Community Assessment of Resources and Healthcare Experiences

(CARE II)

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Introduction/Background

Peru's economy is among the fastest growing in Latin America, with a vast majority of the economic growth and influence concentrated in large urban areas and along the wealthier coastal regions. Throughout Peru the income of the wealthiest 10 percent of citizens is 40 times greater than that of the poorest 10 percent. Despite making some significant advancement in poverty reduction, 36.2 percent of the Peruvian population continues to live on less than $2 (US) per day and 12.6 percent of the population lives on less than $1 per day.[1] Additionally, Peru has one of the highest rates of malnutrition in Latin America. In rural areas and high mountain regions, the rate of malnourishment in pediatric populations under the age of five is nearly 53 percent.[2]

The Department of Ancash is a region in northern Peru. Ancash is one of the most diverse regions in all of Peru, with two great longitudinal valleys, a vast coastal border and two distinct mountain ranges. The snow-covered peak of Huascarán is the highest mountain in Peru and the second highest in the Americas. The high mountain snowcapped peaks and quaint hamlet villages that run along the beautiful terrain make it a popular tourist destination for alpinist and outdoor enthusiasts from all over the world. The eastern, more mountainous, provinces of the department are often referred to as the "Alps of Latin America."

Compared to many other rural areas in Peru, Ancash is a prosperous region. Ancash's economy is the third largest in Peru. The economy of the region is largely made up of mining operations, with gold, copper and zinc being the dominant minerals that are mined. The coastal region of the Department is rich in fishing resources and it is Peru's most productive fishing region. Agricultural crops cultivated in Ancash are exported all around Peru; and include potatoes, wheat and barley. However, the economic engine that drives the Department of Ancash has had little local impact. This is especially true in mining operations, where multinational corporations have provided a massive economic engine to the country with little local effects.[3]

The area around where the CARE II survey was conducted is in close proximity to the city of Yungay. Yungay was decimated in a 1970 earthquake and subsequent landslide that killed over 20,000 people.[4] Today the city has been rebuilt and includes a population of over 25,000. The city, however, remains a very underserved area and has few resources in healthcare, education and employment.[5] The data reflected in the CARE II survey is drawn from a cohort that includes the city of Yungay and surrounding rural villages. According to government statistics, the

[1] UNICEF. "At a glance-Peru." Retrieved from: http://www.unicef.org/infobycountry/peru.html
[2] Rogers B. Rajabiun S. Levinson J. Tucker K. 2002. "Discussion Paper 2, Reducing Malnutrition in Peru: A Proposed Strategy." Tufts University.
[3] Ticci, E. 2011."Extractive Industries and Local Development in the Peruvian Highlands: Socio-Economic Impacts of the Mid-1990s Mining Boom," RSCAS Working Papers 2011/14, European University Institute.
[4] Cluff, L. S. (1971). Peru earthquake of May 31, 1970; engineering geology observations. *Bull. Seism. Soc. Am.*, v. 61, p. 511-533.
[5] Christianity, Social Change, and Globalization in the Americas, Peterson, Anna Lisa; Vásquez, Manuel A.; Williams, Philip J. , New Brunswick, NJ, p.xii, 259 p., (2001)

poverty rate in the area is estimated to be 61%.[6] Aside from the striking level of poverty is the growing economic disparity between the urban communities of the province and the rural or agrarian environments. More and more, the distance between the socioeconomic levels of the country are getting greater and greater. This disparity in economic access leads to a dramatic difference in service access and general viability for smaller communities.

Camp Kusi is located approximately 5-kilometers from the city of Yungay. Kusi is a camp that was started by the Christian non-governmental organization Union Biblica del Peru. Kusi, along with Union Biblica's seven other camps, is part of a broader program of street youth outreach services. The camp houses a home for abandon children and has over 60-boys living with a "host" family and support staff.

Purpose/Aims of the Study

The data gathered in the CARE II survey will be used to help inform health services activities at Camp Kusi - with the stated goal of Union Biblica developing a permanent medical clinic at the camp. The hope is that a broader understanding of the populations surrounding the city of Yungay and Camp Kusi, will better enable Union Biblica to develop a comprehensive health services delivery plan that is responsive to the needs of the community.

Instruments

Data was collected using a researcher developed instrument containing 30 items to assess the following: 1) household demographic characteristics; 2) access to basic services (water, sanitation and electricity), 3) health care access and utilization; 4) knowledge and utilization of government and non-governmental health service. Additional information about prenatal care access and use of folk remedies was collected from female participants in the study. This instrument has been used in prior studies of other small communities in Peru, and was slightly modified for applicability to the Yungay community.

