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Maternal and Child Survival Program

Using Community Health Units to Promote Equity and Reach the Most Vulnerable: *Unidades Comunitarios* in Rural Honduras

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Abstract

To help rural, poverty-stricken populations living in a mountainous area of Honduras overcome geographic and financial barriers to health care, ChildFund set out to bring high-quality, cost-effective interventions to these communities through the establishment of community health units (*unidades comunitarios*, abbreviated UCOS, in Spanish) in 2009. The UCOS used physical structures that were built using community resources to deliver basic maternal, newborn, and child health and nutrition services in isolated areas. Community volunteers offered care, attention, and education to persons in need—particularly, women, infants, and children less than five years old.

The approach and methods applied by ChildFund led to changes in physical access to basic maternal, newborn, and child health services; service coverage and certain client health behaviors; client out-of-pocket costs for health services; and under-five mortality rates in the project area.

By the end of the project in 2013, 21 percent of the entire project service area population was served by the UCOS sites. While 69 percent of women still reported walking to a facility for health care, 14 percent more of these women (as compared to before the project activities) were walking less than one hour to get there. All 28 UCOS sites also had functioning transportation committees run by volunteers who responded to emergencies when no transport was otherwise available. A costing study found that household spending on health decreased: on average, households saved about $6 USD or $70 USD per year by using community health unit services for child health problems rather than visiting Ministry of Health (MOH) health posts or MOH hospitals, respectively.

Survey results showed that coverage for essential health interventions improved in the project catchment areas. Between the pre- and post-intervention surveys, there were statistically significant differences in the number of pregnant women registered by the UCOS (an increase of 200 between surveys), the number of women who received at least five prenatal care visits (a 46 percent increase), and the number of women who had a birth plan (a 109 percent increase). As a result, the proportion of attended births increased from 71.4 percent to 93.7 percent. There was also a significant increase from baseline to endline in postnatal care for newborns by a health volunteer within three days after birth (a 100 percent increase) and proper treatment by a health volunteer for sick children less than age five (a 171 percent increase). Overall mortality among children less than five years old in the project area showed a decreasing trend in the five-year period (2008–2012) overlapping the project period of performance, from 74 deaths per 1,000 live births in 2008 to 54 deaths per 1,000 live births in 2012. Because of study design limitations (no comparison group measurements), these mortality data are not definitive, but they are suggestive of a project impact on child mortality during the four-year implementation period.

This project was able to demonstrate that: 1) the UCOS model improves equity through its pro-poor approach, which prioritizes the most disadvantaged groups; 2) community-based services delivered by community health workers can improve coverage of essential health interventions in a cost-effective way; and 3) a strong monitoring and evaluation component built into the program from the outset is both feasible and desirable.

Introduction

Honduras, with a population of 8.1 million,[1] is among the least developed countries of Latin America and the Caribbean. It ranked 131st out of 188 countries in the 2015 Human Development Index. In the Americas region, only Haiti has a lower ranking.[2] Geographic and financial barriers to access remain a challenge in Honduras. A collaborative learning exercise with the ministry of health (MOH) in early 2010 showed that MOH-supported health facilities were insufficient in number and generally concentrated in the most densely populated areas. The ratio of physicians to population was shown to be eight times higher in urban areas than

in rural ones. Health services in high-poverty regions were of poor quality, with staff absenteeism, short service hours, and disrespectful treatment of patients.

During an initial seven-year period (2002–2008), ChildFund collaborated with the MOH in Honduras to improve access to lifesaving interventions and information among rural, low-income communities (including a total of 41,000 children under the age of five and women of reproductive age) by improving the quality of care in MOH facilities, and by developing innovative community-based pilot sites for areas not served by the existing facility-based system.

Between 2009 and 2013, ChildFund and its partners (i.e., the MOH, local child development associations, departmental governments, municipalities, the community, and University Research Co., LLC) developed a two-pronged approach for harnessing community resources to address the persistent challenge of access to essential health interventions:

- In the most remote areas, ChildFund tested an innovative service delivery approach centered on community health units (*unidades comunitarios*, abbreviated UCOS, in Spanish) providing basic maternal and child health and nutrition services.
- In communities closer to MOH health posts, volunteers and community groups were linked to the posts for supervision and support.

