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Designing Quality Essential Obstetric Care Services in Honduras





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About this series

The Case Study series presents real applications of Quality Assurance (QA) methodologies in developing countries at various health system levels, from national to community. The series focuses on QA applications in maternal and reproductive health, child survival, and infectious diseases. Each case study focuses on a major QA activity area, such as quality design, quality improvement, communication and development of standards, and quality assessment. Secondary QA activity areas are illustrated in some cases.

Quality design is the systematic creation of new services or processes or the re-design of existing ones. It incorporates features that meet the needs of internal and external clients while taking into account the resources available. In health-care, external clients include the individuals who use specific services, their caretakers, and their families, but may also include members of the larger community. Internal clients could include healthcare providers, community-based workers, support staff, supervisors, or managers. Quality design is undertaken by a team that can include both internal and external clients of the service to be designed.

The Quality Assurance Project has developed a quality design methodology that teams can use to select a process and then:

- identify all clients and their needs,
- clearly set objectives for the design,
- create a design that addresses those needs, and
- implement and monitor the new design.

This case study describes how the quality design methodology was applied by a series of teams involving health staff, community representatives and municipal authorities to improve the quality and accessibility of obstetric care in the Comayagua and La Paz departments of Honduras.

Acknowledgments

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Designing Quality Essential Obstetric Care Services in Honduras

Background

A woman in Honduras is at least 14 times more likely to die during pregnancy than a woman in the US.¹ A 1997 study in Honduras found that hemorrhage, hypertension, and infections caused more than 80 percent of maternal deaths.² These conditions are all treatable, if not preventable, as long as quality maternal services are available, accessible, and known to the community. The evidence shows that maternal mortality can be reduced considerably if there is a system in place to transport women in labor to a facility within 30 minutes where there are antibiotics, blood transfusion, and cesarean section capacities—i.e., elements of essential obstetric care (EOC).³ In fact, the 1997 study in Honduras found that 47 percent of maternal deaths were secondary to hemorrhaging, and of these, two-thirds were not hospitalized.



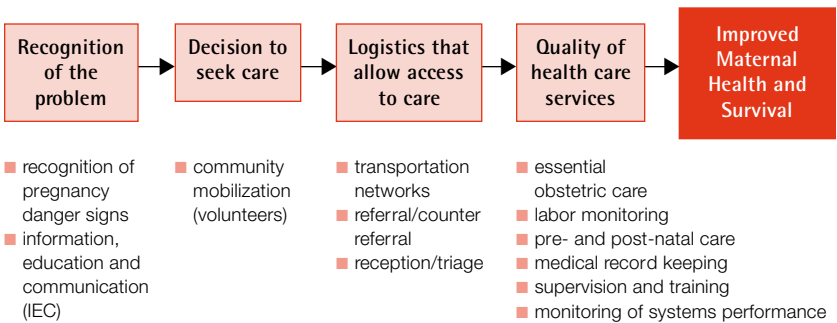
1 The pregnancy-associated mortality ratio in Honduras was at 147 per 100,000 live births in the “1997 Reproductive Age Mortality Study and Implications for Maternal Mortality Surveillance.” Honduras Ministry of Health.

2 Melendez J, Villanueva Y, Danel I, Stupp P. Measuring Maternal Mortality in Honduras: Findings from the “1997 Reproductive Age Mortality Study and Implications for Maternal Mortality Surveillance.” Ministry of Health, Tegucigalpa, Honduras 1997.

3 Wagner M. Maternal mortality in the United States: Where Are the Doctors? Birth Gaz. 1997 Fall; 13(4)37-8.

The Latin American and Caribbean Regional Initiative to Reduce Maternal Mortality (LAMM) was created to respond to regional needs in maternal and obstetric health care. Honduras is one of three demonstration countries for the LAMM initiative, where implementation at the facility- and community-level has been directed by Quality Assurance Project (QAP). The focus of the QAP-led work is based on the theoretical framework of the Pathway to Maternal Survival model,⁴ which specifies the steps that lead to maternal survival (see Figure 1).

Figure 1. The Pathway to Maternal Survival



Under each step of the Pathway to Maternal Survival shown in Figure 1 are examples of processes that facilitate or determine the capacity of each step. Therefore, designing or redesigning these processes leads to improved maternal survival.

The Secretariat of Health of Honduras selected six municipalities in the departments of Comayagua and La Paz as sites for a LAMM-supported demonstration program to apply quality design (QD) methods to improve essential obstetric care. Both departments were areas the Secretariat identified because of their geographical accessibility and significantly elevated levels of maternal mortality. In March 1998, the Quality Assurance Project initiated technical assistance to the program via a field coordinator/facilitator based in Tegucigalpa, and quality assurance (QA) advisors based in Bethesda, MD.

