

# Reproductive Health:

## Collaborating for a Large-scale Impact

by Johanna Van Hise Heart



Traditional birth attendants in rural Tanzania participate in a study aimed at preventing deaths from postpartum hemorrhage.



**Malcolm Potts, M.B., B.Chir., Ph.D., F.R.C.O.G., and Martha Campbell, Ph.D.,** are acutely aware of a tremendous problem: women are bleeding to death. According to the World Health Organization (WHO) more than 130,000 women die each year from postpartum hemorrhage—a condition for which there is actually a cure, a drug called misoprostol, a prostaglandin designed to treat gastric ulcers that also contracts the uterus and inhibits bleeding. The challenge

*is to make this drug available and affordable in the developing world, where 600 million women are struggling to survive on two dollars a day or less.*

The industrialized West is insulated from many of the tragic disparities in women's health prevalent in the world's developing nations. Women are dying needlessly of AIDS—especially those for whom societal status makes it difficult to negotiate the use of condoms. And upwards of 68,000 women are dying annually of complications from unsafe abortions.

What can be done? Potts and Campbell have many good ideas. Both are indefatigable problem-solvers and collaborators (and their collaboration extends to their personal lives—the two recently celebrated their tenth wedding anniversary). But more importantly, they are able to bring together a vast international

interdisciplinary network of colleagues to tackle multi-layered international health conundrums and look for opportunities to actively make a large-scale difference.

### Mobilizing an Interdisciplinary Team

Their professional connections arise from long careers working in the fields of family planning, population growth, and AIDS prevention. Potts, holder of the Fred H. Bixby Endowed Chair in Population and Family Planning and director of the School's Bixby Program in Population, Family Planning & Maternal Health, is a British, Cambridge-trained obstetrician and reproductive scientist. In 1972 he introduced the manual vacuum aspirator, a device that has become the preferred method around the world for safe abortion and treatment of complications from incomplete abortions. Potts was the first medical

*Continued on page 6*



## Opportunities for Large-scale Change

**Challenge:** Almost half the world's population lives on \$2 a day or less. In parts of Africa, one-quarter of disposable income is spent on health care.

**Action:** Ease the financial burden of health care for the poor.

**Challenge:** One woman per a minute dies from pregnancy, childbirth, or abortion. Ninety-nine percent of those deaths are in developing countries, and most of these take place outside the hospital or clinic setting.

**Action:** Make medical supplies and health care available for women experiencing postpartum hemorrhage and complications of unsafe abortion.

**Challenge:** The population of the earth grows by one million more births than deaths every 110 hours.

**Action:** Remove barriers to family planning.

**Challenge:** 116,000 new HIV/AIDS infections occur every day. Half of these are among women, many of whom are not free to choose when to have sex and cannot negotiate condom use, even when they suspect their partner may be HIV positive.

**Action:** Identify an effective, affordable, available microbicide women can use to protect themselves.

## Reproductive Health: Collaborating for a Large-scale Impact, *continued*

director of the London-based International Planned Parenthood Federation and CEO of Family Health International, where he led the largest global program of AIDS prevention outside of the World Health Organization.

Recognizing the need to address the quantitative aspects of family planning and reproductive health in developing countries, Potts and adjunct professor **Julia Walsh, M.D., D.T.P.H.**, founded the Bay Area International Group (BIG), now known as the Berkeley International Group, in 1997. BIG brings together graduate students from a number of countries and across the disciplines of public health economics, medicine, and epidemiology, AIDS prevention, and business, to consider how money is best spent to achieve improved health in developing countries. “We know what it costs to provide contraceptives,” explains Potts by way of illustration. “If we also know what people are willing to pay, then we can work out the difference and what the international community should be providing and what the government should be providing.”

Campbell, by contrast, is a political scientist and health policy specialist, focusing on global population growth and economics of international health and family planning. Before joining the School of Public Health as a lecturer, Campbell led the David and Lucile Packard Foundation's population program, where she came to recognize that in many developing countries government health services are simply unable to reach the poor and that many essential health needs are not being covered by foreign assistance.

In 2000 Campbell and **Nap Hosang, M.D., M.B.A., M.P.H., F.R.C.O.G.**, who heads the School's Interdisciplinary Master's in Public Health Program, established the School's Center for Entrepreneurship in Health and

Development (CEIHD). The center promotes the use of entrepreneurial methods to improve the health of families in developing countries. They create financially sustainable systems, such as strategies to distribute off-patent drug products at modest prices, employing the skills and knowledge of local entrepreneurs as partners and eventual owners of the health-promoting enterprise.

