

## REPORT FROM THE FIELD

### Dying To Give Birth: Fighting Maternal Mortality In Peru

Simple innovations can mean the difference between life and death for Peruvian mothers-to-be.

by **Nellie Bristol**

**C**LAUDIA JULCA, 22, a Peruvian woman from a remote Andean mountain village, looks older than her years. Small wonder: in the past six years, she's given birth to four children, including twin girls now ten months old. For her first two deliveries she waited until going into labor before starting for help, a two-hour hike over steep, rocky mountain paths to the health center closest to her village, in the dusty valley town of San Luis. As for countless women around the world, the uncomfortable long walk is still preferable to the riskier alternative: delivering a baby at home, possibly with no skilled attendant present.

As the twins' birth neared, however, Julca was ready for a new approach. From education sessions at the health center, she'd learned that hers, with twins, was a high-risk pregnancy. So a week before her due date, Julca, her husband Ruben, and their two children went to stay at the *casa materna* (maternal house)—a recent intervention on the health center's property. The town provided some foodstuffs and modest work for Ruben as the family conducted its vigil.

When the twins arrived, Julca gave birth under the watchful eye of a skilled attendant. She was prepared to stabilize Julca in the event of an emergency and pack her off to a small hospital a bone-jarring two hours' ride away.

There, operating facilities and trained personnel would be available if a cesarean section or other emergency intervention were needed. As it turned out, they weren't; Julca's delivery proceeded uneventfully. The family stayed at the center a full week before making the trek back up the mountain slopes to their village, Cardun.

*Casas maternas* like the one in San Luis are becoming more common in Peru's remote districts, as they are throughout much of Latin America and elsewhere in the developing world. They're just one of a number of simple tools backed by Peru's national government to reduce deaths among women in pregnancy and childbirth. In Peru, the maternal mortality rate stands at 240 for every 100,000 live births.<sup>1</sup> That's lower than comparable rates of 1,000 or more that plague many African nations, but sharply higher than the single-digit rates that prevail in the industrialized world.

#### Maternal Deaths Worldwide

Around the globe, an estimated half-million women die as a result of childbirth each year, while an additional ten million annually suffer childbirth-related injuries or illness.<sup>2</sup> Mothers die routinely from multiple causes: from postpartum hemorrhages, or uncontrolled bleeding from the uterus after pregnancy; infections; unsafe abortion; preeclampsia, or

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Nellie Bristol ([nbristol@mac.com](mailto:nbristol@mac.com)) is a freelance journalist in health policy, based in Falls Church, Virginia. *Report from the Field* is the product of a partnership between Health Affairs and Kaiser Health News, a project of the Kaiser Family Foundation.

pregnancy-induced hypertension; or failure to get emergency cesarean sections. Reducing maternal mortality worldwide by 75 percent from 1990 through 2015 is thus a key target of the Millennium Development Goals (MDGs) adopted by the United Nations in 2000. Although rates have been falling and improvements have been made in many areas, there now seems little hope of reaching that target throughout much of the world. In fact, there appears to have been less progress made in this category than in any of the other MDGs.<sup>3</sup> As a result, more than ten million maternal deaths have occurred over the past twenty years, a period of stepped-up awareness of, and interventions to prevent, maternal mortality. “For this to happen in a world where we state that ‘we know what works’ and that ‘88–99% of maternal deaths are preventable’ is obscene,” wrote Oona Campbell, an epidemiologist with the London School of Hygiene and Tropical Medicine, and a colleague in 2006.<sup>4</sup>

Maternal mortality is among health indicators that most graphically reflect disparities between rich and poor, both within countries and around the world. On a global level, 99 percent of maternal deaths occur in developing countries—more than half of them in sub-Saharan Africa and one-third in south Asia.<sup>5</sup> Poor services combined with high numbers of pregnancies mean that a woman’s lifetime risk of dying in childbirth is 1 in 76 in developing countries, compared to 1 in 7,300 in developed countries.<sup>6</sup>

There have long been successful medical interventions, such as cesarean sections, for reducing maternal deaths, and these can be and are provided in resource-poor settings. But the underlying causes of maternal mortality run far deeper: inadequate health systems, poverty, ethnic divisions, and gender inequity within both families and society. Long-run solutions, too, will stretch across several sectors. “There is no silver bullet. It’s not a technical problem,” said Alice Miller, former associate clinical pro-

fessor of population and family health and international and public affairs at Columbia University, now lecturing at Berkeley.

In fact, ensuring maternal survival depends on a collection of disparate factors. The mother must be reasonably healthy to begin with and receive sufficient pre- and postnatal care. As delivery approaches, she must have the services of a skilled birth attendant who can identify a life-threatening problem and access adequate emergency care. And if the decision is made to seek higher-level care, there must be a means of getting the mother rapidly to the place where it’s provided. Thus, the danger facing many mothers in the developing world is often summarized as the “three deadly delays”: a delay in the decision to seek care; a delay

in transportation to appropriate care; and any delays in receiving care once at a care site.

