce intensify to improve access and quality of healthcare, clinical nursing and midwifery research must increase concomitantly to provide a solid evidence base for these clinicians. To maximize research resources in resource-poor regions, the research team collaborated with regional experts in southern and eastern African countries to convene a Research Summit in Nairobi, Kenya. Objectives were to: build a network of midwifery and nurse scientists, identify regional gaps in knowledge and priorities for their research, develop strategies that address these gaps, and initiate a mentorship plan.

**Purpose:** To review methods leading up to organizing and convening as well as the evaluation of the aforementioned Research Summit.

**Methods:** A two-day regional Summit was convened; appropriate experts from 12 countries participated. In a year-long collaborative process, regional experts and research priorities were identified; during the Summit, a fluid agenda incorporated findings from workgroups. Summative evaluations were completed by participants and planners.

**Results:** Through the Summit, a network of regional research experts was established; peer mentoring was initiated; research priorities were confirmed; regional action plans to address clinical nursing and midwifery research priorities were developed; and technical task forces and a steering committee were formed. Evaluations from participants, planners and core collaborators were collected. Follow up reports have been submitted by technical working groups.

**Conclusions:** Evaluations provided favorable feedback regarding the process leading up to as well as the content of the Research Summit. While further long-term evaluations will be needed to determine the sustainability of this initiative, the Summit format afforded the opportunity for regional experts to meet, examine research priorities, and develop strategic action and mentorship plans. This paper describes a replicable method that could be utilized in other regions using available resources to minimize costs and modest grant funding.

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## 1. Background

As the largest proportion of health care professionals, a robust, locally relevant evidence-base for nurses' and midwives' practice is critical. This is particularly true in countries and regions with limited human resources for health care and a heavy disease burden (World Health Organization, 2014), where providing access to

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quality health service is difficult (Hatt et al., 2015; World Health Organization, 2013).

While there is a global shortage of nursing and midwifery faculty and limited nursing and midwifery research, this is particularly evident in African countries, despite introducing higher education in nursing. Besides facing a lack of research funding and inherent challenges within the local healthcare system (Kombe, 2015), many nursing and midwifery schools have, of necessity, focused on pedagogy with minimal reflection on the process and outcomes to improve on quality (Klopper & Uys, 2013). Furthermore, to improve global health and primary health care delivery, understanding current nursing needs, practices, and outcomes is vital. This requires research expertise to identify priorities and gaps and to collect and critically analyze data to ensure research is aligned with critical gaps in the evidence; some evidence suggests funding and research may be misaligned with critical regional nursing research priorities (Sun, Jia, & Larson, 2016).

Research has a wide ‘social impact’ – the ability to bring about change – on teaching practice and subsequent clinical research practice (Bligh, 2000). In Sub-Saharan Africa, largely because of the impact of the HIV pandemic, there is an upsurge of communicable and non-communicable diseases coupled with poor progress on maternal, infant and child mortality and morbidity. Nursing scope of practice is changing in Sub Saharan Africa (Crisp & Chen, 2014; World Health Organization, 2014); as a result, this is a critical time within the nursing and midwifery profession to re-examine the current state of nursing and midwifery research and research priorities.

In an attempt to address some of these issues, a modest grant was obtained at a major institution in the U.S. Aims were to establish cross-regional core working groups and a database of nurse and midwifery leaders involved in research and program evaluation in southern and eastern Africa; plan and convene a Research Summit and develop regional work plans, including outcomes to be accomplished, timelines, work products (publications), key collaborators, mentoring resources and programs (Webinars, videos, curriculum), future funding proposals and funding sources. Specific goals for the Research Summit were to identify regional gaps in knowledge and priorities for nursing and midwifery research and mentorship, recommend strategies that address these gaps, develop a mentorship plan with access to a pool of regional and global nurse and midwifery research experts, and disseminate recommended strategies with a mentorship approach to pave the way for sustainability and replication. The purpose of this paper is to describe the development of a regional panel of experts; the organization, implementation and evaluation of a Research Summit; and the success of the Research Summit in achieving the aims above.

