



MicroResearch Virtual Workshop Report Mangochi, Malawi



Building capacity for community focussed health research

February 8 – 19, 2021



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B. Lecturers, Co-Presenters and Coaches

Co-Presenters

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C. Introduction and Objectives

The first virtual MicroResearch (MR) training workshop was held in Mangochi, Malawi from February 8 to 19, 2021. The class comprised of participants, coaches and co-teachers in Malawi and teachers in Canada. PowerPoint presentations were projected to the participants in Malawi using the Zoom® video conferencing platform. Lectures were all recorded and posted to a private YouTube channel, to which participants were given access. Participants also had access to the PowerPoint presentations and supporting educational materials on the private MicroResearch curriculum website. The backup support for the virtual workshop and the technical standards for the internet communication were developed and managed by Robens Mutatina, a technical consultant from the MR Hub site in Mbarara, Uganda, Joel Kumwenda an ICT expert from College of Medicine managed the internet facility from Malawi. The training set up comprised a lecture room for formal lectures and extra rooms for break-out sessions. The training was financially supported by College of Medicine through its grant from a Fogarty NIH grant 2019-24.

The key objectives of the MR Virtual Workshop facilitators (MR International, Halifax):

- to develop technical skills to hold future virtual workshops,
- to adapt training modules for effective use in a virtual environment, and
- to assess the challenges for virtual educational techniques.

The key objectives for the Malawi site and participants of the MR Virtual Workshop:

- For District learning platform:
 - to procure equipment and develop skills to hold virtual workshops
 - to demonstrate skills for training and teaching in a virtual platform
 - to be recognized for innovative educational excellence
- For participants:
 - to develop skills needed for community focused research,
 - to develop skills to work in a multidisciplinary group and to become a team, and
 - to write a successful community focused research proposal overview.

Prior to the workshop Bob Bortolussi, Noni MacDonald, and MR staff met with the organizer in Malawi, Towela Maleta, to review the program and determine strategy for teaching the intensive

two-week program. In December, 2020, the coaches and co-teachers in Malawi attended a three-day, virtual “Train-the-Trainer” (TtT) MR workshop to prepare for the roles they would play during the workshop. Meetings with the organizer, coaches, and co-teachers in Malawi were productive to identify priorities, teaching goals, and to understand the culture and context in Malawi for the workshop.

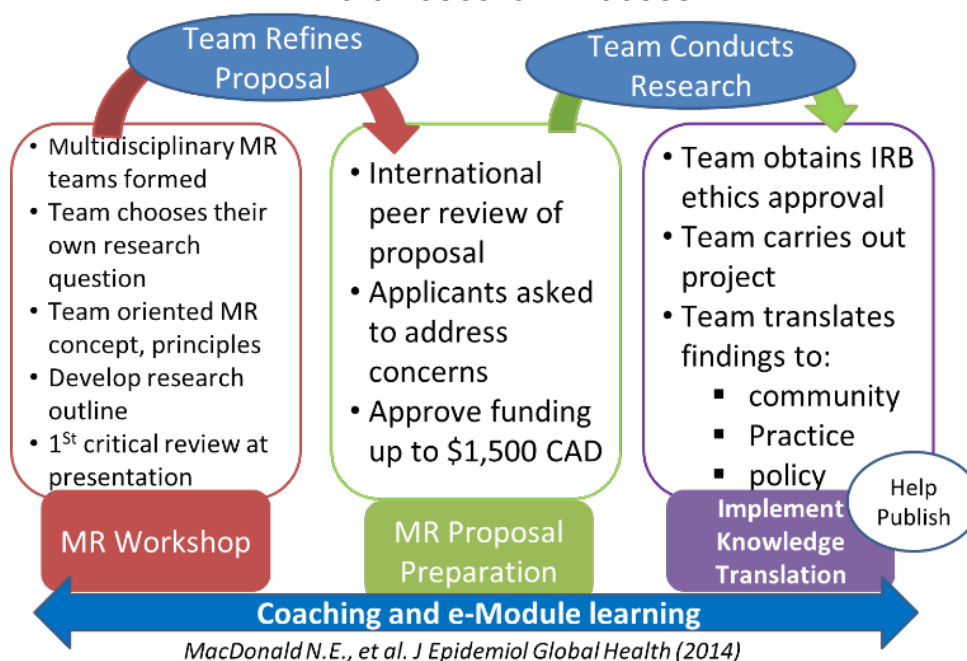
The MR workshop was developed as a component of an ambitious grant from the Fogarty Foundation in USA to assist health care professionals in Africa reach Sustainable Development Goals (SDGs) through effective collaboration in research and practice. The University of Malawi applied for a Fogarty NIH grant and the MicroResearch program is viewed as a contributor toward the overall goal of establishing effective inter-professional education among health care workers. The Malawian organizer and MR had agreed on a payment schedule for the TtT and MR workshop components, beforehand.

