



# A CASE STUDY:

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## The Impact of Maternal Health in Peru

**Maternal health investments are delivering real results. CARE and our partners, working with some of the world's poorest communities, have seen women's lives saved when the right interventions are put in place. These same women have been empowered to build healthy, productive lives for themselves and their children and become leaders in their communities. Yet, much more remains to be done.**

While some progress has been made, millions of women, mostly in sub-Saharan Africa and South Asia, continue to face preventable dangers and unnecessary death or disability during pregnancy and childbirth. Even in lower middle-income countries like Peru, severe inequity leaves millions of the poorest women without access to life-saving maternal health services. As a global community, we have the knowledge, innovative ideas and technology, and proven strategies to do more. We know that providing voluntary family planning, skilled care at birth, emergency obstetric care, and postpartum care are key to tackling this seemingly

intractable public health problem. These services must be accessible (economically and physically) and acceptable (ethically and culturally). Political will in developing and donor countries alike is needed to create supportive policies, secure resources and drive a focused, coordinated response to this preventable tragedy. As a leader in health and development worldwide, the U.S. government has an enormous opportunity to help shift the paradigm on maternal health. This is an investment in the future of women and their families, as well as the economic productivity and long-term stability of nations.

With over 64 years of experience working in developing countries, CARE has seen first-hand the inextricable link between maternal health and the repercussions a maternal death has on efforts to break the cycle of poverty (See Box 1). When a mother dies, her children are less likely to eat well, go to school and get immunized against diseases. In fact, children who lose their mothers are up to 10 times more likely to die before their second birthday than children whose mothers survive<sup>1</sup>. Maternal and newborn deaths represent an estimated annual global financial loss of \$15 billion in potential productivity<sup>2</sup>. Our experience has shown that healthy mothers are key to meeting other development goals, yet, Millennium Development Goal (MDG) 5 – which calls for a reduction in the maternal mortality ratio by 75 percent and universal access to reproductive health services by 2015 – is the MDG most lagging behind. This must change if we are going to achieve the long-term development goals the U.S. government has committed to.

### **Loss and Possibility: The Stories of Antonia and Gardenia**

The following case studies document the experience of two women living in the South American country of Peru, where CARE's Foundations to Enhance Management of Maternal Emergencies (FEMME) project helped lead the charge to cut maternal deaths in half throughout the remote highland region of Ayacucho. In just five years, Ayacucho went from one of the worst to one of the best in terms of reducing maternal mortality rates. CARE is working in partnership with the Peruvian Ministry of Health to scale up this successful program across Peru.

Though Peru has been recognized as a lower middle-income country, it still has one of the highest maternal mortality ratios in South America, estimated to be approximately 240 deaths

### **Box 1: CARE's Mothers Matter Signature Program**

Recognizing that the health of women is particularly important to realizing other development goals, CARE has prioritized maternal health issues through the Mothers Matter Signature Program. Mothers Matter leverages CARE's knowledge and deep experience in the poorest communities in the developing world to identify and implement best practices for reducing maternal mortality and improving the health outcomes of women and girls. CARE is well positioned to scale up technical interventions that have proven to save women's lives: voluntary family planning, skilled care at birth, emergency obstetric care and postpartum care. Institutional capacity building, community mobilization, promotion of women's participation in shaping health policies, advocacy for more responsive health systems and women's empowerment are key to these efforts. Mothers Matter is based on a vision for the future in which women are able to plan their families; where communities value health as their right and responsibility; and where societies – recognizing the vital role played by women and mothers – commit the necessary resources to eliminate preventable maternal death. This vision is realistic and attainable – with political will and adequate resources.

**“High maternal death rates are a barometer of weak health systems, often reflecting the low status of women and patterns of exclusion. When you strengthen health systems to address maternal health, you will see the system address other health needs.”**

**– Dr. Helene Gayle, CARE president and CEO**

“For us, in all Peru, and all over the world, the mother is the pillar of the home; she is the trunk of the family tree. If a woman dies, the children don’t know where to go. If the mother lives, she’ll keep her children together. The family will stay together. That’s why we focus on saving the mother’s life.”