⁴ Marjorie Koblinsky, Mother Care/JSI. Based on the Pathway to Survival, BASICS Project

This case study describes how the work in quality design unfolded at the country level in Honduras in three generations of teams. Case studies that focus on quality design work done at the team level, detailing the 10-step method, are also available.

Organizing at the National and Regional Levels

Formation of steering committees. While most of the quality design work would be carried at the facility level, a framework to support the work was needed to formalize an institutional partnership between local, district, and national level health authorities. Therefore, the first step for the implementation of LAMM in Honduras was to assemble a National Steering Committee to coordinate and monitor the implementation of the LAMM initiative among the different stakeholders involved. It was composed of representatives from the Maternal and Child Health Bureau of the Secretariat, the Regional Health Department, the Pan American Health Organization (PAHO), USAID, and QAP.

In March 1998, a Regional Steering Committee was formed to monitor the QD work. It was composed of representatives from both the Maternal and Child Health Bureau and the Regional Health Department, including the Regional Director. The regional committee then identified six facilities in the six municipalities where quality design work would take place, based on their obstetric care capacity.

Designing Quality Processes

Initial training. In June 1998, members from the six selected facilities—two health centers, two hospitals and two maternal and child health clinics—participated in a four-day workshop on the quality design methodology. QAP trainers from Bethesda conducted the workshop, which was facilitated by staff from the Honduras QAP office and Secretariat of Health representatives. During the workshop, staff from each facility formed teams. Each team chose a sample health unit

Figure 2. The Ten Steps of Quality Design*

- 1) Select process to be designed.
- 2) Define objective of the new design.
- 3) Identify internal and external clients.
- 4) Identify and prioritize client needs and expectations.
- 5) Create flowchart of main activities of process.
- 6) Link client needs with each activity on flowchart.
- 7) Identify key features of new design that respond to priority client needs.
- 8) Describe the new process.
- 9) Error proof: test design for robustness and reliability.
- 10) Plan, implement, and monitor new process.

* The order of the quality design steps has changed slightly since this experience.

process to design from a pre-defined list (the same examples given in Figure 1) to use for learning the ten-step quality design methodology (summarized in Figure 2). In addition to the facility-based teams, a regional team with broader representation from the facility level and the regional health directorate undertook a design on referral and counter-referral.

Setting up team work at each hospital. After the workshop, team members returned to their respective hospitals and health centers and initiated weekly quality design meetings. First, each team assessed whether to re-work the process they chose during the workshop or to choose a completely different process. Only one team decided to change its design focus, from prenatal care to a training program to increase skills, knowledge, and decision-making in obstetric care. Then, each team identified the facility staff that worked directly with the chosen process and invited them to join the team. Community members were also invited to participate; as a result, two teams had community representation.

Designing quality processes in weekly team meetings. Each team worked through the ten steps of quality design, fully developing the design at their respective hospitals in weekly meetings lasting two to over four hours. Two Honduran QAP facilitators, who were also doctors, attended team meetings about twice a month.

The facilitators guided teams through each step. For instance, at the first meeting of a new health center team, members focused on the first quality design step, “Identify the process to be designed.” The ensuing staff discussion revolved around what processes or services related to maternal survival were most needed at the health center, and a nurse proposed training in pregnancy complications. She explained that in the past, lack of training had resulted in emergency decision-making by nursing staff when doctors were not available. Training, she said, would ensure “that we don’t end up doing things that we shouldn’t be doing.” Further discussion clarified that due to shortage of resources, the health center was not equipped to address the types of complications the nurse

Figure 3. The Rosario Health Committee, Hope for the Future

On a Friday in December 1999, in a small town in Honduras called Rosario, a doctor, a nurse, two school teachers, and four representatives from town government and local non-profit organizations gathered in the dusty yard behind the town health center. Armed with measuring tape, they calculated the area of the yard to develop the budget for a plan to construct an obstetric ward. The health center, which serves a community of 18,000, did not provide obstetric services. Seventy percent of women in Rosario gave birth at home, while 30 percent gave birth at the departmental hospital, which is 45 minutes by car via a windy dirt road. The design of the four-room ward was the end-product of the quality design process implemented by the team. The eight-member quality design team calls itself the Hope for the Future Committee.

In its six-month lifespan, the team has already achieved considerable progress in addressing the multifactorial causes of maternal mortality in Rosario.

continued on page 6

described. The facilitator helped the team realize that a more appropriate design focus would be prenatal care, so women at high risk for complications could be referred early to avoid such last minute difficulties. She explained that the facility's capacity (ie, financial and human resources) should guide the selection of a process for design. Teams worked through the remaining quality design steps in the same manner. Selected key steps for a team that chose prenatal care as their design are presented in the Appendix of this case study.