Procedures

The study protocol was reviewed and approved by the University Human Subject Protections Institutional Review Board (IRB) prior to any data collection. All study staff received training in non-leading interviewing and training as required by the University IRB. Participants for this descriptive study were recruited from a convenience sample of 300 households in the Yungay community of the Caraz/Ancash Region.

All survey questionnaires were conducted through a research team member who was fluent in Spanish or with the assistance of a trained Spanish-English interpreter. In cases where the survey participant did not have adequate Spanish language understanding to adequately respond to the questions in the survey, Quechan-Spanish-English translation services were

[6] http://www.regionancash.gob.pe/

recruited. An introductory information sheet was read to all potential survey participants through a Spanish language interpreter.

Translators were provided with consent instructions in Spanish vernacular for participants who may not fully understand language in informed consent (due to issues of low literacy among participants). The survey staff asked the individual (through an interpreter) to explain in their own words what they think is being asked of them and what the risks are for participating in the survey questionnaire.

A trained staff member/volunteer from Health Bridges International (HBI) was responsible for reading and reviewing the information sheet with interested individuals in a one-on-one private setting (with interpreter assistance as needed). Any questions will be noted by the study staff and answered in accordance with non-leading interview techniques.

Results

Household Size and Makeup

The sample for the study included 162 households. The average number of members in each household was 4.94 (SD=2.03, range1-11) with an average number of 2.85 (SD= 1.271, range 1-7) adults and 2.05 (SD= 1.489, range 0-8) children in each home. The average age of the children in the home was 8.21 years of age. Data were not collected on the ages of adults in households. Of households participating in the survey, households report more male children in the home than female children. The percentage of children in the home was 49.8% male and 48.1% female, which is consistent with national population level data (CIA World Factbook, 2009). See Table 1 for household demographic information.

Table 1. Average household size

	n	Minimum	Maximum	Mean	Std. Deviation
No in Household	162	1.00	11.00	4.936	22.02912
No Children in Household	291	0	8	2.05	1.489
No of Adults in Household	451	1	8	2.85	1.271
Total	742				

	n	Percent
No of Households with Children	122	75.3%

No of Households without Children	40 24.7%

Source: CARE II Study, (2010)

Educational Attainment

Less than half of parents in the households surveyed have formal education beyond the primary level. Of reporting households, 57.7% of fathers' highest level of education was at the primary level, with 38% of fathers having formal education at the secondary level. The majority of mothers in the household also reported low levels of formal education; 29.9% of mothers have no formal education beyond the primary level, with 11.8% reporting formal education at the secondary level. Interestingly, more mothers reported having university level education than fathers, with 3.9% reporting having had some university education, compared to 2.6% of fathers.

Table 2. Educational levels of parents in households

	Father		**Mother**	
		%		**%**
Primary	41	35.7	38	29.9
Secondary	27	23.4	15	11.8
University	3	2.6	5	3.9
Not Reported	44	38.3	69	54.3
Total	**115**	**100.0**	**127**	**100.0**

Source: CARE II Study, (2010)

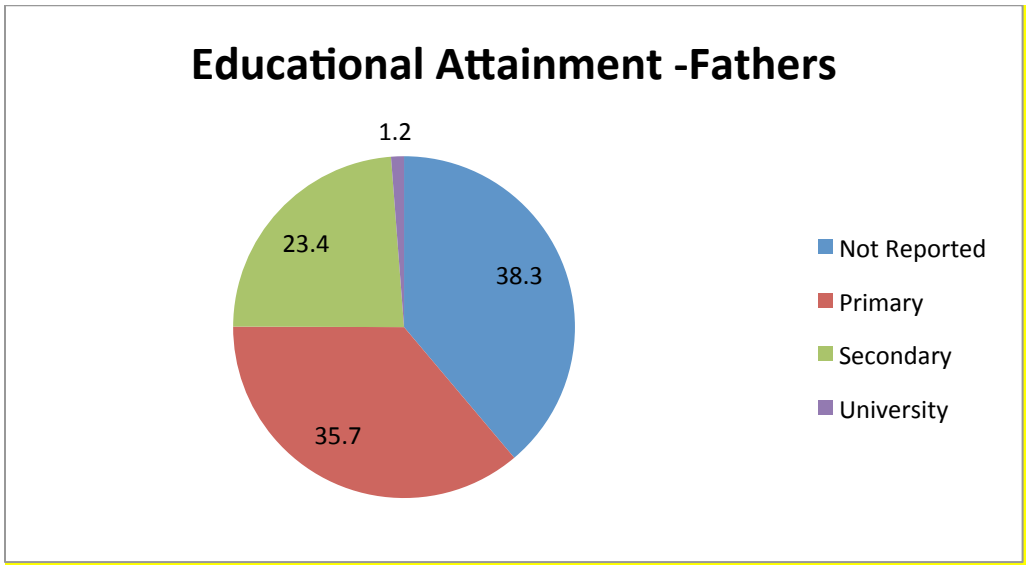

Figure 1. Highest educational level of father in household

Source: CARE II Study, (2010)

