OPINION LEADERSHIP IN GHANAIAN HEALTH

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ABSTRACT

The African country of Ghana currently struggles with the challenge of combating widespread diseases, increasing healthcare access, and improving healthcare quality through the use of evidence-based medicine. This study aimed at identifying opinion leaders in three demographically different areas in order to use to assist in the issues of access and quality. The first survey conducted required respondents to rank seven categories of healthcare providers by how often they spoke to the provider about their health, from most to least often. 157 respondents were surveyed from members of the community including 51 from urban cities, 65 from rural villages, and 41 from Kpanla, an isolated island. A second survey on self-designation was administered to 61 health care providers to measure their healthcare opinion leadership. There was a correlation between the two surveys. Doctors were the most utilized healthcare provider among community members however in certain communities the access to medical doctors was limited at best. All healthcare provider respondents demonstrated strong opinion leadership in healthcare.

KEYWORDS: Opinion Leadership, Ghana, Healthcare Access, Healthcare Outcomes.

INTRODUCTION

Healthcare systems are extremely complex and present many challenges in areas such as access, cost, and quality. Unfortunately, healthcare is inconsistent around the globe and some countries have substantially better healthcare outcomes than others, especially when comparing industrialized and developing countries. African nations have some of the worst health outcomes in the entire world, and understandably so when facing diseases such as HIV/AIDS, malaria, and ebola without adequate healthcare systems in place. However, Ghana is one African nation that has made purposeful reforms through the development of their healthcare system and seems to be on a path of continuous improvement. One aspect facilitating these improvements is the use of opinion leaders. This study chooses to identify who health opinion leaders are in the eyes of the public, and more importantly if these individuals possess valid characteristics of opinion leaders. This study aims to determine that Ghanaian healthcare professionals are the ideal candidates to use as opinion leaders due to the high prevalence of consultation regarding health issues and individual discussion.

The Ghanaian Healthcare Status and System

The health status of Ghana is statistically impressive when comparing to other developing countries. According to the World Health Organization (WHO) life expectancy was age 60 for men and age 64 for women in 2008; additionally, the mortality rate (per 1,000 births) for children under five-years old was 69:1000 in 2009 and the infant mortality rate was 47:1000 (2010). While these numbers are good for an African country, they are relatively average worldwide; there is still a lot of room for improvement. The United States infant mortality is currently 6:1000 showing that Ghana needs to focus on improving health outcomes to help decrease these numbers. However, WHO notes that Ghana's numbers are steadily improving and statistical trends suggest they will continue to do so. While there are significant variations in health outcomes by region, overall health Ghana suggests the healthcare system seems to be improving health outcomes.

The Ghanaian healthcare system is one of the more stable and efficient healthcare systems in Africa at this time. This is largely in part due to Ghana's two decades of stable democracy and economic growth; Ghana's persistence to continuously improve the health of its citizens makes it a country of interest for many

developed countries with the potential to be a model for other developing African nations seeking to establish substantial healthcare systems. This increase in correlation between Ghana and developed countries provides the opportunity to increase the health of Ghanaians as well. Ghana is currently using a National Health Insurance Scheme (NHIS), similar to that used in the United Kingdom, implemented in 2005. This healthcare system is the result of reformation from the former cash and carry system. This is beneficial to the Ghanaian people by increasing access and addressing cost of healthcare. Instead of paying for health services as they incur, the insurance from the NHIS covers individuals instead. The affordable insurance premium makes it much easier to pay and receive healthcare in comparison to paying a fixed price prior to services; a challenge for much of the population due to low-socioeconomic status. As a result of these changes reorganizing the health care system, health service utilization has become more possible for Ghanaians.

Despite increases in access and affordability, many diseases continue to be substantial burdens to the Ghanaian population. Communicable diseases represent 62% of total disability adjusted life years (DALYs); this means the number of years lived are shortened by preventable diseases (WHO, 2010). Diseases such as HIV/AIDS, malaria, ebola, and tuberculosis are such communicable diseases that are prevalent in this society creating negative health consequences. Utilizing opinion leaders can help reduce the impact of these diseases and potentially increase health outcomes for Ghanaians for

instance removing disease stigma, providing health education, and encouraging compliance to treatment.

Innovation and Adopters
Continuing improvements, such as increased utilization of evidence-based medicine, within a healthcare system such as Ghana is not an instantaneous process, and individuals may be delayed in adopting changes, as occurs with any new innovation. Everett Rogers, a renowned author and professor, analyzed innovation adoption and the response of individuals in a social system. He found (2003) that it is much more efficient to classify members of a system into categories based on their level of innovativeness. Innovativeness is described as the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of society. In Ghana's case, the behavioral change would be adoption of evidence-based medicine promoting the utilization of health services.