Completion of new designs. Despite Hurricane Mitch, which delayed activities during the end of 1998, all seven teams had finished their designs by January 1999, six to seven months after the initial training. Two health-center based teams dropped out. One team decided, after finishing its design, that the process they chose was too complex for a health center, and more appropriate for a regional level team.

Some teams compiled the final documentation of the ten steps—along with photographs, floor maps, and other documents—into formal proposals requesting funding for the

Figure 3. The Rosario Health Committee, Hope for the Future, Cont'd

A month after its establishment in mid-July 1999, the team arranged to receive training on the recognition of pregnancy danger signs and conducted an instruction session on the topic to 40 health center volunteers and teenagers at the local school. It also successfully negotiated with the regional health director for health center coverage by a medical doctor.

In August 2000, the committee developed a network of car owners who committed to drive pregnant women to the regional hospital at a lowered cost, since the obstetric ward had yet to be constructed. In the same month, one of the committee members recognized a “danger sign” in an expectant mother with swollen extremities and rushed to consult the car network list. When no car owner was found, he knocked on the mayor's door in order to borrow the municipal car to deliver the woman to the hospital. Upon arrival, she was immediately sent to the National Hospital, 90 minutes away. The attending physician commented that had they arrived an hour later, the woman would have probably died. Since this incident, the committee has



Some of the designs address the issue of overcrowding at clinics. Overcrowding at clinics has often resulted in new mothers—each with her own baby—sharing a single bed.

implementation of components of the new design that required additional materials. By shaping their proposals around the ten QD steps, teams were able to demonstrate commitment to, knowledge of, and justification for their designs. Quality design Step 10, for instance, includes information on the implementation timeline, material and human resources needed, and estimated budget for each design component. Teams then submitted their proposals to local non-governmental organizations

made an agreement with the town for the use of the municipal car to transport women of low economic resources; it has also requested funds at various institutions to purchase a vehicle for the health center.

The committee members are well aware that they are, in their own words, “saving lives.” The group ownership of the problem of maternal and obstetric care is tangible in the high level of involvement during the four-hour team meetings. Twice a month, they meet without the QAP facilitator. The group expects commitment from its members: a former committee member who was absent from three consecutive meetings was replaced by group consensus.

By May 2000, the obstetric ward design was finalized, and funds for equipment, a maternal waiting home, and the support of health personnel had been allocated via the municipal government, UNICEF, and local fundraising.

(NGOs) and other community groups in search of funding to support the designs. Meanwhile, teams began to implement their designs in March 1999, starting with components that did not require additional funding.

Expanding Quality Design Work in the Second and Third Generations (Waves) of Quality Design Teams

Initiation of second generation of teams. In June 1999, five facilities initiated new quality design projects, in a second wave of quality design. The teams worked on designs of normal delivery care, medical records, and labor monitoring. One team was based at a new facility, while the remaining three were based at facilities that experienced the first wave, with different team members corresponding to the new process chosen for design.

Learning tour. In September 1999, second wave team members participated in a learning tour⁵ of the most successful health committees in regions outside the LAMM project. Though some committees have undertaken QD work, health committees in Honduras predate LAMM and hence have developed and tested creative health care solutions in their respective communities. Tour participants visited two clinics where the community committees were managing the clinics. Throughout the tour, they learned about community involvement, as well as about sustainability issues, administration, and the impact on maternal mortality. They also visited a community-run maternal waiting home, which lodges women from remote areas so they are near the delivery care system when they are about to go into labor.

The learning tour was intended to show teams the work that other community committees had made possible, before they embarked on quality design work. This greater focus on community participation was due to a new facilitator, who was hired because one of the original facilitators had left four months into the first wave. Since the new facilitator was a

5 Financed via a \$2000 donation from Plan International

specialist in community mobilization, she incorporated this emphasis from the start, beginning with identification of community members for the quality design teams of two health centers.

Assembly for community leaders. At the communities of each of the two facilities, an assembly for community leaders was held, organized through the mayor's office. During each assembly, community leaders were introduced to basic quality assurance concepts and to the LAMM quality design work that would take place in their communities. Next, participants selected those who would represent the community and work with health facility staff as part of the quality design team. The mayor then officially swore in the team as a legal entity. Following this, the teams worked through the ten quality design steps in weekly meetings, in the same manner in which the first wave proceeded. Three months after the second wave, a third wave began, with seven teams, three of which were at new facilities. As of September 2000, there were ten third-wave teams. Third-wave designs included new processes, such as neonatal care, management of complications, maternal waiting homes, post-partum care, and post-partum home follow-up visits.