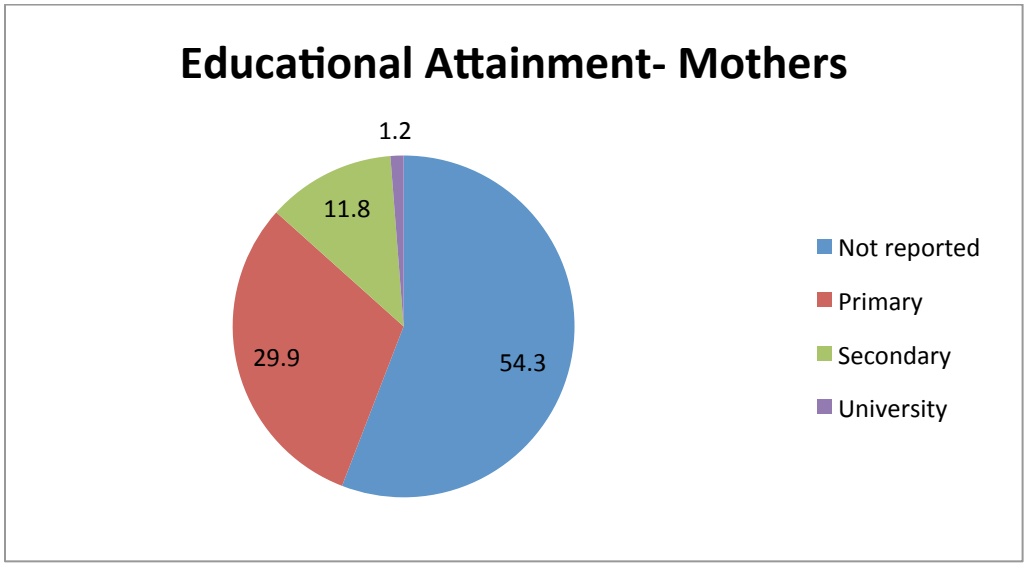

Figure 2. Highest educational level of mother in household

Source: CARE II Study, (2010)

Household Income

According to households participating in the study, there are an average number of 1.44 workers in the home. Average reported income per day was 17.62 Peruvian Soles or less than $7 USD per day worked. While there is continued debate about how to correctly calculate

poverty rates among different countries (Deaton, 2003; David, 2000), the World Bank commonly uses a rate of $1.25USD per day as a measure of poverty in the developing world (World Bank, 2008).

Access to Basic Services

Most households reported having access to electricity in the home (80.2%). A greater percentage (83.3%) of households reported having access to running water in the home (see Table 3). Those without water used a public spigot (9.7%), or other source for water (81.8%).

While public water sources are not treated, 75.9% of respondents indicated that they treat water prior to consumption, with 46.3% indicating that they boil water prior to use. Other methods used to treat water include filtering (1.6%) and bleach (47.2%). (See Table 4).

Table 3. Frequency of access to running water in households

	Frequency	Percent
Yes	135	86.0
No	22	14.0
Total	**157**	**100.0**

Source: CARE II Study, (2010)

Table 4. Methods of water treatment prior to consumption

	Frequency	Percent
Do you treat water before drinking?		
No / Not Reported	39	23.5%
Yes	123	75.9%
Method of Water Treatment**		
Boil	57	46.3

Filter	2	1.6
Bleach	58	47.2
Unknown/Not Reported/Does not Treat	1	.8
Total	**158**	**100%**

**Of those who treat water

Source: CARE II Study, (2010)

Language Spoken in the Home

Roughly equal percentages of households reported speaking Quechan, an indigenous Andean language (49.7%), or Spanish (49.7%) as the primary language used in the home.

Sponsorship/Assistance

Less than half (49.3%) reported that children in the home were receiving sponsorship from either a governmental or private charitable organization. Of those receiving sponsorship, 46.5% received assistance through the Vaso de Leche program. Other respondents reported receiving support from programs including from Seguro Integral de Salud (24.3%),

Table 5. Children receiving sponsorship support

	Frequency	Percent
Children in Home Receiving Sponsorship		
Yes	137	49.3%
No	141	50.7%
Total	278	100.0%
Type of Sponsorship Program		
Vaso de Leche	83	46.5%
Seugro Integral de Salud	63	24.3%

Unknown/Not Reported/Other	3	.02%
Total	**149**	**100%**

*Excludes 38 households with no children

Source: CARE II Study, (2010)

As was found in a prior household study conducted in Arequipa, Peru, average reported income by households would make them eligible for SIS program services. However only 26.8% of the respondents and 24.3% of the children in the household reported receiving these benefits (see Table 6). Of those indicating were children enrolled in the program, the average number of children per household enrolled in SIS was 2.07 (see Table 10).

