



MicroResearch Workshop June 3-14, 2024

Faculty of Medicine
University of Lampung Indonesia (UNILA)

Organizers at UNILA

Dr.dr. Dian Isti Angraini MPH, Faculty of Medicine and
dr. Fitria Saftarina MSc, Faculty of Medicine.

Coaches

Dr. dr. Cipta Ginting MSc Faculty of Agriculture,
Dr. Sutopo Hadi MSi, PhD Faculty of Mathematics,
Dr. Dyah Wulan Sumezar RW, SKM, MKes Faculty of Medicine and
Bayu Anggileo Pramesona Ners S Kep, MMR, PhD, Faculty of Medicine.

MicroResearch Teachers

Dr. Robert Bortolussi, Professor Emeritus Dalhousie University
Dr. Anthony Otley, Professor Dalhousie University

UNILA Co-Teachers

Dr. dr. Jhons Fatriyasi Suwandi *and* dr. Novita Carolia, (Day 1)
dr. Fitria Saftarina, *and* dr. Diana Mayasari (Day 6)
dr. Agustyas Tjiptaningrum, *and* dr. Intanri Kurniati. (Day 7)
Dr. dr. Dian Isti Angraini *and* dr. Hanna Mutiara (Day 8)
Prof. Hamim Sudarsono *and* Dr. dr. Khairunnisa (Day 10)

Indonesian review panel (Day 10):

Prof. Dr. Sudjarwo, MS: profdrsudjarwo@gmail.com
Dr. dr. Endang Budiarti, M.Kes: endangbudiarti420@yahoo.com
Dwi Asmi, Ph.D: dwi.asmi@fmipa.unila.ac.id; dwi.asmi82@yahoo.com.

Building capacity for community focused health research



Organizers

The MicroResearch (MR) research training workshop for University of Lampung in Lampung, Indonesia was held from June 3-14, 2024.

The main organizers for this virtual workshop were:

Robert Bortolussi, MD, FRCPC, FCAHS, Dalhousie University, Halifax, Canada. Robert.bortolussi@dal.ca	Dr. dr. Dian Isti Angraini MPH, University of Lampung, Lampung, Indonesia. Dian.istiangraini@fk.unila.ac.id
Anthony Otley MD, MSc, FRCPC, Dalhousie University, Halifax, Canada Anthony.otley@dal.ca	dr. Fitria Saftarina MSc, University of Lampung, Lampung, Indonesia. Fitria.saftarina@fk.unila.ac.id

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Introduction and Objectives

Resource limited countries bear 25% of the globe's disease burden with less than 1% of the world's healthcare professional workforce. They also have access to only 2% of global research funds. In 2015, the world came together to take transformative action and figure out how to make a healthier, safer, more peaceful, and prosperous planet by 2030. The result was the creation of *Sustainable Development Goals* (SDGs). One of its priorities is to encourage support for research infrastructure and develop local capacity to address complex health problems.

MicroResearch (www.microresearch.ca) was founded in 2008 as an innovative strategy to build the capacity of local health care professionals to address community health care problems by finding local solutions for local problems to support research infrastructure and develop local capacity to address complex health problems, a priority of the SDGs.

The MicroResearch Workshop was designed to support Indonesia's human capital development agenda by strengthening the capacity of the University of Lampung (UNILA) to produce high quality research by members of the Faculty of Medicine at UNILA. The workshop was initiated by the Republic of Indonesia's Higher Education for Technology and Innovation Project (HETI) in response to the "Report and Recommendation of the President to the Board of Directors".

Participants of the workshop consisted of 26 learners, who were lecturers at UNILA and members of the Faculty of Medicine, 4 coaches from Medicine and other Faculties and 10 co-teachers from several disciplines and professions within the Faculty of Medicine at UNILA and two workshop presenters from Canada.

Learners in the workshop were divided into four teams of 6-7 participants selected to ensure the best multidisciplinary composition for each team. Each team was coached by a senior member of the UNILA research community who would guide them during the workshop to ensure they understood their tasks. See Appendix 2 for a list of participants and team composition.

The objectives for the participants for this 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.