The solutions are likely to be complex, but advocates are stepping up calls for implementing interventions proven to improve maternal health. There is broad consensus in the global safe-motherhood movement on priority interventions: family planning, skilled care for all deliveries, and access to emergency obstetric care for the 15 percent of cases that produce serious complications. But for all of these to happen, it’s likely they’ll have to be part of stronger and better-functioning health systems overall. To that end, a high-level task force on Innovative International Financing for Health Systems, cochaired by U.K. Prime Minister Gordon Brown and World Bank president Robert Zoellick, is now generating funding options to support better systems. So far, the task force has already called on the world to spend an additional \$30 billion a year by 2015 to address both maternal and child health.<sup>7</sup>

### Addressing The Problems In Peru

A stronger systems approach would greatly benefit Peru, a middle-income nation with annual per capita gross domestic product (GDP) of \$8,400—about one-sixth that of the United

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States.<sup>8</sup> Health services, at least in rural areas almost exclusively served by the national and provincial governments, are hampered by chronic shortages of trained personnel, equipment, and supplies. For maternity care, there's also another factor: discrimination. "It's very clear that there's a confluence of gender discrimination and ethnic discrimination that... conspire[s] against [indigenous] women," said Alicia Ely Yamin, an instructor in law and public health at Harvard School of Public Health who has studied maternal mortality extensively, particularly in Peru.

Yamin points to contrasts between Peru and countries in sub-Saharan Africa. In the latter, poverty is more universal and maternal deaths more evenly distributed; in the former, the problem is more regionalized and focused on rural, indigenous populations far from the cosmopolitan capital, Lima. "Attention to education, services, and health care to these overwhelmingly indigenous rural poor populations is just very, very low," Yamin says. That shows up in the statistics: for example, the maternal death rate is 52 per 100,000 in Lima. But it's almost seven times that—361 per 100,000—in the hardest-hit region, Puno, a highland province in southeastern Peru whose capital, also called Puno, sits on the shores of Lake Titicaca.<sup>9</sup>

In addition to a general lack of services, language and culture are also barriers to good maternity care. Among Peru's poorest inhabitants are the nearly 47 percent of the population whose first language could be the indigenous Quechua, Aymara, or one of several others, rather than the country's other official language, Spanish.<sup>10</sup> They are descendants of peoples who predate even Peru's ancient Inca culture, which was itself defeated by Spanish conquistadors in the sixteenth century. These indigenous peoples are frequently put off by health services that don't reflect their customs. Generations-old rituals involve women giving birth at home in a dark, warm room. Mothers

give birth on the floor or in a vertical position, perhaps with a skilled attendant and in the company of family. Contrast that with the typical birth in the more medicalized modern setting, with cold metal instruments, bright lights, and the seemingly abrupt attention of strangers. It's not surprising that to many Peruvian mothers, this hardly seems like progress.

Cultural differences also breed a sense among indigenous women that health care providers and administrators treat them disrespectfully. After financial barriers, said Ariel Frisnacho, health program coordinator for CARE Peru, "the quality of treatment and the way people are treated was the second reason for people not going for health services. We're not talking about protocol, we're not talking [about] how you feel

**"Cultural differences breed a sense among indigenous women that health care providers and administrators treat them disrespectfully."**

when you were treated."

The result has been a shift to a more "rights-based" approach to health care, and maternity care in particular. One of its champions is a project known in English as Foundations to Enhance Management of Maternal Emergencies, or FEMME. The program, brokered by CARE Peru and coordinated with local, regional, and national governments, as well as the World Bank and local and international nongovernmental organizations (NGOs), emphasizes cultural sensitivity and improvements in the quality of services.<sup>11</sup> Based on recommendations from broad groups of stakeholders, clinics and other facilities are made more efficient for providers to operate in. Elbow taps are installed for sinks outside operating rooms, and separate rooms are created for general and obstetric emergency admissions. Birthing rooms and other clinic areas are made more private for patients. Communications and transportation also are improved. Emergency obstetric protocols drawn up by the World Health Organization (WHO) are in place, as is standardized record keeping at clinics and health centers. The competency of

health center staff is improved through establishment of local training centers.

