

**Librarians' involvement in evidence-based medical practice and health policy-making: the collaboration between Albert Cook Library and the Africa Centre for Systematic Reviews and Knowledge Translation**

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**Abstract:**

*In 2013, Makerere University College of Health Sciences (MakCHS) received funding support from the International Development Research Centre, Canada, to establish an Africa Centre for Systematic Reviews and Knowledge Translation. The aim of the Centre is to build capacity for knowledge translation for health policy in Uganda and East Africa. The Centre is steadily transforming Uganda and the East African region into an environment that is driven by evidence informed health policy and action, and one that is self-reliant in capacity for evidence synthesis and knowledge translation. The Centre team comprises clinical epidemiologists, public health physicians, health policy analysts, health systems researchers and library and information scientists. The paper examines the instructional and research*

*roles of health sciences librarians at the Centre, in informing evidence-based medical practice and health policy-making. The paper was informed by data from the Centre activities: courses conducted in knowledge translation (such as a course on systematic reviews and meta-analyses of health systems research), systematic reviews and evidence-informed policy briefs (completed and in-publication), and reports, focusing on the librarians' activities. The findings show that the health librarian's role as an expert searcher and evidence locator in a systematic review process is steadily embracing further roles of formulator of research questions using PICO, developer of exclusion/inclusion criteria, quality literature filterer, critical appraiser, systematic reviews author as well as educator. Library and information scientists are playing vital instruction and research roles in learning, teaching, research, as well as informing evidence based medicine and health policy.*

**Keywords:** Systematic reviews, Health Sciences Librarian, Knowledge Translation, Expert searching

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## 1. INTRODUCTION

Evidence-based Medicine (EBM) requires acquisition and use of a complex set of skills, including the ability to locate and critically evaluate clinically relevant research literature (Klem & Weiss, 2005). It is an approach to healthcare where the best available evidence is used to make clinical decisions for individual patients. Such evidence is found in high quality publications, such as systematic reviews, clinical guidelines as well as meta-analyses.

Health sciences librarians play an important role in evidence-based health practice because of their role of identifying and retrieving appropriate literature from various sources for use in the making of healthcare decisions. However, the role of information professionals has evolved from simply acting as 'evidence locators' and 'resource providers' to being quality literature searchers and filterers, critical appraisers, educators, reference managers, disseminators, data extractors, data synthesizers, report writers and disseminators (Beverley, Booth, & Bath, 2003). They are an integral part of the systematic reviews research team.

A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise the relevant research, and to collect and analyse data from this research (Rosenbaum, Glenton, & Cracknell, 2008). The purpose of systematic reviews is to sum up the best available research on a specific question. This is done by synthesizing the results of several studies. Systematic reviews use transparent procedures to find, evaluate and synthesize the results of relevant research.

## 2. THE AFRICA CENTRE FOR SYSTEMATIC REVIEWS AND KNOWLEDGE TRANSLATION

The Centre for systematic reviews and Knowledge Translation, whose aim is to build capacity for knowledge translation for health policy in Uganda and East Africa, is located at the College of Health Sciences, Makerere University. It was established in 2013, with funding support from the International Development Research Centre, Canada. The Principal Investigator for the Africa Centre is Prof. Nelson K. Sewankambo, the then Principal of the College of Health Sciences.

