



AMOS Health and Hope

2012 Annual Report and
5 Year Program Evaluation

The Effectiveness of Community Based Primary
Health Care (CBPHC) to Address Access to
Health Care and Child Mortality in Rural Nicaragua:
The AMOS Experience 2007-2012

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Abbreviations Page:

AMOS	A Ministry of Sharing
CBPHC	Community-Based Primary Health Care
CBIO	Census Based Impact Oriented
CHW	Community Health Worker
CBPR	Community Based Participatory Research
HC	Health Committee
HP	Health Promoter
IGHC	Inter-generational Health Committee
IMCI	Integrated Management of Childhood Illnesses
MINSA	Government Ministry of Health
NGO	Non-governmental Organization
SEED-SCALE	Self-evaluation for Effective Decision Making and System for Communities to Adapt Learning and Expand
SHOWWD	Acronym for facilitation for critical thinking: S- What things do you See in the Starter. H - What is Happening and what is the meaning of that? O - Is this Our personal Experience W - Why does this happen (Causes) W - What if we do Nothing about it (consequences)? D - What could we Do to correct it? (who will take responsibility; what will they do; when, where and how will they take action)

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Silvina's Story: Protecting the Lives of Mothers and Babies

In the spring of 2012, in the sector of Calderón of the community of La Pimienta, Chinandega, Antonia Guevara was given the happy news that she was pregnant for the third time.

Antonia visited her community's health promoter, Silvina Láinez, to share the news. Immediately, Silvina sat down with Antonia to fill out a "Plan Parto" form that would help her to keep track of Antonia's health history and her progress during the pregnancy. As they talked, Silvina made sure to remind Antonia that she needed to visit the health center in Villanueva for her prenatal check-ups.

During her second prenatal visit, the doctor noticed that the size of Antonia's belly was increasing at a rate much faster than normal. Antonia had to go to the regional hospital in Chinandega to have an ultrasound. To everyone's surprise, Antonia found out that she would be soon be a mother of not one, or two, but **THREE** more children! She was having triplets!

But being pregnant with three babies is considered a high-risk pregnancy. Silvina had done the right thing to send Antonia right away to the health center for her prenatal visits. And though Antonia could still spend most of the rest of her pregnancy at home, Silvina would have to keep in close touch with Antonia to watch for any signs of danger that could threaten either Antonia's or the babies' lives. Silvina also made sure to give Antonia the right amount of prenatal vitamins with iron and folic acid, and stay in close contact with MINSA in case of any emergency so that they could send an ambulance right away.

Antonia's due date in September coincided with the heaviest time of the rainy season in the community of La Pimienta. This meant there was a high risk of the rivers flooding to a point where Antonia might be trapped there without a way to travel out to the hospital. With more than a month until Antonia's due date, the Ministry of Health had not yet sent someone to pick her up. But Silvina's experience as a health promoter told her that they shouldn't wait. She quickly organized a collection of funds in the community to help transport Antonia by bus to the Casa Materna in Villa Nueva to not take any chances with her life or that of her babies.

One month before her due date, the MINSA staff sent Antonia to the regional hospital in Chinandega where she waited to give birth under the care of an experienced team of OB-Gyns. The day finally arrived and Antonia gave birth by cesarean section to three healthy baby boys who were a good birth weight. The doctors and nurses treated Antonia well, offering kind assurance and loving care.

Now at home in Calderón, La Pimienta, Antonia is very content because she has three baby boys who are all very healthy and are growing well. Silvina still visits Antonia to provide guidance and health education related to breastfeeding and about the best nutrition for her babies as they grow up. MINSA and AMOS both thank Silvina for all she did to accompany Antonia. Because of her wonderful work in La Pimienta, Chinandega, Silvina helped prevent the deaths of four more people!



Silvina Láinez, Health Promoter of La Pimienta, (left) and Antonia Guevara (right) at home with her three healthy sons.

The Effectiveness of Community Based Primary Health Care (CBPHC) to Address Access to Health Care and Child Mortality in Rural Nicaragua: The AMOS Experience 2007-2012

Introduction

Many children like these triplets die every day in the poorest places in the world. In fact, over seven million of the world's poorest children die every year of completely preventable illnesses¹ -- a concrete example of health inequities -- children dying from unfair and avoidable causes of death.

So this is where health promoters like Silvina come in. She is someone who has the trust of mothers in her community, is trained to recognize the signs of danger, knows what to do in an emergency, and can mobilize her community to help save lives.

Being born into poverty increases your odds from dying a preventable death -- but if a health promoter lives in your community, your access to concrete simple interventions decreases your risk of death. The effectiveness of community health workers like Silvina to reduce health inequities resulting from poverty has been proven in many settings around the world. However, Community Health Worker (CHW) programs have also been plagued with problems of follow-up, supervision, and training. So while most people agree that "health for all" is an important goal for the world, the challenge of global health remains how we address health inequities in low resources and remote settings like La Pimienta in rural Nicaragua.

Community based primary health care (CBPHC) is a comprehensive health intervention that links existing health systems with community health workers at the local level who can implement simple, life saving interventions in their communities to address the challenge of achieving "health for all".

Of all forms of inequality, injustice in health care is the most shocking and inhumane.
--Martin Luther King, Jr.

Thanks to the support of the Strachan Foundation and many churches, foundations and individuals, AMOS has had five years of funding to develop a comprehensive CBPHC program. So after five years of funding, **have we accomplished our mission of decreasing health inequities in rural communities?**

And the answer is yes, but we still have more to accomplish. In this summary report, we will 1) review the relevance of CBPHC as an intervention, 2) share the model of CBPHC we have developed as well as the strategies we currently use, 3) review the progress AMOS has made in decreasing health inequities, and 4) share learned lessons and directions for the future. The report is arranged to provide an overview of our current work in CBPHC, with appendices to cover a more in-depth detail of our current work.

AMOS has made a strong impact in decreasing child mortality rates, improving maternal health, improving access to health care for rural populations, and strengthening the organization of communities to make these changes. Through our system of monitoring and evaluation, AMOS has also become a learning organization devoted to improving the health of vulnerable populations, and we have developed a model of CBPHC adapted to the local Nicaraguan context. As an organization, we have improved our financial sustainability with a mix of donations and grants, strengthened our human resources with a system of performance evaluation, and continue to be guided by our values, and a clear mission of working towards the dream of "health for all."

¹ Lancet. Why do Ten Million Children die every year

I. Problem: Child Deaths and Health Inequities

While significant gains have been made in global health to address the deaths of children from preventable and treatable illnesses, 7 million children under the age of five still die every year around the world. The majority of these deaths occur in children living in poverty – a situation characterized by the World Health Organization as “unfair and avoidable outcomes.”² In Nicaragua, similar to other low and middle income countries around the world, health inequities persist despite overall improvements in child mortality. In Nicaragua, children who are poor are still twice as likely to die than children who are not poor, and the poorest people have the least access to health care³.

II. Solutions: Community based primary health care as a way to reduce health inequities

Community based primary health care (CBPHC) as outlined in the Alma Ata 1978 “Health for All” document is defined as “essential health care based on practical, scientifically sound, socially acceptable methods and technology that is universally accessible to all in a community through their full participation and geared towards self-reliance and self-determination.”⁴

CBPHC is a comprehensive approach to improving health that links communities to facility-based care, emphasizes equity and the role of social determinants of health as well as the active participation of communities themselves. The CBPHC approach was a response to the recognition in both the secular and faith-based circles that health facilities do not reach the poorest people, and that a different approach was needed⁵. (See Box 1)

However, comprehensive approaches to health care have been difficult to fund, and more selective, top-down approaches (vertical) focusing on single interventions (such as HIV/AIDs, family planning, etc) have been favored in global health due to the relative ease of implementing, monitoring and evaluating vertical interventions for impact.

Box 1. The Contribution of the Christian Medical Commission to Primary Health Care

The contribution of faith-based programs to the development of the CBPHC model is not widely known. The Christian Medical Commission (CMC) was established in the 1960s to assist the World Council of Churches in its evaluation and assistance with church-related medical programs in the developing world. Their field work done in the 1960s revealed that churches had focused on hospital and curative services, and this had limited impact on the health of the people they served. The experience of the Christian Missionaries in the CMC (including one of AMOS's founders, Dr. Gustavo Parajon) was that facility-based health care did not reach the people who needed health care the most, and as a result, the poorest people suffered the worse outcomes.

The CMC promoted **community-based health care** that was just, equitable, and available to the poorest people in their own communities -- concepts that were incorporated into the World Health Organization's Declaration of Alma Ata for Primary Health Care. Today, faith-based organizations like AMOS continue to promote just and equitable health care as part of putting their faith into action.

² World Health Organization. Social Determinants of Health. 2008

³ INIDE. 2006/2007

⁴ Declaration of Alma Ata, 1978. WHO.

⁵ Litsios, S. The Christian Medical Commission and the Development of the World Health Organization's Primary Health Care Approach. American Journal of Public Health, November 2004, vol 94, No. 11

CBPHC in Nicaragua

In Nicaragua, the history of CBPHC began with the pioneering primary health care work of Dr. Gustavo Parajón starting in the late 1960s. He adapted Dr. Carroll Berhorst's work with health promoters in Guatemala⁶ to the Nicaraguan context and developed a comprehensive primary health care approach to improving the health of communities. In this model, a health promoter was trained to provide basic health care services along with a health committee that worked to address the priority health needs of the most remote communities. The community health care system did not replace the government health services, but rather served as an extension of the low resourced health care services of the government Ministry of Health (MINSa). Health promoters were able to prevent and treat the most common illnesses, promote health, and organize their communities to work on social determinants of health such as water and sanitation. Over the course of 40 years, over 60 communities were served with a great impact on both access to health care services in remote rural areas, as well as significant decreases in both child and maternal mortality.

In 2006, AMOS (A Ministry of Sharing) Health and Hope, a Christian non-profit, was founded to continue the development of a comprehensive model of health care for poor and marginalized communities. While child mortality rates have greatly decreased in the past 50 years, inequities in both access to health care and mortality and morbidity outcomes still persist in Nicaragua. A poor child in Nicaragua is still 3.3 times more likely to die than a child who is not poor. According to the World Bank, the poorest people in Nicaragua still have the least access to health facilities.⁷

III. AMOS' Approach to CBPHC in Nicaragua: Strategy Update

"Real social change occurs when officials and people with relevant knowledge and resources come together with communities in joint action around mutual priorities. The interplay between comprehensive (horizontal) and selective (vertical) approaches requires careful blending.....adapted to the local context with a focus on communities." -- Carl Taylor⁸

The above quote from the late Dr. Carl Taylor, the great teacher and promoter of primary health care, eloquently brings together the three strategies that AMOS has been using to decrease health inequities, which are 1) intersectoral collaboration, 2) the use of evidence based interventions, and 3) community empowerment.

