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## **Global Health Clinical Education: Conducting a Community Needs Assessment for Evidence Based Intervention**

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### **Abstract**

*Global health is the study and practice of improving health and health equity for all people worldwide through international and interdisciplinary collaboration. Studies suggest that health professions students benefit significantly through participating in global health clinical courses. This exploratory qualitative study conducted a community needs assessment as part of a global health clinical course for health professional students. The clinical course allowed students to plan and implement a week-long clinic providing primary health care to families in remote villages in Central America. Students engaged with the researcher to conduct a community assessment. As part of the community assessment we interviewed Kuna to identify from within the community the needs of families to improve health outcomes. This assessment was designed to provide empirical evidence to support future long-term, sustainable improvements in the health of communities. Findings indicate a chasm between what providers see as problems and villagers' identified priorities. Despite many unanticipated challenges, this research produced some modest and tentative recommendations proposed both for the community and global health clinical education.*

**Key words:** Global health, medical volunteering, community needs assessment, evidence based practice intervention

### **Introduction**

#### **Global Health Volunteering**

Academic global health programs are growing rapidly in scale and number. Students increasingly desire global health content in their curricula. Global health is the study and practice of improving health and health equity for all people worldwide through international and interdisciplinary collaboration. Studies suggest that students benefit significantly through participating in global health. Experiences in global health expose health professions students to a wider variety of diseases and health systems, improve clinical examination skills, decrease reliance on technology and laboratory resources, enhance awareness of costs and resource allocation, and foster cultural sensitivity [1, 2, 3]. During global health clinical experiences students are able to experience first-hand the impact of social determinants of health such as poverty, ethnicity, education level, lack of access to an adequate diet, clean water and sanitation on health. Reports also indicate students who have participated in a global health experience are more likely to work in underserved communities both domestically and overseas, pursue public health careers, and perform community service [4]. However, global health programs in curricula have also been criticized for lack of rigor in proper planning, implementation, evaluation and standardization of global health curricula [4, 5]. One aspect of concern is a lack of empirical foundation guiding implementation of clinical global health programs. For effective programs insight into pathways to ill health and health inequity is crucial, but only if it is based on detailed, concrete analysis and only if it takes the unique particularities of each setting into consideration. Any program intending to tackle illness and health inequities should therefore be preceded by extensive in-depth study [6]. This paper reports how one established global health clinical program conducted a community needs assessment to provide empirical evidence to support future work and make long term and sustainable impact in communities. Community involvement in planning, implementation and evaluation of global health programs is often lacking and this is particularly essential when providing care to indigenous people where day to day life and health is steeped in traditions and culture. Development of global partnerships and community engagement can be challenging and time consuming.

## **Context**

In Panama nearly four out of every 10 people live in poverty, and 16.6% live in extreme poverty. In indigenous rural zones poverty has deepened, affecting 98.4% of the population, with nine out of 10 people living in extreme poverty [7]. The probability of surviving infancy is uneven and depends on the socioeconomic situation. The lowest income quintile was the focus of 32% of deaths among children under age 1 and the highest income quintile, 12%. Panamanian children have, on average, three times the risk of dying before they reach their first birthday if they belong to the 20% of the poorest population than if they belong to the wealthiest quintile. Children under 6 years are the most affected by poverty. About one out of every three lived in extreme poverty (29.2%), and more than half lived in abject poverty. Since this work was conducted, in the spring of 2012, it was reported at least 15 people, mostly children and young people, have died in the community of Ipetí Kuna where this work was conducted [8]. The children who died were suffering from diarrhea, vomiting, fever, and severe malnutrition, as the

causes of the deaths. Reports indicate patients were not taken to the health center and were being treated with “traditional medicines.” Once the patients are in critical condition, they are taken to a nearby health facility. The prevalence of malnutrition for children in rural indigenous zones is 22.1% [9]. Widespread parasitic diseases contribute to malnutrition.