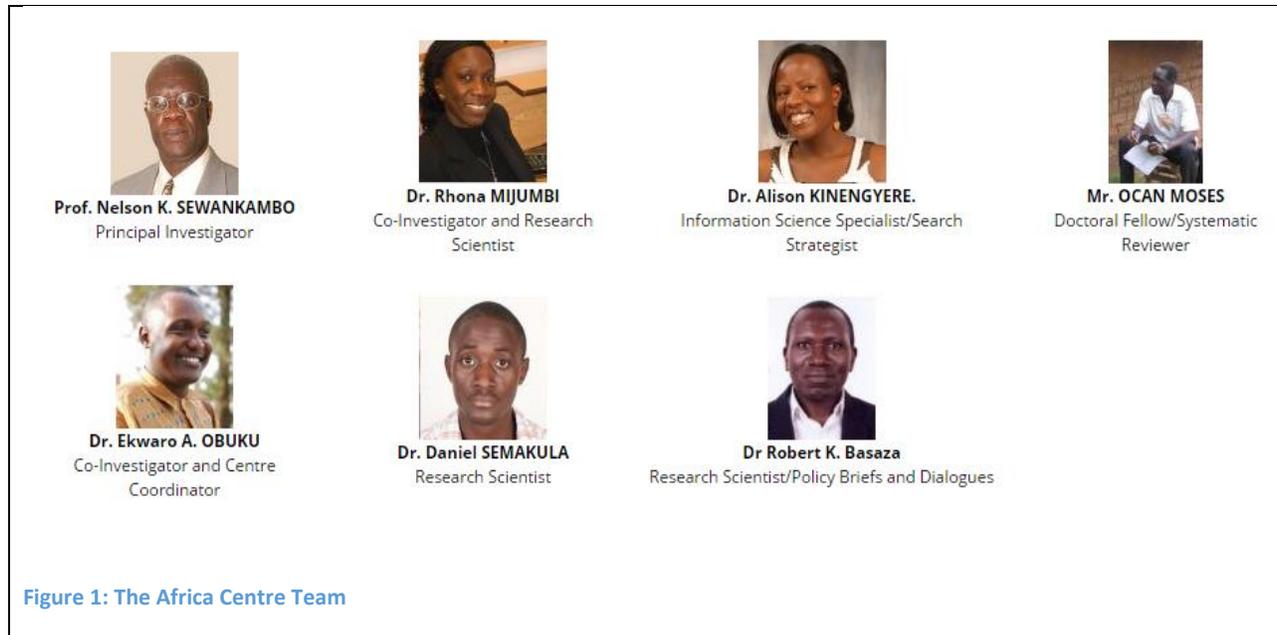
**Vision of the Africa Centre:** A leading centre of excellence in evidence synthesis and knowledge translation for health policy in sub-Saharan Africa.

**Mission of the Africa Centre:** To transform Uganda and the East African region into an environment that is driven by evidence informed health policy and action and one that is self-reliant in capacity for evidence synthesis and knowledge translation.

The goal of the Centre is building sustainable capacity for conducting and using systematic reviews and developing a novel Rapid Response Mechanism for responding to urgent policy makers needs for synthesized evidence.

The objectives of the Centre are:

1. To build the capacity for conducting and utilizing systematic reviews among researchers, health professionals and health policy and decision makers in Uganda
2. To conduct high quality systematic reviews in the priority areas of Millennium Development Goals 4 (child health) or 5 (maternal health) and or 6 (infectious or non-communicable diseases) and Health Systems Strengthening, relevant to sub-Saharan Africa.
3. To disseminate products of evidence synthesis and facilitate interaction between researchers and policy makers in Uganda to prioritize plan and deliberate on research evidence from systematic reviews.
4. To assess the extent to which existing published systematic reviews are informative and helpful in answering urgent policy makers' needs (questions) handled by Rapid Response Mechanisms in the four study countries (Uganda, Burkina Faso, Zambia and Cameroon).
5. To plan for a systematic evaluation of the Rapid Response Mechanism in Uganda, Burkina Faso, Zambia and Cameroon.
6. Establish the Africa Centre for Systematic Reviews and Knowledge Translation at Makerere University College of Health Sciences.



### 3. ACTIVITIES OF THE CENTRE

The Centre has conducted trainings as follows:

- 3.1 A workshop on Engaging decision makers and researchers to identify priorities for health systems evidence synthesis for the proposed Uganda National Health Insurance Scheme - Kampala, Uganda on November 20<sup>th</sup> 2014.
- 3.2 A course on Systematic Reviews and Meta-analysis of Health Systems Research, (Group I -Kampala, Uganda from 01-05 December 2014). The course is designed to focus on practical applications of the principles of systematic reviews taught in the introductory lectures. Participants are involved in identifying health systems problems for which research evidence is needed and proceed to conduct and publish systematic reviews answering these questions. To achieve the objective, course participants are engaged in systematic review conduct beyond the 5-day full time face-to-face interaction in Kampala, Uganda (<http://chs.mak.ac.ug/afcen/content/course-systematic-reviews-and-meta-analysis-health-systems-research-1st-5th-december-2014#sthash.8Wz3qk32.dpuf>)