Building Regional Capacity

Collaboration between teams and facilities. The process of building regional capacity and efficiency in delivery of obstetric services has been catalyzed by good inter-team collaboration and information flow. For instance, at the referral hospital Santa Teresa, examination of the overcrowded obstetric care facilities led to a redesign of the essential obstetric care services, but also resulted in the design of basic delivery care services at the neighboring health center, 200 meters away. Until then, no health centers had delivery capacity; creating a ward for normal deliveries will help decongest the referral hospital. In fact, some of the systems designed require collaboration, since they reach beyond the borders of a single hospital or health center. For example, a team based on regional leadership with members from different facilities designed the new referral/counter-referral

system. The new referral card (shown in Figure 4) is used by community volunteers to refer pregnant women for care at the health center, and by health centers to refer pregnancy complications to hospitals.

Informal networking.

Much of the information sharing has been informal: teams were often aware of and influenced by progress of other teams. The newer generations of teams also drew from the

experiences of previous teams, in some cases directly through individual members who participated in previous quality designs. In addition, facilitators worked with different teams and transferred knowledge across them. For example, features in the new hospital reception and triage design at Hospital Santa Theresa have been replicated elsewhere in the region, such as the signs labeling sections of the hospital or the uniform for the hospital guard who greets patients and directs them to where they will receive care. This reflects the fact that many of the needs across communities are the same. For instance, hospital transportation is an issue for all peripheral communities. Similar needs have resulted in similar designs across communities.

Formal networking. Networking was also formally built into the LAMM quality design activities. The second wave learning tour is an example of this. Long after the tour took place, participants from the committee of La Libertad still make reference to the teams and health centers they visited. The experience obviously left a strong impression and still inspires committee members. At one of the site visits, the La Libertad committee learned of a program to help expectant mothers cover delivery costs using a savings account they start during prenatal care visits. The committee decided to replicate a

The image shows a 'TARJETA DE REFERENCIA' (Referral Card) form. At the top, it has the title 'TARJETA DE REFERENCIA' and 'AREA No. / DEPARTAMENTO'. Below this are fields for 'LOCALIDAD', 'DFO', 'FECHA Y HORA', and 'REFERIDO A'. There are also fields for 'LE REFERIDO AL PROFESOR', 'AÑO', and 'EDAD'. The main body of the form contains a list of medical conditions with checkboxes, such as '1.- INGESTA / SOBRESATURACION SANGRE', '2.- NEURONIA / DEFICIENCIA DEL SERVE', '3.- DEFICIENCIA RENAL', '4.- DOLOR DE OMBLIGO / DOLOR POSTERIOR', '5.- DOLOR DE OMBLIGO SIN DIAGNOSTICO O TRATAMIENTO', '6.- DOLOR DE PULSALES', '7.- CONTROL POSTPARTO', '8.- COMPLICACION DEL OMBLIGO', '9.- COMPLICACION PARTO', '10.- COMPLICACION DEL FIDUCIO', '11.- PLANIFICACION FAMILIAR', '12.- PLAZA OMBLIGO SIN DIAGNOSTICO O TRATAMIENTO', '13.- ACCIDENTE / HERIDA', '14.- FEMORAL ROTURA SIN DIAGNOSTICO O TRATAMIENTO', and '15.- OTROS DATOS'. At the bottom, there are fields for 'REFERIDO POR:' with sub-fields for 'Nombre y Cargo' and 'Firma y Sello'. A logo for 'COMITÉ DE CALIDAD' is visible in the bottom left corner.

Figure 4. Referral Card

similar savings program in their own community. The tour also convinced the La Libertad committee to take on management of the health center, after learning of the success of this tactic at the sites they visited. Local and regional health managers supported this decision. Since then, they have purchased materials for the health center, increased the delivery fee, and instituted a savings program for mothers in prenatal care. They have also set up a six-month contract with non-medical staff, including an administrator, three cleaning staff, and a security guard, and they raised \$340 from the community for their salaries. A visit two months after the committee took on this responsibility revealed a motivated staff and spotless premises. Up until the committee took over, the demoralized staff had not received their salaries for three months. The committee has also completed their transportation system quality design.



The banner reads: "Maternal Deaths are preventable... No more maternal deaths in Honduras."