– **Bacilia Vivanco**, Midwife, Ayacucho Regional Hospital, Peru

per 100,000 live births<sup>3</sup>. These ratios vary significantly across the landscape. They are higher in the remote highland regions, where Ayacucho and Puno are located, and in parts of the country where there is jungle. Maternal mortality disproportionately impacts poorer and indigenous communities and reflects the enormous levels of inequity – and ultimately discrimination – within Peruvian society. In the “machismo” culture of Peru and much of Latin America, the reproductive and maternal health needs of indigenous women are often ignored.

While statistics provide the context of the problem in Peru, they do not convey the greater toll a mother’s death takes on her family and community. This paper contrasts the experiences of two Peruvian women, Antonia and Gardenia, as they faced life-threatening obstetric emergencies within their respective communities. Antonia died because the health system failed her. Gardenia survived because maternal health investments were made in her community.

*Elba Contreres Yaol, 20, holds her child who is 15 months old.*

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## Antonia<sup>4</sup>

Antonia Pacco Cabana had just turned 40. She was the anchor of her family. She'd farmed a small parcel of land and tended livestock with her husband Lorenzo Vargas since they were married as teenagers. She gave birth to seven children, ranging in age from two to 18. During her eighth pregnancy when Antonia went into labor three weeks early, Lorenzo wanted to go to the hospital to get a doctor. Antonia knew it would take him at least two hours to reach the hospital and return with help and was afraid of being alone during the delivery. So, Lorenzo remained at home and waited.

Antonia gave birth to a baby boy, Adolfo, around 6 p.m., but the joy was soon replaced by anguish. Lorenzo, who had assisted Antonia in all her previous births, realized that something had gone wrong. After a half an hour the placenta had not been delivered. Antonia was bleeding heavily. Lorenzo knew she needed help right away. After glancing one last time around his one room adobe home, taking in his wife and his other children shuffling near their mother's bed, silent and scared, he left to get help.

There are no phones or two-way radios in their tiny village of Tococori Choquiecambi, high in the mountains of Peru's remote Puno region. The nearest health post was a couple miles away travelling on very bad roads. Lorenzo knew from making prenatal visits with his wife there that the one health worker wasn't equipped or trained to handle this type of emergency. Also, it was Good Friday and he knew that the health post was likely closed since it was a holiday.

Lorenzo borrowed an old motorcycle and puttered slowly down the steep, muddied road to the hospital in Azangaro – almost an hour away in normal conditions. The drenching rains made the roads nearly impassible and his transportation broke down half way there. After an hour of pleading with people in a nearby village for help, Lorenzo managed to borrow a bicycle on which he made the rest of the journey to the hospital. When he reached the hospital,

the doctor on call was not there and the ambulance was in disrepair. After another 30 minute delay, Antonio found the doctor and hired a pick-up truck, and they were on their way. Unfortunately, the truck got stuck in the mud as it approached the house and Lorenzo and the doctor had to walk the remaining distance.

By the time Lorenzo and the doctor finally arrived on foot just after 10 p.m., it was too late. About an hour before, in her mother's arms and surrounded by her children (including the baby boy she had just given birth to), Antonia Pacco Cabana died.

## Afterward

The doctor said Antonia died because the placenta, which helps nourish the baby in the womb, had blocked her cervix. She hemorrhaged, which led to cardiac arrest. Antonia's condition was considered serious, but treatable. But in a remote region of a developing country, it was a death sentence – one that could have been prevented were it not for delays in receiving basic emergency obstetric care. **Globally, of every 10 maternal deaths, eight are preventable.** It isn't a question of fate. It's a question of political will, access to care and prioritizing the lives of women.