UCOS are small, freestanding structures located in selected communities and equipped with essential drugs, basic equipment, and health education materials. Community volunteers offer care, personal attention, and education to persons in need, emphasizing women, infants, and children. UCOS are financially self-sustaining, managed by the community, supervised by the MOH, and given technical and logistical support by ChildFund Honduras. The cost of starting a UCOS was $5,864 USD per unit during the project period. Their sustainability depends on the continued functioning of a revolving drug fund.

Services offered at UCOS:

- Pregnancy registries
- Promotion of facility-based prenatal visits and key messages
- Promotion of hygienic practices for births
- Promotion of attended, facility-based births
- Facilitation of transportation for emergency obstetric care
- Postnatal and neonatal home visits within the first three days of life
- Counseling on breastfeeding and infant care
- Routine monthly growth promotion and monitoring activities for children under two years of age and their mothers
- Community case management of diarrhea and pneumonia (including first-line treatment and referral to local health facilities) among children under five
- Surveillance of maternal and young child mortality

Four cadres of community volunteers served in the following roles: trained traditional birth attendants, nutrition monitors, community health volunteers, and emergency evacuation committee members. A total of 790 volunteers were trained for these roles and provided services over the life of the project. Community health committees were trained to manage the UCOS through a continuous quality improvement process adapted to community volunteers with low literacy. The goal of the project was to decrease maternal, neonatal, infant, and under-five child mortality in the project area through three community-based health innovations:

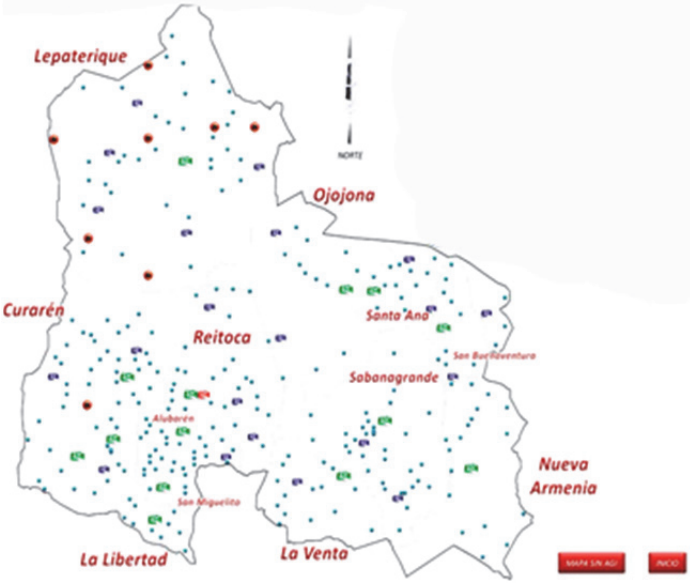
- Define and standardize the role of communities in order to increase facility births and strengthen community-based obstetric and neonatal care within a national decentralization strategy.
- Create self-sustaining UCOS, which integrate vertical MOH maternal, neonatal, and child health programs and various cadres of community volunteers.
- Adapt and implement an appropriate community-based continuous quality improvement process for use by volunteers at UCOS sites.

These innovations responded to the many challenges in the health system: lack of professional health staff, poor quality of existing services, and low coverage and high cost of services for the poorest living in distant communities. The project developed the following development hypothesis: *Services provided at the community level improve equity (defined as physical access, coverage, and reduced cost), meeting the quality standards established by the Ministry of Health for the first level of attention.*

Project Approach

Among the project's first activities was to conduct a global positioning (GPS) community mapping exercise of the entire 12-municipality project area (southern Department of Francisco Morazán), covering 293 communities and a population of almost 102,000, including 14,500 children under the age of five and 26,500 women of reproductive age. This mapping exercise allowed the project's staff, during the first phase, to identify (with community, municipal, and MOH leaders) the locations of the proposed new UCOS, and to identify or locate communities, populations, health facilities, distances from communities to facilities, and travel conditions (quality of roadways and means of transportation available).