D. Background

Resource limited countries bear 25% of the globe’s disease burden yet the healthcare professional workforce is less than 1%. Furthermore, these low-income countries obtain only 2% of global research funds. In 2015, the *Sustainable Development Goals* (SDGs) were initiated as a program to build and extend the achievements of the United Nation’s *Millennium Development Goals* (MDG) initiative. Developing local capacity to address complex health problems, remains a priority of the SDGs.

MicroResearch (<http://microresearch.ca>) is an innovative strategy aimed at building the capacity of local health care professionals to better address community health care problems by finding local solutions for local problems. The program began in 2008 as a collaboration between faculty at Mbarara University of Science and Technology (Jerome Kabakyenga) and Dalhousie University (Robert Bortolussi and Noni MacDonald). Since then, the research capacity building workshops have been held in 9 countries with 1,143 participants. More than 120 locally driven research projects have been launched with 46 completed, with results published in peer reviewed international health journals.

MicroResearch Process



As shown in this figure, the MicroResearch process advances in three phases: (i) Training Workshops are the first phase in the process. (ii) Teams formed during the workshops are then able refine and improve their research ideas for a grant submission to MicroResearch and review by an international panel of research experts from Canada and Africa. Once the research teams have responded to the reviewer recommendations with changes to their proposal, approval is given on scientific merit. (iii) Teams are then able to submit their proposal to their local Research Ethics Committee (REC or IRB) for approval and carry out their research. They are also encouraged to bring their findings back to the community through a Knowledge Translation plan

E. Workshop Events and Outputs

The MR program was modified to meet the virtual presentation and local needs. Participants were recruited through word-of-mouth, and personal invitation. The workshop initially planned to train 17 health workers but achieved 26. The addition was necessitated by the need for Malawi College of Health Sciences to participate in MicroResearch so the workshop had 4 additional participants. District platform theme lead Winnie Chilemba and coordinator Towela Maleta also participated. Among the participants 4 volunteered to be team coaches and four were co-facilitators. The participants included a wide range of disciplines and professions including medicine, nursing, midwifery, laboratory technology, nutrition, dentistry, health service management, psychology, statistics, and community development. All except 4 participants were health care workers from Mangochi District Hospital. Four were lecturers at Malawi College of Health sciences. A total of 5 research teams were formed and each team developed a research proposal base through the workshop period and summarized the proposal for a presentation, which was held the last day. Once fully developed and approved by IWK on scientific merit and COMREC for ethical standards, teams will each be sub-granted with USD \$2,100.

The preworkshop assessment was completed by 14 of the 21 participants. As shown in the Pre-Workshop evaluation, 11 participants had previous research experience. 12 of the participants had a relationship in the provision of health services.

The ten-day, workshop combined lectures and daily small group interdisciplinary, interactive working session. The lectures, support materials and tool kits were recently updated and refreshed in 2021 to include new slides on using the internet, challenges in research, ethics, knowledge translation, budget, research to policy, and how to get published. Session lectures began at 2:30PM local time in Mangochi in week 1, and at 1:00PM local time in week 2. Session lectures were followed by guided interactive small group discussions and planning until the end of the day (6:30PM local time). The lectures, exercises, and group work over the eight days led the participants step-by-step through the development of a research proposal overview. Participants moved from formulating an idea to the development of the methods and a proposal. Daily workshop attendance ranged from 90% to 100%. On the final day each of the five teams made a PowerPoint presentation to summarize their planned research question, proposal, budget, methods and knowledge translation plan. A panel of three local judges provided the teams with their first formal critique.

F. Team Proposals

As in previous workshops, the major educational component was centred around the proposal overview development in the interdisciplinary groups. There was a significant amount of content on Day 1 to orientate and allowed participants to develop their own ideas into a research question based on their own experiences. Most participants had interacted at some point in their workplace. On Day 2 the collaboration began when participants were divided into five groups (four per group) with a focus on respecting diversity of background and gender as much as possible. Each group then discussed each member's question and then applied the FINER criteria (lecture Day 2) and selected the "best" one to develop into a research proposal overview during the rest of the workshop. On Day 3, a spokesperson for each group presented the topics to the class and noted the question selected by the group and the rationale for its selection. The questions selected on Day 3 were:

- Team 1:** Investigating knowledge on birth preparedness among pregnant mothers in Mangochi District
- Team 2:** Exploring adherence to newly introduced oral drugs for TB drug-resistant patients
- Team 3:** Stigma associated with COVID-19 among health workers in Mangochi District, Malawi
- Team 4:** Factors contributing to birth asphyxia at Mangochi District Hospital
- Team 5:** Exploring the literacy levels among secondary school teachers on COVID-19 related symptoms in public schools, Lilongwe city, Malawi

A discussion followed each group's presentation, with emphasis on importance of narrowing and refining each question.