For Lorenzo and their children, as is the case for so many other families facing a maternal death, the world as they knew it ceased to exist the moment Antonia died<sup>5</sup>. In discussions with Lorenzo in the months following Antonia's death, he recounted his schedule: He got up by 4 in the morning to make breakfast and wash the children's clothes. By 8 a.m. the children left for school and he tended to the livestock. At around 4 p.m. he came back from dealing with the livestock to cook dinner. Then he bathed the children and put them to bed in the tiny bedroom that the entire family shared. He went to sleep about 9 p.m. He was extremely tired, but recognized that this is the schedule Antonia had kept every day when she was alive. Lorenzo also had been diagnosed with a chronic condition that he was unable to treat because of the cost.

The children suffered without their mother. They only went to school sporadically and the younger girls, ages 5 and 9, stopped eating and were prone to long crying fits. The oldest son, who had planned to go to the city for school as a precursor to college, dropped out to work in the ultra-hazardous gold mines in order to send money back to his family. The second oldest son was also forced to drop out of school to help his father around the house and take care of his siblings. Lorenzo had to sell all the livestock and possessions to pay for baby formula. Having spent all his money on the baby, Lorenzo's other children clearly had become malnourished and they had no money for school supplies.

By the time 18 months had elapsed, it was clear that the children were not faring well. The children continued to regress emotionally, some becoming withdrawn and grave, appeared to be chronically malnourished and rarely went to school. The oldest son had not returned from the mine and no longer sent money to his father or communicated with his family in any way. The situation facing Lorenzo and his children represent just some of the "costs" associated with

one maternal death, immeasurable considering the long-term impact on the family and community.

As is the case with so many maternal deaths, if it weren't for delays in receiving basic emergency obstetric care, Antonia would have survived. The lack of communications systems (e.g., phones or two-way radios), a working referral network, adequately staffed and resourced local health facilities equitably distributed around the region, and functioning transport systems all contributed to her death. The cost of accessing even the available services puts many of them out of reach for the rural poor. The patient is expected to foot the bill for transportation, including gasoline, to get to the facility and pay informal fees for treatment. Additionally, rural health worker contracts in this region are short term, leading to high turn-over and lack of trust and relationship-building between health workers and the community. This lack of job security – and fear of being fired in the event of a maternal death – often leads to perverse incentives to avoid dealing with obstetric emergencies. This is not a health system set up to save lives or retain staff. It ultimately led to Antonia's death.

*Juan, Antonia and Lorenzo's second oldest son, was forced to drop out of school to help take care of his family following his mother's death. His brother sits in the background.*

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## Gardenia<sup>6</sup>

Gardenia Rosas de la Cruz is part of a new grassroots movement to boost maternal health, and improve child nutrition and educational opportunities in Peru and throughout the world.

Gardenia lives in a two-mile-high town in the saddle of the Peruvian Andes. Despite its natural beauty, Quimbiri, located in the Ayacucho Region, is one of the poorest parts of the country. Indigenous, Quechua-speaking families live off the land, growing potatoes and herding llamas and sheep on steep hillsides freckled with house-sized boulders. Like other remote communities, isolation often leaves them stranded from basic services. Of the 15,000 people in Quimbiri, 92 percent live below the poverty line. High levels of malnutrition and illiteracy, particularly among women and girls, are all too common. Despite the obstacles, Gardenia is determined to change the status quo. Her goal is to empower each mother in her community to realize their self-worth and to nurture the next generation.

Like any mother, Gardenia wants the best for her family and her community. Aware that in Quimbiri, 22 percent of children under the age of five are chronically malnourished, she established a local chapter of Peru's largest social assistance program, Vaso de Leche (Glass of Milk), to support the nutritional needs of expectant mothers and children. And together, she and her husband Alfredo work to instill the importance of education in their family and in their community.

In the past, women like Gardenia were relegated to a traditional role in the home and in the fields. They had no say in their future or seat at the table to participate in decisions that affect themselves and their families. Through

her own perseverance, Gardenia has become a respected and valued leader and, by setting an example, has opened the door for other women and men to follow.