Adopter Categories
Rogers (2003) lists the categories as: innovators, early adopters, early majority, late majority, and laggards, and divided the categories along a frequency distribution with a standardized percentage of respondents in each category, as shown in Figure 1. Each section represents the approximate percentage of individuals in each category based on time or how quickly an individual adopts an innovation. The health care providers used in this study represent glimpses of each of Rogers' categories within Ghana's current health system reflecting the current adoption status of the country's health providers.
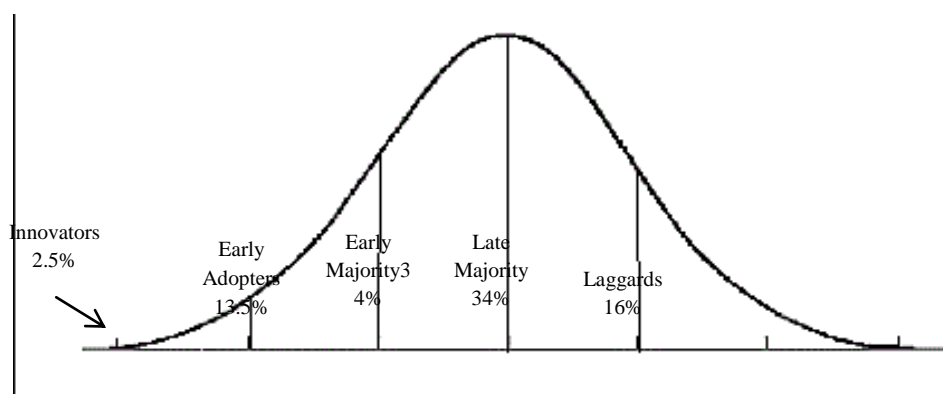

Figure 1. Rogers Adopter Categorization on the Basis of Innovativeness. This figure illustrates the five adopter categories and the approximate percentage of individuals included in each.

Innovators
The innovators are the first group of individuals to adopt an innovation. For Ghana this includes mostly medical doctors, primarily located in urban areas, and the Sanford Health Care Systems' clinics and personnel that have been providing health services upon opening their first clinic in 2012. These two entities are focusing on improving health outcomes through the use of proven medical practices and diagnosis, and have supported evidence-based medicine and health services utilization for some time. However, there is a scarcity of doctors

and an absence of Sanford presence in the rural and isolated areas of Ghana.

Early adopters
The next category for adoption is the early adopters. Rogers (2003) described this group as a very integrated part of the local system, respected by his or her peers, and help trigger the critical mass when they adopt an innovation which gives this group the highest degree of opinion leadership. This level of adoption seems to reflect the current health changes of Ghana most

accurately. Programs and organizations have been initiated to spread evidence-based health information and services to a greater number of people. For instance, HardtHaven Children's Home is a non-profit organization that takes in orphans who either have or their families have been affected by HIV/AIDS. This organization provides these children a safe environment, a chance to grow and learn, and medication that otherwise would be unavailable. They are assuming the role of health care providers due to the fact there is a significant number of infected children who are a product of the disease and only a limited amount of supplies and resources to assist them. By doing this the organization has successfully been able to show that life is not over but can be manageable after diagnosis.

Another program currently underway is Ghana's Community-Based Health Planning and Service (CHPS) (2013) initiative which aims to relocate primary health care services from subdistrict health centers to convenient community locations. The relocation allows more people to access these health services and not settle for inadequate care. Both programs extend into rural areas of Ghana where evidence-based medicine and health information is more limited with hopes of increasing both. The early adopters, such as these two programs and individuals involved, decreases uncertainty about a new idea by adopting it, and then conveying a subjective evaluation of the innovation to near peers through interpersonal networks (Rogers, 2003). In other words, early adopters have the greatest influence on others' successful adoption of innovation.