### **Health Care System**

In Panama the public sector institutions are highly centralized and vertically structured and do not involve community participation in the co-management of services; the care model is predominantly curative; and risk and harm prevention programs are targeted to the more prevalent health problems with the greatest negative effects on the population. This system of care does not account for the needs of indigenous peoples. Within the Ipeti Kuna community, the closest clinic is a distance away, provides rudimentary services and treats patients based on first come first serve basis leaving many patients unseen every day. It has limited supplies and ability to treat more advanced conditions. For further treatment, residents must travel hours to Panama City for the closest hospital care, making access to care very limited and challenging.

### **The Program**

Several times a year as part of a global health clinical experience undergraduate and graduate health care professions students participate in setting up and providing care during week-long medical clinics in rural Panama. Primary care is provided to hundreds of families during the clinic by undergraduate nursing students and graduate students in physical therapy, occupational therapy, physician assistant and nurse practitioner programs. As part of the clinic, a community needs assessment was conducted. The purpose of this assessment was to be able to provide empirical evidence to support future work and make long term impact in communities. Evidence has mounted that helping women can be an effective strategy for fighting poverty anywhere in the world and that progress is achieved through women [10]. It was hoped that the findings of the community needs assessment could be used as the foundation for developing an empirically based, targeted, sustainable intervention for women to improve the health of families in rural Panama. The purpose of the community needs assessment was to explore the needs of the community by interviewing women, key community leaders and providers in the community to identify appropriate interventions for this community. We planned to conduct a comprehensive, multi-tiered, targeted, community needs assessment. The theoretical framework guiding this work was the philosophical underpinnings of qualitative research paradigm, which states that the needs of a community are best identified by research within that community and interventions that are empirically based will better meet the needs of the community. A framework outlined by Finijter, Jensen, Wilson, & Koenig [11] was used to guide the community needs assessment. This assessment methodology outlines strategies for data collection including targeted interviews of community members, service and healthcare providers, religious organizations, and key informants. Global focus on women’s health outcomes are at the forefront of initiatives including the Millennium Development Goals, the Center for Global Health and the World Health

Organization. These and many other global health agencies recognize that the health of a family and community is determined in large part by the health of women in the community.

## **Methods and procedures**

This project plan was to conduct a comprehensive, multi-tiered, targeted, community needs assessment. The data collection strategy utilized a qualitative interview approach involving open-ended interview questions with individuals within and involved in the community. The interview guide was designed to explore the perceptions, belief systems, experience and knowledge of health issues in their family, as well as to obtain data to contribute depth and detail to an understanding of the context of the information obtained. As one of the tools of qualitative research, the intent of the interview is to explore issues, describe context and findings, and discover new ideas, issues, concerns and connections from the insider perspective. Qualitative research investigates naturally occurring phenomena to describe, analyze, and theorize on the phenomena, their context and relationships. This kind of work is conducted in the “real world,” not in a controlled situation, and yields important findings for development of interventions [12, 13]. The interview guide was developed with the guidance of Dr. Lynn Van Hofwegen as content expert in community health and international research in Central America. Human subject approval was granted by the authors’ home University. Consent forms were translated to Spanish, and the reading level was kept to below the sixth-grade level. The principal investigator, along with three fluent Spanish speaking research assistants conducted the interviews. Data were collected during a medical brigade in rural Panama as part of an ongoing collaboration with a not-for-profit, student-lead global organization and a health sciences university to bring health care clinics to underserved rural villages in Panama. Access to rural villages in Panama is difficult, and entree to the village was facilitated through leaders of the Kuna village and the global health organization. Interviews were conducted with five women in the rural village where the health clinic is set up. All interviews were conducted in Spanish or Kuna. Interviews were also conducted with opinion leaders in the community. They included two teachers in the village and the village nurse’s aide/health worker, a nurse and the Kuna liaison to the trip. The Panamanian doctor and dentist that were a part of the medical brigade were also interviewed. Ten home visits were done as part of the medical clinic and data collected during those visits was reviewed. Field notes were generated after each interview.