Table 6. Participation in the Seguro Integral de Salud (SIS) Program

Do you currently receive healthcare benefits from SIS?		
	Frequency	Percent
Yes	42	26.8%
No	114	72.6%
Unknown/Not Reported	6	.6%
Total	**162**	**100.0%**

*Excludes 46 households with no children

Source: CARE II Study, (2010)

Healthcare Utilization Patterns

Of households surveyed, 45.7% of adults reported visiting a clinic or facility to seek healthcare 1-2 times per year. When asked about the frequency in which children in the home go to a clinic or facility for healthcare, 36.3% indicated that their children visit up to 3 times per year; 9.9% indicated a frequency of 4-6 times per year, and 7.3% reported that their children visit a clinic or healthcare provider more than 10 times per year. Despite these findings, lack of access to healthcare is clearly an issue for both children and adults in the community: 12.3% of respondents indicated that their children visited a healthcare provider or clinic only one time a year or less and 28.4% of adults indicated that they visited a clinic once a year or less.

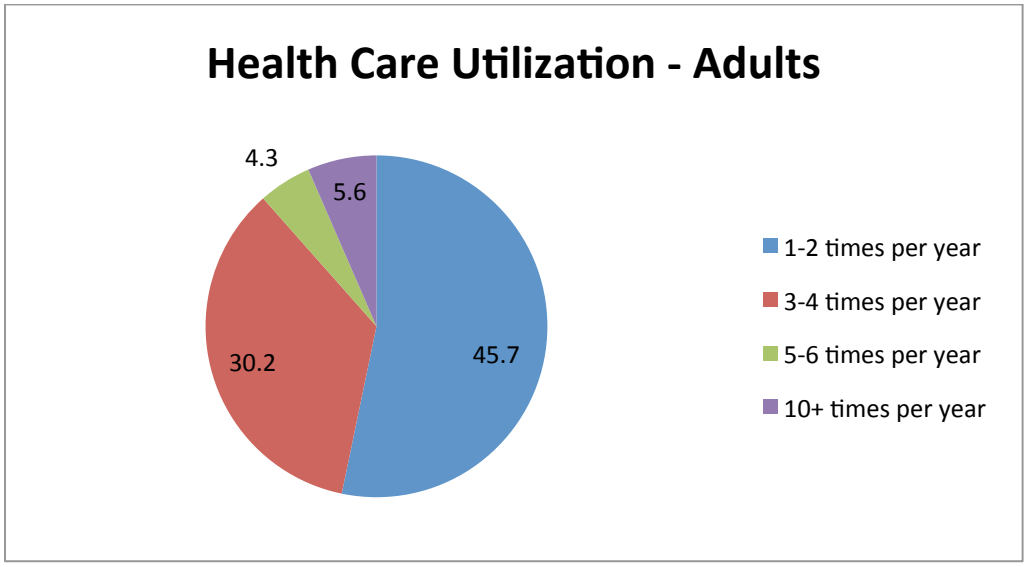

Figure 3. Health Care Utilization-Adults (n=)

Source: CARE II Study, (2010)