Inter-municipal health committee meeting. Another formal networking event took place on December 2-3, 1999, during an inter-municipal meeting of nine health committees and six quality design teams from the department of Comayagua. Approximately 100 participants attended, including mayors of participating and neighboring towns, private sector representatives, local health authorities, and



local media. Accompanied by a proud mayor, each group presented the progress of their work, and participants discussed different strategies and voted for the best quality designs under specific categories, such as *Most Creative*, *Most Impacting*, *Most Challenging*, and *Most Disciplined*. A recognition ceremony awarded certificates of honorable merit to five community members and five institutional members who demonstrated outstanding commitment to the inter-sectorial effort to reduce maternal mortality. In addition, the Rosario committee shared the results of an informal survey they conducted on the new referral system: they found that nine out of seventeen women who were referred to the health center by the community over the period of two months reported that they were well attended by the referral hospital. This finding led to a discussion on the progress of the implementation of the designs and future opportunities for improvement. The event left a strong impression on representatives of town governments not participating in the LAMM initiative, many of whom later contacted QAP/Honduras seeking assistance to initiate similar work in their own towns.

Results

Increased efficiency and community participation with each wave.

By April 1999, both first and second wave teams had finished their designs and were in the final stages of implementation (*please see Table 1*). In fact, some second wave teams were further along than first wave teams that had chosen processes with greater infrastructure changes. The ten third wave teams were at various stages of designing processes. The more recent waves used fewer and longer team-work sessions (four to five hours), which facilitators found more efficient. In contrast, the featured Rosario team (*please see Figure 3*), which was part of the second wave, worked through their design in four meetings over two months, taking a total of 18-20 meeting hours.

The later generation of teams also achieved greater community participation. In fact, community members form three-quarters of some of the more recent teams.

Table 1. Comparison of three quality design waves

Quality design wave	Number of QD teams initiated	Time needed to work through ten QD steps	Percent of teams with community participation
First wave	7	6 months	20% (1/5)
Second wave	5	3 months	40% (2/5)
Third wave	10	2 months	50% (5/10)

Sustainability. An important aspect of LAMM's success in Honduras has been the early incorporation of institutionalization elements that will help sustain the quality design work. First, the extensive inter-sectorial collaboration to support individual quality design projects has given the effort momentum that has acquired staying power. In Honduras, the LAMM project drew together local, regional and national health care levels, community members, NGO's, churches, municipal governments and even the private sector, and this resulted in a heightened awareness and ownership of the problem of maternal mortality in the Comayagua department. In addition, the early successes of the first wave of quality design teams—

reinforced by public recognition and dissemination—renewed and spread enthusiasm for LAMM work.

A second force in institutionalizing quality design has been the follow-up effort by the Honduran health sector to promote the regional level designs. For example, according to Dr. Alejandro Melara, the regional health director, the newly designed referral system will be incorporated into the pre-service training curricula of clinicians at the main training hospital (Hospital Escuela). In addition, a ministerial resolution will be passed requiring the use of the referral system. PRAF (Proyecto de Asignación Familiar), a government program that provides health care for the indigent population, also has plans to adopt the referral system. All these strategies, under the active support of the regional director, Dr. Melara, help to institutionalize the new referral system.

Financial support. Design features have involved assigning uniforms to hospital guards, remodeling sections of facilities, training personnel in EOC, and organizing volunteers. The designs have been funded by increased hospital fees, local door-to-door fundraising, and support from municipal governments, local churches, PLAN International, UNICEF, USAID, and via other domestic and international NGOs.

Growing culture of quality. Some people—in a country devastated by hurricane Mitch only a year ago—would argue that the most important changes were not the infrastructure changes resulting from quality design, but the change in attitude and skills from the teamwork achieved through the structure of quality design method. The director of Hospital Santa Teresa, Dr. Hector Chahin, noted that people at the hospital are “more attentive to quality issues and believe that things should and can change.” In other words, there is a growing culture of quality. This is apparent not only within quality design teams and the different health system levels, but also in the community and at the local government. The municipal government and community ownership of the issue of maternal mortality was evident at the inter-municipal exchange meeting: the city newspaper headlined the event as “Mayors and Health Meet to Reduce Maternal Mortality.”

Quality Design Insights

While quality design provides the framework, structure, and skills for addressing obstetric care deficiencies, the success of the LAMM initiative and quality design work in Honduras would not have been possible without the support from key players. The following are some lessons learned about working with these key players:

Secretariat of Health level support for quality design work in Honduras was supported by a pre-existing commitment to health care decentralization.

Quality design fit well within the framework of decentralization, since it emphasized regional and facility level collaboration and empowerment. The Maternal and Child Health Department, the National Quality Assurance Program, and the ACCESS Project, all divisions under the Secretariat of Health, had supported a decade-long policy of health care decentralization. Once the LAMM project initiated, they galvanized support from subdivisions within the Secretariat, including the QA Unit, and at the Regional Health Directorate level.

Facilitators with a good understanding of the quality design methodology can successfully coach teams with community participation to use quality design tools, as well as teams composed of only health staff.

