

# Fogarty grantees employ implementation science to reduce maternal deaths in Nigeria

A pregnant Nigerian woman begins to bleed at noon. After she and her husband are turned away from several medical facilities over the course of the day, she is finally admitted to a hospital in the evening. She dies early the next morning without ever having received treatment. This occurrence is not uncommon in northern Nigeria, where there are 1,000 deaths for every 100,000 births.



Photo by Terry Lo

*Cultural practices—such as early marriage of Nigerian girls—pose barriers to implementing maternal health programs.*

To address this tragedy, Fogarty grantees Drs. Daniel Perlman and Malcolm Potts and their colleagues at the University of California, Berkeley, have been implementing a maternal health research program in partnership with their Nigerian counterparts at Ahmadu Bello University. The collaboration has already had an impact—introducing new post-partum drugs that help stop bleeding, addressing some infrastructure limitations and promoting education for girls. Administered by a Nigerian advisory group made up of researchers, medical practitioners and other experts, the initiative's long-term goal is to enhance the ability of Nigerian researchers to carry out research that will improve maternal health.

Nigeria is plagued by socioeconomic factors that contribute to maternal mortality and birth-related injuries, including ineffectual government, under-resourced hospitals and gender inequalities. Cultural issues such as pressure on girls to marry early and give birth to numerous children,

preferences to deliver children at home and mistrust of family planning services are also factors. “Overall, women have few life choices outside of marriage and childbirth, further contributing to their own desires for large families,” said Perlman, a medical anthropologist. “The terms of marriage are such that women have little decision-making control, including control over their own health.”

Perlman's research partners at the university received permission from the Nigerian government to determine the safety of community-based use of misoprostol, a drug proven to safely prevent post-partum hemorrhage during home births in other parts of Africa. They also determined that lack of electricity in rural areas seriously impairs the ability of hospitals to deliver care, leading to the development of solar energy systems that now power blood bank refrigerators, ultrasound machines, communications equipment and lights in operating rooms.

Additionally, the community-based research supported by the project led to a partnership with village parent-teacher associations, schools and religious groups, with the goal of promoting the education of girls and increasing the age of marriage. One of the researchers discovered that many parents are open to the possibility of leaving their daughters in school and delaying matrimony when offered assistance with school fees, books and related expenses. “Our research showed that school attendance could provide teenage girls with a socially acceptable alternative to early marriage,” said Perlman.

Each year, the program provides field research training for 12 postdoctoral fellows. They are assisted by health workers and community members, who help them identify key problems and assess the quality of care at clinics and hospitals. One of their most significant findings was that delays in receiving care at health facilities appeared to be the biggest factor in maternal deaths. The fellows' ethnographic fieldwork has also increased the understanding of the challenges faced by rural Nigerians trying to access care.

The program will soon begin studies that will engage health workers in evaluating and improving the quality of their services. “Our long-term goal is to train a critical mass of highly skilled Nigerian health researchers able to conduct community-based research,” said Perlman. “This should result in innovative approaches to the prevention of maternal and child mortality and morbidity.”