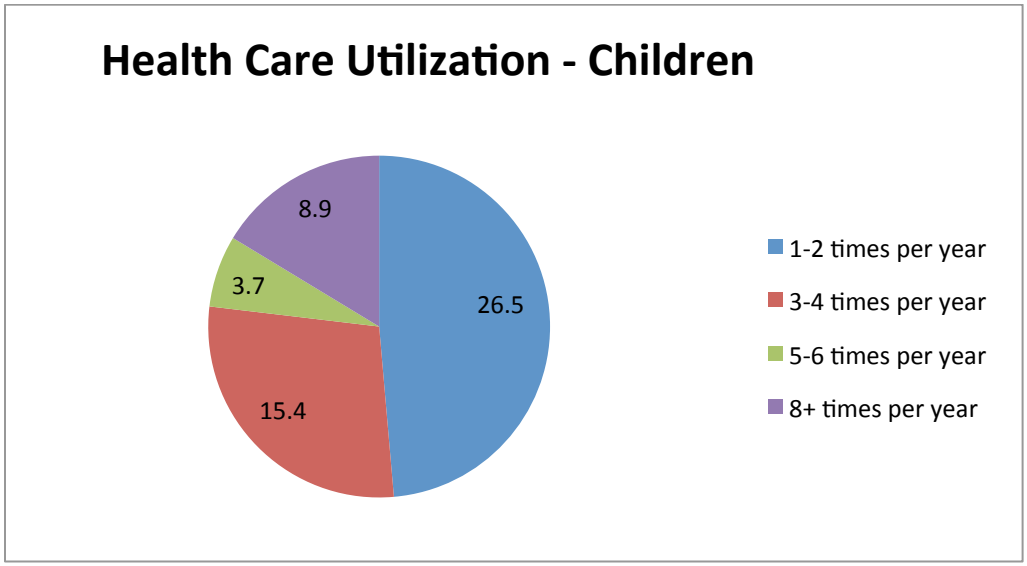

Figure 4. Health Care Utilization-Children (n-=)

Source: CARE II Study, (2010)

Type of Health Clinic Utilization

Types of clinics used by participants included MINSA clinics (70.4%), private clinics (3.1%), Es Salud clinics (9.3%), Pharmacies (6.2%) or other (6.8%). MINSA clinics were most frequently cited as being used for children's healthcare needs (58%) with Es Salud following (8%).

Table 7. Type of clinics attended by participants and children for healthcare

	Adults		**Children**	
Type of Clinic	*N*	%	*N*	%
MINSA	114	70.4	94	58
Private Clinic	5	3.1	5	3.1
Es Salud	15	9.3	13	8
Pharmacy	10	6.2	6	3.7
Other	11	6.8	5	3.1
Missing	7	4.3	39	24.1
Total	**162**	**100.0%**	**162**	**100.0%**

Source: CARE II Study, (2010)

Dental Care Utilization

Among participants responding to the survey, 42.0% indicated that they received dental care; of those that responded, the majority saw the dentist only once a year (52.4%). According to survey respondents 30.2% of children in the communities surveyed receive dental care services, however half (50%) of household respondents indicated that children only visited a dentist once per year. Of those receiving services, 38.6% of children accessed dental care services 2-3 times per year, compared to 32% of adult respondents (see Table 12). The percentage of children accessing dental services 4-6 times per year (11.4%) was roughly triple that of adults (3.2%). Table 12 demonstrates the reported frequency of seeking dental care services by survey participants.

Table 8. Dental care access- Participants and Children in Household

	Adults		Children	
	Frequency	**Percent**	**Frequency**	**Percent**
Receive Dental Care?				
Yes	68	42%	49	30.2%
No	86	53.1%	70	43.2%
Not reported/Missing	8	4.9%	43	26.5%
Total	154	100.0%	162	100.0%
Among Participants Receiving Dental Care, Frequency of Care:				
1x/year or less	40	63.5%	22	50%
2-3x/year	20	31.7%	17	38.6%
4-6x/year	2	3.2%	2	4.6%
7-10x/year	1	.6%	8	3.6%
More than 10x/year	0	0%	0	0%
Frequency not reported/Missing	5	.7%	5	1%
Total	**68**	**100.0%**	**49**	**100.0%**

Source: CARE II Study, (2010)

Emergency Care

When asked about access to emergency or urgent care, 84.6% of respondents indicated that they would know where to go if they were involved in an accident or injury. Of those stating they knew where to get emergency care, the greatest percentage of respondents indicated that they sought emergency healthcare services at a hospital (77.8%), with lesser percentages seeking care at clinics (16.8%).

Table 9. Access to emergency care

	Frequency	Percent
Do you know where to receive urgent or emergent medical care if you are involved in an accident or injury?		
Unknown/Not Reported	15	9.2
No	10	6.2
Yes	137	84.6
Total	**162**	**100**

Source: CARE II Study, (2010)

Prescription Access

Only 19.1% of respondents indicated that they would be able to fill an entire prescription (see Table 10).

Table 10. Prescription Access

	Frequency	Percent
Able to afford to fill prescription		
No	31	19.1%
Yes	120	74.1%
Not Reported	11	6.8%
Total	**162**	**100%**

Source: CARE II Study, (2010)

Barriers to Access

Not surprisingly, barriers to healthcare access are evident in that 69.8% of respondents indicated that they have had a need to see a health care provider and not been able to go to a clinic or hospital (see Table 11). Of these, lack of money was reported as the primary reason for not seeking care, with 60.5% respondents indicating that financial constraints as the primary reason for not seeking care. Other barriers to access identified included transportation

difficulties (.6%), time constraints (3.1%), and distance (.6%). Some respondents cited more than one barrier (see Table 11).