### Who we are

Makerere University Medical School started in 1924 and later transformed to the College of Health Sciences in 2007. It is the oldest medical training University unit in East Africa; having been in the business of training medical and health professionals for over 80 years. Makerere University is one of the top 10 Universities in Africa in regard to presence, Impact, Openness and excellence

### Our Vision

A leading and transformational institution for academic excellence and innovation in health sciences in Africa

### Our Mission

To improve the health of the people of Uganda through innovative teaching, research and provision of services responsive to societal needs.

### Course organizers

This course in systematic reviews and meta-analysis is organized by the Africa Centre for Systematic Reviews & Knowledge Translation, Makerere University College of Health Sciences. The Centre Director is Prof. N.K Sewankambo, Principal, Makerere University College of Health Sciences.

Course coordinators: Dr. Ekwaro Obuku & Dr. Daniel Semakula

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### How to apply

Applicants should complete the application form available at:

<http://chs.mak.ac.ug/afcen/news-events/course>

NB: Please return your application via the email address given above

## Systematic Reviews and Meta-Analyses of Health Systems Research

Course Dates: 1<sup>st</sup> — 5<sup>th</sup> December 2014



**MAKERERE UNIVERSITY**  
**COLLEGE OF HEALTH SCIENCES**

## Background

The increasing efforts to link research evidence to health policy decisions and practice require both researchers and research users to acquire skills for effective knowledge translation. Makerere University College of Health Sciences has been supported by the International Development Research Centre, Canada, to establish the Africa Centre for Systematic Reviews and Knowledge Translation directed by Prof. Nelson K Sewankambo, the Principal of the college. The aim of this Centre is to build capacity for knowledge translation in Uganda and East Africa.

## Course description:

This course is designed to focus on practical applications of the principles of systematic reviews taught in the introductory lectures. Participants will be involved in identifying health system problems for which research evidence is needed and proceed to conduct and publish systematic reviews answering this question. To achieve this objective, course participants will be engaged in systematic review conduct beyond the 5-day full-time face-to-face interaction in Kampala, Uganda.

## Learning outcomes:

At the end of this course, participants will develop a clear understanding of systematic reviews and meta-analyses; and be able to read, appraise, use and conduct systematic reviews and evidence syntheses.

## Who should apply?

Researchers, health practitioners and public health professionals from public and private institutions involved in evidence synthesis for decision making or health policy formulation. A clear understanding of epidemiological study designs and biostatistics principles, and commitment to producing systematic reviews is required. Graduate students (PhD, Masters) whose research topics include systematic review work will be given priority.

## Course outline:

1. Introduction to knowledge translation
2. Priority setting for systematic reviews of Health Systems Research
3. Conducting systematic reviews:
  - ◆ Systematic reviews: introduction & critical appraisal
  - ◆ Protocol development for systematic reviews
  - ◆ Effective literature searching
  - ◆ Selecting articles and resolving disagreement
  - ◆ Data abstraction forms
  - ◆ Risk of bias assessments for different study designs
  - ◆ Synthesis: Narrative and Meta-analysis.
  - ◆ Investigating heterogeneity
  - ◆ Grading quality of evidence
  - ◆ Inferences based on systematic reviews
  - ◆ Reporting and publishing systematic reviews

## Teaching faculty:

1. *Prof. Nelson Sewankambo, Makerere University College of Health Sciences, Kampala, Uganda.*
2. *Dr. Alison Kinengyere, Makerere University College of Health Sciences, Kampala, Uganda*
3. *Dr. Agnes Kiragga, Makerere University College of Health Sciences, Kampala, Uganda*
4. *Dr. Daniel Semakula, Makerere University College of Health Sciences, Kampala, Uganda*
5. *Dr. Ekwaro Obuku, Makerere University College of Health Sciences, Kampala, Uganda*

## Partial Scholarship:

Limited slots are available for participants from upcountry Uganda and the East African region to cover tuition, travel, accommodation and meals only. Health and travel insurance should be arranged by prospective course participants.