The series of lectures that followed provided knowledge and skills needed to develop these questions into research proposal overviews, including knowledge translation, ethical issues, community engagement and budget development. All core elements to the MR concept and essential for the presentation on the final day.

Each group became a team, shaping their proposal throughout the workshop and being guided by their coach.

G. Workshop Partners

This workshop was supported by partners including:

- College of Medicine, University of Malawi (Organization, financing, technical support, volunteer coaches, and teachers)
- Mangochi District Hospital (Participants)
- Kamuzu College of Nursing (Coaches)
- Dalhousie Medical School, Dalhousie University (Volunteer teachers)
- IWK Health (Volunteer teachers)
- Healthy Child Uganda, Mbarara, Uganda (Technical support)
- MicroResearch private donors
- Fogarty Foundation (Financial partner)

H. Final Day

On the final day of the workshop (February 19, 2021), each team presented the overview of their proposal (ten minutes) to a panel of four judges followed by comments and questions from the judges. The panel of judges adjudicated each team's presentation and suggested how the proposals might be further strengthened.

The Judges Panel included:

- Dr Chimwemwe Thambo (District Medical Officer, Mangochi, Malawi)
- Dr Carol Humphrey (Lecturer, Family Medicine, College of Medicine, University of Malawi, Mangochi, Malawi)
- Dr Anna MacDonald (Lecturer, Family Medicine, College of Medicine, University of Malawi, Mangochi, Malawi)

Judges' General Comments

The judges noted that all teams had clearly worked hard and presented their proposal overviews well and on time. The judges were impressed by the professional presentations of the PowerPoints.

Each research question was relevant, but they all need refining. They noted that each team needs to dig deeper into background to provide a stronger rationale connected to the available literature. When answered, these questions could lead to potential changes in practice or policy and/or a better understanding of why certain problems are occurring within the communities.

I. Workshop Evaluation

An assessment of the workshop by participants as well as how well their team functioned was obtained using structured evaluation forms submitted anonymously with 18/21 (86%) of participants completing the form. The scores and summary of comments are presented in Appendices 7 and 8.

Overall, the workshop was highly regarded by participants and the virtual program was well accepted, although several felt more time was needed to work through the vast amount of information (particularly if they were new to research). Of particular note, the importance of ethics, knowledge translation, and budgeting were highlighted by many participants.

Most participants responded in their evaluation that working as a team enhanced their research and the workshop experience stimulated their interest in research. Several indicated that it will assist them achieve career goals:

- *“The workshop was an eye-opener. Facilitators were very humble and always listening to our concerns. Awesome!”*
- *“The training was so wonderful and my research knowledge has greatly improved”*

J. Future Plans and Recommendations

To help plan this and future Virtual Workshops, we carefully assessed the processes we followed, and virtual curriculum, and logistical needs. A few key findings are highlighted.

- **Collaborations:** There is a great need for close collaboration before, during, and after the workshop to ensure the key objectives will be met. This should entail regular weekly conference calls with key players starting one month before the workshop and every two days during. MR collaborations should continue afterward to explore ways to improve the infrastructure, shared participation, values, goals, and outcomes.
- **Local Leadership:** The wealth of experience and expertise given by local experts (e.g. library resources, research ethics, health to policy, and community engagement) are valuable elements to provide context. The MR team in Halifax will need to be mindful and acknowledge the support provided by organizers, coaches, and teaching team members and continue strengthening the community of researchers in Malawi.
- **Sustainability:** As the Fogarty program matures, the various partners should explore means to provide support.
- **Professional Development:** MR should develop a formalized teacher and coach feedback process on a daily basis during the workshop to help all faculty grow
- **Institutionalization of MicroResearch:** Canadian MR faculty should develop more opportunities for local co-teachers and coach involvement to promote growth confidence and, institutionalization at the facility. Senior Trainers should periodically backstop to

ensure quality and give feedback. This may minimize over reliance on MR to ensure it is sustainable beyond the project life. The district will still need support from MR to ensure they remain eligible for funding opportunities from MR.

Recommendations:

1. Sites hosting virtual workshops should have a secure power source in case of blackouts (laptop battery, backup generator).
2. Logistical planning: select best time to start each workshop session (for Malawi this was 1:00 PM), teaching site should be at an easily accessible location, and breakout rooms reserved in advance.
3. Teaching Aids: An instructional manual should be developed for coaches and co-teachers and power point material should be available well in advance and include background information for each slide.
4. Final Day: Judges should be selected in advance and be provided with instructions to help them rank and score the presentations. The final day festivities should be arranged as a celebration of their accomplishments.

Respectfully submitted,



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