## 2. Methods

An overview of the methods is presented in Fig. 1. As a first step, an environmental scan of clinical nursing research was conducted. An environmental scan is a term that refers to the collective methods used to assess and understand information, in this case the state of clinical nursing and midwifery research. The components of this environmental scan included a scoping review of indexed literature, a review of the grey literature, identification of regional experts and a subsequent Delphi survey of these experts (Hatch & Pearson, 1998). These were conducted within the region defined by the United Nations (Table 1, United Nations Statistics Division (2013)), with the assistance of regional core collaborators which included key organizations and individuals who held nursing leadership positions in major universities in Kenya, Malawi, and South Africa, as well as leadership roles in international nursing

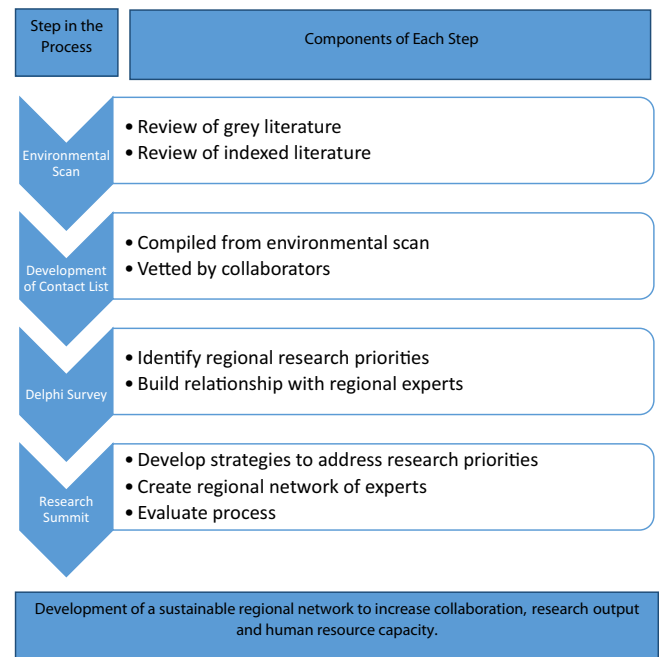


Fig. 1. Overview of the steps used to increase human resource capacity in African countries.

Table 1

United Nations geographical regions and Research Summit participants from countries in eastern and southern Africa.

Eastern Africa	Number invited per country	Number attended per country
Kenya	13	13
Malawi	4	3
Mozambique, Uganda, United Republic of Tanzania, Zambia, Zimbabwe	1	1
Ethiopia, Rwanda	1	0
<i>Southern Africa</i>		
South Africa	4	4
Botswana, Lesotho, Namibia, Swaziland	1	1

organizations. The senior officer on human resources for health at the World Health Organization regional office for Africa (WHO AFRO) also served as an advisor to the project.

Core collaborating organizations included: The Forum of University Nursing Deans in South Africa (FUNDISA): a unified platform of the heads of all 22 university schools of nursing in South Africa to pursue excellence in nursing scholarship at Universities in South Africa and promote nursing practice, research, and education in collaboration with other stakeholders (<http://fundisaforchange.co.za/>); University of Malawi Kamuzu College of Nursing; University of Nairobi School of Nursing Sciences; Lugina Africa Midwives Research Network (LAMRN, 2016); and The Confederation of African Midwives Associations (Africa Midwives Research Network, 2016). The project was approved by the initiating institution's Institutional Review Board (IRB).

The purposes of the environmental scan were to obtain a more complete understanding of the state of regional clinical nursing research and gaps in the existing literature, and to develop a list of contacts of existing clinical nurse scientists in southern and eastern African countries. This step was accomplished through a scoping review of indexed literature and a scoping review of grey literature which are discussed in depth elsewhere (Sun & Larson, 2015; Sun et al., 2016). In the process of scanning the existing research in the region, an initial list of clinical nursing and mid-

wifery research experts who met the following criteria was developed: were registered nurses, had a bachelor's degree or higher in nursing, had published research, were affiliated with a school of nursing with at least a master's level nursing program, and/or were identified by an African core collaborator as an expert in the region.

From this a list of participants was developed for a Delphi survey (an iterative, multi-round survey) to gain consensus from these experts on clinical nursing and midwifery research priorities for southern and eastern African countries. Using contacts with regional nursing and midwifery colleagues and leaders, snowball sampling, and screening questions embedded in the first round of the Delphi survey, the list of regional research experts by asking respondents for references to others who met the criteria and might be willing to participate was expanded. These individuals were also invited to participate in the survey, as previously described (Sun et al., 2015). With the completion of these background and preparatory steps, the Research Summit was planned and convened in Nairobi, Kenya.

