Fifty-Year Journey of a Health Care Clinic to Public Health Empowerment: The Behrhorst Model from Chimaltenango, Guatemala.

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Abstract

Sustaining a health care organization in Guatemala after a period of prolonged civil violence and death of the founder is a challenge. Nevertheless, the organization started by Dr. Carroll Behrhorst in 1962 has successfully evolved, enabling his work to continue. In this article, we provide an update.

Dr. Behrhorst saw that any attempt to improve health conditions by providing medical care needed to address underlying causes of poverty and that the program would need to be sustained by the Maya themselves. To this end, Behrhorst created two separate foundations, one based in the US to provide financial support, and one in Guatemala to manage the clinic and community programs.

Following the death of Dr. Behrhorst in 1990, his US. and Guatemalan Foundations worked together to strengthen the clinic, hospital, and community programs in the post-conflict society in Chimaltenango.

Over the past 11 years, 106 villages in the Guatemalan highlands have partnered with the Behrhorst Foundations to address causes of chronic childhood malnutrition and infant and maternal mortality, especially diarrhea from contaminated water and respiratory illnesses from indoor cooking fires. Sixty-six water systems serving over 43,000 people have been installed; all systems are still functioning. Seven thousand sanitation systems and vented stoves were also installed—with a dramatic reduction in diarrhea and respiratory disease.

We conclude that any attempt to sustainably improve health in an impoverished population needs to contend with underlying causes of poverty. The Behrhorst model of empowerment of local Kaqchikel Maya to address causes of chronic childhood malnutrition and infant and maternal mortality could serve to inspire similar work elsewhere.

Sustaining a health care organization in an impoverished country beset by a prolonged period of violence, especially when the founder dies, can be a challenge. Nevertheless, the organization started by Dr. Carroll Behrhorst in Chimaltenango, Guatemala has successfully evolved and survived, enabling the work he started to continue. In this article, we wish to provide an update to the activities started by Dr. Behrhorst over 50 years ago. Dr. Behrhorst inspired a model of care that has been successful in large part by collaboration with local communities, empowering them to continue without ongoing support from the Behrhorst organization.

In 1962, Dr. Behrhorst, a family physician from Winfield, Kansas, set up a practice in Chimaltenango, a town in the Guatemalan Highlands. His goal was to serve the medical needs of the proud, dignified, and life-loving Kaqchikel Maya, who face impoverishment, are medically underserved, and whose children suffer from malnutrition. To achieve this goal, he developed an innovative approach, which has been recognized in multiple books and articles (1-7). The story of the first 25 years of his healthcare model - encompassing both clinical and integrated community/prevention programs -have been recounted in Articles in JAMA (3,5) and the *New England Journal of Medicine* (8) in the 1980's.

As noted by Dr. Jonathan Horton (8), Western healthcare for the Kaqchikel Maya was essentially non-existent in 1962. Shortly after he started providing care, Dr. Behrhorst was seeing over 100 patients each day in his small clinic, assisted by Mayan nurses he trained. In addition, over 120 U.S. medical students, including two of the authors (GS and BAR), worked with and were inspired by Dr. Behrhorst over the years. He treated mostly infections, parasitic diseases, diarrhea, dehydration, and malnutrition. Patients too sick to return home were treated in a small hospital he established next to the outpatient clinic. Dependent on external financial support, Dr. Behrhorst created a U.S. foundation in 1967, incorporated as the Behrhorst Clinic Foundation, Inc.

Dr. Behrhorst understood from the beginning that simply treating these diseases was likely to be futile. In an invited 1975 World Health Organization article (9) entitled "The Chimaltenango Development Project", Dr. Behrhorst wrote: "The old answer was a simple one: 'We will eradicate disease by curing the sick'. It was also a deceptive answer that brought balm to the spirits of millions of donors in the industrialized countries while wasting hundreds of millions of dollars and untold mental energy. No sooner was the patient cured than he returned to a slough of poverty that once again felled him within months, often within days, of his treatment. Curing the ailing from clinics and hospitals located in jungles, savannas, and mountains was something like trying to empty the Atlantic Ocean with a teaspoon. It made the toiler feel active and useful and caused everyone to exclaim: 'My, what a beautiful teaspoon!'".

Dr. Behrhorst went on to write that any attempt to sustainably improve health conditions needed to contend with the underlying causes of poverty. Therefore, it must address social and economic injustice; land tenure; agricultural production and marketing; family planning; malnutrition; health training; and curative medicine, …in that order (9).

Most importantly, "Doc", as he was universally called, understood that the program would need to be sustained by educating and empowering the Maya themselves. Embodying this philosophy, Behrhorst implemented one of the earliest health promoter or community health

programs in the region. He trained Kaqchikel Maya health promoters to provide essential medical care in the surrounding villages. In addition, these promoters, with Doc's guidance, provided nutrition classes, training in sustainable agriculture techniques, and helped to organize credit union and farming cooperatives.

In a letter to the Editor of the New England Journal of Medicine (10), Dr. K.M. Keller expressed great admiration for Doc's program and charisma but expressed skepticism that the program could survive upon Doc's retirement or death. Recognizing this, in 1980, Doc created the "Carroll Behrhorst" Guatemalan Development Foundation as a Guatemalan foundation to manage the clinic and community programs.