Early majority, late majority, and laggards

Early majority and late majority are the categories where most people adopt the innovation usually in a quick amount of time once initiated. Ghana does not seem to have reached this point, due to the need for more clinics and health education, so it is hard to tell which group of individuals will be included in these categories. The laggards are the last category and, as a result, the last to adopt an innovation or potentially will not adopt it at all. Within Ghana many individuals in isolated areas, such as islands, part of a traditional tribal/communal setting, or involved with prayer camps are in the category of laggard. Rogers (2003) described this category as traditional, skeptic, and resistant to an innovation. With prayer camps disease and disabilities are often viewed as curses or reparations brought upon individuals due to offenses committed by the individual, or their family, or ancestors. Being operated by Evangelical or Pentecostal Christian religious institutions and thinking of disease in such regard, make prayer camps resistant to evidence based health care delivery and treatment. As a result, transitioning these individuals and institutions to regard health in a scientific viewpoint is slow and inconsistent, meaning each individual or institution responds differently with some more open to the transition than others.

Background of Opinion Leadership

Innovation in healthcare has been initiated in Ghana and adoption has begun in certain parts of the population. Opinion leadership poses a plausible opportunity to use identified individuals to advocate positive health behaviors and act as change agents to improve health outcomes thereby enhancing the adoption process.

Rogers (2003), defined opinion leadership as:
Opinion leadership is the degree to which an individual is able to influence other individuals' attitudes or overt behavior informally in a desired way with relative frequency. This informal leadership is not a function of the individual's formal position even or status within the system. Opinion leadership is earned by the individual's technical competence, social accessibility, and conformity to system's norms. (p.27).

Opinion leaders are ideal individuals to bring about change and influence decision making because they can increase the effects and/or timeliness of a desired change. This is largely due to the fact opinion leaders are considered to be credible and are respected by their peers, which broadens the number of individuals a desired change can reach and successfully affect. Additionally, opinion leaders are much more exposed to external communication, may be of higher social status, and are innovative. As a result impact is greater when change is initiated by an agent with these characteristics and possesses a position of influence, as compared to one who does not.

In the case of healthcare, opinion leaders can bring about change in health through areas such as education, practice, and belief in order to obtain improved health outcomes. Examples of change in health include anything from increasing vaccination of children, to the practice of proper hygiene and sanitation to prevent disease, to the dispelling of health-related myths. While these examples may seem like common sense to individuals living in more developed countries, these practices and knowledge is uncommon in many countries in the rest of the world. The use of opinion leaders can help initiate the change to increase health outcomes thereby increasing life expectancy, infant mortality, and quality of life.

This study identifies the opinion leaders in regards to health with the goal of using these opinion leaders to improve health outcomes in Ghana. This way Ghana can alleviate the burden of communicable diseases such as HIV, Ebola, and Malaria, which are common, yet preventable, diseases among the population. Furthermore, it may increase the utilization of healthcare among Ghanaians due to positive experiences in receiving care, and improved health education and trust. With success, Ghana can be an example for other African countries to model from, using opinion leaders in healthcare for the adoption of evidence-based medicine, alleviating the burden of prevalent diseases, and

improvements to health outcomes thereby increasing the length and quality of life of populations.

Opinion Leadership in Literature

Opinion leadership is being used in Ghana; in a recent study on HIV/AIDS, positive health outcomes suggested that opinion leaders can have a significant impact on an individuals' health. A study, by John Hopkins University's' Boulay, Tweedie, and Fiagbey (2008), showed the effects of a national communication campaign using religious leaders to assist in reducing stigma associated with HIV in Ghana.

Stigma of individuals living with HIV/ AIDS has historically had negative effects on the infected. Stigma results in the loss of jobs, shunning from families and communities, and mental and physical abuse; it is an obstacle to prevention, care, supportive efforts, and may even discourage individuals from being tested or seeking treatment for HIV infection (Boulay, Tweedie, & Fiagbey, 2008) The multiple detriments of stigma reaches far beyond just the individual infected. As a result, reducing stigma is a significant element in the reduction of this healthcare disparity and the study looks to see if opinion leadership can assist in the efforts.

Boulay, Tweedie, and Fiagbey (2008) looked to see whether attitudes towards people living with HIV/AIDS improves following the program activities, and whether the measure changes in attitudes can contribute to the program activities. The study utilized data collection, through the use of surveys before and after the program ran and compares to the general population. Currently, Ghana is significantly less affected by HIV/AIDS when compared to many other African countries. The Ghana National AIDS/STI Control Programme stated, "The most recent surveillance data estimate that 3.1% of adults in Ghana between the ages of 15 and 49 years are currently living with HIV or AIDS" (as cited in Boulay et al., 2008, p. 134). While this is lower than others, the percentage is still significant for the number of individuals with the disease and thus the study is able to yield quality results.

The results of this study shows significant positive effect of opinion leaders to reduce stigma of HIV/AIDS and a growing openness of society.