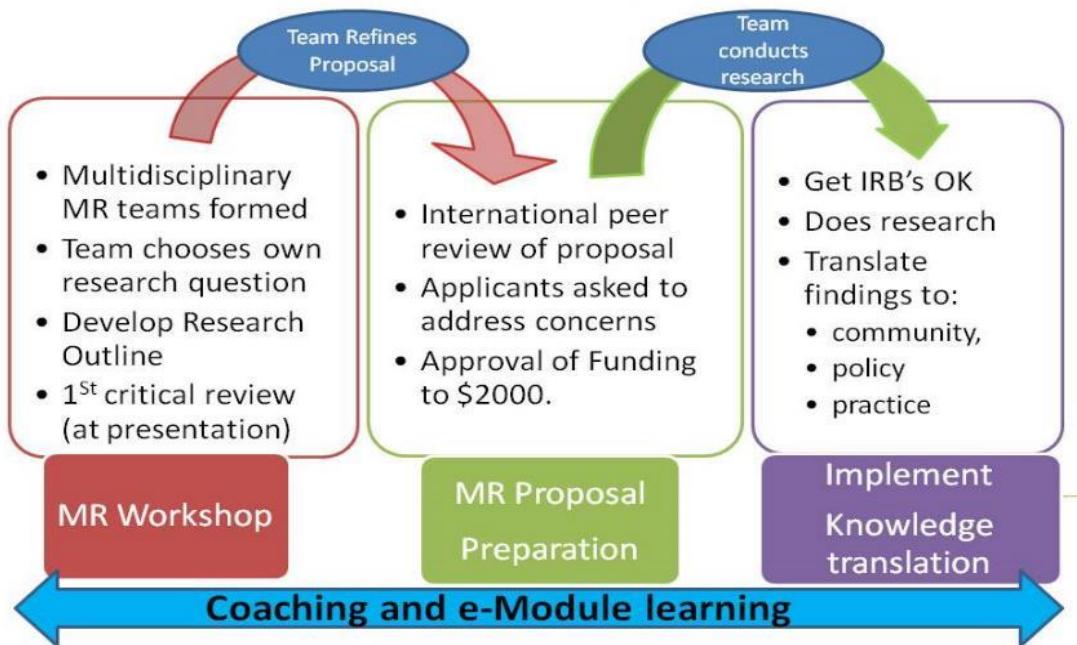
Background

Community engagement in the research process is now recognized as an essential strategy to achieve SDG goals. The approach overcomes limitations of other research strategies, which typically develop without considering the needs and challenges of people and communities. To be successful community focused research must work collaboratively and respectfully in partnership with those it aims to assist. A multidisciplinary team to identify and address the community issues is critical in the process. MicroResearch honors and values the knowledge and

experiences of people who bear the burden of health inequities and is committed to assist local researchers to pursue sustainable change to improve community health and well-being.

Since its founding, MicroResearch research capacity building workshops have been held in 10 countries and trained over 1,500 participants. Over 150 locally driven research projects have been funded and launched. Over 50 of these projects have led to publications in peer reviewed international health journals and many others have brought about significant, lifesaving, changes to local or national health practices.

MicroResearch Program Process



As shown in the figure above, the MicroResearch (MR) process advances in three phases, with the in-person Research Workshop being the initial phase:

- (i) The Research Training Workshop trains participants on research design methods and communication skills. Teams develop and refine their own research idea and receive advice from a panel of local research experts.
- (ii) Workshop research teams are invited to refine and submit their proposal for critical review by experts in Canada and Indonesia. Based on reviewer comments, teams can make project changes. Approval is given once the proposal reaches scientific rigor.
- (iii) Teams begin to do the project by submitting it to the local Research Ethics Committee (REC). Once approved by the REC, the teams carry out their research and continue to be assisted to publish their findings and communicate to the communities, through Knowledge Translation and implementation.