At AMOS we have been grateful for the opportunity to implement CBPHC for the past five years. As we gain more experience in CBPHC, we are beginning to see that these three strategies are closely linked to the three way partnership, the blending of comprehensive and selective approaches, and the adaptation of CBPHC to local contexts. Below, we outline the different parts of our strategy that inform our current practice in CBPHC in rural Nicaragua.

Strategy 1: Intersectoral Collaboration

Sustainable development occurs when the communities are true partners in development (bottom-up), the government has enabling policies and regulations that foster cooperation (top-down), and non- governmental agencies provide the ideas and capacity building for change to occur in communities (outside-in).⁸ Over the past five

⁶ Newell, Kenneth. Health by the People. WHO. 1975

⁷ Ngel-Udinola, D, Cortez, R., and Tanabe, K. Equity, Access to Health care Services and Expenditures on Health in Nicaragua. World Bank. 2008

⁸ Taylor, C. What would Jim Grant say now? The Lancet. Vol 375. April 10, 2010

years, AMOS has experienced different levels of the three-way partnership. Initially, as the outside-in partner, AMOS had a more prominent role in helping to organize and train the communities, as well as training the government MINSA. Our goal is that over time, the communities will play a more prominent role in directly linking with the government officials at MINSA without the help of AMOS. We have learned that this is a slow process, and we have had more success in municipalities with a strong and stable MINSA presence vs. municipalities with a weaker MINSA presence and more politicized agendas.

Figure 1. Three Way Partnership

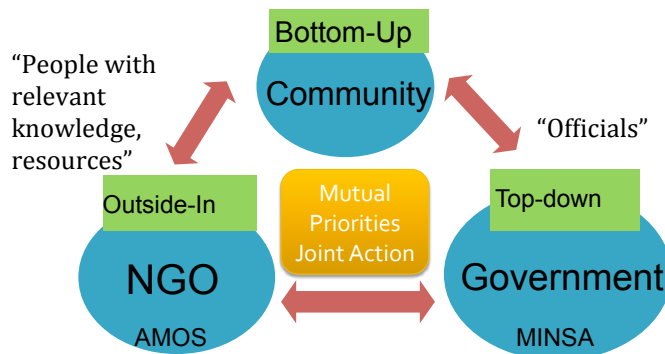


Fig.1 AMOS actively works to foster the 3 way partnership, mobilizing resources and knowledge, working with the government MINSA officials and communities to come together in joint action around mutual priorities. Partnership meetings is where planning for concrete actions take place around mutual priorities.

Strategy 2: Use of evidence based approached to improving health care --

“The interplay between comprehensive (horizontal) and selective (vertical) approaches requires careful blending.....adapted to the local context with a focus on communities.” -Carl Taylor

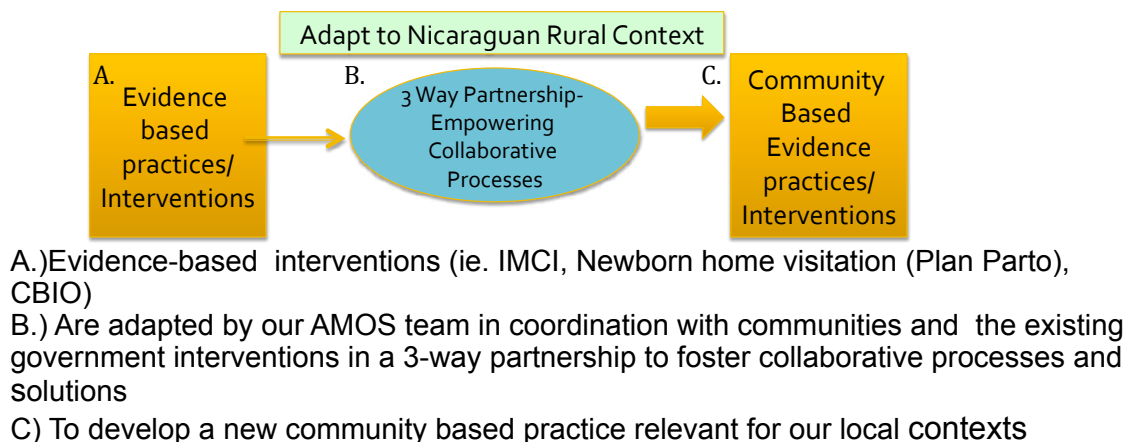
When AMOS started the CBPHC intervention in fall of 2007, we had a concrete set of interventions from the Census Based Impact Oriented Model (CBIO) that we began to use. We downloaded the CBIO manual from the CORE website, and Dr. Henry Perry generously gave us all the monitoring paperwork they used in their project in Guatemala. We followed the manual, which we blended with our previous work with Dr. Gustavo Parajon in CBPHC, and set out to implement the following: 1) Annual Census Data collection, 2) Systematic Home Visitation based on results of the census, 3) Community Case Management, and 4) Community mobilization through issue identification, prioritization and community planning.

However, we found that we could not simply take a manual or a model from another place and use it. Even MINSA government interventions had to be adapted to the specific local context of our CHW model, which is where the Community Based Participatory Research (CBPR) approach becomes relevant. CBPR is defined by the Kellogg Foundation as a *“Collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community with the aim of combining knowledge and action for social change to improve community health and eliminate health disparities.”*

Using the CBPR framework, AMOS takes interventions such as CBIO and adapts the program to local contexts by working in partnership with the communities themselves and the government MINSA. For instance, Plan Parto is a MINSA intervention with the goal of decreasing maternal mortality and neonatal mortality. When vital events data collected by the CHW network trained by AMOS revealed that the majority of child deaths were from neonatal mortality in 2009, AMOS adapted the Plan Parto (Birth Plan) as a response to this data. While detailed forms had been developed for the MINSA

program with the help of USAID, they were not being utilized by the health promoters. AMOS adapted the Plan Parto methodology and trained health promoters on how to use it. With this adaptation and its integration into the existing comprehensive program of AMOS, Plan Parto then became functional and relevant to the communities

Figure 2. Adaptation of AMOS Interventions



The Middle Way: Blending of Horizontal and Vertical Approaches to Health Care

In addition to the adaptation of evidence based approaches, AMOS also works to blend vertical approaches from the Ministry of Health (MINSa) with a comprehensive community based primary health care system. AMOS finds that its role is to follow a "middle way" that blends vertical and horizontal approaches that bring the best of both models together in a comprehensive way. Below is a table that outlines the vertical, diagonal and horizontal approaches to health care⁹.

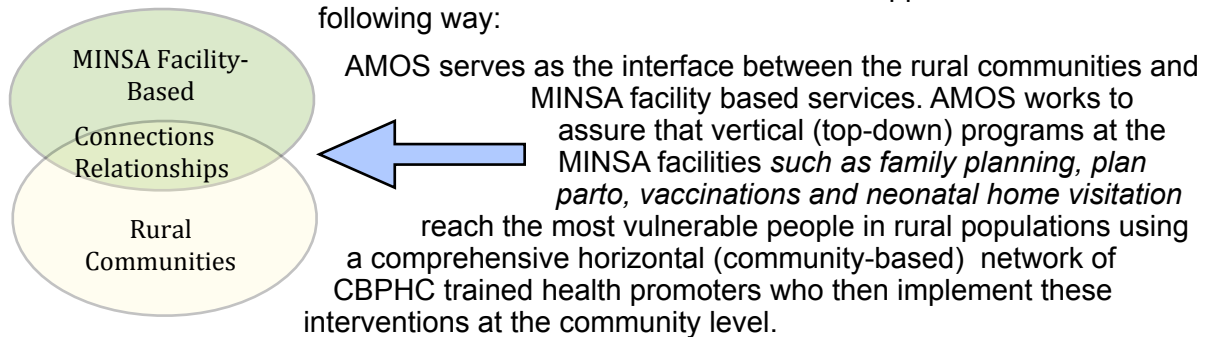
Table 1. Vertical, Middle, and Horizontal approaches to primary health care

	Vertical (Selective)	"Middle Way" (Diagonal)	Horizontal (Comprehensive)
Problem Addressed	Single problem -- epidemiological priority as defined by governments, donors (i.e. Vaccinations)	-Mix of community and epidemiological priorities (i.e. CBIO, CBPHC)	Community priorities, Social determinants of health, equity, community well being (CBPHC)
Technical	Emphasize Highly technical approach run by program managers, doctors	Balance between technical and community interventions	Emphasize true community participation and community knowledge
Drivers	Ministry of Health, Donors, Top Down	Partnership between Top-down and bottom up	Community Driven, Bottom Up
Disadvantage	Heavily dependent on external donors, disempowerment of communities, narrow focus, interim solution	Middle way can reduce disadvantages of the vertical only or horizontal only	More complex to evaluate, longer time to see impact, longer time frame, may be more costly per person
Advantage	Less complex, Easier to fund, Measurable results more easily achieved, Shorter time frame to see results	Middle way can take the strengths of the horizontal and the vertical	Broader, more comprehensive focus, longer term behavior change can be seen, Community empowerment can take place

⁹ ⁹ Perry, H. and David, T. CBIO Chapter. 2013. Personal Communication

The role of AMOS in the middle way

AMOS blends the horizontal with the vertical approaches in the following way:



While the Nicaraguan government has a family health model called MOSAFC (Model of Community Family Health), constraints in both human resources and funding hinder the full implementation of the model. AMOS works with MINSA and the communities to implement specific vertical MINSA interventions designed to improve health. AMOS also provides the support and supervision to community health promoters to assure that these interventions are correctly implemented in the communities.

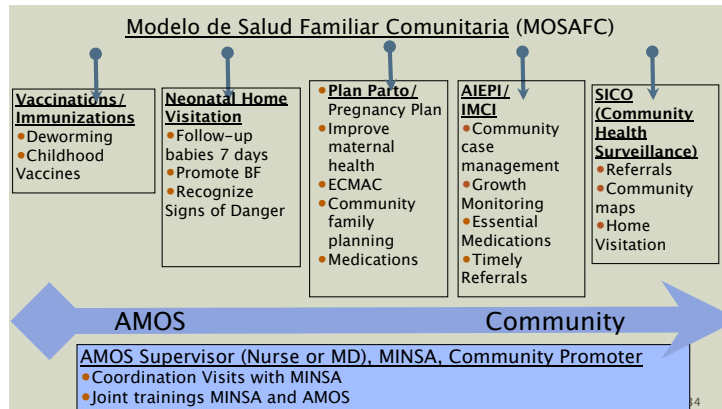


Figure 3. AMOS and community integration with MINSA Programs

At the beginning of our work in a community, the role of AMOS in establishing the coordination and relationship between MINSA and the community is high. Gradually, the community takes on a larger role to coordinate directly with MINSA, and the role of AMOS decreases.