### 2.1. Research Summit

A timeline for the project was developed by the research team in the United States (U.S.), and the Office of Global Initiatives of the initiating institution provided administrative support for the development of agendas, scheduling video chat and voice calls, and convening meetings as well as in-kind faculty and doctoral student time and expertise. Through scheduled calls with our African core collaborators over a period of 8 months, the Summit was planned and then convened on July 8 and 9, 2015 in Nairobi, Kenya.

In order to ensure regional geographic representation, each core collaborator evaluated an initial list of potential attendees from each country. Participants of the Delphi survey who had completed both rounds were invited to participate, as well clinical research experts identified by our African core collaborators. One to three participants from each country were invited. Additionally, one Summit participant was selected through a lottery as an incentive offered to participants of the Delphi survey. Initially, 40 attendees were invited, including 25 participants plus our core collaborators and locally invited speakers (Table 1). Based on our previous experience with convening other health-related summits, this size allows sufficient opportunity for feedback, deliberation, and reaching group consensus (Stone et al., 2010).

While a tentative agenda was developed through conference calls and emails, the core collaborators convened two days before the Summit to finalize the agenda. However, since one objective was to provide a flexible format which would accommodate topics, concerns or ideas raised by participants, the agenda changed substantially after the first day of meetings to include concerns that were raised during the first day.

**Table 2**  
Survey of Summit participants

<i>Please respond to the following with your personal opinion</i>		
<i>Criteria</i>	<i>Definition</i>	<i>Question</i>
Representativeness	Appropriate representation of intended population	The participants at the Research Summit fairly represent the members of the nursing research community affected by the issues raised in it
Influence	Ability of the summit to effect intended change	I am likely to implement the recommendations for clinical research priorities that arose from the summit in my research
Structured decision making	Objective process for decision-making	The structure and conduct of this consultative meeting is likely to result in recommendations that will be logical/consistent
Cost-effectiveness	High value for use of funds	This seminar was a cost effective way of taking into account views on clinical nursing research priorities in African countries (i.e. it is unlikely this could have been achieved more efficiently by an alternative method of consultation)
<i>How will you be using the information you learned from the summit?*</i>		
<i>Do you have any other comments about Research Summit?*</i>		
<i>*Questions added for this project</i>		
<i>Adapted from Rowe et al. (2004)</i>		

### 2.2. Evaluation

A summative evaluation of the Summit was conducted using validated instruments to survey participants and organizers.

#### 2.2.1. Participant survey

To obtain feedback from participants, permission was obtained through the IRB to adapt a questionnaire that had been used in a number of other studies with satisfactory content and face validity and reliability (Rowe & Frewer, 2000; Rowe, Marsh, & Frewer, 2004; Rowe, Marsh, Reynolds, & Frewer, 2001). Participants responded anonymously using a 6-point Likert-type scale to rate their perceptions of the four components of the Summit (Table 2).

#### 2.2.2. Survey of organizers/core collaborators

A previously validated instrument was also adapted to solicit the perceptions of the organizers and core collaborators of the Summit (Rowe et al., 2004, 2001). The purpose of this survey was to determine the extent to which the planners felt that the processes leading up to the Summit, as well as the Summit itself was organized; met their expectations; had a clear purpose; conducted transparently; had adequate representation; resources; structured discussions during the summit; sufficient cost-benefit ratio; early involvement of the collaborators; would be influential going forward; and that the participants had adequate control over exercises to move the agenda in the needed direction during the Summit. As for participants, evaluations were anonymous and each criterion was rated on a Likert-type scale, see Table 3.

#### 2.2.3. Analysis of surveys

Using the protocol described by the original authors of the surveys, the scores for each question were recorded both as an average and the proportion of respondents for each score (e.g. 10 participants rated question 15 as 4 on a scale of 1–5). Results are presented both on average and by number of participant rankings for each category to avoid minimizing minority views (Rowe et al., 2004). Scores were averaged for each criterion. Average scores of 5 or better for criteria in the participant surveys and 4 or better on evaluator surveys were considered acceptable (Rowe et al., 2004).

## 3. Results

### 3.1. Research Summit

Clinical and midwifery nursing research experts for 56% (14/25) of countries listed in the United Nations region were identified, including 22 regional representatives from 12 of these countries, three core collaborators within the region, five staff from the U.S.