## **Method of analysis**

Because the purpose of the study was to explore from within the community the needs of families, the purpose of the data analysis is to describe the context and needs of families through thematic analysis of data [14]. The goal of thematic analysis is to describe and organize aspects of the phenomenon under study; in this case, a community needs assessment [15, 16]. Thematic analysis is an inductive process for encoding and reducing data to gain a better understanding of the meaning of what participants are saying. While there is variation in the process of conducting

thematic analysis, there are analytic strategies that are used to process data to gain an appreciation of the commonalities of experience that are found within and across interviews.

### **Analytic strategies**

In the initial phase of analysis, interview data were coded without regard for the importance of a data segment or idea. The purpose of this phase of coding was to expand the data to view the breadth of possibilities to be found in the interviews. Coding in this way can give a name or label to developing concepts, thus developing a vocabulary from which to communicate about a phenomenon. Codes are given conceptual definitions and illustrations from the data were found [15, 16]. As a critical mass of codes were developed, it was necessary to make decisions about the relative salience of the developing conceptualizations. Using this method of data limitation, patterns in the data and relationships between codes were analyzed. These codes were categorized or clustered into themes that linked or unified important aspects of the interviews together [17, 18]. The aim of data limitation was to group conceptual ideas into the highest level of abstraction or theme that gave meaning to a recurring experience and captured its essence [17]. Despite limited data, themes were integrated to provide a rich description of the needs of the community Braun and Clarke [16] described the underlying operation of identifying the final salient themes as determining their “keyness” (p. 82) or selecting themes that capture something of importance to the original research question.

Credibility, transferability, and confirmability of the findings are ensured by a variety of techniques. Thematic analysis, as an approach to analyzing qualitative data, is rigorous and systematic, with codes, categories, and themes clarified throughout data collection and analysis [16]. Member checking was used for each interview as well as with subsequent participants. Following a description of the sample characteristics, findings of the key themes of the study will be presented. The data analysis team included the papers authors.

### **Key Preliminary Findings**

This study was designed to conduct a community assessment on a rural community in Panama. Due to unanticipated and last minute changes in the itinerary for the medical brigade, we set up a clinic in a village of the Ipeti Kuna. The Kuna are an “indigenous people,” typically defined as a people who follow traditional non- industrial lifestyles in areas that they have occupied for generations. The village people are semi subsistence farmers living along the Ipeti River. The lack of substantial farming has led to advanced poverty and further malnutrition within the community [19]. Cultural traditions include healing rituals and coming of age rituals. Conducting research with the Ipeti Kuna presented unanticipated challenges. The context of the Kuna village proved to be impossible to grasp in the short period of time during which we were working with the village and conducting this study. Day-to-day life is influenced by traditions and customs. Unanticipated challenges we faced in conducting this research included the closed nature of the community. Possibly based on prior history with intruders into the community to exploit the

community, the village with which we worked, appeared closed and suspicious of outsiders. Most women were reluctant to participate in interviews, stating they needed permission from their husbands to be interviewed or were reluctant to have a double translation if they only spoke Kuna as their interviews needed to be translated to Kuna and Spanish. The result was that only very basic data were collected. We are able to draw a picture of village life. Families live in round structures made of wood poles with a packed earth floor and a thatch roof. Multi-generational families live together and typically 8-12 people live in a hut. Families sleep together on mats and some in hammocks. Women cook in inside their homes over wood stoves or use propane-fueled stoves. There is no running water, electricity or sanitation. Life of the village centers on the river. People bathe, eliminate, fish and retrieve water from the river. The work of women is to cook, care for the family and children and sew Molas. The work in maintaining a household was substantial as it included gathering food, water, and fuel. Men in the village may work on village projects, fish or hunt. Men make decisions for the family. During our week in the village men were away from sun up till sun down working on a forestation project. This was paid work, about \$5/day. It was not clear to us who initiated or funded the project.

