



MicroResearch: an effective approach to local research capacity development

Despite efforts by the international community to increase research capacity in sub-Saharan Africa, significant challenges remain.^{1,2} Traditional approaches neglect the basic deficits in Africa's research capacity, including funding, leadership, and skills to identify and solve local community health problems.

MicroResearch, developed in Uganda in 2008 and now operational in seven countries, aims to extend the community-focused research capacity of local health-care professionals in situ so they can develop evidence-based solutions for local health problems that fit the local context, culture, and resources.³ The programme starts with a 2 week half-day workshop during which teams define their community-focused research question and develop a proposal overview that is judged locally to assist them in preparing a full MicroResearch grant application (CAD\$1500 to \$2000). After international peer review, local and international coaches help teams to address reviewers' concerns. Following ethics approval, the projects are undertaken, written up, published, and the findings implemented. The programme takes 18–24 months from the inception of a research question to the final project report.

Between 2011 and 2015, 22 workshops were held in five countries, with 605 participants and 91 research question proposal overviews developed. We did a study in which we aimed to establish whether MicroResearch trainees developed sufficient research skills and interest to continue doing local community-focused research beyond their initial MicroResearch workshop experience.

All workshop participants between 2011 and 2015 were eligible. We

used an email survey developed on Google forms to assess participant outcomes and career development as part of this MicroResearch programme evaluation. Questions were focused on the location of training, gender, profession, nature of MicroResearch project undertaken, its current status, main factors leading to or preventing completion of the workshop project, as well as further research activities in participants' ongoing careers.

The data were stratified by workshop to establish whether specific factors in a workshop promoted or hindered project success. Data were analysed by gender, profession, project, and workshop site to determine whether results were skewed by over-representation from a subset of participants.

Of the 91 MicroResearch teams who developed workshop project overviews, 66 (73%) subsequently submitted a full proposal to MicroResearch for international peer review. Of these, 55 (83%) were funded following revisions that addressed reviewers' concerns.

Of 605 potential respondents from the 22 workshops, only 287 had currently active email addresses (figure). Of these, 214 people opened the email and 98 responded (46%). These respondents closely matched the

workshop cohort in terms of gender (47 [48%] of 98 respondents vs 278 [46%] of 605 workshop attendees were female) but a smaller proportion were physicians, nurses, or midwives (35 [36%] vs 296 [49%]; figure).

Regarding their projects, 77 (78%) respondents stated that their projects were continued after the workshop. Five of seven training sites had continuation rates of more than 75% (78–100%) whereas the other two had rates less than 50%. With respect to obstacles to project continuation, only seven (7%) respondents stated that they encountered no obstacles; 42 (43%) reported scheduling issues or geographical separation of team members as the main problem, followed by team member loss of interest (24 [24%]) or other obstacles (25 [26%]) such as lack of mentorship or job changes. Despite 91 (93%) respondents reporting obstacles in this, their initial foray into research, 82 (84%) reported ongoing involvement in further research following the workshop. Participants reported that they were able to design their own research projects and write applications to other agencies.

When asked about the impact of MicroResearch on their career, 83 (85%) respondents reported that it had led to career advancement;

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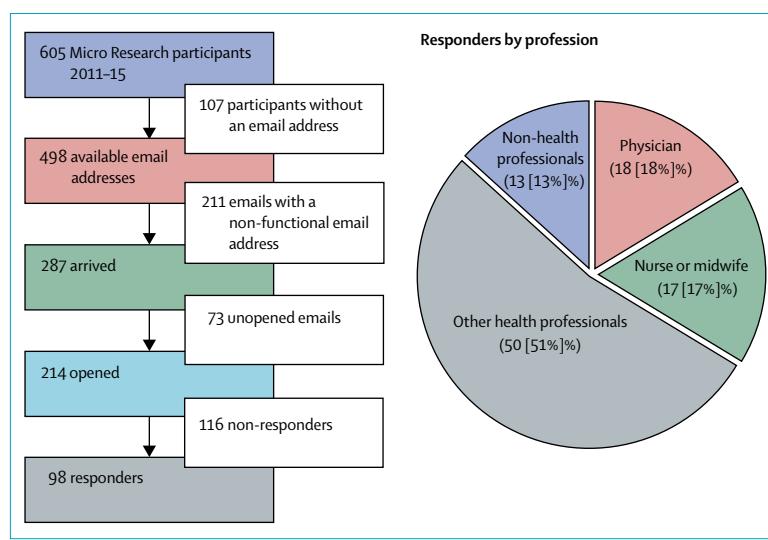


Figure: Study profile and responders by profession

mainly attributed to improved skills in research proposal, thesis, and report writing. Participation in more research led to more publications and subsequent job promotions.

This study has several limitations. Not all participants were reachable as 55% lacked a known functional email address and another 20% had either dormant email addresses or chose not to open the email. However, of those who were reached by email and opened it, 98 (46%) of 214 responded to the questionnaire. These respondents came from all seven MicroResearch sites and covered 64 (70%) of the 91 projects started in workshops during 2011–15. The respondent gender ratio reflected the gender ratio seen among programme participants in that time period. Although fewer physicians and nurses responded compared with overall programme participants, this might reflect that more nurses and physicians had unreachable addresses due to moves after the MicroResearch training workshop. Interest in seeking another post and lack of job satisfaction is a serious problem in sub-Saharan Africa. Another limitation is that early adopters (ie, those who had seen benefit from MicroResearch) might have been more likely to respond.

These results suggest that MicroResearch helped to ignite a culture of inquiry, providing the opportunity for young health-care professionals to develop research skills through experiential training in their own country and, in the process, find practical solutions for local community health problems. The programme seems to have inspired them to go on to do their own research and helped them to improve their careers and their communities. Impressively, 84% of respondents were still involved in ongoing research 1–5 years after the workshop. MicroResearch is achieving its goal of developing local community-focused research capacity requiring minimal resources and

funding,^{3,4} while also ensuring gender equity in research training.⁵

At this point it is not clear which components of the MicroResearch programme³ are crucial for success. Based on the survey and post-workshop evaluation comments, all appear integral for participant empowerment, research success, and growth of the culture of inquiry. That the MicroResearch workshops and research are done *in situ* decreases costs and allows participants to develop their research capacity while still meeting regular job commitments, except for the 10 half-days for the workshop itself and the time needed to carry out the research project. The MicroResearch process not only extends research capacity among a wide range of health professions, but does this without substantially compromising health-care access in the locale.

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We declare no competing interests.

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