### 3.3 The Centre is also currently **conducting the following systematic reviews:**

- a) Working with non-state providers in post-conflict and fragile states in primary healthcare service delivery.
- b) Correlation of pharmacokinetic parameters of anti-TB drugs with TB treatment outcome among TB infected and TB/HIV co-infected patients
- c) Task shifting from mental health specialists to non-mental health specialists for screening and treatment of depression among persons with HIV/AIDS: A systematic review protocol.

### 3.4 The project has also made presentations at international conferences/fora. Some of these include:

- a) Global Evidence Synthesis Initiative (GESI), 21st Cochrane Colloquium, Quebec City, Quebec, Canada.
- b) Global Evidence Synthesis Initiative (GESI), 3rd Symposium on Health Systems Research, Cape Town, South Africa.
- c) First Africa Evidence Network Colloquium, University of Johannesburg, Johannesburg, South Africa.

### 3.5 The Centre also has a mentorship program whereby graduate students are mentored from Year one to the time they finish their courses. Currently, there are two graduate students pursuing Master degree in Clinical epidemiology. They are currently being trained in

using reference management tools as they embark on their proposals. They are also receiving sessions on systematic review development. When they finish, they are given an opportunity to be part of the faculty at the Centre.

#### **4. INVOLVEMENT OF LIBRARIANS/INFORMATION SCIENTISTS IN SYSTEMATIC REVIEWS DEVELOPMENT**

The Cochrane Handbook of Systematic Reviews of Interventions appreciates a fact that information scientists /healthcare librarians have become an integral part of the systematic reviews development process. The Handbook recommends that all systematic reviews authors seek the guidance of healthcare librarians or information specialists with experience of conducting searches for systematic reviews. This is because the search strategies used must be reported in an explicit and exact manner so that it is reproducible:

*“.....to search and the exact strategies to be run. It should also be borne in mind that the search process needs to be documented in enough detail throughout to ensure that it can be reported correctly in the review, to the extent that all the searches of all the databases are reproducible. The full search strategies for each database should be included in the reviewing as an Appendix. It is, therefore, important that review authors should save all search strategies and take notes at the time to enable the completion of that section at the appropriate time.* (Higgins & Green, 2008)

*Systematic reviews and meta-analyses are very important to health care practitioners, who need to keep abreast of the medical literature and make informed decisions. Searching is a critical part of conducting these systematic reviews, as errors made in the search process potentially result in a biased or otherwise incomplete evidence base for the review. Searches for systematic reviews need to be constructed to maximize recall and deal effectively with a number of potentially biasing factors. Librarians who conduct the searches for systematic reviews must be experts.*

(McGowan & Sampson, 2005).

Considering the vital role that librarians play in the systematic review process, the Africa Centre created positions for 2 Library and information scientists who play the following roles:

- 4.1 Developing search strategies for systematic reviews – the complexity of developing search strategies for systematic reviews comes with a lot of work, including identifying keywords in the title, synonyms (related terms) and MESH terms; logically combining these with Boolean operators, and explaining why the terms are combined the way they are; and developing search strings. There is need for the searchers to know the differences between subject headings, publication types, and general information about the area of study. Searches may be revised several times, depending on the relevance of the hits retrieved. The search experts should aim at ensuring high precision and making sure no relevant articles are missed by the search terms used.
- 4.2 Searching the various databases for available evidence – these database are differently searched.
- 4.3 Reviewing the search results – this involves several discussions with all the team members, to avoid publication bias.