Figure 1. Project Area GPS Map



Geroeferenciación					
	CESAMO	CESAR	CLÍNICA	UCOS	AGI
Lepaterique	1	5	-	7	47
Curarén	3	3	-	1	55
Ojojona	1	2	-	-	16
Reitoca	1	3	1	-	31
Alubarén	1	1	-	-	19
San Miguelito	1	-	-	-	16
La Libertad	1	-	-	-	11
Santa Ana	1	1	-	-	14
Sabanagrande	1	2	-	-	37
La Venta	1	1	-	-	18
San Buenaventura	1	3	-	-	17
Nueva Armenia	1	-	-	-	17
TOTAL	14	21	1	8	298

A second set of activities included conducting a detailed descriptive case study of the pre-existing pilot UCOS sites through formative research examining how best to offer essential maternal, newborn, and child health and nutrition services, consistent with MOH policies and programs. Using direct observation and focus group discussions with community volunteers in the eight established UCOS, ChildFund collected information on the flow of activities in the integrated model, types of community resources and their functions, the minimum number of resources required for optimal operation, identification of basic preventive and curative services, hours and frequency of services, and identification and definition of supervisory activities and reporting models. These activities led to the development of definitions, standards, and practices for community management of UCOS and formal linkages with local MOH public health services. A series of training guides and implementation manuals and tools were developed to ensure standardized training and supervision for all 28 UCOS sites. Finally, a set of seven key indicators (see Results section, below) as well as study methods were developed to assess service access, cost, and coverage at the end of the project.

Study Methods

The program was assessed using four methodologies:

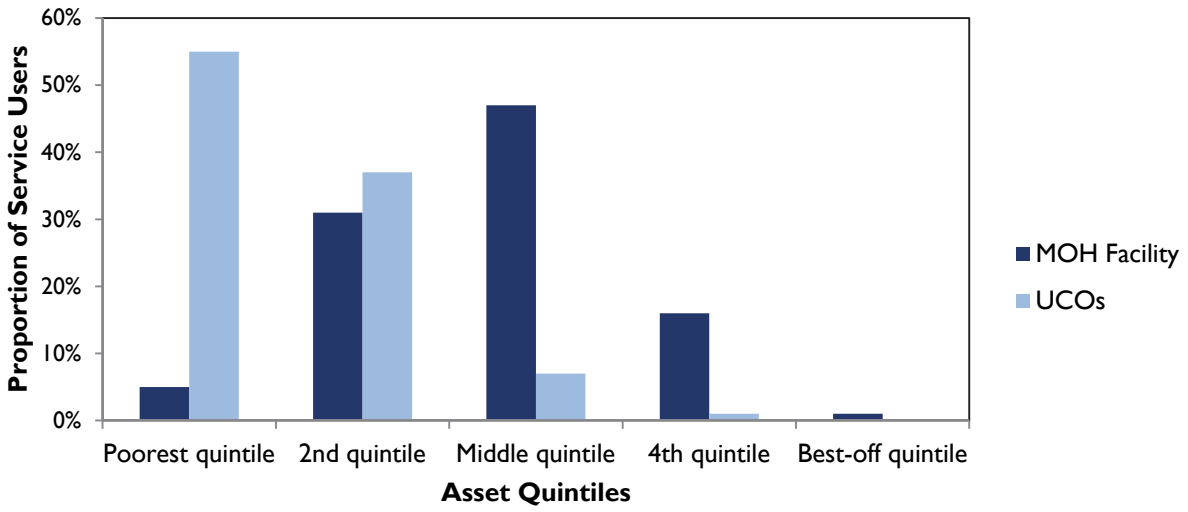
1. Knowledge, Practices, and Coverage surveys, based on lot quality assurance sampling, were conducted before and after implementation (N=209 in 2011 and N=209 in 2013) with independent, random samples of pregnant women and mothers with children under the age of five. These samples were representative of the entire project area.
2. A cost study of services offered through UCOS, health posts, health clinics, and private hospitals in the project area was conducted (personal interviews with staff, 2012). This permitted the development of actual cost estimates associated with providing selected maternal and child services at each level of service.
3. Client exit interviews, which included client satisfaction and out-of-pocket cost measures, were conducted (N=464 in 2013). The clients' out-of-pocket expenses were estimated through questions that considered time requirements of the patients and caregivers; transport expenses; direct service fees; costs of medicines and supplies; and food and drink expenses. To determine whether UCOS were more or less able to reach the poorest segments of the population when compared to health facilities, asset information from two groups of service users (users of UCOS services and users of MOH and private hospital services) was collected. The 2011–2012 Honduras Demographic and Health Survey was used as the reference survey.[3]
4. A final project evaluation was conducted that included site visits, focus group discussions, and UCOS and health facility records reviews (2013).[4] In addition to the other analyses conducted, the author estimated trends in mortality in the project area, as reported below.