### An Example Of Success

This basket of approaches, first developed in Ayacucho, Peru, proved spectacularly successful: the maternal death rate was cut in half from 1999 to 2005. The percentage of women who needed emergency obstetric care and actually received it rose from 30 percent to 75 percent, while the rate of births in health centers or other institutions rose 83 percent in two years.<sup>12</sup> CARE has now moved on to strengthen obstetric and neonatal emergency care in Peru's Ancash region, where Claudia Julca and her husband live. The effort is paid for by a local mining company, Antamina, which pledged \$1.6 million in voluntary contributions in an agreement with the Peruvian government.<sup>13</sup>

The Ancash program is being overseen by several CARE staff, including Flor de Liz Guerrero Milla, a midwife by training. Milla conducts health center training sessions and audits, and she serves as a human point of connection for the far-flung health facilities that are part of the maternal care improvement project. She recently traveled from the Ancash capital of Huaraz for six hours over largely dirt roads and mountain passes to San Luis, the town where Claudia Julca gave birth. In recent years she's made many of these trips—some as long as ten hours—bumping along endless miles of rockslide-strewn passages in the Andes. Along the way, she's picked up critical traveling tips: which of the infrequent towns en route has a bathroom with running water; how to secure a driver who knows how to quickly change the inevitable flat tires.

### Back To The Village Of San Luis

On her recent trip to San Luis, Milla's driver was a young local man named Cesar, who deftly negotiated blind curves while swerving

around piles of rock and mud. The roads are even harder to travel in the rainy season from November to April, contributing to a seasonal spike in maternal death rates. Ramshackle adobe houses line the roadside. Local residents mostly spend their days outdoors, tending to livestock and small patches of corn and vegetables carved out of the rocky soil.

These are the people whom the Centro de Salud—the health center—in San Luis seeks to make more comfortable in something ap-

proaching twenty-first-century health care. The *centro* caters to a local population that includes about 3,000 women of childbearing age. Its exterior painted the health system's characteristic pool blue, the *centro* is on the edge of town and poses a sharp contrast to the mud streets and adobe and stucco buildings. Inside, the walls feature bright murals urging vaccination and signs offering state-

funded dental care to children. Another wall sports a graphic that colorfully depicts how many pregnant women are in each village the center serves and whether the pregnancies are high risk or normal. Flow charts delineate actions health professionals should take for six obstetrical complications, including ectopic pregnancy, postpartum hemorrhage, infection, and shock. In the delivery room, color-coded plastic boxes are filled with the medicines needed for various types of emergencies: blue for high blood pressure, red for hemorrhage, and yellow for sepsis. A special chair—really a low stool with a red padded seat—accommodates the vertical births preferred by some patients. They're also allowed to wear their own clothes during deliveries, as many indigenous patients prefer.

Next door to the health center, in the adjacent *casa materna*, the beds are low to the ground because Quechua-speaking clients like them that way. A single sheepskin covers the bare cement slab floor—another feature that mothers find appealing, explains center man-

**"In the delivery room, color-coded plastic boxes hold the medicines needed for various emergencies: blue for high blood pressure, red for hemorrhage, and yellow for sepsis."**

ager Yolanda Pumayali Flores, a midwife who recently attended FEMME classes in Ayacucho. The kitchen has an open wood-burning grill with large pots, similar to what clients would have at home. Claudia Julca and her husband liked staying there so much that they have recommended it to friends and neighbors who are also experiencing potentially high-risk pregnancies.

As in many remote health centers of the world, however, the health center faces persistent challenges. Staff turnover is a constant: health care providers are poorly paid and prefer big cities to remote mountain villages. Vacant positions go unfilled, and absenteeism is high. Johan Cavalcanti Oscategui, 24, a new physician and medical school graduate, recently arrived in San Luis from the broad, clean streets of Lima. He would only be in San Luis for a month before he was assigned to an even more remote health post, where it was likely he'd be the only physician. He makes no secret of the fact that after his yearlong stint in the civil service, he plans to return to Lima to train as a specialist. His time in the mountains will mainly serve to earn him the extra academic points he needs to complete his residency.

What's more, while the center in San Luis has moved toward accommodating Peru's indigenous people, "huge parts of the country haven't made the effort," said Jay Goulden, director of programs for CARE Peru. The national government has recently enhanced the public health insurance benefits for the country's poorest people and introduced other incentives for women, to encourage institutional deliveries. For example, births in facilities are registered, making the babies' families eligible for government support payments—aid that might be unavailable to families delivering at home. But there's little getting around the fact that Peru's health care sector remains underfunded at 4.3 percent of GDP, with just under half of the funding provided by the government.<sup>14</sup>

Still, the health center and *casa materna* in San Luis soldier on, providing care to the other Claudia Julcas of the region. The center has a strong record to uphold; it hasn't lost a woman

in childbirth in a decade. That's a solid achievement for this part of the world. Center manager Flores recounts an episode that occurred several years ago in an adjacent district, when a woman gave birth at home and developed postpartum hemorrhage, or PPH. This condition can occur after a baby and placenta are delivered, when routine contractions fail to compress blood vessels in the area where the placenta was attached to the uterus. Mothers essentially bleed to death, going into shock and dying of organ failure or heart attacks. PPH is easily treated with doses of the drug misoprostol, which research in Indonesia showed could even be administered by women themselves after delivery, if no provider were available.