Also in 2000, Campbell founded the nonprofit Venture Strategies for Health and Development, the board of which is, for the most part, populated by School-affiliated faculty members. Venture Strategies was set up to work closely with the School, especially the Bixby Program and CEIHD. It strives to improve the health of large numbers of low-income people in developing countries by combining scientific evidence about tractable problems in health with opportunities inherent in existing market forces around the world. “Venture Strategies was designed to work with the School of Public Health at Berkeley to do the action side—which is much easier for a nonprofit organization—based on the scientific evidence of the university,” explains Campbell.

“There are some things that the university can do best,” says Potts. “But there are also things that a university would find quite difficult to do.” Traditional birth attendants are often illiterate and unable to submit invoices related to a study. African governments requesting a policy meeting of experts to advise on drug approvals cannot wait for delays associated with the bureaucracy of obtaining travel funds. Venture Strategies' nonprofit nature allows it to respond quickly.

### Developing Effective Strategies

Just as Potts and Campbell bring together complementary skills and shared interests, the Bixby Program, BIG, CEIHD, and Venture Strategies combine their different approaches to address certain

shared priorities. “What this close-knit circle of colleagues has in common,” explains Campbell, “is attention to scale; attention to money and how it is spent in the field for most beneficial effect; good research; and a considerable amount of experience in most of the countries in the developing world.”

They begin with research to show that something works. Then, responding to requests from medical leaders in developing countries, they organize feasibility studies. “We ask ourselves, is there anything we can do where there isn’t a health professional available to stop women from dying?” says Potts. The answer in the case of postpartum hemorrhage is yes, the aforementioned wonder drug misoprostol, which is heat stable, low cost, and off patent.

**Ndola Prata, M.D., M.Sc.**, an Angolan physician and medical demographer in the Bixby Program, has worked with African colleagues to demonstrate that traditional birth attendants can use this drug very effectively in resource-poor rural areas of Tanzania. First, she developed a virtually cost-free method for birth attendants to identify whether a woman needs the drug. Prata found that 500 ml of blood, which is the standard trigger for saying that a woman is experiencing postpartum hemorrhage, soaks two *kangas*, the colorful, traditional garments worn by East African women. “So the traditional birth attendants now have the power to diagnose a life-threatening situation,” explains Potts.

In another study, working with **Godfrey Mbaruku, M.D., Ph.D.**, in Kigoma, Tanzania, Prata has assisted in showing for the first time that field use of misoprostol works after home births in rural areas, far from hospitals. The number of women referred to Dr. Mbaruku’s hospital was reduced by 90 percent, indicating effective use of the medication by

*“Misoprostol has been used often in hospitals by WHO, but not in the field. And it is in the field where the maternal deaths occur—one woman a minute dies from postpartum hemorrhage or unsafe abortion.”*

traditional birth attendants. “Misoprostol has been used often in hospitals by WHO,” says Potts of the study’s significance, “but not in the field. And it is in the field where the maternal deaths occur—one woman a minute dies from postpartum hemorrhage or unsafe abortion.”

The next step is to identify the source of needed products—in this case manufacturers of misoprostol. Campbell, who has crossed the globe visiting nearly every producer of the drug, has found producers in China and Egypt who are already manufacturing the drug in great quantity, but who would not be able to do the work of exporting their drug to sub-Saharan Africa. CEIHD then provides assistance. In the past, for example, CEIHD has arranged the technical work of translating documentation into other languages (e.g., translating birth control pill instructions into Afghan languages) or assembled information required by an African country’s drug approval agency. “If we open the door for a Chinese or Egyptian or Indian manufacturer, they will undoubtedly supply the drug. But we have to do the regulatory work for them,” says Potts.

Finally, comes consensus building—bringing together national-level decision-makers to agree on the need to use the product to save women’s lives. At the request of the governments of Uganda and Kenya, Venture Strategies cosponsored policy meetings on maternal mortality, highlighting the opportunity to use misoprostol to improve women’s

health after home births. Both meetings focused on the reality that the drugs used to control postpartum hemorrhage in hospitals require refrigeration and injections and are therefore not usable in rural areas where most deaths occur.

“The goal of such meetings,” says **Melodie Holden, M.S., M.P.H. ‘05**, who recently visited officials in the Tanzanian ministries of health, “is to clear the path for misoprostol to be available and affordable to rural women.” One obstacle she must overcome is that the drug is controversial because it can be used for early-term abortion, which is illegal in many developing countries.

Other projects may hold promise for large-scale impact. **Anke Hemmerling, M.D., M.P.H. ‘04**, a gynecologist working with the Bixby Program, will be running a cohort study at UC Berkeley to examine the effects of lemon and lime juice on the vagina in the hope that the juice may be safely used as a spermicide and virucide. Since this fruit is widely available and inexpensive around the world, demonstration of its safety and effectiveness could hold promise of protection from HIV for millions of women.

In the end, the complementary nature of the School’s sisterhood of entities concerned with women’s reproductive health creates a very powerful continuum of efforts. “We are responding to an agenda that is set by colleagues around the world,” explains Potts. “We bring essential skills to the equation.” 