The Honduran teams were fortunate to have strong and dedicated facilitators to direct the work of three waves of quality design teams, one of which was an experienced community mobilization specialist who deserves great credit for the success of the teams that included community participation. Another facilitator was also the field coordinator; as such, facilitators not only promoted coherency between teams, but they were also a consistent interface for all involved, including the community, the regional health directorate and the Secretariat of Health.

Active support from hospital and health center leaders is not only essential for fostering a culture of quality, but leads to faster results.

The Honduras experience suggests that it may not be obvious to facility-level leaders how to actively support quality assurance in general, and quality design teamwork in particular.

Figure 5. An Example of Active Leadership Support

Active support stems from a proactive, persistent attitude. For instance, Dr. Chahin believes that in order to implement changes in quality, *“lack of resources is not the problem.”* He gave as an example the chronic water shortage present in the hospital when he first arrived at the hospital. Determined to make water available in the hospital at all times, he tackled the problem obstacle by obstacle. He put in thicker water pipes, dug a well to serve as a second source of water, installed water pumps, convinced Pepsi to fund an electric plant in exchange for exclusive vending machine rights, and acquired two motors for the electric plant—one donated from friends in Cataluña, the other financed through increased service fees.

In contrast, other administrators interviewed focused on the lack of resources, private sector support, and other obstacles for implementing quality designs. While such obstacles do exist, an attitude that focuses beyond obstacles, looks ahead rather than reacts, and searches for creative solutions, could set a tone in the organizational culture that encourages change.

The director of the Santa Teresa hospital, Dr. Chahin, served as a good example of strong leadership support (please see Figure 5). His commitment to quality was evident. He participated in the quality design team at his hospital when he first arrived there in 1998, and continued to facilitate the work at the time this case study was written, keeping up-to-date with teams and maintaining an open door policy. As an administrator, he was also very involved with the issue of maternal mortality. He monitored each maternal death that occurred since his arrival, analyzing the circumstances of each death for insights on how each could have been avoided. A year and a half after the first design team began at his hospital, components of the new processes were being implemented, and there are four new teams at the hospital.

On the other hand, quality design teams in other institutions have not received as much active support from leaders, and they have



This obstetrical ward for normal deliveries was created in a health center to reduce the overcrowding of the nearby referral hospital.

not advanced nearly as quickly with their designs. When interviewed, one such hospital director—who supported the quality design work in principle—could not elaborate on the initial quality design efforts at the hospital and referred the interviewer to a staff member who was part of the team. Though he sincerely believed he supported the work done by his staff, he clearly had not been very personally involved with the group, and therefore, could have missed opportunities to propel the work forward with a suggestion, endorsement, or quick phone call.

One method of promoting more active support may be to provide more opportunities for facility leaders to interact with each other and exchange their experiences, whether they are obstacles, successes, or failures.

Local government involvement can provide crucial support to quality design work at health centers in more remote areas. For example, at Rosario, the mayor, who is also the local school principal, facilitated the participation of school teachers in the committee during school hours. He has also earmarked \$6,900 of the municipal budget for obstetric ward construction, and the purchase of drugs and the ambulance, in addition to assigning the municipal vehicle to transport indigent expectant mothers to the referral hospital. Active support from local government was not always possible for all teams, and this is reflected in the slower progress these teams have made.

Community participation is key to institutionalizing the quality assurance focus on client needs.

Community participation has given the quality design projects a degree of sustainability beyond what could have been achieved by facility staff alone. Projects have increased community awareness of their role in preventing maternal deaths at the community level, i.e., by recognizing when there is a pregnancy problem, deciding to seek care, and facilitating referral and transportation. In addition, quality design projects have brought community members *into* health facilities as vital quality design team members and as hospital volunteers, which serves to increase their comfort with and sense of ownership of the hospital. In the long run, the more personal ties are forged between empowered community members and health facilities, the more each will feel accountable to the other.

The success of community participation in the quality design effort in Honduras occurred at a speed and magnitude much greater than expected. Personal exposure to maternal mortality or complicated pregnancies—which occurs at the local community level—appears to have inspired both community members and their leaders to action. The regional director tells the story of a mayor whose wife did not have prenatal care. After she gave birth, the attending physician told him that she had narrowly escaped major complications. The mayor vowed to use his position to ensure that the same would not happen to other women in his town. Similarly, during the rollout of the quality design work, there were maternal deaths in some of the communities that were carrying out quality design work. For one of the quality design committees, it was a demoralizing experience; for another, it reinforced their resolve and commitment to prevent maternal deaths. Nevertheless, in both cases, the deaths had a strong impact on the work of the teams.

The Honduras LAMM project helped to focus attention on the reality of maternal deaths. Then, it harnessed the response from communities, their health facilities and their local governments, and provided them with knowledge and tools to help prevent maternal deaths. Community participation in the quality design process not only ensured that client needs would drive design efforts, but it gave the community the tools to solve their own problems.