Workshop Planning

Capacity development activity planning for the Higher Education Technology and Innovation (HETI) Project began during the project design process in 2019. Details were elaborated and discussed during the HETI Inception Mission in 2022. MicroResearch was identified at that time as a possible provider of medical research strengthening technical assistance and subsequently the Asian Development Bank (ADB) provided funding to support priority technical specialists via a Technical Assistance ADB Program, TA-6770 REG: “*Support for Human and Social Development in Southeast Asia - Phase 2*” in 2023. Technical experts were engaged through the TA facility on an individual consultant basis for, *inter alia*, medical research strengthening at UNILA. Detailed planning for this component of the TA began in 2023 with Indonesian and Canadian input continuing through early 2024 prior to program delivery.

Since English is the second or (often) the third language of participants, plans to deal with spoken language issues were discussed in detail:

- Coaches and co-teachers fluent in both written and spoken English were recruited to provide detailed explanation to participants if needed.
- Coaches and co-teachers joined the Train-the-Trainer planning workshop in April and attended in-person lectures in June, to explain any participant uncertainty of interpretation.
- Participants were expected to have proficiency in English written skills as well as oral proficiency if possible.
- Lectures were conducted in English, but teams met with their coach after the lectures to develop research plans in their local language.
- All participants, coaches, and co-teachers received a USB memory stick containing all workshop presentations, reference and support material.
- On the first day, participants received the schedule for the workshop events and a printed listing of objectives of lectures and homework for each day. **[Appendix 1 (English version)]**
- During each lecture, we used a translation tool of Power Point to provide Indonesian subtitles to the spoken presentation.
- An evaluation of the attempts to overcome language barriers was undertaken at the end of the workshop.

Workshop Events and Team Proposal Development

Workshop Lecture & Team Activity Schedule

Day	Lectures	Activities
1	Introductions and Objectives, [1A] Using the internet for MR, [1B] Defining a research question [1C]	Participant select a question
2	Principles Clinical Research (Qualitative Tools)[2A] Challenges in Research [2B]	Groups Formed Discuss Project Ideas
3	Project topic report by each group Design, Quantitative Tools, [3A] Getting Going on your MR proposal [3B]	Project Topic Reporting Meet coach, refine question
4	Sampling, statistics Tools [4A] How to get published [4B]	Refine Proposal
5	Knowledge Translation [5A] Writing a Research Grant and Budget [6A]	Refine Proposal
6	Community Engagement [5B] Oral & poster presentations [6B]	Refine Proposal
7	Research Ethics [7A] Writing an abstract [8A]	Refine Proposal
8	Writing a report [8B] Research to Policy [7B]	Refine Proposal
9	Documenting your career [9A] Time management [9B]	Prepare for Presentation
10	Presentations by Teams Career Planning [11A]	Proposal Adjudication

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Participants for the UNILA workshop were recruited through word-of-mouth at the faculty of medicine. The 26 participants had proficient English skills and included a wide range of disciplines and interests including law, pharmacy, public health, business administration, economics and natural sciences (microbiology, chemistry, parasitology and anatomy. (Appendix 2).

The curriculum of the workshop is designed to give participants the knowledge and skills needed to develop their team's idea into a draft research proposal, with sections on knowledge translation, ethics, community engagement, moving research into policy and budget planning. Thus the ten-day workshop combines lectures and daily small group interdisciplinary, interactive working meetings with their coach. Much of the curriculum, including lectures, support materials and tool kits were updated for the workshop in Indonesia to include culturally relevant information on use of the internet, and the potential of AI in research. The list of topics covered is shown in Appendix 1a.

The major educational goal of MicroResearch workshops is for interdisciplinary teams to draft a preliminary grant proposal. And through "hands-on" collaboration as a team to develop the skills needed to do investigator initiated, community-based research. The content on Day 1 is aimed

at helping participants develop a research question based on their own challenges. The homework after the introductory lectures is for each person to describe a research question for the next day based on their personal experience.

On Day 2, team collaboration began with participants joining their interdisciplinary group to discuss each member's question using "FINER" criteria (feasibility, interest, novelty, ethics and relevance) to decide on the most appropriate research question to work on during the rest of the workshop. Each team summarized the discussion on each of the proposed questions to present and justify their decision the following day. (Appendix 3).