And thanks to Gardenia's strong will to protect her growing family, and the heroic work of a team of well-trained health workers, the birth of her fifth child was a joyous one.

At the age of 40, pregnant with her fifth child, Gardenia met several times with the obstetrician at the Quimbiri health center. Together, they developed a birth plan and reviewed the warning signs of potential obstetric emergencies. Armed with this knowledge and a clean bill of health, Gardenia felt confident she would have a safe delivery. On the afternoon of January 31, 2008 she arrived at the health center in labor, and at 10 p.m., gave birth standing up (Quechua women traditionally deliver vertically) to a baby girl they named Luz. But there were complications. Gardenia's placenta failed to detach from her uterus and she started bleeding profusely, suffering a post-partum hemorrhage. The obstetrician and nurse couldn't get the bleeding to stop. This rural health center simply was not equipped to handle this emergency, but fortunately had a referral process in place to efficiently transfer her to Ayacucho's Regional Hospital, some eight hours away, for treatment.

According to Gardenia, she feared the dangerous reality of the situation, and thought she would die. As she felt her life slipping from her, she says her only thought was, "Please God, don't let me abandon my children or my community. I want to live for them."

Rural health posts like Quimbiri aren't equipped with ambulances, and the truck used for emergency cases was already transferring another patient; however, as part of

**"When visiting communities in Ayacucho I witnessed a new movement that has the potential to make a real difference in the lives of women. When we succeed – and I do believe we will succeed – women won't have to fear that the day they give birth could also be the day they die, robbing another child of a mother, another family of a daughter, another community of a leader."**

**– Christy Turlington Burns, CARE advocate for maternal health**

their planning for such emergencies, staff had compiled a list of local transportation to call on. After some quick coordination, the town's mayor pulled up in his truck. Health workers hurriedly finished collecting the blood Gardenia's oldest daughter, husband, and nurse had donated—she would require multiple transfusions in order to survive the long journey. As Gardenia's feet rested on her husband's lap, the obstetrician monitored her vital signs, controlled the transfusions and instructed her not to sleep.

Because Quimbiri health workers called in the emergency by radio, when Gardenia arrived early the next morning, the Ayacucho Regional Hospital staff were standing by, ready to rush her in to surgery. Gardenia underwent an emergency hysterectomy. Post-partum hemorrhage, the complication Gardenia suffered, is the primary cause of maternal mortality in Peru. But thanks to a dedicated and well-trained team of doctors, obstetricians, nurses and community volunteers, and having had a referral and transportation system in place, Gardenia survived from becoming another tragic statistic to emerging as a leader in her community.

## Afterward

Today, Gardenia is alive and well and able to see her two oldest children complete secondary school. She remains a trusted advocate for the women in Quimbiri and a powerful role model. Gardenia continues to take on leadership roles in her community. She recently became the President of Quimbiri's Mother's Club, an association that works to empower women and to formally recognize their important contributions within the community. Gardenia's club organizes communal kitchens to prepare nutritious meals and refers women to clinics where they receive regular check-ups and family planning counseling. Indeed, Gardenia's survival will likely save the lives of many women – in Ayacucho and beyond.

In the past, rural health posts like Quimbiri would be left unattended, or the staff couldn't speak the same indigenous, Quechua language as their patients. Women were often charged for services that should have been free. With no one watching, maternal health services were often “anything

*Gardenia, holding Luz (two years old), walks with her husband Alfredo and oldest daughter Flor.*

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goes,” and women and children paid the price with their lives. Consequently, women feared bad service and not being treated with dignity and respect. As a result, many community members simply didn’t know why it was essential to have a skilled attendant at delivery or how to identify the signs when an expectant mother required urgent medical attention. Economic and logistical barriers also frequently prevented families from accessing health services. As awareness and quality of services increases, communities and trained health workers are now coming together to solve the problem and become accountable to the people. **In Ayacucho, women with obstetric complications being treated in health facilities increased from 30 to 75 percent, and the number of women who died after reaching the health facilities was cut in half within a five-year period.**