Results

The 28 UCOS ultimately covered more than one-fifth (21,424; 21 percent) of the total population of the project area (101,755). On average, each UCOS served three communities with a total of 765 people, including 99 children less than five years old and 167 women of reproductive age. The average distance to the nearest health facility from the communities served by the UCOS was 13 kilometers, which represented an average of three hours of walking on rough and dangerous roads or pathways. At the end of the project, although the total percentage of women walking to a facility for care remained constant at 69 percent, 14 percent more women than before the project were walking less than one hour to reach a facility. All 28 UCOS sites also had functioning transportation committees run by volunteers who responded to emergencies when no transport was otherwise available.

Before the introduction of the UCOS, two-thirds of pregnant women walked two hours or more to access health services. With the introduction of the UCOS, services were brought closer to the community, which reduced family expenditures on health care by as much as 32 times. UCOS services reduced family out-of-pocket spending on health by four times, six times, and 23 times, respectively, compared to health posts, health centers, and hospitals. The out-of-pocket cost of care given to an under-five sick child at the UCOS was $3.50 USD, which was between 75 percent and 95 percent lower than the out-of-pocket costs incurred at public health facilities. (See textbox above for list of services offered at UCOS.)

Figure 2. Beneficiary Wealth Quintiles

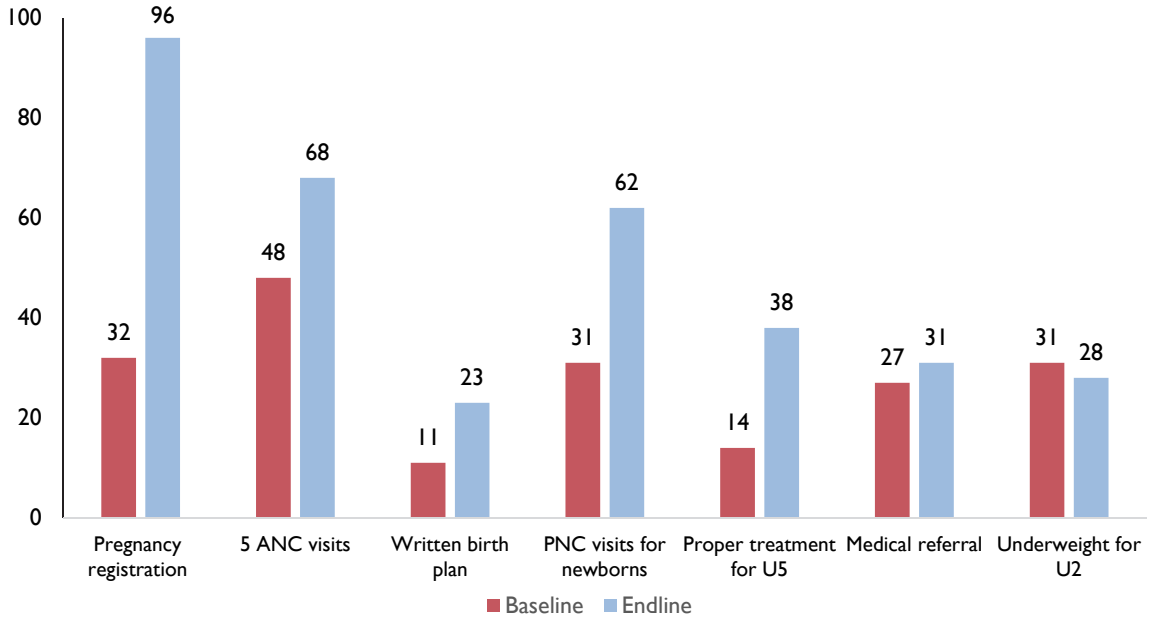


In the most remote areas, ChildFund demonstrated through client exit interviews that the users of UCOS were largely from the lowest socioeconomic quintiles of the overall population.[5] Overall, 92 percent of all UCOS users fell into the two lowest quintiles. Fifty-five percent of UCOS clients were from the lowest socioeconomic quintile, whereas only 5 percent of the clients who used an MOH facility in the same region were from the lowest quintile. The results confirmed that UCOS services reached a higher percentage of the poorest population than was reached by MOH services (Figure 2).