On subsequent days, lectures are followed by team discussion and planning with their coach. This process is designed to lead the participants step-by-step to write a draft proposal of their own research plan. Participants progress from formulating a research question, choosing a research design, determining the best methods, formulating a knowledge translation plan and planning how to engage communities and doing all of this within the MicroResearch budget. All within the 2-week workshop timeline. In this way, each project is refined based on lecture content and team discussion to meet SDG goals, scientific rigor, and a research budget. Thus, the final proposal is often an improved version of their original idea.

Final Day Proceedings

On the final day of the workshop, 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.

Review Panel (Day 10)

- Prof. Dr. Sudjarwo, M.S: Mahayati University, Faculty of Health Sciences, Department of Public Health: profdrsudjarwo@gmail.com
- Dr. dr. Endang Budiati M.Kes.: Umitra University, Faculty of Health Sciences, Vice Rector Academic: endangbudiati420@yahoo.com
- Dr. Dwi Asmi PhD University of Lampung; Faculty of Mathematics & Natural Sciences; National Research Reviewer of Ministry of Education in Indonesia.
(dwiasmi82@yahoo.com and dwi.asmi@fmipa.unila.ac.id)

Team Topics:

Team 1: How is the Nutritional Status and Caregiver Characteristics of Elementary School Students in Urban and Suburban Areas in Lampung?

Team 2: Evaluate current knowledge and practices, and determine what factors may influence behavior change toward safe pesticide.

Team 3: What factors affecting treatment adherence among MRD-TB patients in a tertiary hospital in Bandar Lampung?

Team 4: What is the role of support for the patient with schizophrenia in Lampung, Javanese and Sudanese ethnicity family?

Final Day (Continued)

Review Panel Comments

The panel of local research experts provided constructive criticism to help the teams work toward the next phase of the process, to develop a refined MicroResearch grant proposal. A written summary of the comments with recommendations for change was provided to each team following the workshop ([Appendix 4](#)).

The titles proposed to the panel for each project differed from what was proposed on day three. The changes indicated the teams' better understanding of the need to be precise and ensure the project would be feasible given their time and budget to complete the project.

The panel acknowledged the great teamwork, as shown by each member contributing to the final team proposal presentation. The teams made great progress in refining their research topic and plan over the two-week workshop. The Knowledge Translation plans and budgets were all well done but will also need to be refined as the specific research plan is further developed. Each research proposal will need some refinement before it is ready to be submitted for a MicroResearch grant. Teams need to show their project question is well-justified, that the design/methods are appropriate, and that local conditions will be understood by reviewers from outside Indonesia.

Workshop Evaluation

An evaluation of the workshop and team functioning was completed by participants and coaches with structured evaluation forms (88% 22/26 completion rate). The scores and summary of comments for Workshop and Team performance is presented in [Appendix 5 A and 5 B](#).

Overall, the workshop was highly regarded by participants with 66% (73 of 110) of the ratings being scored as 5 (out of 5) on a Likert scale (A: Workshop Evaluation). We also attempted to assess value of the Indonesian translation of teaching material for participants (B:Team Evaluation). Although the average scores remained high 4.44 to 4.53 on the Likert scale, only 52% (28 of 53) achieved a score of 5, perhaps suggesting that language comprehension may be a limitation of the educational goals.

Other take away points:

- Participants were motivated to attend the workshop out of a desire to gain insight about research and to understand the MicroResearch principles.
- Lectures on Knowledge Translation, Community Engagement and Moving Research into Policy were particularly popular.
- Some participants plan to incorporate the teaching material into their own classroom teaching.
- Although 8 participants would prefer a shorter workshop, 14 stated they would not shorten or drop any of the lecture material.

Evaluation (Continued)

Working in small groups with assistance of an experienced coach is an effective strategy to problem solve and enhance confidence of team members. Thus, we attempted to assess the effectiveness of teamwork during the workshop to overcome research barriers. Although many of the comments regarding team environment were positive, and the average scores were high 4.13 to 4.20 on the Likert scale, only 40% (12 of 30) achieved a score of 5 on answer to the questions on Team performance.