Table 11. Barriers to healthcare access

	Frequency	Percent
Respondents indicating not being able to access health services when needed		
Yes	113	69.8%
No	41	25.3%
Unknown/Not Reported	8	4.9%
Total	162	100.0%
Reasons for not accessing healthcare services		
Money	98	60.5%
No Time	5	3.1%
No Transportation	1	.6%
Distance	1	.6%
Previous unfavorable experience	1	.6%
Not Reported	42	28.4%
Total	**367**	**100.0%**

Source: CARE II Study, (2010)

Prenatal Care

Of the 162 households survey, female respondents (N=92) were given a separate questionnaire after reporting a previous pregnancy. The average number of reported pregnancies was 3.87 (range1-12). Female respondents had an average of 3.43 children (range 1-9). Of these, 82.6% reported having received healthcare during their pregnancy. Most commonly, this was provided at a MINSA facility, (69.6%), followed by a midwife (7.6%). For those women who did not

receive health care, it was due to being unable to afford it (43.8%), a lack of providers being available (12.5%), and no transportation (6.3%) as well as the distance to the clinic (6.3%).

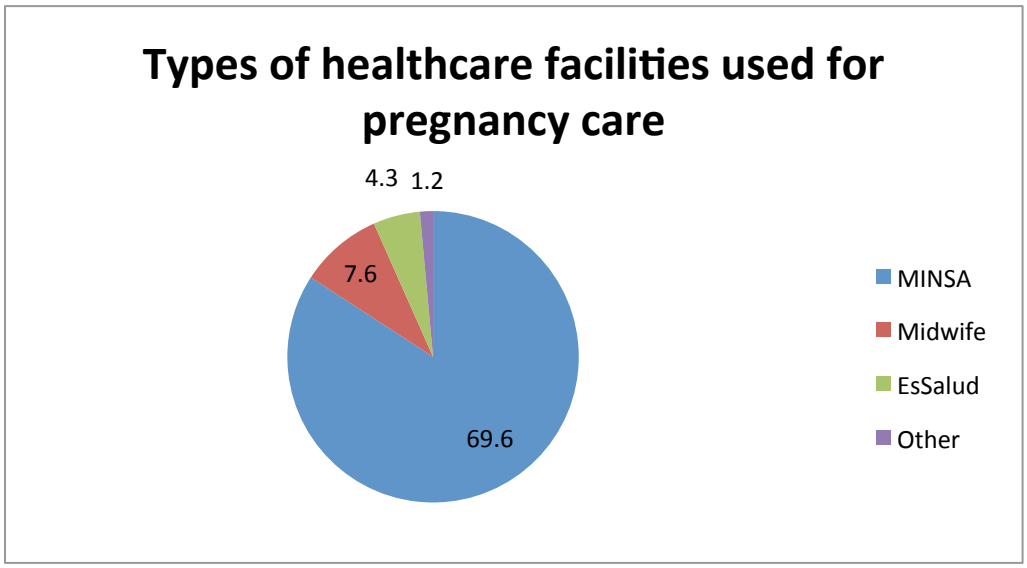

Figure 5. Clinics used during pregnancy

Source: CARE II Study, (2010)

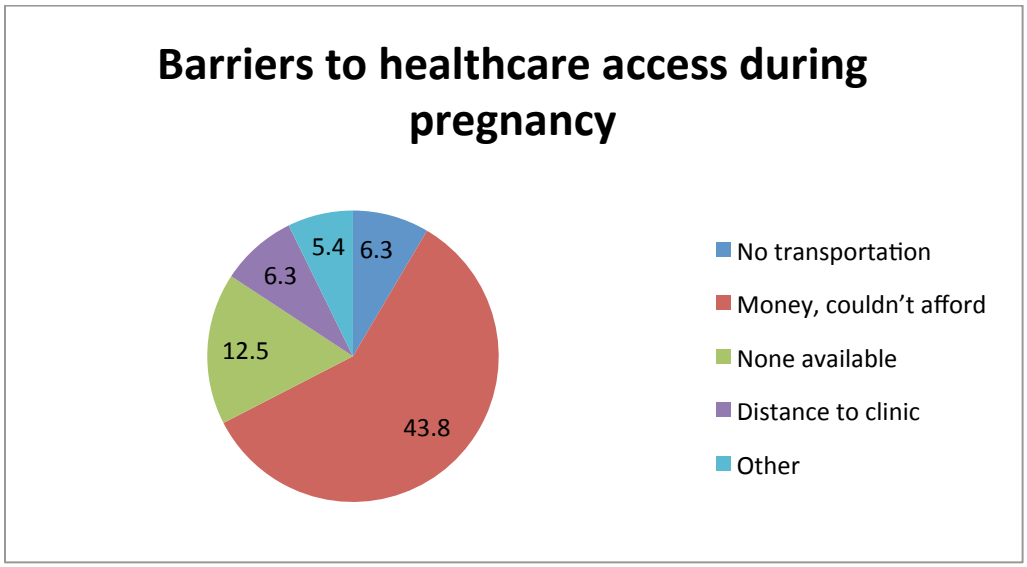

Figure 6. Reasons women were unable to use healthcare during pregnancy

Source: CARE II Study, (2010)