### **Some key concepts for consideration from analysis to understand the Kuna.**

#### **The Sila**

Sila is the tribal leader and he governs the community. For example members of the community must ask permission to leave or marry and fees must be paid to Sila to leave or marry. In describing the Sila one woman said “They are very hard” and “Don’t want to change”. It was explained by several women we interviewed there is great fear of losing traditions of the Kuna.

#### **Disparities within the community**

Although the Ipeti Kuna tribe and village was presented to us by the Kuna liaison as a socialist community, it became clear during our time that there was great variation in the resources families had. For example some women described eating twice a day and other families only ate once a day because they did not have enough food, no money equals no food. The availability of food and what the family ate and the number of times a family ate eating was related to money. The villagers eat mostly fish and bananas which are available in the river and the jungle. They may eat other things like chicken and rice if there is money. Cooking is over propane and mostly wooden fires and fuel was reported as being very valuable. Women describe a typical day as: wash in river (soap and brush) cook for family, work on molas, wash laundry in river, cook for family (fish and bananas) and sleep.

#### **Health and access to health care**

As part of our interviews we wanted to understand how health was conceptualized. Women in the village that were interviewed did not articulate a conception of health. It appeared maybe health is the absence of vomiting and diarrhea. It seemed every situation is in the moment. Although

most women were reluctant to seek treatment for themselves they stated they want a clinic with a doctor, and they want a Kuna doctor. Women we interviewed told us they need women's health care for women by women and they wanted female translators as they "feel ashamed." We were told by the women that they can't make decisions on their own, need husband's approval to see doctors and go to the brigade clinic. However all women stated they wanted medications for sick children. During our clinic week women want children seen first and do not typically want to be seen for care by the brigade clinic. That may be due in part to self-rationing of health care since access to care is very limited they wanted their children to be seen first. The women in the village want children to be seen first because children get sicker quicker. The members of the village appeared to self-triage and have members of the village that needed medical attention be seen first. Sick children may go to health center which is about a 30 minute taxi ride which cost \$5.00. No one in the village had transportation. If there was no money- "don't go to clinic, kids die because of no money" Additionally it was reported, "Men don't go to clinic- don't like doctors." Even if they go to the health center they may not be able to be seen that day because only a certain number of patients are seen every day. We were told if someone is critically ill they call an ambulance. Indeed during our clinic an elderly woman was in acute respiratory failure and we arranged for and paid for transportation to the health center. The priorities and assessment of needs of local provider, including community health workers, Panamanian physicians and village leaders differed substantially from those reported by the women in the village. All providers and teachers said the same thing: Education as number one, education on clean water, hygiene, and nutrition. The different perceptions of needs within the community was evident and unless the "felt needs" of the families/mothers are addressed, they will not embrace the educational teachings. Women and community leaders that were interviewed agreed that a pressing need in the community was for more health care in the village. Specifically they wanted a Kuna doctor; they want "Kuna to care for Kuna" and in that way their traditions and customs would be respected and understood. Currently if people of the village are using traditional medication treatment they will not see a doctor. According to the village health aid/medical assistant (a Kuna), we were told that half of the village continues to use traditional medicine. Typically men do not seek western medicine and "will lie in hammock if ill." Some of the women in the village deliver their babies at home in the village, others go to the hospital. If there are problems women will go to the hospital. The community health aid reported it is common to use traditional medicine for labor pain "but sometimes babies die or women (die)"...

### **Village priorities**

The members of the village we interviewed want native Kuna to provide care and teaching to those in the village. They want Kuna providers caring for them and expressed their hope that Kuna would uphold their traditions and culture. They want to grow their own- have Kuna' caring for Kuna, Kuna's teaching Kuna's. There have been efforts to send members of the village to University to be educated to be teachers in the village and two young adults in the village are currently away doing that. It is important to consider programs to fund locals to train as medical

assistants, nurses' and doctors. It is reported that Kuna providers will respect local customs and traditions. In contrast provider priorities focused on need for patient education related to sanitation, clean water and adequate nutrition.