APPENDIX

Key quality design steps used by Jose Maria Ochoa Health Center quality design team

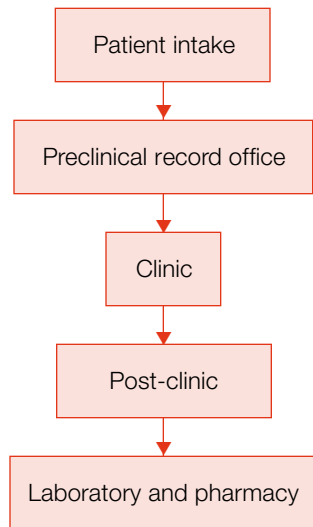
Step 1. Select the process to be designed.

Prenatal care

Step 2. Define the objective of the new design.

To provide quality prenatal counseling that is timely and that follows norms emphasizing education and the recognition of obstetric danger signs.

Step 3. Create flow chart of the main activities of the process.



Step 4. Identify internal and external clients.

Internal users

- Doctors and odontologists
- Nurses
- Health promoters/midwives
- Educators
- Governmental administrators
- Municipal guards/gatekeepers
- Janitors
- Drivers
- Lab technicians
- Secretaries
- Archive assistants
- Pharmacy assistants
- Psychologists
- Social workers

External users

- Pregnant women
- Volunteers
- Guards/gatekeepers
- Family
- NGOs
- Local and municipal governments

Step 5. Identify and prioritize client needs and expectations.

Needs	External users	Internal users
Medical supplies and inputs (paper products, cotton, equipment, and surgical equipment)		✓
Financing for training	✓	✓
Transportation for obstetric emergencies	✓	✓
Appropriate environment for attention at all times	✓	✓
Training	✓	✓
Good treatment	✓	✓
Priority attention	✓	✓
Integrated problem-focused counseling	✓	✓
Information on use of services	✓	✓
Supply of manuals on norms	✓	

Step 6. Link client needs with each activity on the flow chart.

Patient Intake	Preclinical Record Office	Clinic	Post-clinic	Laboratory and Pharmacy
■ Counseling	■ Counseling	■ Counseling	■ Counseling	■ Counseling
■ Information	■ Good treatment	■ Good treatment	■ Transportation	■ Good treatment
■ Orientation	■ Priority attention	■ Priority attention	■ Good treatment	■ Priority attention
■ Good treatment	■ Adequate and timely communication	■ Adequate and timely communication	■ Priority attention	■ Adequate and timely communication
■ Priority treatment	■ Orientation and information	■ Orientation	■ Norms for health care of women	■ Inputs
■ Adequate and timely communication	■ Inputs	■ Norms for health care of women	■ Obstetric emergency norms	■ Posters
■ Norms of the traditional certified midwife	■ Norms for health care of women	■ Obstetric emergency norms	■ Inputs	■ Orientation
■ Inputs	■ Posters, pamphlets, television, video cassette players, megaphones, speakers	■ Posters	■ Physical space	
■ Posters		■ Basic medical equipment (Doppler)	■ Posters	
		■ Identification (by uniform) of institutional staff	■ Orientation	
		■ File cabinet		

Step 7. For each activity, identify key features of the new design that respond to priority client needs.

Patient intake

- Identify pregnant women during consultation
- Immediately prioritize attention to pregnant women and their families requiring health services
- Register and update monthly list of pregnant women and perinatal card
- Place signs using names and symbols at different areas of the establishment
- Open exclusive window for care of pregnant women
- Speed up registration of diagnostic by asking the pregnant woman for her clinical record number and taking her clinical record to the pre-clinic
- Promote the prenatal care plan (IEC)
- Train institutional and community personnel on signs of obstetric danger and poor reproductive health
- Train and organize a volunteer network at the neighborhood level to encourage neighborhood leaders to collaborate with the NGO *Programa de Desarrollo para la Infancia y la Mujer* (PRODIM) for the adequate and timely registration of pregnant women in the monthly list of pregnant women
- Continuously and reflectively train certified traditional midwife according to revised norms
- Train community and institutional staff on new referral system

Preclinic Record Office

- Keep perinatal card with clinical record
- Comply with norms for integrated health care for women
- Coordinate in the development of educational materials with NGO PRODIM
- Allot time and space for education via talks and videos in the waiting rooms for patients
- Require in-charge to have procedure flowchart and pocket manual

Clinic

- Comply with norms for integrated health care for women before training
- Comply with norms for care of pregnant women
- Coordinate and incorporate educational materials with NGO PRODIM
- Increase access to services for pregnant and post-partum women by reorganizing scheduled care hours
- Refer pregnant women of low risk to health centers or midwives
- Refer at-risk pregnant women to obstetric-gynecologist

Post-clinic

- Provide manual of norms for the integrated care of women
- Prepare a furnished room for counseling
- Raise funds for transporting patients in emergency cases when no vehicles are present
- Adopt appointment system
- Devote and equip a clinic exclusively for pregnant women
- Rotate doctor each month, with sign indicating rotation

Laboratory and Pharmacy

- Train staff on norms for integrated care of the woman
- Turn in results within one day
- Place signs using words and symbols at different department areas



Step 9. Error proof: test design for robustness and reliability.