Comments and Recommendations

1. Improving Participant, Teacher, and Coach Communication:

- The icebreaker introductions on Day 1 and 2 helped the facilitators and participants become familiar with one another and allowed people to feel comfortable to speak up throughout the workshop.
- Pre workshop discussion between teachers and co-teachers should be scheduled to help clarify each of their roles and expectations. Some lectures ran overtime - this limited time for group work.
 - Participants should be encouraged to show up on time so lectures can start as planned,
 - Presenters and Co-presenters should co-ordinate their presentations in advance to eliminate repetition and anticipate the overall time needs. This can be discussed during the Train-the-Trainer session, and prior to workshop.
- Having new teachers observe and co-teach alongside experienced teachers provided a good learning experience and allows for the site to grow their teaching capacity.
- Consider providing a special acknowledgement for participants who contribute to discussions throughout the workshop.
- A presentation on Day 1 should include an orientation on how to access the online curriculum.
- On Day 2 the participants should be asked to develop “Rules of Conduct” during the lectures and afterward during their small group break-out discussion. Everyone should understand their responsibility as a team member.
- Plan for facilitator and coaches to meet as a group to discuss team progress, challenges, proposal question development and team functioning – on Day 4 and 6 and ways to address these.
- Develop exercises allowing participants to talk through points raised during formal presentations. This may help to ensure key concepts are well understood.

2. Program Observations and Suggested Changes

- On day 4 an interactive session should be created on how to revise preliminary research questions for clarity, and how to select the best research design.
- Develop interactive exercises on concepts discussed during lectures,
 - e.g. challenging research ethics cases.

Comments and Recommendations (Continued)

- Prepare a side-by-side slide to show differences in “allowable” and “non allowable” budget items for various agencies and MicroResearch. This will illustrate the need to review what are allowable budget items.
- Punctuality was a concern during the workshop, with participants arriving late leading to a delayed start to the presentations. This caused shortened times for team discussion of their projects. Suggestions:
 - Organizers reinforcing the importance of punctuality,
 - Time of arrival recorded on attendance sheets.
 - Clarifying that late attendees may not be eligible to receive a certificate and thus be ineligible to apply for a grant.

3. Final days of the workshop:

- Schedule a meeting with the panel of local experts in advance of the final day – to introduce MicroResearch, evaluation criteria, final day schedule and format, what the participants have been taught, and topics teams worked on during the workshop. The evaluation criteria can be discussed, and types of questions to guide teams to refine their proposals. This should help the judges set reasonable expectations for what the teams can achieve.
- Advanced discussion with facilitators and local organizers on the process for final day; team presentations, deliberations of expert panel, career planning discussion, and awarding certificates and the Team award. Helpful to plan this in advance, and make participants, coaches, co-teachers aware – so everyone can make plans to attend all aspects of the morning.

Workshop Partners

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

- Asian Development Bank (ADB)
- The University of Lampung Indonesia (UNILA)
- Dalhousie Medical School,
- Dalhousie University (Volunteer teachers)
- IWK Health (Volunteer teachers)
- MicroResearch private donors

Acknowledgements

We would like to extend our thanks to the local site for providing administrative and organizational support. A special Thank You must go out to our host and organizers at UNILA, Ibu Dian and Ibu Fitria for their generous and gracious support during the workshop. They went well beyond the call of duty in making us feel welcomed and at home. This was especially appreciated

Acknowledgements (Continued)

knowing how busy they were during that workshop with exams and assessments underway in the Faculty of Medicine.

The local volunteer coaches and co-teachers were truly committed to the MicroResearch process during the workshop, many attending the lectures and extra events during the workshop. Thank you to the panelists for their valuable feedback and constructive critiques on the final day of the workshop. We also wish to thank Dr. Nello Angerilli for his valuable advice on Indonesian culture and for English to Indonesian translation of MicroResearch material.

Finally, we thank the participants for their engagement throughout the ten day workshop and wish them success with the next stage in the MicroResearch process, preparation of a refined project proposal.

Respectfully submitted,

Robert Bortolussi and Anthony Otley:
MicroResearch Teachers and Facilitators.