**Table 3**  
Organizer survey of Summit

Evaluation Criteria	Aspect of Criterion	Questions
Task definition	Context	Was the context to this exercise clearly identified?
Representativeness	Stakeholders	Were all persons with a legitimate interest in the issue (and therefore the outcome of the participation exercise) clearly identified?
Early involvement	Familiarization	Were all the parties involved early enough to become familiar with all the (timeliness) elements of the exercise, in order to make a proper contribution?

Adapted from Rowe et al. (2004).

institution, and two observers from Jordan, who participated in order to plan a future Summit in Jordan for a total of 32 participants. In addition to these 32 participants, speakers who attended included the Director, Columbia Global Centers | Africa & MDG Center, Eastern and Southern Africa; Director of Nursing Services, Ministry of Health, Kenya; Nursing Council of Kenya; the president of the Confederation of African Midwives Associations (CONAMA); Chair, Lugina Africa Midwives Research Network (LAMRN); Director, Office of Global Initiatives and PAHO/WHO Collaborating Center for Advanced Practice Nursing; Associate Dean for Research, Columbia University School of Nursing.

Each day included sessions with a stated outcome and moderator, an open group discussion, and breakout sessions to develop specific objectives or solutions; in total there were six sessions. For the second half of each session, subgroups presented their ideas back to the entire assembly. Table 4 summarizes the expected outcomes for the overall Summit as well as each session.

The Summit commenced with a formal opening ceremony during which the Director of the Columbia Global Centers | Africa & MDG Centre, Eastern and Southern Africa remarked on the global nursing perspectives and the need for emphasis on global solutions to common problems and emphasized that this Summit should help propel the nursing research agenda forward. The Director of Nursing Services, Ministry of Health, Kenya, and the President of Eastern, Central and Southern Africa College of Nursing (ECSACON) gave the opening address stressing that in order to maintain quality, the nurse must be aware of the research to implement the evidence and that “We must demystify research.”

Other opening remarks were also given by the Registrar of the Nursing Council of Kenya on promoting capacity building, continuous advancement of nurses and implementation of mentorship programs, as well as the Adviser, Human Resources for Health,

**Table 4**  
Expected outcomes of the Summit.

	Expected outcome
Overall expected outcome of Summit	Identify regional clinical nursing and midwifery research priorities and action plans to meet them
Session 1	Shared regional priorities in clinical research identified with examples of projects to address these priorities
Session 2	Regional action plan developed to address barriers to research priorities
Session 3	Country-specific action plans developed
Session 4	Resources for clinical research mentorship shared among participants for their potential use
Session 5	Communication networks maximized
Session 6	To develop next steps from the Research Summit to support the dissemination of identified action plans and sustainability of mentorship and networks

Health System and Services Cluster, Inter-Country Support Team for East and Southern Africa (IST/ESA), WHO Regional Office for Africa, who highlighted that research funding should be aligned within research priorities for the region and that the international organizations, governments and NGOs should work together in supporting this course. Finally core collaborators greeted the participants with opening comments: Chief Executive Officer of Forum for University Nursing Deans in South Africa (FUNDISA), President of Sigma Theta Tau International, Professor of University of Western Cape and North West University; a representative for the Vice President of the International Confederation of Midwives (ICM), Vice Principal for Kamuzu College of Nursing of the University of Malawi; Director, School of Nursing Sciences, University of Nairobi, President, Confederation of African Midwives Associations (CONAMA), Chair, Lugina Africa Midwives Research Network (LAMRN); and the Director, Office of Global Initiatives and PAHO/WHO Collaborating Center for Advanced Practice Nursing from the initiating institution.

Plenary sessions then were presented by core collaborators and regional experts to examine the challenges and problems the profession faces in validating its initiatives and advances, results of the literature reviews and Delphi to identify gaps and priorities for a research agenda were presented, and discussion and consensus workshops were held. The following outcomes ensued:

- the development of a network for collaboration and sharing of resources and mentorship;
- formation of three technical task forces based on themes that surfaced in working groups: 1) mentorship, 2) networking (including communication within the group and outward dissemination of research) and 3) resource development (identification of potential funders and grant writing)
- establishment of a timeline for follow up and evaluation as well as a chair, secretary and consultants for each subgroup
- formation of a steering committee to ensure that the network would be productive, meets goals, and adhere to the timeline.

The Summit concluded with a final consensus of priorities and within 8 weeks following the Summit a summary white paper was prepared and disseminated to participants, core collaborators, media and policy makers.

