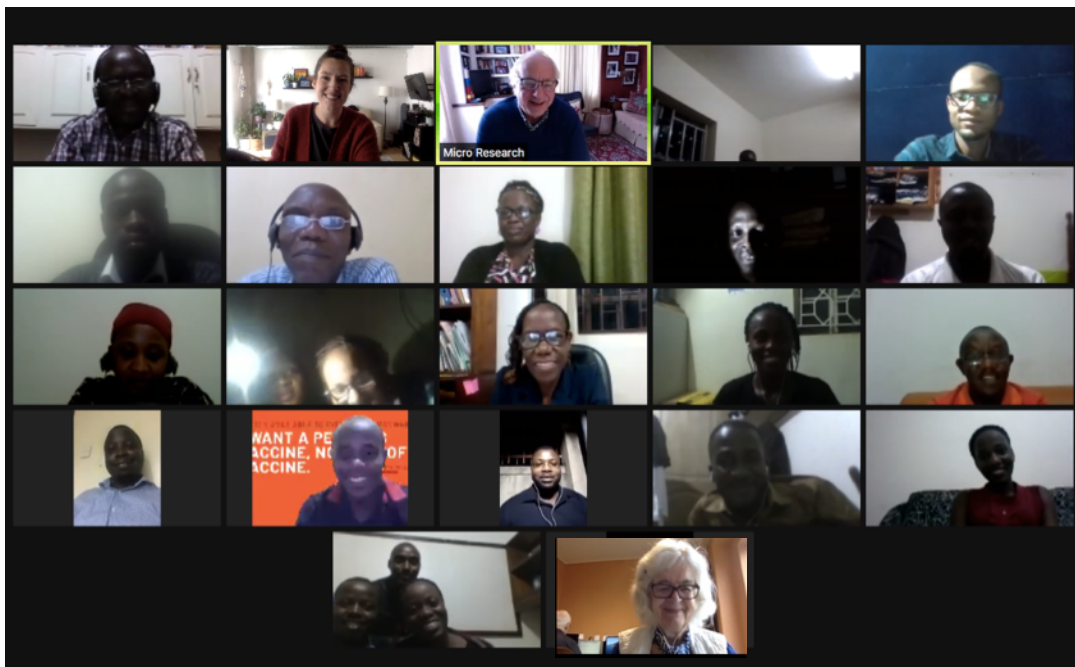




**MicroResearch Virtual Workshop Report**  
Maternal Neonatal Child Health Institute  
Mbarara University of Science and Technology



*Participants, coaches and facilitators from the virtual MUST Workshop*

*Building capacity for community focused health research*

**April 6 -16, 2021**



## A. Organizers

The 13<sup>th</sup> MicroResearch (MR) training program for the Maternal, Newborn and Child Health Institute (MNCHI) site at Mbarara University of Science and Technology (MUST) in Mbarara, Uganda was held virtually from April 6 to April 16, 202. The main organizers for this virtual workshop were

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| <p><b>Robert Bortolussi</b>, MD, FRCPC, FCAHS, Professor Emeritus, Pediatrics, Faculty of Medicine, Dalhousie University, Halifax, Canada<br/> <a href="mailto:Robert.bortolussi@dal.ca">Robert.bortolussi@dal.ca</a></p>                              | <p><b>Noni MacDonald</b>, MD, MSC, FRCPC, FCAHS Professor, Pediatrics, Faculty of Medicine, Dalhousie University, Halifax, Canada<br/> <a href="mailto:noni.macdonald@dal.ca">noni.macdonald@dal.ca</a></p>                                     |
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## B. FACILITATORS, GUEST LECTURERS & COACHES

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## C. Introduction and Objectives

The 13<sup>th</sup> MicroResearch (MR) training program for the Maternal, Newborn and Child Health Institute (MNCHI) site at Mbarara University of Science and Technology (MUST) in Mbarara, Uganda was from April 6 to April 16, 2021. Due to COVID-19 this was held virtually, the third virtual workshop for MR at MUST- two previous being writing workshops (November 2020 and February 2021).