Figure 4. Partner roles and responsibilities in CBPHC: Community, MINSA, and AMOS

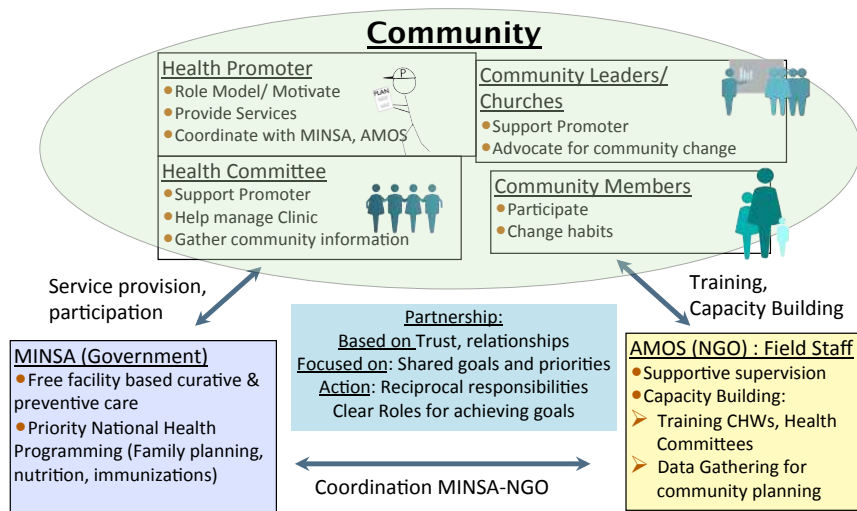


Figure 4. The blending of the vertical and horizontal approach requires a partnership between the community, MINSA, and AMOS as the facilitating NGO. The partnerships must be grounded in trust which is built on relationships between the 3 partners. The focus is on establishing shared goals and priorities upon which action is taken to improve the health of the communities. We recognize the strengths of what each partner offers, and work towards clear roles and responsibilities for achieving mutual priority goals.

Strategy 3: Community Empowerment

Community empowerment, the process by which individuals, communities and organizations gain mastery over their lives to improve equity and quality of life¹⁰ is at the heart of our CBPHC work. While much of the public health literature points to the importance of community empowerment in health interventions, the question of *how* to foster and facilitate empowerment in communities as well as *how* we measure empowerment remain.

In recent years, AMOS has sought to refine our methodology for facilitating community empowerment through a strengths-based approach. This approach focuses partners on what we *can* contribute vs. a needs-based approach, which focuses on what we *don't* have. The implication of this approach is that facilitators, who have been trained in the traditional “needs based approach”, need to be re-trained to help communities discover their own strengths, and work with what they have. To help re-train our team, we have applied the work of Dr. Roy Shaffer, who adapted the educational methodology of critical thinking from Brazilian educator Paulo Freire to a community health setting¹¹. (See Box 2). We have also incorporated the SEED-SCALE methodology (Self-Evaluation for Effective Decision Making and System for Communities to Adapt Learning and Expand) for helping communities develop concrete work plans to achieve their priority goals.

Empowerment is both a process and an outcome which takes much patience and many years to develop. We recognize that the evaluation of community empowerment cannot be standardized because communities are complex -- each with its own context of history, politics and social environment. More work needs to be done on developing processes with the communities themselves to refine relevant and effective methodologies. AMOS seeks to continually explore ways to improve our practice in community empowerment, working alongside communities themselves so that there can be “health for all.”

Box 1. Stirring the Pot and the SHOWED Method

Dr. Roy Shaffer has worked in community health for over 40 years, and compares community empowerment to “stirring the pot.” He says the job of the health promoter and health committee members should be to stir all the sides of the pot -- not just the middle, but to engage all the people on the sides, especially the ones in the corner -- the poor, the marginalized, the vulnerable.



Health promoter Timothea Romero with a metaphorical spoon to “stir” her community to action. (Picture above)

The methodology Shaffer developed, and that AMOS uses is called the SHOWED Method. It begins with a song, picture, or a skit that presents a common problem in the community and stimulate discussion on how that problem might be addressed. The health promoter or health committee member is trained to lead a discussion with community members by using the Starter and asking the following facilitating questions.

S - What things do you **See** in the Starter.

H - What is **Happening** and what is the meaning of that?

O - Is this **Our** personal Experience

W - **Why** does this happen (Causes)

W - **What** is we do Nothing about it (consequences)?

D - What could we **Do** to correct it? (who will take responsibility; what will they do; when, where and how will they take action)

This learner centered, problem based methodology is at the heart of the empowering process -- helping to lead people through a self-discovery process that motivates them to take specific action on the problem.

¹⁰ Minkler, M, and Wallerstein, N. Improving health through Community Organization and Community Building: Persepctive from Health Education and Social Work. 2012

¹¹ Shaffer, Roy. Beyond the Dispensary.

Integration of the 3 Strategies to CBPHC: The AMOS CBPHC Model

Our current approach is in constant development as we continue to learn from our experiences, always with the vision of improving health care services for the poorest and most vulnerable people in difficult to reach communities. We are grateful for our many teachers who continue to inspire and encourage us as we continue to develop our model for CBPHC¹². On the following page is a diagram of our current working model of how we implement CBPHC in communities. The diagram is adapted from work with CBIO, SEED-SCALE and the CBPR frameworks.¹³

Principles

The principles by which AMOS works by are placed in the middle of the diagram in blue. These principles are fundamental to our AMOS methodology in communities, and guide us in all our interventions and interactions with the community. Our principles are adapted from CBPR and CBIO, but also are grounded in the AMOS mission, vision and values. (See Box 3)

Steps:

The steps, 1 through 8, listed in yellow, outline our approach to working in communities. We start by developing a relationship of trust with the communities, defining geographic boundaries of the community, and then identifying community strengths. The approach is assets based, and seeks to bring together the three-way partnership from the beginning: the government, the community, and non- governmental partners such as churches, and other non-profits in the area.

Once the three way partnership is established, a health committee (HC) is formed by the community. This HC is trained by AMOS staff in the SEED-SCALE model through participatory education processes such as the SHOWED method outlined in Box 2. The HC does a community census, which will serve as the basis for the development of their community plan. Both epidemiological and community priorities are determined by the community, and AMOS then works with the communities to help choose a health promoter who will implement key health interventions in the community. Data collected in the community is analyzed by the health promoter and HC annually.

The process is iterative with steps 4 through 8 done on a yearly basis to prioritize issues, implement a community health plan, and evaluate impact together.

In green are the specific activities that take place that support these steps.

Box 3. AMOS Mission and Vision

Mission: AMOS exists in order to improve the condition of the lives of the needy and vulnerable communities of the country, working alongside to build health, education and development.

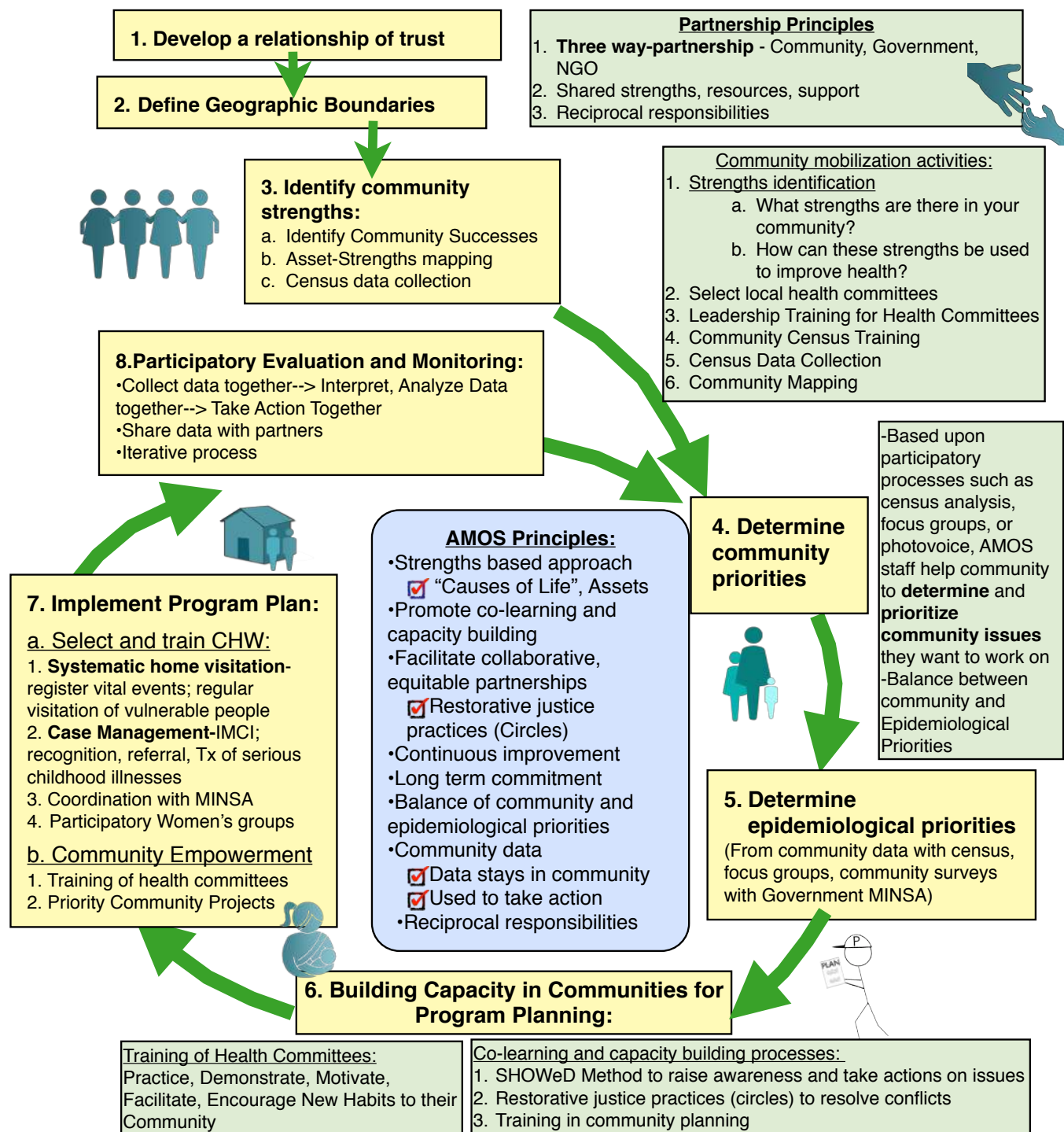
Vision: Health for all, a world where no child nor person dies from a preventable illness, health systems that empower the communities.

Values: Love your neighbor, respect the rights and dignities of people, serve vulnerable communities, empowerment to serve, good administration of resources, and peace and justice.