### **Tentative Recommendations**

Although many unanticipated challenges were encountered in conducting this research, data was collected through interviews and observations. We propose some modest and tentative recommendations to breach the chasm between the identified needs of the village and the needs identified by outsiders. For example, future initiatives should invest in programs to adequately fund villagers to train as medical assistants, nurses' and doctors. The context of the Kuna village proved to be impossible to grasp in the short period of time we were working with the village and conducting this study. Unanticipated challenges we faced in conducting this research included the closed nature of the community which could be addressed with a longitudinal methodology. A long term community based partnership may have the potential to facilitate communication and establish trust to allow for more congruent understanding of the community needs. It is essential to have appropriate translators for the Kuna dialect of the tribe and to have women translators for women. Three way translation presented difficulties between Kuna to Kuna, Kuna to Spanish, and Spanish to English. Although permission was obtained from the tribal chief to access the village, permission does not mean women were allowed to participate in interviews. A husband's permission was also needed and certainly more time was needed with the community to establish trust both with the community and the individual women and families. Individuals were not reimbursed for participating in the research because it was believed even minimal reimbursement had the potential to be coercive and or change the financial and therefore the power dynamic of the village

### **For clinics**

The women in the village want children to be seen first because children get sicker faster. The members of the village appeared to self-triage and have members of the village that needed medical attention be seen first. Women want medications for sick children. They want children seen first and do not necessarily themselves want to be seen for care. The women appear to be highly concerned for the health of their children and perhaps even more willing to cross cultural boundaries, such as going to the health brigade clinic, for the health of their children as compared to their own health. When women in the village seek care, they need women translators in particular because they are frequent gynecological problems that women will not discuss with male translator. We had a separate room to examine women with gynecological problems and this was very helpful to ensure privacy. Attention needs to be paid to primary problems of the community. For example, we did not have appropriate meds for dermatologic conditions that are common in this tribe. Because of the use of wood for cooking there were asthma-related conditions. Strategies to provide or develop chimneys or smoke-free cooking fires are needed. Clean water and sanitation are most basic needs for the health of this community. It



is important to coordinate times of the clinic with the rhythm of the community. For example, the men of the village were away from sun up till sun down working on a foresting project and were not seen by the clinic as we had the clinic open only till late afternoon. Although we were told men would not seek care from nontraditional providers we should have made accommodations so that they could have been seen. For our clinic we had the tribal chief's (Sila) permission, but we are not sure that that meant women were comfortable seeking care.

## **Summary**

This community needs assessment of women and children's health from the perspective of the women and health providers revealed some key insights for future work. The challenges of conducting research with the Kuna were not anticipated. Three-way translation presented difficulties. Lack of availability of female translators restricted interviews and women were hesitant to participate, most likely for various reasons that remain somewhat unclear. There was some suspicion among the women. Language presented a huge problem as few women were Spanish speaking. Women were very uncomfortable answering questions. This made it very difficult to acquire an understanding of the factors that fuel vulnerability from the women's perspective. It was very clear from the community leaders and providers what they perceive as problems in the community and the identified opportunities for mitigation. Kuna response to outsiders is no doubt influenced by historic, political and economic factors beyond our understanding in the brief time we worked with them. A brief week- long clinic is insufficient time in which to thoroughly understand the cultural context that we encountered with the Kuna. But, we believe that their response to outsiders is influenced by historic political, racial, and economic factors that would be better understood and managed had our group had more time to come to know the Kuna world. Although this project did not have the time or resources needed to conduct a comprehensive community assessment it did provide undergraduate and graduate students in various health disciplines an opportunity to work collaboratively to provide care. It did promote inter-professional and trans-professional education that can break down professional silos while enhancing collaborative and non-hierarchical relationships in effective teams and may help develop a common set of values around social accountability [20].

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