The class comprised of participants, coaches and co-teachers in Mbarara and teachers in Canada. PowerPoint presentations were projected to the participants in Mbarara 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 Edwin Nahabwe, IT support for the MR Hub site in Mbarara, Uganda. This workshop involved teams from five different sites (Gulu Regional Referral Hospital in Gulu, Makerere University Business School in Kampala, Kabale University in Kabale, Kampala International University site in Ishaka in Bushenyi District, and MUST and Mbarara Regional Referral Hospital in Mbarara ) in Uganda all made more readily possible because the training was virtual.

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

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

The key objectives for the participants of the MR Virtual Workshop:

- 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.

## D. Train the Trainer Seminars

For a successful MR workshop, organizers, coaches and co-teachers at the local African site need to be fully prepared. In the past, we held meetings with coaches and co teachers on site during the workshop to prepare everyone. Because of COVID-19 travel restrictions, such on-site preparations were not possible. To meet these important training tasks, we held a series of virtual Train the Trainer Seminars over three days (March 29-31, 2021) to discuss workshop plans with the local teachers and coaches. These seminars included “*Introduction to MR*” (covering talks of workshop on Days 1 and 2), “*Research Tools*” (talks from Days 3 to 5) and “*Research Communication*” (Days 6 to 9).

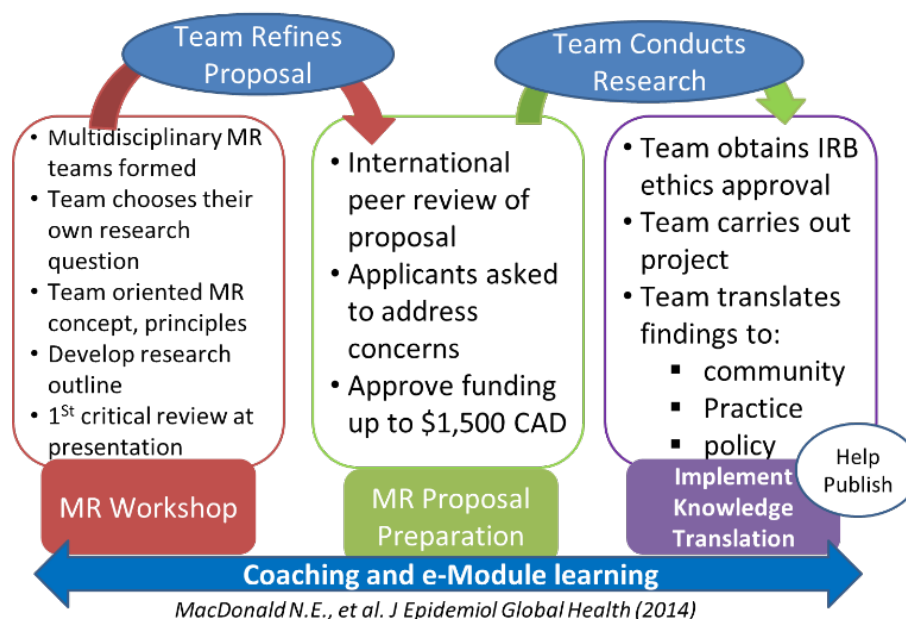
How the course would be modified to be only nine days was also discussed. The seminars helped local organizers make improvements needed for enhanced A/V and internet access and for local faculty to prepare for their coaching and teaching roles using a virtual platform. The seminar was very productive as it drew attention to potential pitfalls and opportunities.

## E. 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 the figure above, 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. MR successful proposals at MUST have been funded through a local and international Rotary partnership. Given

the different teams here, more work is needed to have more local Ugandan Rotary clubs participate as well as more Rotary clubs in Atlantic Canada and beyond.

## **F. Workshop Events and Outputs**

The MR program for virtual presentation for Malawi was further modified for MUST. Participants were recruited through word-of-mouth at MUST and Mbarara Regional Referral Hospital, as well as from direct requests from teams from Makerere University in Kampala, Kabale University in Kabale, Gulu Regional Referral Hospital, and Kampala International University. The program was shortened to 9 days due to the Easter holiday, with the Career Planning and Time Management lecture being offered on a Saturday after the workshop as an optional session. The 25 participants included a wide range of disciplines and professions including medicine, nursing, economics, information technology, and counselling.