- 4.4 Transferring the search results into a reference management tool: the search coordinators should have skills in using reference management tools to enable them to for example convert the references into a common format, remove duplicates, compress the reference libraries for easy sharing with team members, and to carefully record each stage in a search log. The exact search log numbers MUST be recoded and reported as exactly as it was done.
- 4.5 Screening the searched results using the preset inclusion/exclusion criteria
- 4.6 Assessing the included studies using the standard systems such as AMSTER or the SURE (Supporting the Use of Research Evidence) assessment tools  
[http://global.evipnet.org/SURE-Guides/sure%20guides.html?page=source%2F04\\_addressing\\_options%2Fconfident\\_options.html](http://global.evipnet.org/SURE-Guides/sure%20guides.html?page=source%2F04_addressing_options%2Fconfident_options.html)).
- 4.7 Participating in the actual writing of the protocol and the final review. The Librarians therefore, should have research skills to be part of the authoring process.
- 4.8 The Centre Librarians have also participated in facilitating training workshops that the Centre has carried out, such as the training on Systematic Reviews and Meta-analysis of Health Systems Research, and the workshop on “Priority Setting for Health Insurance”
- 4.9 The Librarians have also facilitated in workshops on developing policy briefs for health systems in Uganda, Kenya, Tanzania and Ghana.

The Centre has provided training for the Librarians to ensure that they gain all the necessary skills the Centre requires to sustain their activities. One Librarian attended a Systematic Review Searching workshop at the South African Cochrane Centre (SACC) in May 2015.

The Librarians at the Centre have also co-authored the following systematic reviews:

- a) Interventions for male involvement in pregnancy and labour: A systematic review. Elizabeth Ayebare, Enid Mwebaza, Joseph Mwizerwa, Elizabeth Namutebi, **Alison Annet Kinengyere**, Rebecca Smyth. *African Journal of Midwifery and Women’s Health*. 2015.
- b) Working with non-state providers in post-conflict and fragile states in primary healthcare service delivery: a systematic review protocol. Obuku E.A., Stewart R., Achana F., Mijumbi R., **Kinengyere A.**, Basaza R., Akena D., Semakula D., **Ssenono R.**, Nsangi A., Mutatina B., Muyenje H., Newbrander W., Sewankambo N. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. <http://eppi.ioe.ac.uk/cms/LinkClick.aspx?fileticket=bmonzr8n-30%3D&tabid=3174>). March 2014.
- c) Financial interventions and movement restrictions for managing the movement of health workers between public and private organizations in low- and middle-income countries. Elizeus Rutebemberwa, **Alison A Kinengyere**, Freddie Ssenogooba, George W. Pariyo and Suzanne N. Kiwanuka. Available at: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009845.pub2/abstract> . February 2014.

- d) Interventions to manage dual practice among health workers. Suzanne N. Kiwanuka, Elizeus Rutebemberwa, Christine Nalwadda, Olico Okui, Freddie Ssenooba, **Alison A. Kinengyere** and George W. Pariyo. Available at: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008405.pub2/abstract>. July 2011.
- e) Breast cancer epidemiology and biology in black African women: a systematic review. Moses Galukande, Alex Elobu, James Ssegwanyi, Ekwaro Obuku, **Richard Ssenono**, Nagel Ingeborg: PROSPERO 2012: CRD42012002765. Available from: [http://www.crd.york.ac.uk/PROSPERO/display\\_record.asp?ID=CRD42012002765](http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42012002765).
- f) Prevalence and clinical characteristics of depression, and effects of screening interventions for depression among people with diabetes mellitus in Low and Middle Income Countries: A Systematic Review Protocol. Obuku E. A., AKENA, D., REJANI, L., KADAMA, P., **SENONO, R.**, MWESIGA, E., OKELLO, J. Available from: [http://www.crd.york.ac.uk/PROSPEROFILES/7228\\_PROTOCOL\\_20140127.pdf](http://www.crd.york.ac.uk/PROSPEROFILES/7228_PROTOCOL_20140127.pdf)

The following systematic reviews are being developed by the Center, and are still at Protocol stage:

- a) Correlation of pharmacokinetic parameters of anti-TB drugs with TB treatment outcome among TB infected and TB/HIV co-infected patients.
- b) Task shifting from mental health specialists to non-mental health specialists for screening and treatment of depression among persons with HIV/AIDS: A systematic review protocol.

## 5. CONCLUSION

We conclude by emphasizing the very integral role that library and information scientists play in systematic reviews development, in learning, teaching, research and policy development. The Africa Centre for systematic Reviews and Knowledge Translation (the only one in the East African region) has appreciated librarians' role and continue to support them develop further skills, for development and sustainability of the Centre.

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