¹² Contributors to our current CBPHC thinking: 1. Over forty years of cumulative experience working with the late Dr. Gustavo Parajón in Nicaragua, 2. Adaptation of the work of Dr. Henry Perry to adapt the Census Based Impact-Oriented (CBIO) Primary Health Care model, 3. SEED-SCALE community development principles from Dr. Carl Taylor's outlines in his book Just and Lasting Change, 4. Community based participatory research (CBPR) and community empowerment theory from the work of Dr. Nina Wallerstein, 5. Participatory approaches to community health outlined by Dr. Roy Shaffer in his book Beyond the Dispensary

¹³ Perry, H. and David, T. CBIO Chapter. 2013. Personal Communication

Figure 5: Steps, Principles, and Activities in the AMOS CBPHC Working Model



Adapted from Census Based Impact Oriented Methodology: A Resource Guide for Equitable and Effective Primary Health Care, April 2005, David Shanklin and Donna Sillan, Curamerica and CORE; pg.14

IV. Evaluation of Five Years of Implementation of the CBPHC Model:

Did AMOS reduce health inequities? Our main goal for implementing CBPHC is to decrease health inequities through the strategies of community empowerment, evidence based interventions and three way partnership. We currently serve a population of over 11,000 people in 23 communities throughout Nicaragua (See Appendix 1: Census of Communities served by AMOS 2012)

Below is a table that summarizes the key outcomes of our program for the past five years that shows that **AMOS did decrease health inequities, especially in the areas of child mortality, women's health, and access to health care.** More work in the future should be done related to behavior change in the areas of malnutrition and breastfeeding, which remains a challenge for AMOS.

Indicator	Table 2: Key Outcomes in the Past Five Years (2007-2012)
Input: Resources	Full complement of staff developed for rural program to provide supervision and monitoring as well as respond to contextual changes; communications and development support for securing yearly funding to support program
Process: Activities	<p><u>Strategy 1 Activities: Use of Evidence Based Interventions:</u> Implementation through promoters of systematic home visitation for vulnerable people (newborns, pregnant women, malnourished and anemia children), community case management for pneumonia, diarrhea, integrated management of childhood illnesses (IMCI),</p> <p><u>Strategy 2 Activities: Community Empowerment</u> Monthly health committee meeting held in the communities, health committee trainings, community assemblies at least two times a year to inform communities, community census training and data collection, community based participatory research activities</p> <p><u>Strategy 3 Activities: Intersectoral Collaboration</u> Meetings with the Ministry of Health (MINSa), Coordination with health promoters and MINSa, delegation teams coordinating with communities to build priority projects, health stations with MINSa, communities, and AMOS teams</p> <p><u>Activities which cross-cut Strategies:</u> -Organization of 3 trainings per year for continuing education for health promoters (Appendix 5) Consistent Supervision structure and visits to communities Supply and stocking community pharmacies, Monitoring and evaluation</p>
Output: Immediate Results	23 Trained health promoters in rural communities with skills in case management, neonatal home visitation, growth monitoring, health promotion, etc.; 23 health committees involved in community planning, census; 23 functioning community clinics managed by promoters and health committees*; Thousands of Home visits to vulnerable populations; Health promoters made first responders by MINSa; Priority community projects done with AMOS mission teams; Provision of essential medications
Effect on Target Pop	Decrease in soil transmitted helminths (STHs) of child population receiving deworming medications by 50%. Access to medications and basic health services at 100% of the community with a cost savings to community members of approximately \$88,000/ year
Impact: End Results	Decreased health inequities as measured by increase in access to health care for rural population served by AMOS; improved women's and neonatal health through increase in institutional births from improved prenatal care and support (plan parto); improvement in child under 5 mortality documented in municipality of San Jose de los Remates, Boaco

*Attrition of 4 communities over a 5 year period of time documented by our program for reasons including lack of community participation (3), health promoter/community conflicts (1); however, we are still minimally working with these communities to promote community engagement and re-starting of the program; the AMOS CBPHC program is community driven, but what happens when a community no longer has leadership to organize the program? This is an issue that still needs to be addressed in our model.

Learned Lessons from the CBPHC model

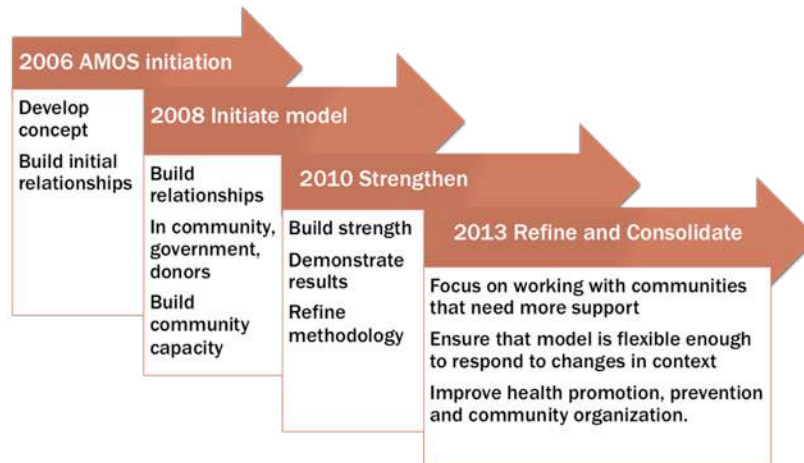
One of the key impacts of our work over the past five years has been the development of the processes needed to support a CBPHC model that can be responsive to local contexts and realities. According to a recent position paper by USAID, bottlenecks for the implementation of CBPHC programs include assuring 1) the number of CHW to supervisors is sufficient for the population being served, 2) CHWs receive adequate supervision and support, 3) basic commodities reach down to the community level, and 4) programs are resilient enough to respond to contextual challenges such as natural disasters¹⁴. We will review each of these bottlenecks and how AMOS deals with the bottlenecks in the table below:

Potential Bottlenecks	Current Response to Common Bottlenecks	Continuing Challenges	Possible Solutions
1. Assuring number of CHWs to supervisors to communities is sufficient	Currently have 1 supervisor to every 10 communities; Each community has one health promoter and one health committee (HC) of 6 to 8 people for populations ranging from 250 to 600	Cost of supervision is ongoing an issue for remote areas of Nicaragua as fuel prices increase since visit currently originate from Managua to outlying areas; Ratio of promoters to population needs to be re-adjusted for larger communities	Consider a municipal supervision model where staff lives in the municipalities and travel only in the region; Adjust promoter to population ratio, or develop another tier of health promoters
2. CHWs Receive adequate supervision and support	CHWs from each community currently receive 6 supervision site visits per year (for 2 days each time), and receive three offsite health promoter trainings of 1 week each. Supportive supervision emphasized	While supportive supervision and mentoring occurs, there remains variability in styles with some supervisors being more top-down vs. more participatory	Ongoing training/ mentoring of supervisors as well as supervision of supervisors to increase intervention fidelity
3. Basic Commodities reach down to the community level	AMOS has a supply system so that CHWs get re-stocked with essential medications and supplies at each supervision site visit; calendar of visits and cell phone access important	Need to assure that the current warehouse of supplies at the main office is able to respond to increased demand as we expand to other communities	Re-organize current warehouse system and develop computerized system for supplies and medications
4. Program able to respond to contextual challenges	Continuous program monitoring and evaluation help program adapt to changing contexts. Action plans are contextualized to local communities.	Politicization of health continues to be an issue in certain municipalities where we serve, especially in the Boaco area.	Remain apolitical in each geographic area, but continue to build relationships w/ different groups in the area

¹⁴ USAID. Building on Current Evidence to Strengthen Community-Based Service Delivery Strategies for Promoting Child Survival. From Community –Based Strategies for Promoting Child Survival. April 2010. <http://www.mchip.net/node/749>

AMOS Future Plans and Directions:

AMOS has come a long way in improving our framework for the overall project management of a CBPHC program, which is important groundwork to help guide future directions at AMOS. We have developed a set of principles for supervision and training of health promoters, we have a supervision team in place, we have a system of inventory and stocking, and a monitoring and evaluation system that allows us to respond to contextual changes. (See Appendices 2. Monitoring and Evaluation Update and Appendix 3. Supervision Update) We have accomplished this in a systematic way, starting with an initial concept, and gradually developing a model that we are now in the process of working to refine and consolidate in the next few years.



AMOS seeks to consolidate our program in the next two years, and then begin to scale up after we address the following issues:

1. Determine best practice for influencing behavior change strategies for improved breastfeeding, and improve nutrition practices in geographically disperse rural communities in 2013.
 - a. Adjust promoter to population ratio (currently ranges between 1:250 small communities to 1:550 in the larger communities)
 - b. Determine how best to implement the “care group” model (proven model in Africa, Latin America for behavior change)¹⁵ where one promoter works with a group of female community volunteers who share specific key health promotional messages (for behavior change) with community members.¹⁶
 - c. Pilot test “care group” model in our most remote and geographically disperse communities to determine the best ratio of health promoters to population
 - d. Consider developing two tiers of health promoters -- promoters who primarily do clinical work, and promoters who do primarily health promotion and behavioral change interventions
2. Review Most Effective Implementation Models for CBPHC in Nicaragua: Municipal vs. Current Circuit Riding Model
 - a. Determine budget and human resources needed for municipal mode in 2013

¹⁵ Care Group Blog <http://www.caregroupinfo.org/blog/archives/73>

¹⁶ Davis, T. et. al. Reducing child global undernutrition at scale in Sofala Province, Mozambique, using Care Group Volunteers to communicate health messages to mothers. Global Health Science and Practice 2013. Vol 1. No. 1

- b. Determine municipality that meets the best possibilities for success to develop pilot intervention for the municipal model in 2013
 - c. Implement municipal model in 2014
- 3. Continue to improve our system of human resources: staffing, training, structure, supervision, and performance evaluation to assure quality implementation of CBPHC
 - a. Determine staffing for municipal model in 2013
 - b. Develop stream-lined training programs for supervisors and other staff at AMOS to ensure program quality in 2013 and 2014
 - c. AMOS Program Coordinator will be moving to the US in 2013 -- it will be critical to replace and train this key staff position in 2013.
- 4. Continue to improve our model of community organization
 - a. Improve steps for community organization by piloting adaptations of the SEED-SCALE methodology and public policy advocacy curriculum in the community of San Onofre, a model community at AMOS in 2013
 - b. Train staff on strengths-based interventions for community organization to be implemented with the training of 5 new health committees in rural communities in 2013
- 5. Develop manuals for replication of the AMOS Model -- as we continue to improve our model, we are recognizing that it will take another two years before AMOS is ready to develop training manuals and facilitator guides for program replication
 - a. Continue to collect implementation data in 2013 and 2014
 - b. Continue to develop training materials based on program needs in 2013
 - c. Begin to develop structure for program implementation guides (training manuals) in 2014
 - d. Visit other CBPHC programs in 2013 and 2014 to benchmark AMOS intervention and learn from other organizations working in CBPHC
- 6. Continue to refine and improve our system of evaluation and monitoring in 2013
 - a. Reduce the amount of data that health promoters collect and that supervisors supervise, and digitalize supervisor data in the field
 - b. Improve use of data by both communities and supervisors through targeted training of supervisors and health promoters to be able to collect data, analyze data and take action

All of the steps above will prepare AMOS to facilitate the replication of the AMOS CBPHC model by other organizations. Training manuals and facilitator guides for future replication of AMOS are expected outcomes of this process. However, AMOS' readiness to work with other organizations to replicate the model will depend on adequate staffing, and financial support.