The pre-workshop assessment was completed by 24 of the 25 participants (96%). As shown in the Pre-Workshop evaluation, 16 participants had previous research experience; 8 as study participants, 10 as research assistants, 4 as site investigators and 5 as principle investigator.

The nine-day workshop combined lectures and daily small group interdisciplinary, interactive working sessions. 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 4:00PM local time in Uganda. Session lectures were followed by guided interactive small group discussions with the coaches for each team for and planning until the end of the day (7:30 to 8:30 PM 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 research question, to the selection of methods to fit the questions taking into account the budget available and the formulation of the overview of a knowledge translation plan and determination of what communities to engage, when and how. Daily workshop attendance ranged from 80% 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 reviewers provided the teams with their first formal critique.

## **G. 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 allow participants to develop their own ideas into a research question based on their own experiences. On Day 2, the collaboration began when participants were divided into five groups, each group representing a different. Working in breakout rooms, the groups then discussed each member's question and applied the FINER criteria (discussed during the lecture on Day 2) and selected the "best" one to develop into a research proposal throughout 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 (see Appendix 5). The questions selected on Day 3 were:

**Team 1:** Economic justification for community-based health insurance in Luweero District: A case of Save for Health Uganda

**Team 2:** Can a regional ambulance dispatch system improve pre-hospital and inter-hospital referrals in Gulu?

**Team 3:** Male involvement in Menstruation and Menstrual Health and Hygiene in Southwestern Uganda

**Team 4:** What is the Impact of COVID-19 amongst pregnant women seeking antenatal care in southwestern Uganda?

**Team 5:** What are the factors influencing relapse among patients with severe mental disorders at KIU-TH mental and psychiatry ward?

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 the lectures included core elements to the MR concept, which were essential in preparation for the presentation on the final day.

Throughout the workshop, each group became a team, working together on their proposals, guided by their coach.

## **H. Workshop Partners**

This workshops and projects emerging as a result are supported by partners including:

- Maternal Neonatal Child Health Institute
- Mbarara University of Science and Technology
- Healthy Child Uganda, Mbarara, Uganda (Technical support)
- Gulu Regional Hospital
- Kabale University
- Kampala International University
- Makerere University
- Dalhousie Medical School, Dalhousie University (Volunteer teachers)
- IWK Health (Volunteer teachers)
- MicroResearch private donors
- Academics without Borders
- Rotary International Atlantic Canada

## **I. Final Day**

On the final day of the workshop (April 16, 2021), each team presented the overview of their proposal in a ten-minute presentation to a panel of three local experts. The review panel, along with the two Canadian facilitators, adjudicated each team's presentation and suggested how the proposals might be further strengthened.

The local review Panel included:

- Dr. Nyakato Viola, Senior Lecturer, Faculty of Interdisciplinary Training and Research, MUST
- Dr. Gertrude Kiwanuka, Dean, Faculty of Medicine, MUST
- Dr. Charles Muchunguzi, Lecturer, Faculty of Interdisciplinary Studies, MUST

### **Review Panel General Comments**

The local experts noted that all teams had clearly worked hard and presented their proposal overviews well albeit ran over the 10-minute time limit. The reviewers were impressed by the professional presentations of the PowerPoints but concerned by the overrun in time.

They noted that each research question was relevant, but they all need some refining. They suggested 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. Each team needs to ensure their full proposal includes information on the local context, health system, and/or insurance system so reviewers from away will have a better understanding of the background.

## **J. 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 19/25 (76%) of participants completing the form. The scores and summary of comments are presented in Appendices 7 and 8. Note it is always harder to collect evaluations in virtual context than in person.