The Boulay et al. (2008) study finds the following: Seventy-five percent of the respondents in the 2003 survey indicate a willingness to care for an HIV-infected relative in their own household, as compared to 70% in 2001. Fifty-seven percent of the respondents in 2003 also believe that a female teacher infected with HIV should be allowed to continue teaching in school, as compared to 46% of the respondents in 2001. Similar proportions of respondents in both surveys indicate that they [will] want to keep secret a family member's infection with HIV. (p. 136).

This is just one example of how the use of opinion leaders can influence behaviors and decision making. The reduction of stigma subsequently establishes a more accepting society to individuals with the HIV/AIDS virus. This positivity will facilitate and promote proper HIV/AIDS prevention, education, and treatment. Individuals will become more comfortable asking about HIV/AIDS thus raising awareness about the seriousness of the disease. Furthermore, infected individuals on the recipient side of acceptance are more likely to seek treatment and consistently follow a medication regiment. The more people getting tested will help battle the spread of disease while potentially saving numerous years of life of infected persons. Either way many more lives are saved.

The direct and indirect effects of the opinion leaders in this case make health improvements to societal norms in both ways of thinking and behaviors/decisions. The results in Ghana, in just two years, will give hope to many other African countries that are fighting a much tougher battle against HIV/ AIDS epidemic. The use of opinion leaders, in this case religious leaders, can successfully change social norms. The instance of the decrease of negative stigma of HIV/AIDS will create a better health environment for infected individuals, families, and communities. The success of this study suggests the possibility of using opinion leaders in other health settings to generate improved health outcomes.

METHODS

The results of this study came from two surveys that were conducted during a faculty-led program through the University of South Dakota to Ghana, Africa in May, 2014. Dr. Carole South-Winter was the professor of the faculty-led program and collaborated with professors Dr. Lucy Dai and Dr. Jeanette Porter on research into opinion leadership. The aim of the program was to observe aspects of the healthcare of Ghana; including but not limited to: cultural influences on health, health disparities, the overall health system, and variations in health practices. The program encouraged a global health mindset in order to analyze and recognize not only differences but similarities between the healthcare of Ghana and the United States. The data gathered from the two surveys came from a variety of communities that included urban, rural, and an isolated island, Kpanla, located on Lake Volta. As a developing African country, Ghana experiences vast differences in regional development necessitating data collection from various areas in order to reflect all of Ghana accurately. All individuals were surveyed anonymously.

The first survey was distributed to citizens of Ghana in their local communities (see Appendix A for a complete survey example). This survey was used to determine individuals' preferences on whom to discuss health with which provided opinion leaders as identified by citizens. Potential options of the survey included: medical doctor, family member, midwife, shrine or voodoo doctor,

chemical seller, prayer camps, and herbalist/ traditional healer. These options provided a wide spectrum of health providers utilized in Ghana to choose from. Individuals surveyed would rank each option as a numbered list of who he or she would discuss health. The Ghanaian health professionals included on the survey came from the input of Sanford World Clinic administrators and practitioners. Sanford is a large, Midwestern healthcare system currently building medical clinics in Ghana.

The second survey conducted was distributed exclusively to individuals who work in a healthcare setting or hold a position of influence over one's health such as clinics, chemical seller shops, midwives, and voodoo compound leaders (see Appendix B for complete survey). This survey was used to identify opinion leaders through the respondent self-designation approach. According to Andrew Fischer of University of California Berkeley (1975), the respondent self-designation approach is the most practical approach in large-scale, cross-sectional field studies and large action programs which made this approach ideal for this study due to the number of individuals surveyed, multiple locations, and the surveyors' level of experience. In this approach, individuals evaluate questions in regards to themselves as influential about health leading to a change in behavior. The questions were based on Terry Childers' (1986) revised opinion leadership 6-item scale survey's design due to its acceptable internal consistency reliability.

Upon completion the two surveys results were then to be pooled and analyzed for possible correlation. If a correlation existed between these two surveys, it would then suggest who the primary and most influential healthcare opinion leaders are in Ghana.

