

## Training & Capacity Building

June 2015

### Voices from the Field

**By Ashlinn Quinn**

*We are pleased to introduce a new section to the GEH newsletter titled Voices from the Field. The articles in this category will feature stories written by public health researchers about the lessons learned while conducting field work in low- and middle-income countries. Through these stories, it is our intention to increase awareness and understanding of both the challenges and the rewards experienced by scientists who are engaging communities and collecting data in the field. We hope that these stories will help inform the global community and promote the development of best practices in global community-based environmental health research.*

This month, **Ashlinn Quinn**, a Ph.D. candidate in Environmental Health Sciences at the Mailman School of Public Health, Columbia University in New York City, New York, interviewed **Mohammed Mujtaba**, Research Officer at the [Kintampo Health Research Centre \(KHRC\)](#), Ghana Health Service, Brong Ahafo Region, Ghana, at KHRC on May 7, 2015.

Columbia University and KHRC are collaborators on the **Ghana Randomized Air Pollution and Health Study (GRAPHS)**, a community-level randomized controlled trial of cookstove interventions for pregnant women and their newborns in rural Ghana.



An aerial view of a study village in Ghana  
(Photo courtesy of Ashlinn Quinn)

**AQ:** Thanks so much for speaking with me today, Mohammed. Could you first tell me a bit about the history and structure of KHRC?

**MM:** KHRC was founded in 1994 by the Ghana Health Service. It is one of three health research centers of the Ministry of Health in Ghana and was originally created to look at issues related to malnutrition. Its mission today is to conduct public health research that contributes to significantly reducing ill-health and achieving the [United Nations Millennium Development Goals](#). KHRC teams conduct studies in different areas of research including health systems, infectious diseases such as malaria vaccine trials, noncommunicable diseases, environmental health science, and social sciences. Currently, there are about 400 staff at KHRC, including research officers, lab technologists, social scientists, demographers,

statisticians, fieldworkers, field supervisors, data managers, an IT unit, accounts staff, and an administration unit.

**AQ:** How long have you worked at KHRC? What positions have you held, and what is your current role?

**MM:** I started here in October 2000 as a fieldworker. I've since been a field supervisor and a senior field supervisor, I'm currently a research officer. My role is closely tied to the Ghana Randomized Air Pollution and Health Study (GRAPHS) project, which is one of the studies at KHRC. For this project, I'm the field coordinator, meaning that all field activities are channeled through me to the project management team including the trial director. I serve as the liaison between the project management team and our community-based fieldworkers.

**AQ:** I know one reason Columbia chose KHRC as its partner for the GRAPHS project was the strong relationship your teams have with the local communities. Can you tell me a little about how KHRC has built and maintained these community ties?

**MM:** Before every new project, we organize community meetings –it's a core part of our community engagement process. First we meet with the community leaders, and then we have a meeting with everyone in the community. The meetings cover what the project is about and why the community was chosen to participate. Then, in the course of the study, if the need arises for another meeting with the community, we do it again. For example, we sometimes find out that some community members require further information about the study. In this case, we go out to meet with the community members, provide the information they need, and address their questions. We constantly interact with the communities and the community leaders. We also recruit fieldworkers from the communities, according to certain criteria. For example, the fieldworker must be a resident in the study area for the past three years, be fluent both in English and the local language (Twi), and have completed their high school degree. So we are also able to provide jobs to community members and give back to them in that way. And of course, we try to be responsive to the needs of the communities. For example, there was a time when one of our study communities unfortunately experienced a fire. In the aftermath of the fire, KHRC staff contributed and donated clothes and other items to help out.

**AQ:** I know that NIEHS is very interested in the challenges that may be confronted when programs are implemented that attempt to change behaviors. As part of the GRAPHS project, we are providing different types of cookstoves to households to reduce exposure to household air pollution, but a big part of the success of the exposure reduction depends on whether the women will change their behaviors and switch to using these new and different stoves. Can you tell me about some of the challenges that have been encountered with the adoption of the new stoves?