- Based on the project's final evaluation of facility registers, the UCOS also increased utilization of local health care services among people in general and women in particular in the target population. The overall number of children less than five years of age treated through the UCOS increased by 254 percent between 2012 and 2013.
- Not only was equity improved by affordable access to basic services, but women reported improved knowledge and practices regarding key maternal and child health behaviors that save lives. For example, the survey results indicate that the number of women who knew newborn danger signs increased from 7 percent at baseline to 44 percent at endline, and at endline 70 percent of women breastfed their babies immediately after birth, compared to 44 percent at baseline.

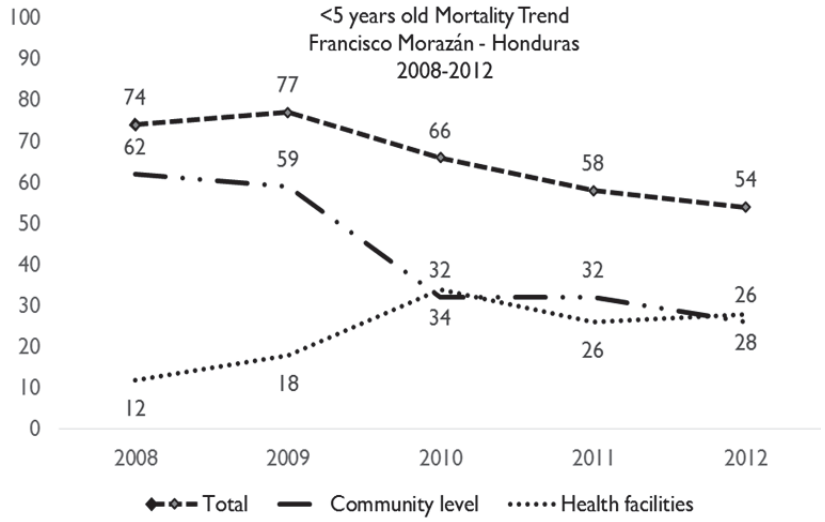
There was a statistically significant improvement from baseline to endline in five of seven key indicators in UCOS implementation areas (Figure 3). There was a significant increase from baseline to endline in the number of pregnant women registered by the UCOS (a 200 percent increase); the number of women who received at least five prenatal care visits (a 46 percent increase); and the number of women who had a birth plan (a 109 percent increase). There was also significant increase from baseline to endline in postnatal care provided to newborns by a health volunteer within three days after birth (a 100 percent increase); and proper treatment for under-five sick children by a health volunteer (a 171 percent increase). There was no significant change in the number of children formally referred to a health facility, which might be due to the complexity of the referral process as well as distances and perceived out-of-pocket costs. The proportion of underweight children decreased from 31 percent to 28 percent, but the difference was not statistically significant.