V. Conclusion: The Causes of Life

La Danta is a new community AMOS is starting to work in. It is approximately 320 km from the capital city of Managua, Nicaragua, and meets the AMOS definition of difficult access. It takes 8 hours to get there by jeep: 280 of those km on good highway, the remaining 40 km on rugged dirt roads. It takes another hour on the Rio Nawawasito to the village of La Danta where Don Silvio, who usually charges C\$80 round trip (about \$3) per person on his canoe, brings our team of 6 for free, he says, because he is excited about helping in some way.

The boat, filled with people from villages all along the river, winds through narrow tributaries with trees so heavy with the weight of leaves and hanging vines that we were completely shaded from the sun. The area is designated a protected area by the government so there are still crocodiles, iguanas, parakeets and white ibis all along the way to La Danta.



As we near the river bank, there is a gathering of people from the community of La Danta waiting to greet us and to bring our supplies up to the village. The youth are playing music, singing a traditional Catholic welcome hymn, “Bienvenidos” (Welcome). We are led to church where we are greeted with more songs, speeches by the community leaders, a bible reflection by the delegate of the word (lay Catholic priest), and traditional Nicaraguan dances by the children. And then came the ask by the leaders for a needed health care and a clinic, medicines, a road, latrines, and water: ***What was AMOS going to give to the community?***

Five years ago, we would have responded by outlining all the things we were going to be doing with the community – building the clinic together, supporting them with essential medications, the training of a health promoter to dispense those medications, and how they could support their community clinic. But our experience has taught us that when we start with the needs, we get caught in a never-ending sea of needs.

Instead of answering the question of what we would give to the community, we asked the community a different question → **what strengths and assets do they have in their community and how have they already contributed to the health of their community?**



Community Assets Identified by La Danta: Faith, Unity, Love, Solidarity, Spirituality, Service, Organized, Church, Schools



The excitement in the room was infectious as people shared their strengths, what they currently do to improve health, and what they need to learn to improve their health.

Our roles shifted as well – from the “doctors or nurses” who came to cure, to that of teachers, there to “facilitate” a new way of thinking about health. At the end of the session, we were able to define reciprocal responsibilities between AMOS and the community, and make concrete plans about how we would partner together towards the common cause of improved health of the community.



Over the past five years, we have learned that even an extremely poor and remote community has resources — and that the greatest resources are within the people themselves. In every community there are people like the community leaders in La Danta who are driven to make a difference. In the book *Religion and the Health of the Public*, Gary Gunderson writes about **shifting our current paradigm in healthcare from trying to determine the most common causes of death to focusing on the most common causes of LIFE**. This means building on community assets and strengths to improve the health of a community instead of focusing on needs, or what we do not have.

The trip to La Danta made me realize how much AMOS has learned as an organization, and how we continue to learn. AMOS has grown into the causes of life, as our paradigm – re-defining our model and strengthening our framework of how we approach community health.

We have been given the gift of five years of serving in rural Nicaraguan communities, and have used this opportunity to refine a community based primary health care model that blends evidence-based approaches with a community-based model that is based upon principles, and has been built WITH the people we serve. We recognize the complexity of each community is also its beauty and uniqueness, which must be approached with a set of principles, and not a cookbook recipe for development.

In the next five years, we plan to consolidate our work in community health, refining and improving what we learn. Our teachers have been many -- the dedicated health promoters and their health committees who volunteer to serve their communities in the most difficult of conditions, our committed volunteers, our AMOS staff, the teachers of community health who came before us, and those who are still out there teaching, and our supportive donors and foundations -- and we look forward to continue to learn from each other as we work towards the dream of health care for all.

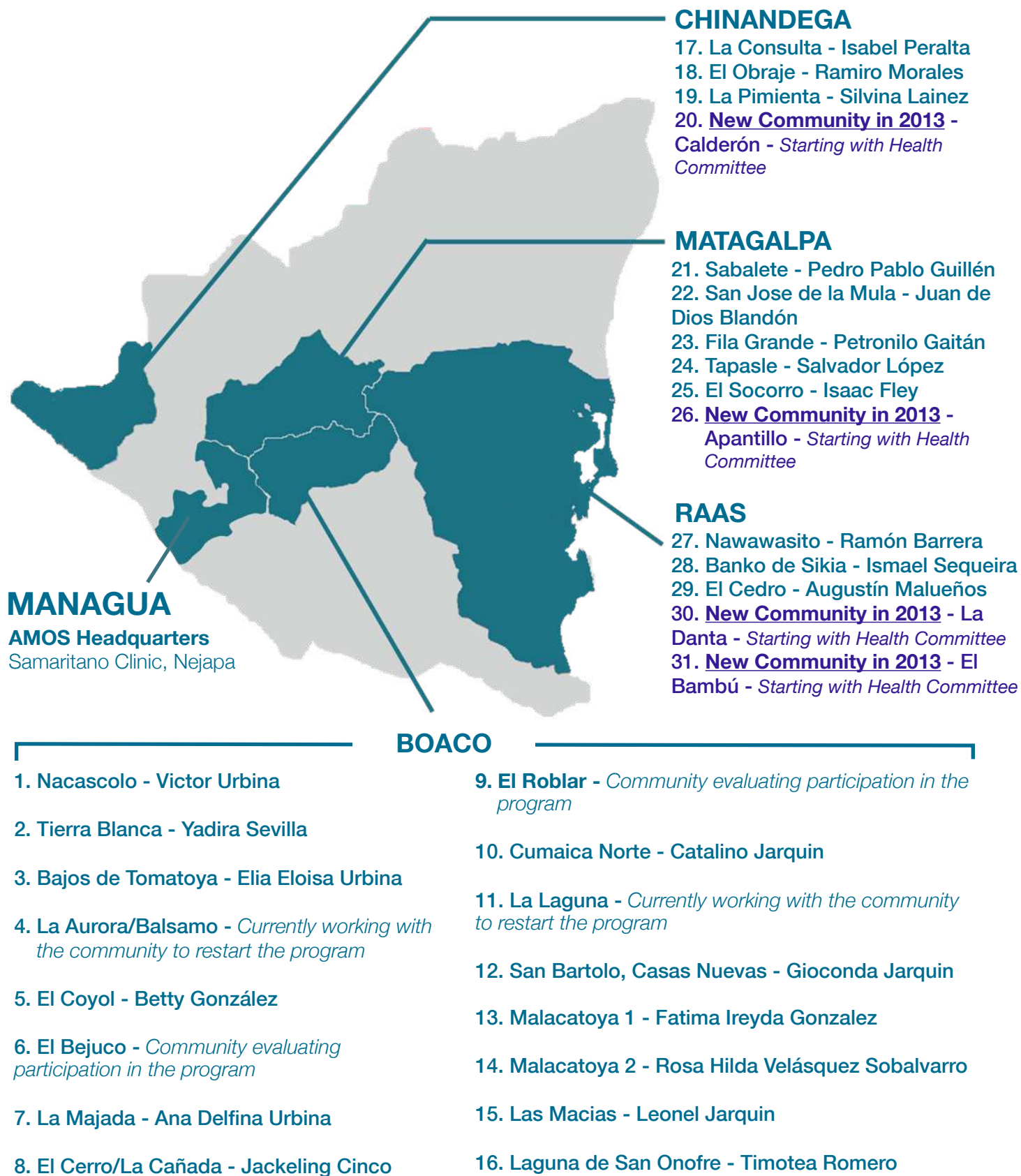
Laura Chanchien Parajón, MD, MPH

Co-Director

AMOS Health and Hope

April 2013

Appendix 1: AMOS Map of Intervention and Census 2012 Results



Appendix 2: AMOS Update of our Monitoring and Evaluation System

Introduction:

In order to evaluate our work at AMOS, we use a logical framework model shown in the figure below. The yellow squares represent our **planned work**, consisting of activities we carry out with the resources we have. **Our intended results** are represented by the blue squares --immediate results, medium term outcomes, and longer term impacts. Below is a table that shows how we monitor data.