**MM:** Yes, we did run into some challenges. One issue is tied to the fact that many residents in this area are farmers, and their farm plots are far away from their homes. Study participants regularly travel to their

farms in the morning and spend the whole day there, cooking meals there as well. Because they could not carry their improved stoves to the farm, a certain amount of cooking was still done on traditional open fires. Another challenge emerged in the rainy season, when firewood often gets wet. The study participants found that it was much easier to light wet wood in a traditional open fire setting, as opposed to using the improved biomass stoves. To solve this problem, the mothers were encouraged to keep their wood in a dry shed.

Some households with large family sizes found that the improved stoves were smaller than they were used to. These households were encouraged to start cooking earlier so that they would still be able to use the new stoves to prepare the entire meal. Lastly, we found that when parts were broken on the new stoves, it was natural to switch back to the traditional fires. The team now makes sure that the condition of the stoves is checked regularly and that replacement stoves are readily provided. Despite these challenges, the adoption rate of the new stoves has been quite high among the GRAPHS participants, with about 80 percent of all meals being cooked on the improved cookstoves.



The research team arrives in a local village  
(Photo courtesy of Ashlinn Quinn)

Looking toward the future, an issue that is somewhat unresolved has to do with what will happen after the study period ends. For example, if the improved biomass stove breaks, what then? Or, for those women who are cooking on liquefied petroleum gas stoves, how will they get additional gas? For both these concerns, there are some distribution issues that need to be sorted out. Wider dissemination of the cleaner cookstoves could help, because if the stoves are more available, then replacement parts will also be available for purchase. As for the gas, an issue is the cost of transportation. Some of the communities are quite distant from the town, and the cost of transportation for the women to get their tanks refilled can be as much as the cost of actually refilling the cylinder. One solution here would be mobile gas vans that would travel to some of the more outlying areas. This is happening in Wenchi [a nearby district], but not in Kintampo as of yet.

**AQ:** Have you noticed community behaviors changing as a result of any of the other activities in GRAPHS?

**MM:** The study participants are realizing that smoke from wood fires may be harmful to pregnant women in particular. So, for example, when the women are pregnant they may ask their husband or another household member to fan their stove for them, to reduce their exposure. So they are becoming more informed of the potential health risks of the smoke.

**AQ:** What about the perspective of KHRC staff: What have been some of the new activities and skills that the staff members have had to adopt for the GRAPHS project? Have there been challenges particular to implementing these activities?

**MM:** Many KHRC staff have attested to the fact that GRAPHS is exceptional, and are surprised at our ability to carry out the exposure work in particular. For one thing, this is the first project KHRC has been involved in where computer literacy was required of the field supervisors, because for the first time they were taking computers to the field to launch exposure monitors and to download data. They're also surprised at how we're able to encourage the study participants to wear the CO and PM2.5 exposure monitors for repeated 72-hour personal exposure monitoring sessions. But we're able to achieve this because of the rapport we have with the study participants and their households. Because the exposure team returns again and again to the same households, the rapport between the study participants and the research team strengthens over time. Sometimes when the team arrives, the women are cooking, and they invite the GRAPHS workers to eat, which is a traditional sign of good rapport. The team also lets the women know that if they have any problem, they can share it with them; that "your issues are my issues." Because of that relationship, the participants have not had any trouble completing the exposure monitoring sessions. We've even had cases where the study participants have been the ones to remind the exposure team of the timing of their next monitoring session—that's how well they know the schedule!

It just shows that once you start a project and the foundation is well laid, everything runs more smoothly. The information given in the community meetings in the beginning was super. And we also tried to inculcate the involvement of the whole household from the beginning. For example, during the initial recruitment and consent process we made sure to wait until the woman's husband was there before talking to the study participant about her participation in the study and explaining all the activities. It helps a lot.

Funding for GRAPHS is provided through the U.S. Department of Health and Human Services, National Institute of Environmental Health Sciences (NIH 1R01ES019547; P30 ES009089) and the Ghana Ministry of Health. Ashlinn Quinn is a trainee under the NIEHS Interdisciplinary Training Grant in Climate and Health (T32 ES023770).