Figure 3. Key Indicators at Baseline and Endline (N=209)



Because MOH health facilities and municipalities were collecting maternal and child mortality data before and during the project period, it was possible to review these data to determine if changes had occurred during the intervention period. Thus, the data served to measure target population mortality trends before the intervention (2008) and during the intervention period (2009–2012). No comparison data from other non-project areas were collected. Thus, although these data are reliable, they are not conclusive, given the lack of a comparison group. Nevertheless, the overall mortality rate among children under five years old showed a decreasing trend in the five-year period (2008–2012), from 74 deaths per 1,000 live births in 2008 to 54 deaths per 1,000 live births in 2012. (This trend was consistent across all under-five age groups—neonates, infants, and children between one and five years of age.) Figure 4 shows a decreasing trend in mortality at the community level, whereas deaths at health facilities increased between 2008 and 2012. The trend is consistent with improved transport of high-risk cases to health facilities, increased access to closer basic services at UCOS sites, and improved maternal health practices in the communities. It is not clear why mortality rates increased at the facility level. However, the overall effect was a lowering trend in under-five child mortality rates in the project area. Due to small numbers of maternal deaths in the area, no statements can be made about the project's impact on maternal mortality.

Figure 4. Under-Five Child Mortality Rates in the Project Area, 2008–2012



Conclusions and Future Directions

Through the implementation of financially self-sustaining community health units, ChildFund demonstrated that providing effective, efficient, high-quality basic health care services to rural, low-income communities is feasible. The UCOS model improved health equity through increased physical access to health services, lowered out-of-pocket costs, and improved coverage and client health behaviors; and it apparently lowered child mortality. The project's study design and results are limited, due primarily to the lack of randomization or a non-randomized comparison group, both of which are difficult in field settings. Results are mostly pre- and post-intervention comparisons of the same population. However, the intention of this project was to demonstrate the feasibility of providing accessible, cost-effective, basic maternal, newborn, and child health services to under-reached rural, impoverished populations through community health personnel and structures. That intention was fulfilled.

To meet the mandate of universal health care, it will be necessary in many countries around the world to locate low-cost, community-supported health services where impoverished populations actually live. Access to facility-based public health services is an essential element of this model, but it is not the sole means of reaching those without coverage. To limit access to and use of health services in support of the status quo (that is, limited availability of facility-based services and high costs, however they may present themselves to the poor, and questionable service quality and patient treatment) is to continue a broken strategy still used around the world today. National health system strengthening will necessarily require prioritizing low-income populations, in the most affordable manner possible, with meaningful local community engagement, as soon as possible.

References

[1] World Bank 2013. http://www.worldbank.org/en/country/honduras

[2] United Nations Development Programme. *2015 UNDP Human Development Report*. New York: UNDP, 2015. Accessed October 12, 2016, at: http://hdr.undp.org/sites/default/files/2015_human_development_report_1.pdf

[3] República de Honduras, Secretaría del Despacho de la Presidencia, Instituto Nacional de Estadística, Secretaría de Salud. *Encuesta Nacional de Demografía Y Salud Endesa 2011–2012 (Honduras DHS 2011–2012)*. Calverton, Md.: ICF International, May 2013.

[4] Ramiro Llanque Torrez. Evaluation: Community-Based Maternal, Neonatal and Child Health Innovation in the Context of National Health System Decentralization in Francisco Morazán Sur, Honduras. USAID C.A. #: AID–GHS-A-00-09-00011. February 26, 2014.

[5] Alex Ergo and Jennifer Winestock Luna. Assessing the Socioeconomic Profile of the Beneficiaries of an Intervention: A Step-by-Step Guide. USAID/MCHIP/MCSP, May 2014. Accessed October 12, 2016, at: http://www.mchip.net/sites/default/files/Assess_socio-economicprofile.pdf