Some of these women (39.6%) did not realize they needed vitamins, while 17% could not afford to purchase them. Other reasons for not taking vitamins included: “dislike taking meds” (7.5%), while 18.9% reported “other”. A large percentage of women (71.7%) reported use of alternative remedies during pregnancy. Remedies most commonly used were herbs (41.3%) followed by medicinal teas (28.3%), healers (2.2%) and coca leaves (5.4%).

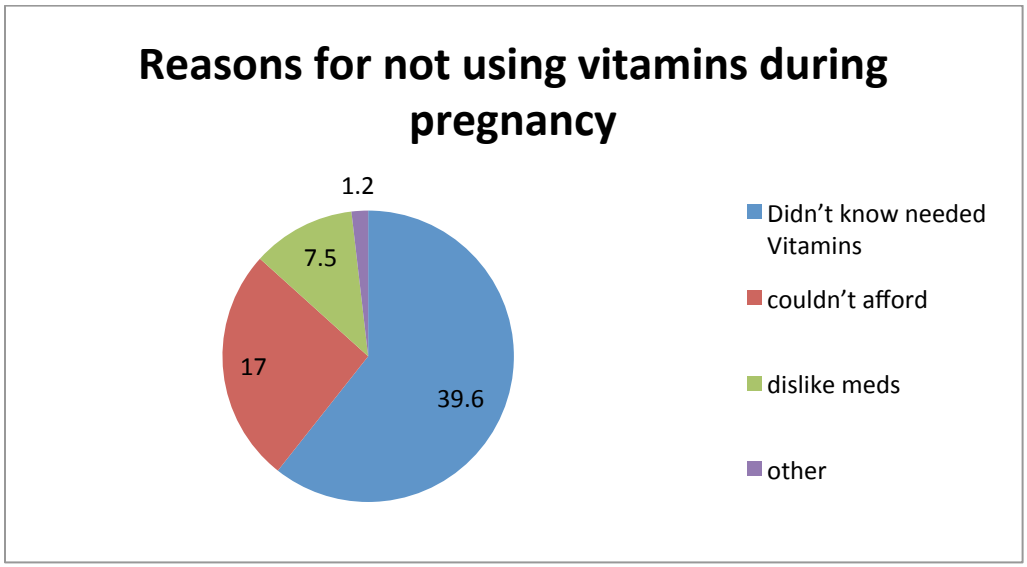

Figure 7. Reasons vitamins weren’t used during pregnancy

Source: CARE II Study, (2010)