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 the MicroResearch has changed how they will work:

- *“The knowledge I have learnt will benefit every student that I teach and colleagues at work because I will share the resources, knowledge and skills obtained from the workshop.”*
- *“I am going to be a better reviewer for journals that usually contact me to review their articles”*

- “*MicroResearch initiative is a great innovation and will enable many people improve their research skills!*”
- “*I have learned how to always improve on what I do, I mean not to always stop at identifying different problems but go ahead and do something to see the situation.*”

## **K. Future Plans and Recommendations**

To help plan this and future Virtual Workshops, we carefully assessed the processes we followed, the 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.
- **Local Leadership:** The wealth of experience and expertise given by local experts who have been involved with MicroResearch shone through in the planning and delivery of this virtual workshop
- **Sustainability:** As Rotary has provided funds for MUST projects, how this will be done for other sites needs to be determined. Rotary International in Atlantic Canada region has noted that it can increase its support, but local Ugandan Rotary clubs need to be brought in and involved.
- **Professional Development:** MR should develop a formalized teacher and coach feedback process to check in daily throughout the workshop to help all faculty grow
- **Institutionalization of MicroResearch:** The depth of local expertise in MicroResearch at the MUST site supports the HUB MR concept and can help other sites.

### **Recommendations:**

#### **1. Improving Participant/Teacher Communication:**

- Conducting a virtual workshop makes it difficult to for teachers and trainees to communicate in a traditional manner. Thus learning opportunities may be lost.
- Enhance visual connection between teachers and participants by asking for everyone to keep their cameras on.
- Occasionally pause during presentations to allow for feedback and delegate participants to respond and/or ask questions (this would be especially useful during Community Engagement and Research into Policy presentations).
- Consider breakout rooms between major sessions to allow small group and teacher interaction on the content that was just discussed.
- Consider teams being formed pre-workshop, meet virtually and begin to think about areas where might focus question. Could consider doing lecture 1C from Day 1 with teams formed a week ahead of proper workshop i.e. a pre workshop component and then start with rest of Day 1 thru 10 as whole workshop.
- The pre workshop component could be combined with a mini-orientation to show participants how to access the online curriculum and basics of how to use Zoom. Clearly outline the expectations of the workshop, e.g. attendance and participation requirements.

#### **2. Combat virtual viewing fatigue:**

- Long virtual sessions can be tiring and may minimize learning potential.



- Schedule 5 minute breaks for stretch and bathroom needs.
  - Consider allowing participants to view slides or taped recording of the talk and require they answer to some basic questions beforehand. This will better monitor how well message is understood and allow teachers to focus on areas that need to be reinforced.
  - If participants have studied the power point beforehand, consider shortening the lectures during the day to essential elements (when combined with the previous item).
- 3. Improve Zoom Utilization:**
- Sessions were interrupted periodically because of audio feedback and screen sharing technical problems.
  - Set sessions up so participants are on “mute” as default upon entry.
  - Try to provide co-teachers, judges etc. with headsets with built in microphones.
  - Consider short trial run with co-teachers prior to presentation day.
  - Review possible solution for strengthening internet connections for those joining the workshop off-site.
- 4. Final Day Presentations:**
- Presentations ran overtime on the final day. This led to limited discussion and feedback and compromised time allowance to subsequent presenters. The teams had less time in a 9-day workshop to prepare for presentation, thus likely did not have time to practice their presentation to ensure was only 10 minutes.
  - Reinforce the time limitation of 10 minutes for the presenters.
  - Provide a 2-minute warning signal to allow them to wrap up.
  - Limit number of presenters for each team to one or, at max, two.
  - Request coach to watch a practice presentation to ensure content and length is appropriate.
- 5. Project Funding**
- As Rotary has provided funds for MUST projects, how this will be done for the other sites needs to be determined. Rotary International in Atlantic Canada region has noted it can step up its contributions, but local Ugandan Rotary clubs need to be engaged with and involved. This effort in Uganda needs to lead locally to engage these other Rotary clubs and/ or verify if respective universities will contribute project costs as is being done at Mildmay site.

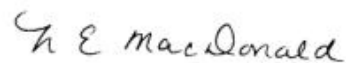
Respectfully submitted,



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