## A Maternal Health Program that Works: 50 Percent Fewer Deaths

The Foundations to Enhance Management of Maternal Emergencies (FEMME) project, implemented by CARE and Columbia University’s Averting Maternal Death and Disability Program, in partnership with the Ministry of Health, has contributed to a significant increase in the use of health services and improved the survival rates of women in the Ayacucho region of Peru. **A final evaluation found that the 50 percent reduction in maternal deaths in Ayacucho was twice that in Puno, a comparison region where FEMME was not implemented.** In addition, the percentage of women with a “met need” for emergency obstetric care was only 33 percent in Puno – similar to Ayacucho before the FEMME project. These differences in outcomes were despite similar availability of equipment, supplies and staff. What saved the lives of women in Ayacucho, like Gardenia, were the effective tools, systems and structures to provide appropriate management of obstetric emergencies; increased political will; and improved staff capacities and attitudes toward women, instituted as part of FEMME.

CARE’s FEMME model was based on the premise that to save women’s lives during pregnancy, at a bare minimum, an effective, quality system of emergency obstetric care must be in place. Through implementation of eight

### BOX 2: Eight Core FEMME Strategies

1. Use the national guidelines for obstetric and newborn emergencies to standardize the management of obstetric emergencies across the region (and country)
2. Establish a regional training system for obstetric and newborn emergencies
3. Use international standards, such as the UN Process Indicators, to measure the availability, use and quality of emergency obstetric care
4. Conduct clinical audits to review the standardized management of obstetric emergencies and determine if updating is needed
5. Work with health providers at all levels to develop a referral and counter-referral system
6. Put in place systems to prevent infections in obstetric and neonatal centers
7. Apply human rights, gender and intercultural approaches to health services and promote regional public policies through multi-sectoral committees focused on reducing maternal mortality
8. Establish an implementation, monitoring and supervision system for obstetric emergencies

core strategies (see Box 2) FEMME emphasized skilled, standardized management of obstetric emergencies and promoted a rights-based approach to health care, including respect for cultural diversity and recognition of a woman’s right to maternal survival. The project has succeeded in articulating other culturally appropriate national and regional public and private initiatives to ensure that health care services respect a woman’s decision-making and cultural practices (birth homes and vertical birth option) and the right to participate in her own healthcare (ensure Quechua-speaking health providers). In addition, women and their families have been taught to recognize



the warning signs of obstetric complications, and most health workers now have the equipment, knowledge, skills and political support to help them excel at what they do best. A 2007 sustainability study found that health staff remained committed to continuing to reduce maternal deaths and foster relations of respect and dignity with mothers, their families and communities.

The FEMME project's impact has been so successful that the Ministry of Health launched standard guidelines and protocols for obstetric and neonatal emergencies, based largely on those developed in the FEMME model, for use throughout the country. With support from the Bill & Melinda Gates Foundation and private donors in the

United States and Peru, CARE has worked with the Peruvian Ministry of Health to develop detailed guidelines on how to implement each of the eight core FEMME strategies. These guidelines were approved for use as the official "Intervention Model to Improve the Availability, Quality and Use of Establishments providing Emergency Obstetric and Newborn Care" by the Minister of Health on March, 21, 2009 (Ministerial Resolution No. 223-2009). CARE is now working with the Peruvian authorities on their nationwide implementation as well as with USAID and the Bolivian Ministry of Health to adapt and implement the FEMME model in that country, complementing it with other interventions such as voluntary family planning and newborn care (See Box 3).

*Nelida Inga Aguilar holds her one day old baby boy.*



### Box 3: Scaling up – CARE’s Regional Approach to Maternal Health

CARE’s Mothers Matter program is taking a regional approach to addressing the high number of maternal and neonatal deaths among the indigenous women in the Andean Region of Peru, Ecuador and Bolivia. Through this coordinated approach CARE seeks to contribute to reducing maternal mortality and improving access to safe and secure maternity and birth services for the 1.6 million indigenous women living in the three countries. This regional approach enables the three country offices to share lessons learned and to support scale-up of successful, evidence-based and culturally appropriate strategies with a focus on increasing political engagement and advocacy at all levels of government, improving the quality of health services and empowering women and their communities. Also critical is that the work continues to be done in partnership with their respective Ministries of Health, civil society and grass-roots organizations, and other key stakeholders.