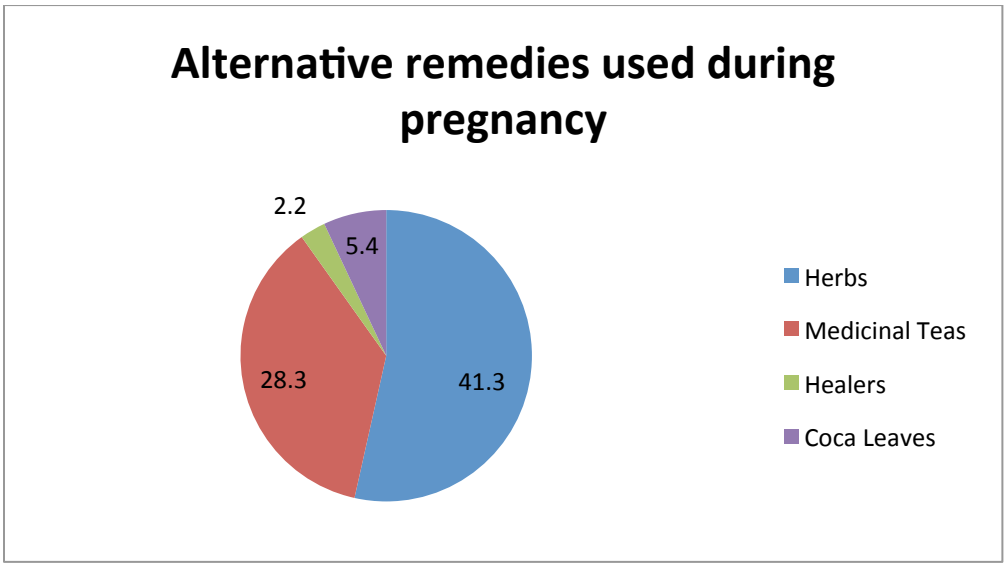

Figure 8. Alternative remedies used during pregnancy

Discussion

The data generated from this community survey provides a broad level of insight into the community surrounding La Casa Girasoles Kusi. Although there is no one reason that respondents described an inability to fully access healthcare services, there are a number of indicators that explore the disconnection between access to care and utilization of care. A number of respondents describe ability to access services, but a low utilization of services. Trust, challenges with transportation, uncertainty surrounding advocating for services and a general misunderstanding around what services are most needed for their healthcare concerns were some of the major indicators drawn from the survey. It remains unclear if a program that worked to train healthcare promoters or advocates in the area surrounding Kusi would advance utilization of health services, but it seems plausible that community connections could be a valuable mechanism for advancing appropriate care utilization and helping to instill greater wellness in the broader community.

Limitations

As with any study, limitations exist to prevent generalization of the study findings. Limitations of this study include limited sample size and use of a convenience sample. Given estimated population data on these communities, sample sizes of each community surveyed in the study are comparatively small, providing limited power and generalizability of the findings. A large number of variables included missing data, also limiting analysis. Survey data collection errors along with limitations in the instrument used to capture data are also likely. Furthermore, possibilities for measurement error also exist, since an interpreter was used to administer the survey. Furthermore, respondents may not completely have understood questions being asked of them, given culturally different conceptualizations of health, health seeking behaviors and health care utilization. These findings cannot be generalized to other communities within the Province of Ancash or other areas of Peru.

In addition to the challenge of generalizability, an obvious limitation for the study is the convenience sampling enlisted in generated a sample of the community. Although convenience sampling providers a ready access to a robust sample size, it does not assure true variability in sampling nor afford a generalizable description of the community stakeholders. A more appropriate mechanism for sampling would have been random selection operationalized by selecting houses in a random fashion from a broad geographic area in close proximity to the Kusi compound. Future research should include random selection for sample size generation.

Conclusions and Recommendations

Findings from this study indicate a need for additional access to basic public health services such as clean water and sewer, as well as primary health care, dental, ophthalmology and obstetric services for individuals living in the area surrounding the Kusi Camp. While access to healthcare and dental services for children is better than for adults in the community, additional services are needed to promote better access to primary healthcare. Given the Peruvian government's initiatives to improve maternal health, expand access to primary health services and reduce infant mortality by encouraging women to access prenatal care services, findings from this study indicate that additional focused health education and advocacy and utilization of providers is needed.

Barriers to healthcare are evident, primarily related to poverty and lack of income. While a majority of respondents indicated that they did not pay for healthcare services, an overwhelming majority indicated costs as a primary barrier to accessing healthcare and other services. Other barriers to be further explored include transportation needs, and lack of knowledge about available support programs and services, especially the SIS program. Additionally, more information is needed as to whether current healthcare programs in the area are functioning at maximum capacity and what resources for these programs may be needed.

According to the 2007 National Census of Indigenous Peoples, 45.4% had no more than a first aid post (Amnesty International, 2009). This also seems to be the case in the area that surrounds Kusi and the community as well, although respondents reported knowing where to go for emergency services. Whether appropriate access to emergency care is available was not addressed in this study. Reported conditions for which community members seek care indicate that when care is sought, it is primarily episodic, and not preventative in nature. Other challenges in the area include lack of education among adults, and the presence of unstable and low wage employment.

Given the low-income status of the members of the community, financial constraints for accessing healthcare services are not surprising. Future studies should further explore the presence of other barriers to healthcare access, especially related to health seeking behaviors, and whether issues of trust are also a barrier to seeking care. It could also be informative to study satellite communities of the towns in the future.

One clear consideration for implementing a program in the area is advancing the knowledge and self-advocacy skills of the people who live in the rural and agrarian areas surrounding Camp Kusi. It remains unclear if a program that worked to train healthcare promoters or advocates in the area surrounding Kusi would advance utilization of health services, but it seems plausible that community connections could be a valuable mechanism for advancing appropriate care utilization and helping to instill greater wellness in the broader community. A team of well trained local advocates who are well connected to area resources and possess a close understanding of the practical challenges facing communities, could build valuable bridges and advance utilization of area health resources. Such a program would require funding from civil or private

sector initiatives, but could represent a clear pathway for health savings by diverting medical emergencies, advancing wellness and promoting more continuity in the connection between patients and service providers.