OUR PLANNED WORK

OUR INTENDED RESULTS

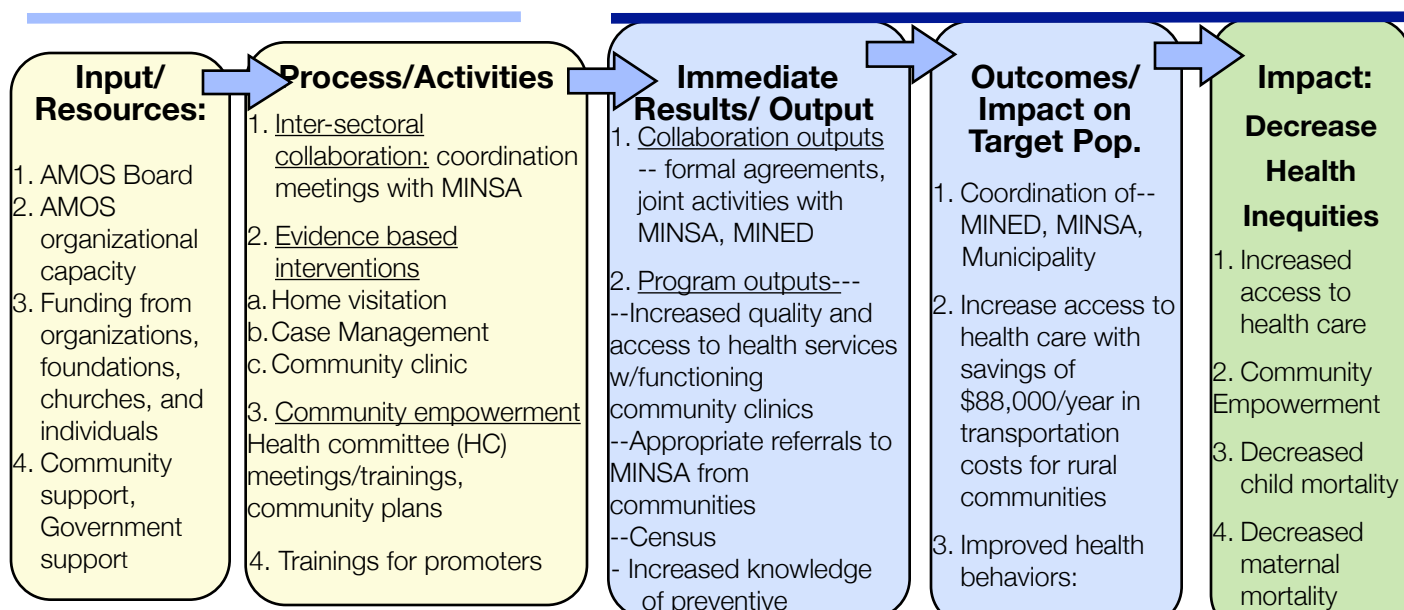


Table 1. System of Monitoring for Program Management and Accountability

Data Tools	Process Data Collected	Output Data Collected	Outcomes Data Collected	Impact Data Collected
Community Level: <u>Promoter Notebook:</u> Simple notebook to register	#, type of Home visits; #, type of patients seen, meds prescribed; #HC Meetings; #community plans;	# Community work plans done; # home visits; # consults; # medications dispensed; Census community data ; # educational talks	# community projects completed; Birth plan data: # birth plans, # institutional vs. home births; weight for age trends; community projects	-Vital events (births, deaths); -Community change
Supervisor Level-- Supervisor Notebook; Surveys; Performance Eval Tools	Visits health promoters every 2 months to do the following:1) review promotor notebook; 2) consolidate data;	#formal agreements; meetings with MINSA; census analysis; knowledge, practices, and attitudes surveys; # trained health promoters-performance evals.	Parasite , anemia, malnutrition prevalence studies; water quality studies; Community empowerment Evaluations	Verbal autopsies of deaths of children < 5 yrs.; Community policy changes
AMOS Main Office: File Maker; Epi Info; Stata	Statistician consolidates data collected by promoters and supervisors into a database that is then analyzed to review trends; Program coordinator analyzes consolidated data with supervision team every 6 wks, and with health promoters once a year. Data gathered through monitoring used to make programmatic decisions, accountability.			

Current Monitoring System:

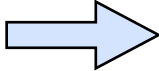
Key data collected by our health promoters in our monitoring system include the following: vital events data (#birth, #deaths, and verbal autopsies); children's health data (malnutrition rates, vaccination rates, breastfeeding rates, etc.); process data to record activities (#home visits, #educational talks, etc.); and community empowerment data (#community plans, meetings organized, etc.). Data gathered from this monitoring system is extremely important. For example, in 2009, child mortality data gathered from this system detected high rates of neonatal deaths. This data informed the programmatic decision at AMOS to focus interventions on plan parto (birth plan) and neonatal home visitation to prevent high rates of neonatal death. The intervention subsequently led to decreased rates of neonatal deaths in the municipality of San Jose de los Remates in Boaco.

Since community data is collected primarily by our rural health promoters, many of whom have less than a sixth grade education, we have worked to continually improve and simplify our community monitoring system. An important key in the monitoring system is to assure that health promoters are not being overwhelmed by the amount of data they need to collect, and that the data being collected is actually being used at all levels- the community, the field supervisory team, and the main office -- for program improvement. See below, for information flow.

AMOS Information Flow

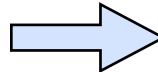
Community

1. Health promoters collect data using a simple notebook. Data is also consolidated on a wall called the situation room.



Supervisor

2. Supervisors review data with the promoters, and consolidate data in a supervision notebook. Data is reviewed with the promoters and health committee to help make community plans for improved health.



Main of Office

3. Data from all communities collected by supervisors are consolidated and analyzed to help make program decisions



Current Evaluation System

The monitoring system used to collect data enables us to evaluate our interventions, and make decisions based on local data and contexts. According to evaluator Michael Quinn Patton (Essentials of Utilization-Focused, 2011), evaluation should answer three basic questions:

1. What?

What happens in the program? What activities and processes occur? What changes in attitudes, knowledge, skills and/or behaviors if any occur in participants? What outcomes and impacts result from the program? What unanticipated outcomes emerged?

2. So What?

So what do the findings mean? What sense can we make of the findings?

3. Now what?

What actions flow from the findings and interpretations of the findings?

These questions are asked as part of the ongoing evaluation at AMOS in a process described below:

The collection of Data answers the **What?** ----->

Interpreting Data answers the **So What?** ----->

Taking Action answers the **Now What?**

The Developmental Evaluation Approach

While the data we have currently collected using the traditional logical framework model has guided and continues to guide our work at AMOS, we also realize that using this model does not capture the complexity of a comprehensive community based primary health care model. Instead of a direct cause-effect model, we have found that there are many factors that lead to results in each community. When we first began AMOS, we naively assumed that we could develop a comprehensive CBPHC model that could be easily replicated and scaled up. This is the work of formative evaluation -- making a known project better, and then doing the summative evaluation of whether it was replicated well.

As we gained experience doing CBPHC, however, we began to recognize just how complex communities are. Variations between communities and municipalities include differences in community history, community health promoters, community leaders, faith based assets, political history, politics in the municipality, and even family feuds. This leads to major differences in health indicators that can only be explained when we look at the contexts of each community. According to Patton, the context in which AMOS works is called a “complex situation,” characterized by the following characteristics of that our communities have:

- Highly emergent (difficult to plan and predict)
- Highly dynamic, rapidly changing
- Relationships are interdependent and non-linear rather than simple and linear (cause-effect)

For situations of complexity, developmental evaluation most closely fits the conditions of the CBPHC implementation at AMOS. Below is a chart from Patton that further delineates the difference between traditional evaluations and developmental evaluations:

TRADITIONAL EVALUATIONS...	COMPLEXITY-BASED, DEVELOPMENTAL EVALUATIONS...
RENDER DEFINITIVE JUDGMENTS OF SUCCESS OR FAILURE.	PROVIDE FEEDBACK, GENERATE LEARNINGS, SUPPORT DIRECTION OR AFFIRM CHANGES IN DIRECTION.
MEASURE SUCCESS AGAINST PREDETERMINED GOALS.	DEVELOP NEW MEASURES AND MONITORING MECHANISMS AS GOALS EMERGE & EVOLVE.
POSITION THE EVALUATOR OUTSIDE TO ASSURE INDEPENDENCE AND OBJECTIVITY	POSITION EVALUATION AS AN INTERNAL, TEAM FUNCTION INTEGRATED INTO ACTION AND ONGOING INTERPRETIVE PROCESSES.
DESIGN THE EVALUATION BASED ON LINEAR CAUSE-EFFECT LOGIC MODELS.	DESIGN THE EVALUATION TO CAPTURE SYSTEM DYNAMICS, INTERDEPENDENCIES, AND EMERGENT INTERCONNECTIONS.
AIM TO PRODUCE GENERALIZABLE FINDINGS ACROSS TIME AND SPACE.	AIM TO PRODUCE CONTEXT-SPECIFIC UNDERSTANDINGS THAT INFORM ONGOING INNOVATION.
ACCOUNTABILITY FOCUSED ON AND DIRECTED TO EXTERNAL AUTHORITIES AND FUNDERS.	ACCOUNTABILITY CENTERED ON THE INNOVATORS' DEEP SENSE OF FUNDAMENTAL VALUES AND COMMITMENTS.
ACCOUNTABILITY TO CONTROL AND LOCATE BLAME FOR FAILURES.	LEARNING TO RESPOND TO LACK OF CONTROL AND STAY IN TOUCH WITH WHAT'S UNFOLDING AND THEREBY RESPOND STRATEGICALLY.
EVALUATOR CONTROLS THE EVALUATION AND DETERMINES THE DESIGN BASED ON THE EVALUATOR'S PERSPECTIVE ON WHAT IS IMPORTANT.	EVALUATOR COLLABORATES IN THE CHANGE EFFORT TO DESIGN A PROCESS THAT MATCHES PHILOSOPHICALLY AND ORGANIZATIONALLY.
EVALUATION ENGENDERS FEAR OF FAILURE.	EVALUATION SUPPORTS HUNGER FOR LEARNING.

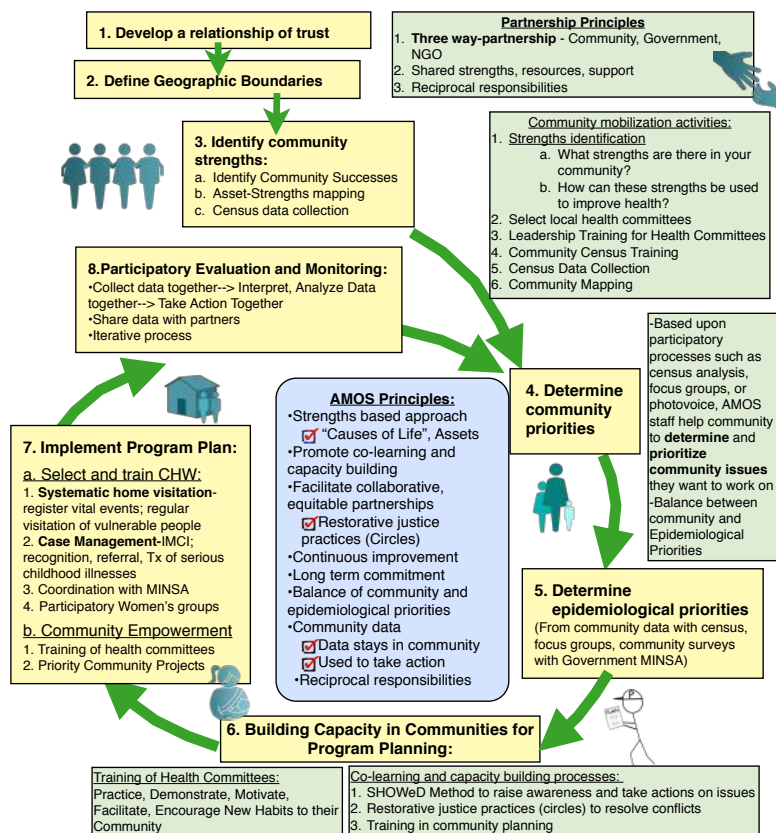
(Table from “Developmental Evaluation: Evaluation for the way we work” by Michael Quinn Patton, www.nonprofitquarterly.org. Spring 2006. pg. 28-33)

Figure 5: Steps, Principles, and Activities in the AMOS CBPHC Working Model

Results of the AMOS Evaluation Methodology

Developmental evaluation is described as adaptive evaluation for innovations in complex contexts; it supports learning to inform action that makes a difference.

The development of the implementation of our CBPHC process (Steps, Principles and Activities from pg. 13) has followed a developmental process: from the ongoing monitoring and evaluation of the CBPHC intervention, AMOS has developed a core set of principles and steps that can be adapted to different contexts. Learning that we have gained from each of communities that we work in, and their contexts, informs the development of innovations within our CBPHC system.