One example of this cross-country collaboration is related to the emergency obstetric care model, FEMME. Having visited Ayacucho, Peru, and seen first hand the success of the FEMME model and the buy-in of the Peruvian Ministry of Health, the Bolivian Ministry of Health in partnership with USAID, wanted to transfer this model to Bolivia. To facilitate this effort they asked CARE Bolivia to adapt the FEMME model to the Bolivian context. USAID considers these efforts as part of their core health systems strengthening interventions, complimented with family planning, post-abortion care, community mobilization and culturally appropriate services.

CARE’s Mothers Matter program in the Andean Region draws on diverse strategies and tools developed in Bolivia, Ecuador and Peru, thus ensuring an integrated approach to maternal and newborn health. These tools include “how to” and “costing” guides on implementing the core FEMME maternal health strategies; manuals for health volunteers; materials on evidence-based health interventions for newborns; and culturally-sensitive approaches to increasing the number of indigenous women that deliver at health facilities.

CARE will continue to capitalize and build on the successful maternal and newborn health programming in Bolivia, Ecuador and Peru in order to have the greatest impact on the health and well-being of women and newborns.

## Conclusion

Lessons learned from the experiences of Antonia and Gardenia are a testament to the importance of saving the lives of women around the world. They are the cornerstones of their families and communities. As a human rights issue, they should never have to face unnecessary high risks associated with pregnancy and childbirth, and as a practical issue, they don’t need to.

The United States and the global community can help determine whether a mother will suffer Antonia’s fate

or triumph like Gardenia. **Maternal health must be prioritized and investments increased in the four proven technical maternal health interventions: family planning, skilled care at birth, emergency obstetric care and postpartum care.** Health systems must also be strengthened so that these interventions can be effectively implemented. Success is possible when communities and health systems work together to save women’s lives. As both Antonia’s and Gardenia’s stories attest, the “cost” of inaction is too great.

**CARE USA would like to acknowledge CARE Peru staff Elena Esquiche, Luz Estrada, Ariel Frisancho, Jay Goulden and Sarah McCune, and Bacilia Vivanco from the Regional Hospital in Ayacucho, for helping to bring Antonia and Gardenia's stories to light and for their commitment to improving maternal health in Peru. A special thank you to Alicia Ely Yamin, JD,MPH, currently at Harvard University and formerly Director of Research and Investigations at Physicians for Human Rights, who together with a CARE Peru team visited Antonia's family numerous times after her death and provided the elements for Antonia's case study. And, a final note of appreciation to Antonia's family and Gardenia for sharing their stories of tragedy and survival.**

<sup>1</sup> UNICEF. 2007. The State of the World's Children 2007.

<sup>2</sup> USAID. 2001. USAID Congressional Budget Justification FY2002: Program, Performance and Prospects - The Global Health Pillar.

<sup>3</sup> WHO. 2007. Maternal mortality in 2005: estimates developed by WHO, UNICEF, UNFPA, and the World Bank.

<sup>4</sup> The story of Antonia's death was initially told in a joint Physicians for Human Rights and CARE field report: Alicia Ely Yamin, et al, Deadly Delays: Maternal Mortality in Peru: A Rights-Based Approach to Safe Motherhood. Cambridge, MA: Physicians for Human Rights (2007).

<sup>5</sup> Following Antonia's death, CARE made three visits to Lorenzo's family, approximately 7, 15 and 18 months later. During those visits, CARE representatives spoke with family and community members to ascertain the condition of the family. CARE also provided some financial and other support.

<sup>6</sup> Gardenia's story was shared with CARE staff in late summer, 2009.



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