The Peruvian woman in this case recalled by Flores wasn't so fortunate. She had first walked one and a half hours to the nearest health post, but no one there knew how to help her. With no transportation or communication devices available, she attempted a three-hour walk to the next-closest facility. By the time she arrived, she was in shock and unable to be resuscitated.

But Flores, Milla, and others are dedicated to ensuring that ever fewer Peruvian women suffer the fate of dying in childbirth, and they are now gaining new tools to wage their battle. Julca and her husband were each one of ten siblings born at home. Although their mothers survived the process, hundreds of other Peruvian women don't. With better access to birth control, improved conditions in health facilities, better-trained staff, and more culturally appropriate care, more Peruvian women than ever are likely to celebrate childbirth as a time of joy rather than as a moment of tragedy.

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Special thanks to Alfonso Medina, Ancash emergency maternal and newborn care program director for CARE Peru, and to the CARE Peru staff in Huaraz and Lima.

## NOTES

1. United Nations Children's Fund, "The State of the World's Children 2009: Maternal and Newborn Health" (New York: UNICEF, December 2008).
2. Ibid.
3. A. Starrs, "Global Health Spending: Why Maternal Health Is Not a Political Priority," 4 March 2009, [http://www.wilsoncenter.org/index.cfm?topic\\_id=116811&fuseaction=topics.event\\_summary&event\\_id=503867](http://www.wilsoncenter.org/index.cfm?topic_id=116811&fuseaction=topics.event_summary&event_id=503867) (accessed 6 May 2009).
4. O.M. Campbell and W.J. Graham, and the Lancet Maternal Survival Series Steering Group, "Strategies for Reducing Maternal Mortality: Getting on with What Works," *Lancet* 368, no. 9543 (2006): 1284–1299.
5. World Health Organization, "Maternal Mortality Fact Sheet," 2008, [http://www.who.int/making\\_pregnancy\\_safer/events/2008/mdg5/factsheet\\_maternal\\_mortality.pdf](http://www.who.int/making_pregnancy_safer/events/2008/mdg5/factsheet_maternal_mortality.pdf) (accessed 9 May 2009).
6. UNICEF, "The State of the World's Children 2009."
7. Task Force on Innovative International Financing for Health Systems, "\$30 Billion Needed to Save 10 Million Women and Children's Lives in the World's Poorest Countries," Press Release, 13 March 2009, <http://www.internationalhealthpartnership.net/pdf/IHP%20Update%2013/Taskforce/london%20meeting/new/FINAL%20%20Press%20Release%20.pdf> (accessed 1 June 2009).
8. Central Intelligence Agency, "The World Factbook: Peru," 14 May 2009, <https://www.cia.gov/library/publications/the-world-factbook/print/pe.html> (accessed 28 May 2009).
9. United Nations Population Fund Peru, "Peru: Mortalidad Maternal," [http://www.unfpa.org.pe/infosd/mortalidad\\_materna/mor\\_mat\\_04.htm](http://www.unfpa.org.pe/infosd/mortalidad_materna/mor_mat_04.htm) (accessed 23 May 2009).
10. Physicians for Human Rights, *Deadly Delays: Maternal Mortality in Peru—A Rights-Based Approach to Safe Motherhood*, 2007, <http://physiciansforhumanrights.org/library/documents/reports/maternal-mortality-in-peru.pdf> (accessed 28 May 2009).
11. M. Kayongo et al., "Strengthening Emergency Obstetric Care in Ayacucho, Peru," *International Journal of Gynecology and Obstetrics* 92, no. 3 (2006): 299–307.
12. CARE, *Improving Lives through CARE's Sexual and Reproductive Health Programs*, Voices from the Village no. 2, May 2007, [http://www.care.org/careswork/whatwedo/health/downloads/vftv\\_peru.pdf](http://www.care.org/careswork/whatwedo/health/downloads/vftv_peru.pdf) (accessed 1 June 2009).
13. CARE Peru, *Memoria Institucional, 2007–2008*, [http://www.care.org.pe/pdfs/cinfo/memoria/Memoria%202007-2008\\_esp.pdf](http://www.care.org.pe/pdfs/cinfo/memoria/Memoria%202007-2008_esp.pdf) (accessed 1 June 2009).
14. WHO, "Core Health Indicators: Peru," [http://apps.who.int/whosis/database/core/core\\_select\\_process.cfm?country=per&indicators=nha](http://apps.who.int/whosis/database/core/core_select_process.cfm?country=per&indicators=nha) (accessed 23 May 2009).