Summit participants agreed that a follow up report from each technical group chair would be sent to the steering committee within 3 months following the Summit, which would include a table listing aims, progress, next steps and meeting attendees. One example of the follow-up reports is in Table 5. All three subcommittees responded to the call for a progress report by the due date. The three committees reported that they had begun taking first steps toward the aims established during the Research Summit and had established connections with the members of their groups.

### 3.2. Results of evaluation surveys

#### 3.2.1. Participant surveys

Nineteen (19) of the 22 regional representatives responded to the survey and reported that all criteria for the Summit were met; mean scores ranged from 5.58 to 6.79 (a mean score of 5 or higher was considered successful). Many of the comments from participants included plans to return the results of the Summit to their institutions and to encourage their colleagues and trainees toward a shift in research topics toward those identified as priorities. Other themes were gratitude for their participation and satisfaction with the level of organization of the meeting. For example, “It was insightful, a learning process for me. It’s an honor to be part of

**Table 5**  
Progress report from the Mentorship Subcommittee.

<b>Mentorship</b>		
<i>Purpose: To enhance the quality, quantity, dissemination and uptake of Nursing and Midwifery research</i>		
Aims (Dimension/Theme)	Progress/Update	Next Steps
Develop a work plan	Provided our institutions with explanation of the Nursing and Midwifery clinical Research in Southern and Eastern Africa Research Summit	Developing concept note using the following outline (on-going) <b>Concept Note</b> <ul style="list-style-type: none"> <li>• Background</li> <li>• Problem statement</li> <li>• Justification /rationale</li> </ul> Project description; Research mentoring program and framework <ul style="list-style-type: none"> <li>• Goals</li> <li>• Objectives</li> <li>• Activities</li> <li>• Timelines</li> </ul> Development of training needs assessment tools <ul style="list-style-type: none"> <li>• Data collection</li> <li>• Data analysis</li> </ul> Report writing <ul style="list-style-type: none"> <li>• Dissemination</li> <li>• Curriculum development</li> <li>• Curriculum implementation</li> <li>• Identification of research topics</li> <li>• Matching strategy of mentors and mentees</li> <li>• Carry out researches</li> <li>• Monitoring process</li> <li>• Support, recognition</li> <li>• Publication</li> <li>• Evaluation</li> </ul> Monitoring and Evaluation Quality Assurance Budget Setting up “Moodle”, develop discussion forums
Facilitate discussions	Decided software application to set up for discussions	

such an experienced group of researchers. Thank you for the opportunity,” and “It was well organized and participatory.”

### 3.2.2. Evaluator surveys

Five core collaborators evaluated the Research Summit.

Comments from the collaborators were similar to those of participants, including statements such as “*The Summit was well organized,*” and “*the aims and objectives were met.*”

## 4. Discussion

This program focused on defining clinical nursing and midwifery research priorities over a large geographical area and identifying barriers to conducting clinical research and the formation of plans to address these barriers. Bringing together experts possessing a clear understanding of the needs of the region formed a network that helped to achieve the objectives outlined at the beginning of this paper. This program also provided an opportunity for nurse scientists in underserved areas to develop professional networks and create a sustainable network of research resources. Publications, strategies and networks produced from this summit may allow these regional experts to empower change within their local universities, healthcare systems and government. While the long term sustainability remains to be seen, over the past year, this project resulted in several publications with regional authors that will assist in outlining and substantiating the needs of researchers in the region. There has also been continued communication among participations and a social network analysis. The methods developed for this program are currently being replicated in the Middle East that will result in a regional research summit in the Eastern Mediterranean region in July 2016.

## 5. Conclusion

The process used to develop this Summit may provide a model for initiating a process to develop consensus for research priorities and a sustainable network of collaboration in other settings/regions. It was possible to convene the Summit with minimal funding by involving graduate students to conduct literature reviews, integrating local African core collaborators to assist with networking and planning, and providing some in-kind contributions from staff and faculty in the Office of Global Initiatives. Further evaluation of the long-term success and sustainability of the Summit is vital and will include bibliometric analyses to assess regional increases in publication productivity and social network analyses to assess whether new collaborations were sustained or increased. Our experience suggests that developing a sustainable international program requires collaboration with local leaders, intense planning, persistent follow-up, and opportunities for individual achievement that contribute to each participant’s successful career and/or altruistic motivations.

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