Example of Developmental Evaluation in San Onofre, Boaco: Development of Inter-generational Health Committees



Intergenerational youth committee in San Onofre with AMOS staff

In 2010, AMOS partnered with Teensmart to implement their CRECER para SER training with youth in rural communities as a pilot project. Throughout the implementation of the pilot project, AMOS went through a conscious process of learning from our experiences. One of the lessons learned was the importance of integrating the youth leaders trained in the Teensmart program with our adult health committees. On their own, the youth did not get much support for their projects. However, when the youth and the adults worked together, an intergenerational mutual support system developed. The youth brought new enthusiasm to the health committees and in turn, the health committees mentored youth to take on new leadership roles. The result was the formation of several inter-generational health committees (IGHC) throughout the communities we serve.

In the community of San Onofre, the mentorship of health promoter, Timothea Romero, was critical in the engagement of the youth in new leadership roles. One example of a

community change made by the IGHC was the case of anemia in children under the age of five which is described below using the evaluation framework of:

1. The collection of Data (What?) ----->

2. Interpreting Data (So What?)----->

3. Taking Action (Now What?)

1. Data Collection --In 2011, the community of San Onofre identified anemia as a priority problem they wanted to address in their community. The IGHC was trained by AMOS to work together with AMOS to collect data on anemia for children less than five. The community members found that 68% of children under five had anemia! This data was collected and a community map was made to identify the children who had anemia.



2. Data analysis --So what? Having iron deficiency anemia affects the long term growth and development of children, so it is important to understand the causes. AMOS staff and the IGHC analyzed the data together to understand why so many children had anemia. The group determined that the lack of iron rich foods in the diet of children, the common practice of giving children coffee (which decreases appetite and interferes with the absorption of what little iron they have in their diet), as well as giving children junk food were all causes of anemia that could be changed with health education.

3. Take Action -- Now what? AMOS worked with the IGHC to train them in photovoice, a participatory empowerment intervention, to help the IGHC to develop relevant educational materials. The IGHC also made a community plan to do educational talks in the community with the materials they developed, did cooking demonstrations to help mothers improve nutritional practices, and made home visits to children with anemia to make sure they got their vitamins, and to counsel them on improved feeding practices. As a result of the work of the IGHC, anemia rates in the community decreased by **40% from a prevalence of 68% of children with anemia in 2011 to a prevalence of 28% of children with anemia in 2012.**

In a recent evaluation, the IGHC outlined their accomplishments as an intergenerational health committee:

- More communication between adults and youth: before the adults did not understand the youth, and the youth would not go to the adults to share their problems -->now there is more understanding and respect between adults and youth
- Now parents encourage their children more
-->instead of mistreating them, the parents talk to the youth with love and respect
- The youth and the adults now participate in meetings together, and the youth are taken into account in the meetings.
- Together the IGHC have been able to reduce anemia rates and decrease pollution in their community by organizing clean-up campaigns.

In terms of developmental evaluation and innovation, AMOS is able to detect the success of new interventions (such as intergenerational health committees) through a system of evaluation and monitoring that is geared towards learning. This process of continuous learning and adaptation is what allows AMOS to innovate and improve our interventions in the context of the complexity of communities and integral community health interventions. In 2013, we will also be working more closely with the community of San Onofre as a pilot community so that they can become a learning center for training other health committees in inter-generational processes of community change.

Plans for 2013

“The way senior executives interpret their business environment is more important than the accuracy of data they have about their environment.”

----from the Harvard Business Review, “The High Cost of Accurate Knowledge” by Kathleen Sutcliffe and Klaus Weber. 2003

Even though this quote is from the Harvard Business review, it also applies to our rural community health work. The ability of our field staff, program staff, community health promoters, and health committees to interpret the data they collect and then take action on the information is at the heart of evidence-based social change and innovation. In the case of San Onofre, community leaders helped collect data on anemia, they were then able to analyze the data together with our AMOS team, and then take action to decrease anemia rates in their community. While there are many examples of how the AMOS staff and communities have engaged in developmental processes to take action on collected data, we recognize there is room for improvement to continue to build capacity in community members and our staff to **consistently** take action from the *data they do collect*. This means that data needs to be manageable, and that there is the continued capacity by both staff and communities to be able to analyze and take action on the data.

Therefore, for 2013, AMOS will focus on two main areas for evaluation and monitoring.

- 1) Streamlining of data collected by health promoters -- While we have already reduced the amount of data that the promoters collect, adjustments still need to be made regarding the amount and types of data being collected in the rural communities. Our philosophy is that any data collected in the community should stay in the community. Data collection needs for accountability and program management needs to be balanced with data that is relevant to community members, and that does not represent a burden to rural community leaders.

During our evaluation meetings in 2012, the rural health supervision team and health promoters analyzed the data collection system and identified the need for changes for 2013 in the following areas:

- a) Vital Events data-- is one of the most important pieces of data we collect because it tracks child mortality rates and the causes of death. Currently vital events data is collected by health promoters -- but what happens when the health promoter need to be replaced, and there are no other people in the community to collect vital events data? In order to improve the sustainability of our intervention, we are determining other ways for community volunteers or health committee members to help collect this data. In addition, to determine the causes of death, AMOS does verbal autopsies with the families of the deceased children, and the cause of death is sometimes difficult. Therefore, AMOS will be conducting further training of the supervisors and health promoters to improve the results of verbal autopsies, as well as on how to provide pastoral care to families who have just lost children.
- b) Breastfeeding, immunization, and growth monitoring data (stunting and acute malnutrition data) have been difficult for the health promoters to accurately collect----> AMOS plans to begin to collect this type of data using periodic surveys every two years with our supervision staff instead of the promoters -- this would free up the health promoters to focus more on people, and less on data collection; at the same time, it would strengthen our monitoring system because of a higher accuracy of data collection when done by supervision staff
- c) Continue to simplify and improve forms to decrease the burden of data collection on community members-- these include the following forms: neonatal home visitation and prenatal care forms (need be improved so that promoters can use if as a tool for counseling as well as for monitoring); clinic visits and medication dispensed, health education talks, and community plans (need to be simplified).

- 2) Strengthen an “interpretive” mentality -- Adding a developmental evaluation framework to our current evaluation and monitoring systems can improve our ability to systematically identify emerging principles and methodologies that we develop to improve the health of poor and marginalized populations.

In 2013, we will begin an intentional process of training all our staff from management to technical staff to have an “interpretive mentality” -- to be able to consistently take data, interpret the data, and then take action on the data with the people we serve. For the work of CBPHC to foster empowerment, we will also be engaging in a training process to continue to build capacity in community leaders, health promoters and health committees, to be able to address the problems in their communities by taking informed action from data they are able to interpret themselves.

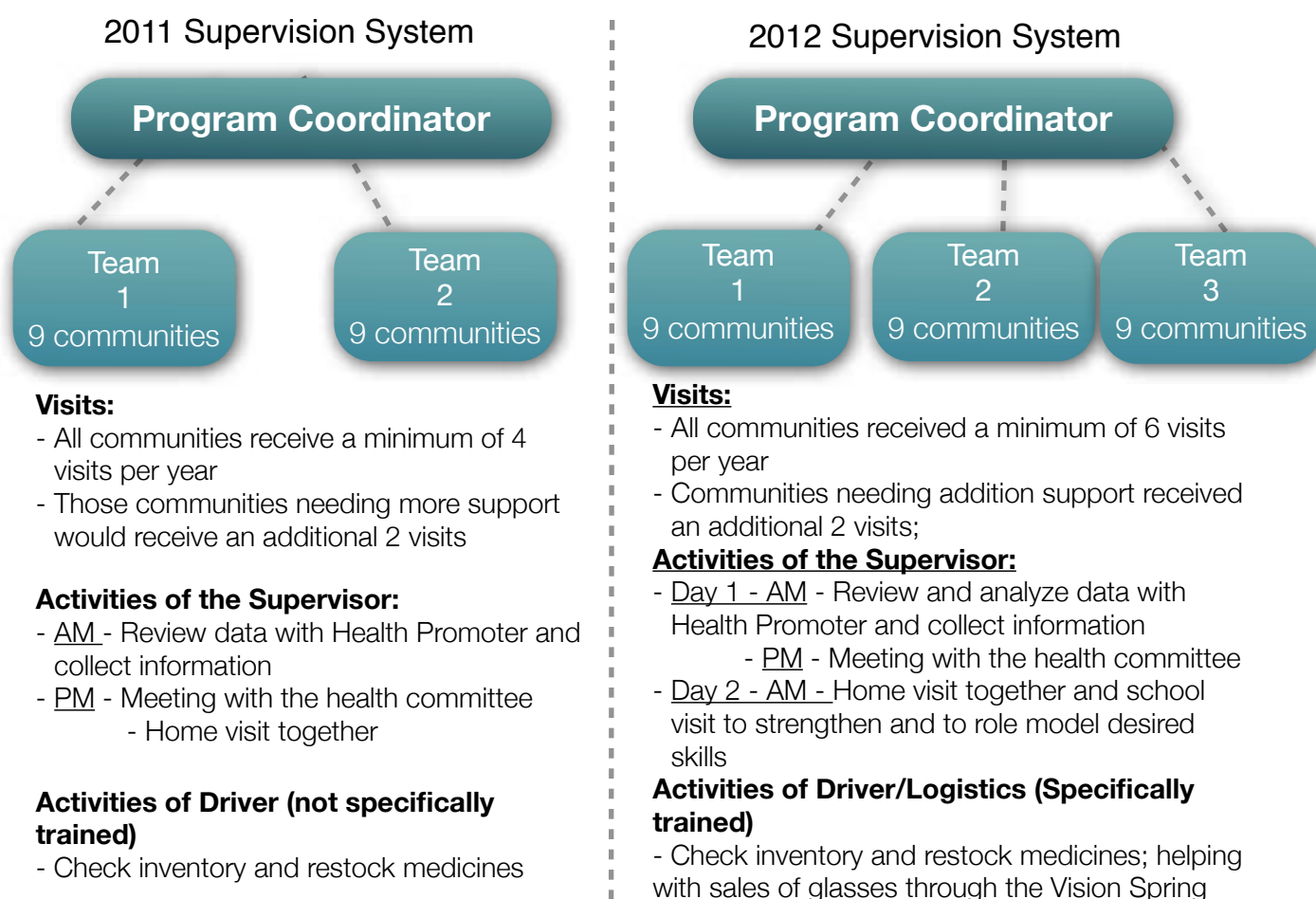
Appendix 3: AMOS Supervision System Update

Introduction:

The success of the CBPHC Program at AMOS is due in large part to the system of supervision and continuous training for health promoters. Health promoters need supportive supervision, training mentoring, and tools to complete their work.