At the time of Dr. Horton's article in the mid 1980's, rural Guatemala was at the height of an armed internal conflict that had started in 1960. By 1982, the highlands were a focus of a scorched-earth campaign perpetrated by Guatemalan government institutions, primarily the military. According to the Historical Clarification Commission (11), "agents of the state committed acts of genocide against groups of Mayan people". By December 1987, only 18 of the 45 health promoters trained by Doc were alive or accounted for (12). Indeed, most community-focused activities were discontinued for many years. This was a defining moment in the history of the clinic, resulting in a shift toward clinic/hospital work and away from outreach and empowerment.

Doc saw the situation as increasingly dangerous for himself and his family. After receiving death threats in 1985, he left with his family to live in New Orleans. There, he received an appointment on the faculty of Tulane's School of Public Health. Although he traveled frequently to Guatemala, he would not return there full-time for the rest of his life. Dr. Behrhorst died of natural causes in Chimaltenango while on a visit there in May 1990.

Following Doc's death, the U.S. and Guatemalan Foundations worked together to adapt and reinvigorate the clinic, hospital, and community programs in the post-conflict society in Chimaltenango. The roles of the two organizations evolved over time, and eventually, in 2006, they became independent. The Behrhorst Clinic and Hospital then became financially sustainable, independent of U.S. support, and was focused on providing health services in Chimaltenango. Meanwhile, the U.S. Foundation developed integrated community programs directed towards the structural drivers of poverty and poor health, with their work centered directly in the villages. Reflecting this focus, the name of the U.S. foundation was changed to ALDEA – Advancing Local Development through Empowerment and Action. In Spanish, ALDEA means "village." ALDEA then created Asociación para el Bienestar, Progreso y Desarrollo (ABPD – the Association for Well-Being, Progress and Development) to carry out this work on the ground in Guatemala. ABPD employs multiple bilingual (Kaqchikel/Spanish) personnel including specialists in nutrition, sanitation/water systems, agronomy, social work, education, and program monitoring and evaluation.

For the past 11 years, ALDEA/ABPD has worked with communities, local governments, and other non-profit organizations to specifically address the causes of chronic childhood malnutrition and infant and maternal mortality. These especially include diarrhea from contaminated water and respiratory illnesses due to indoor cooking fires. The approach has six

integral components (Table 1), each vital, which when implemented in coordination, create healthy homes.

The key to success of these projects is empowerment. Dr. Behrhorst kept the following quotation from Chinese poet Lao Tzu on his desk:

“Go to the people. Live with them. Learn from them. Love them. Start with what they know. Build with what they have… when the work is done, the task is accomplished, the people will say, ‘We did it ourselves’.”

Following this philosophy, ALDEA/ABPD works in partnership with the community to design a program which the villagers then “own”. When community leaders approach ALDEA/ABPD seeking assistance for projects that they believe are the most important—usually, potable water—the door opens for ALDEA/ABPD staff to help them discover other needs they may not have yet identified.

This program commonly includes all six components described above. The villagers supply the labor by digging ditches and latrines and constructing vented stoves to replace open cooking fires in the homes. During a two-year period that includes education and training by ALDEA/ABPD staff, they learn to maintain the projects they have built.

Village women, chosen by their communities, are given special training in basic health care, nutrition, hygiene, prenatal care, family planning, and other areas. They also receive specific leadership and empowerment training. They then return to give monthly classes to other women in their villages. Women are key to healthy families as they make vital decisions in the home regarding health and hygiene. Empowered women can carry these decisions into the public sphere when sharing decision-making responsibilities with the larger community. There are additional empowerment training sessions specifically for young people. Empowered youth engage in civic life, and create sustainable change. They have played a leading role and have traveled to and trained other community youth on their own accord.

In the last 11 years, 106 communities and villages in the Guatemalan highlands have partnered with ALDEA/ABPD to put in 66 water systems serving over 43,000 people. All these water systems are still functioning properly. Sanitation infrastructure systems were also installed—7,000 gray water filters, sanitary latrines, and efficient, vented stoves that have made a healthy home environment possible, with a dramatic reduction in diarrhea and respiratory disease [13].

Many of the families now have fruit trees, vegetable gardens producing iron-rich greens, and dairy goats that provide fresh food and nutritious milk to children, with marked improvement in childhood nutrition. The number of couples using family planning methods has doubled since ALDEA/ABPD began providing counseling and methods. Each community now has a disaster risk reduction plan in place to mitigate the harmful effects of drought and other catastrophes.

After participating in the ALDEA/ABPD leadership trainings, women are taking part in a community decision-making body for the first time, with some participating in municipal and provincial committees. The women leaders also measure height and weight of young children every month, enabling them to promptly identify and address problems with growth and development. These activities help the women develop their leadership roles and make the interventions more effective.

Monitoring and evaluation by ALDEA/ABPD staff provides regular, specific information from the involved communities and allows for prompt improvement efforts. For example, the vented stove used by ALDEA/ABPD has gone through multiple iterations based on community feedback. Initially, the stoves were not adequately used and maintained until a collective process developed an efficient design that met the criteria voiced by the community members.

In the communities where ALDEA/ABPD works, their data show that the rate of chronic malnutrition among children under 2 years old has dropped substantially after 24 months of intervention.

In summary, the work inspired by Dr. Behrhorst continues in Guatemala. The Behrhorst model of empowerment to local Kaqchikel Maya to address the causes of chronic childhood malnutrition and infant and maternal mortality is relevant today and could serve to inspire similar work elsewhere.

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Table 1. Components of ALDEA/ABPD Approach

Component	Description
1	Water, Sanitation, & Indoor Air Quality (through vented kitchen stoves)
2	Food Security
3	Nutrition Education
4	Family Planning
5	Community Empowerment
6	Disaster Risk Reduction