Possible failures	Alternatives
Inadequate treatment of patient	Promote awareness among institutional staff of appropriate patient treatment
Lateness or absence of nurse in charge of filter	Make institutional staff more aware of responsibility and punctuality in the accomplishment of its functions
Patient quota: increased demand for prenatal care	Give priority in consultation to the pregnant woman Implement the consultation in PNC by professional nurse
Unpredicted lack of assistance of in-charge	Assignment of nurse with anticipation in case of permission or sickness
Lack of drugs	Ensure that regional warehouse has basic drugs necessary for primary care
Misplacement of clinical record number	Educate patient about importance of keeping clinical record number
Misfiled clinical record	Supervision of adequate management of index card and clinical record
Loss of lab test results	Make lab and archive staff more aware of need to not misplace lab results
Post-clinic: absence of nurse when the patient leaves the consultation	Keep track of assigned staff in the different departments in following through with their responsibilities
Vacation for medical and nursing staff	Implement system for control of permission and vacations according to level of emergency and legal schedule of vacations (Resp: department head)

Possible failures**Alternatives**

Monitoring the quality of lab exams

Lobby at regional level regarding the need to reassign laboratory staff that have been relocated to other places at the health center
Supervise technical staff at health center to help them perform quality work (Resp: regional microbiologist)

Inadequate counseling during delivery of drugs

Give patient better counseling on drug indications
Create health education materials with vignette that explains to pregnant women the indications and secondary effects of drugs



Step 10 (one of four sub-sections). Identification of human and material resources

Patient intake

Staff

- Nurses
- Nurse assistants
- Health staff
- Health volunteers
- NGOs
- Teachers
- Community health volunteers
- Environmental health technician
- Community leaders

Materials

- Monthly list of pregnant women
- Referral forms
- Identification cards for community volunteers
- Training materials
- Norms for this level
- Radial programs
- Promotional materials
- City map showing neighborhood leaders
- Forms for registration of referrals



Pre-clinical record office

Staff

- Nurses
- Nurse assistants
- Health volunteers
- NGOs
- Teachers
- Community health volunteers
- Health promoters
- Community leaders

Materials

- Monthly list of pregnant women
- Referral/counter-referral forms
- Identification card
- Training materials
- Norms for this level
- Radial programs
- Promotional materials
- Intake
- Referral instruments
- Materials for making signs
- Scale
- Sphygmometer
- 15 chairs
- Fan
- Curtain fabric
- 10 pairs of boots or casks
- Calendar
- Television
- VCR
- Magazines
- Flyer
- Loose leaf paper

Clinic

Staff

- Doctor
- Nurse
- Nurse assistants

Materials

- Exclusively devoted space for clinic
- Light bulb
- Metric tape
- Fetal monitor
- 10 sheets
- 1 file
- Speculum
- Toilet paper
- Disinfectant
- Medical equipment
- Removal of stitches
- Fetoscope
- Doppler
- Lubricants
- Gauze
- Steel recipient



Post-clinic

Staff

- Doctor
- 2 nurse assistants
- 1 health educator

Materials

- Loose leaf paper
- Team to remove stiches
- Cord clamps
- Cotton balls
- Gauze
- Stainless steel recipients for sterilizing materials
- Shelf

Laboratory and pharmacy

Staff

- Pharmacy technicians
- Lab technicians

Materials

- Centrifuge
- Shelves
- Files
- Curtains
- Chairs
- Office
- Drugs
- Reagents

Designing Quality Essential Obstetric Care Services in Honduras: Summary

As part of the Latin American and Caribbean Regional Initiative to Reduce Maternal Mortality (LAMM), the Quality Assurance Project is facilitating the design of quality obstetric care processes at hospitals and health centers in Honduras. Since the quality design work began in 1998, three waves of teams composed of health staff and community leaders from six Honduran municipalities have applied the 10-step quality design methodology to improve a variety of hospital processes. These include reception and triage, transportation for obstetrical emergencies, referral and counter-referral, medical records, labor monitoring, normal delivery care, prenatal care, post-partum care, management of complications, and neonatal care. Regional capacity to deliver quality obstetric care has been enhanced by the coordination and information sharing between quality design teams.