AMOS Intervention:

At the end of 2011, AMOS health promoters shared a desire to have more time during their supervision visits, which occur every six weeks, and at least six times a year. In 2012, we increased supervision time from one day instead of two, and focused on the following improvements to our system: 1) Improve our supervision tool to standardize explicit tasks each supervisor needs to complete during each supervision session, 2) Promote a culture of mentoring and accompaniment of the promoter and health committee 3) Improve the supply distribution system through one trained driver/logistics coordinator, and 4) Full complement of staffing to support the supervision system



More time for Committee Training:
Health committee develop a skit about handwashing



More Time for Community Organizing:
Health promoter sharing



More time for Mentoring of health promoters by supervisors

Results of the Intervention:

1. **Improvement of our supervision tool** gave clear guidelines on topics to cover during supervision, and included the following steps:

Step 1: Review the health promoter's activities.

Step 2: Discuss areas for improvement with the health promoter. The work areas are covered during the course of an entire year, and include the following:

- Clinic Management
- Implementation of the Census-based, Impact-oriented (CBIO) methodology
- Lay Epidemiology, Community Monitoring
- Home Visits
- Clinical Care with Integrated Management of Childhood Illnesses
- Use of Essential Medications
- Nutritional Counseling
- Birth Plan Forms and accompaniment of pregnant mothers
- Family Planning
- Collaborative community activities
- Healthy Schools
- Growth Monitoring

Step 3: Record commitments made between the health promoter and the supervisors. In this part of the supervision, the supervisor suggests tasks to the health promoter, but the supervisor also asks the health promoter to indicate in what ways he/she can improve in his/her role and how the supervisor can help he/she in his/her role as a health promoter.

Overall, the improvements to the supervision guide have been very helpful to standardize the methodology that the supervisors use with the health promoters during each visit even though the content and areas to work on change each time.

2) Promotion of a Culture of Mentoring

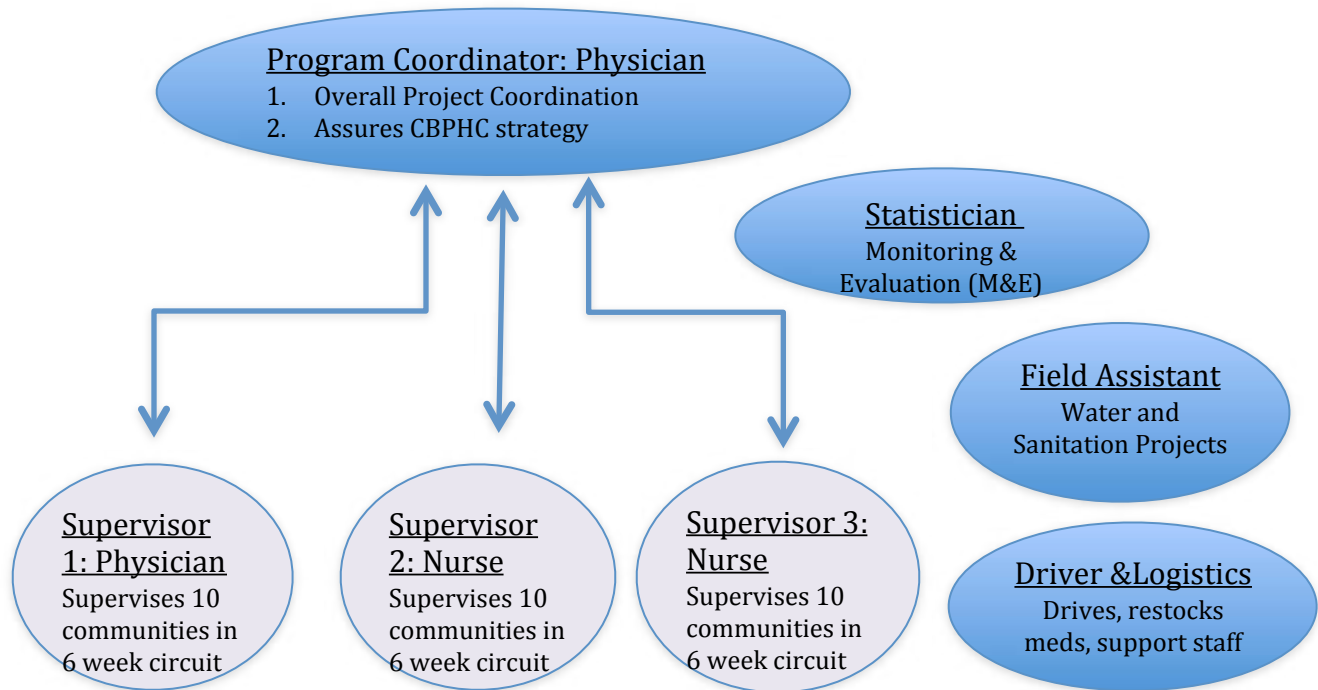
The Primary Health Care team at AMOS chose a theme for their work for 2012, which was "Walking Alongside the Community." This theme describes the attitude that the supervisors should have during their supervision visits. The supervisors should approach their work with the desire to be role models to the health promoters and demonstrate a positive example for ways to interact with people in their communities and promote health. For example, if a supervisor accompanies a health promoter during a home visit, he/she would demonstrate their approach to a home visit, then the supervisor would have the health promoter do a visit on their own and would observe, and finally the health promoter would then teach the supervisor how to do a home visit.

During the third health promoter training of the year in November 2012, the health promoters were given the opportunity to evaluate the supervision process. Several health promoters commented that they had noticed a change in the supervision approach and made comments on the following aspects:

- Supervision in 2012 focused less on simply collecting their data from the community and more on support for them in their work as health promoters and as individuals.
- The supervisors came to help and not to just to focus on the health promoters mistakes.
- The health promoters are not intimidated or afraid of the supervisors as superiors, but instead look forward to their arrival and the opportunity to continue to learn from them.

3) Improved supply chain -- in 2012, AMOS hired a driver assigned specifically to the primary health care team. This driver was cross-trained in the logistics needed for the rural health team, and was then able to provide a higher level of support to the rural health team.

4) Full complement of staffing to support supervision -- in 2012, AMOS was able to support all the staffing necessary to support the current supervision system, as well as the data collection system that supports supervision. Over time, AMOS was gradually able to add staff to complete all the tasks of supervision and monitoring of a program for impact. In the figure below, we describe our current organizational structure for the primary health care program. While this structure enables us to fully support the current system, AMOS is exploring ways to expand to more communities but with the same staff -- so that the community to supervisor ratio is higher, while still maintaining the same quality.



AMOS Rural Health Team Staffing Structure:

1. The AMOS Field team consists of the 3 supervisors, and the driver/logistics person, who go out to the field in 6 week circuits. They report to the program coordinator weekly, and also send data to the statistician weekly
2. The field assistant for water and sanitation projects reports to the program coordinator, coordinate with the team, but can go out to implement water and sanitation projects separately.
3. The statistician stays in the office to enter data and analyze the data in sets that the team can understand, and take action on.
4. The program coordinator, a physician, assures the project is being coordinated well logistically, but also provides guidance and direction for the project.

Analysis of the Current Supervision System for AMOS

Out of necessity, AMOS has implemented two different models of supervision since its program began in 2007. Initially, AMOS began working in a group of 14 communities in the same geographical region of San José de Los Remates in Boaco. The work with these communities was the foundation for a municipal model. However, between 2009 and 2010, 11 other rural communities which had invited AMOS to work with them were included into the CBPHC program. The introduction of these communities forced AMOS to switch to a circuit supervision model, since the newer communities were spread around in 3 other regions of the country, several hours away from San José de Los Remates.

Comparison of the Circuit vs. Municipal Model of Supervision

Using the circuit system of supervision, AMOS visits each of the communities that it works with once every 2 months and organizes each week of visits into a circuit based on the geographical closeness of a group of communities. There are currently a total of 7 circuits: one in Chinandega, one in Matagalpa, one in the RAAS, and 4 circuits in San José de Los Remates. After each round of visits to all 7 circuits, the team of supervisors returns to meet at the AMOS office in Managua for 2-3 weeks to process their observations, analyze the data collected during that circuit, and prepare for the next round of circuit riding.

In contrast, the municipal model of supervision that AMOS started out with in San José de Los Remates implies a permanent presence in a municipality. In practice, this means that the supervisor and support staff in a municipal model is based out of an office in the municipality rather than in Managua. The assigned supervisor to the municipality establishes a supervision calendar for visits to each community. Because of the shorter distance the supervisor would need to travel to reach each community, the a supervisor can make adjustments to his/her supervision calendar and make modifications based on needs that arise in the communities.

Advantages of the Municipal Model

Because of the complex nature of the context in which AMOS works, the municipal model has several important advantages over the current circuit model of supervision that is being implemented.

1. The municipal model is more flexible to changing situations in the communities and allows supervisors to spend more time with community leaders where there are greater challenges than in others. Currently, if a health promoter were to get off track with his/her duties or just need extra support for a unique situation, the supervisors must wait two months after providing initial guidance in the moment of a visit or by phone from Managua to be able to provide the necessary follow-up.

2. The municipal model utilizes resources more efficiently (transportation and time) to allow a supervisor to visit a community more than once every two months because of the proximity of a regional office to a group of communities.
3. The program has a more permanent presence in the municipality when using a municipal model and this allows for better coordination with the Ministry of Health and the Mayor's Office for the municipality. Use of the municipal model would help to strengthen even further the strategy of the Three-Way Partnership that is key for the long-term sustainability of the CBPHC program.
4. A municipal model facilitates closer follow-up with the health promoters and would give supervisors more time to mentor and practice different skills with the health promoters to improve their work with families in their communities.
5. Within the municipal model, trainings for health promoters that provide important ongoing education opportunities can be easily organized in the municipality corresponding to each group of communities and can be held more frequently.

Recommendations and Future Plans for 2013

1. Continue to develop and refine how the Supervision Guide is used by the supervisors.
2. Offer more trainings to the supervisors to ensure that supervisions are done in a standardized way.
3. Further reduce the time that supervisors spend on data collection during the visits to the communities and increase the time available to use the skills checklists to test the health promoters' abilities. This can be done by reducing the amount of things that supervisors need to do according to the supervision tool in each round.
4. Begin a process of analyzing the costs of switching from a circuit model of supervision to a municipal model of supervision starting at the end of 2013 or in early 2014. Below is a possible framework for engagement of the municipal model.

5 Year Plan Municipal Model for CBPHC						
Year 1: 2014	Year 2: 2015	Year 3: 2016	Year 4: 2017	Year 5: 2018	Year 6: 2019	Year 7: 2020
SJR	SJR	SJR	SJR	SJR	SJR	SJR
		CHIN	CHIN	CHIN	CHIN	CHIN
				RAAS	RAAS	RAAS
<i>Developmental Evaluation</i> - innovation and change for developing principles about community based primary health care intervention						
<i>Formative Evaluation</i> —develop best practices for working in community based primary health care						
<i>Process evaluation</i> - collect data on the processes of the program to assure goals and objectives are being met at each stage						