RESULTS

A total of 157 of the first survey were collected, with 51 from urban communities, 65 from rural communities, and 41 from the isolated island, Kpanla. Obtaining the number of participants and results from these three areas reflected Ghana's population accurately because it included such a variety of individuals from different settings and socioeconomic statuses. The results for the first survey are summarized in the following tables (for complete results of survey see Appendix D):

Table 1: Urban Communities: Health care provider that is spoken to most often (ranked as "1")

Providers	Frequency
Midwife	
Family Member	6
Herbalist (Herbalist or Traditional Healer)	
Shrine or Witch Doctor	
Medical Doctor	23
Prayer Camps	3
Chemical Shop	19

Table 2: Urban Communities: Second popular health care provider (ranked as "2")

Providers	Frequency
Midwife	
Family Member	5
Herbalist (Herbalist or Traditional Healer)	
Shrine or Witch Doctor	
Medical Doctor	16
Prayer Camps	10
Chemical Shop	14

Table 3: Rural Communities: Health care provider that is spoken to most often (ranked as "1")

Providers	Frequency
Midwife	
Family Member	15
Herbalist (Herbalist or Traditional Healer)	
Shrine or Witch Doctor	
Medical Doctor	22
Prayer Camps	9
Chemical Shop	19

Table 4: Rural Communities: Second popular health care provider (ranked as "2")

Providers	Frequency
Midwife	2
Family Member	16
Herbalist (Herbalist or Traditional Healer)	2
Shrine or Witch Doctor	
Medical Doctor	18
Prayer Camps	8
Chemical Shop	12

Table 5: Isolated Village: Health care provider that is spoken to most often (ranked as "1")

Providers	Frequency
Midwife	
Family Member	14
Herbalist (Herbalist or Traditional Healer)	5
Shrine or Witch Doctor	
Medical Doctor	15
Prayer Camps	3
Chemical Shop	4

Table 6: Isolated Village: Second popular health care provider (ranked as "2")

Providers	Frequency
Midwife	
Family Member	3
Herbalist (Herbalist or Traditional Healer)	8
Shrine or Witch Doctor	1
Medical Doctor	13
Prayer Camps	7
Chemical Shop	9

A total of 61 of the second survey were collected from participants in a healthcare setting. Note that these participants were all categorized as a healthcare provider

which was defined as any individual providing health services or health information to others. These individuals were chosen due to the fact they were believed to have considerable influence on others health and healthcare decisions. All individuals surveyed were found to give healthcare advice to others and were asked by others about health often. As a result, these healthcare providers demonstrated self-designation, meaning they were measured as having a significant amount of influence on health fulfilling this aspect of ideal opinion leaders (for complete results of the second survey see Appendix E).

Limitations

This study was limited by the willingness of both community members and healthcare providers to participate in the survey. Additionally, language proved to be an obstacle. According to LaVerie Berry and the Library of Congress Federal Research Division (1995), "More than 100 languages and dialects are spoken in Ghana" (p. 82). As a result, there was a language barrier even with translators, especially in more remote regions such as Kpanla. It seemed distributing surveys further and further away from cities lead to increased variation in language and illiteracy. Lastly, there were limitations to the access of health providers and community members and the willingness of student investigators to engage these individuals to conduct research.

DISCUSSION

The results of the surveys show that there is a correlation between the two and as a result particular healthcare providers are identified as being the most ideal opinion leaders. However, there are significant variations between urban communities, rural communities, and the island, Kpanla. The general trend of the study, when moving from urban to rural to island, shows a steady decline of the selection of medical doctors and chemical shops with a constant increase of family.

Urban Communities

For urban communities, the most prevalent health professionals respondents chose to speak with were medical doctors and chemical sellers. Of the 51 respondents from urban communities, 42, or 82%, chose these two options as their provider spoken to most often. Similarly, medical doctors and chemical sellers were the most chosen options for the second most popular provider. Medical doctors and chemical shops were therefore the most prominent healthcare opinion leaders with medical doctors being the overwhelming majority choice. The reason for this overwhelming popularity is attributed to the high amount of access to these providers in urban communities.

Rural Communities

For rural communities, the most prevalent health professionals respondents chose to speak with were also medical doctors and chemical sellers. Of the 61 respondents from rural communities, 41, or 67%, chose

these two options as their provider spoken to most often; a decline of 15% from urban communities. Additionally family increased from 5 to 15 in the provider spoken to most often section, and replaced chemical shops pairing with medical doctors as the most chosen options for the second most popular provider. While medical doctors and chemical shops are still the most prominent healthcare opinion leaders, there is a strong amount of family utilized as well. The beginning of this shift in preferred providers reflects the change in access to medical doctors. Individuals living in rural communities have limited access to medical doctors and even less to chemical shops thereby explaining the decline in utilization.

Isolated Island, Kpanla

For the isolated island, Kpanla, the most prevalent health professionals respondents chose to speak with were medical doctors and family. Of the 41 respondents from Kpanla, 19, or 46%, chose medical doctors and chemical sellers, a diminishment of 21% from rural communities. Instead 15 spoke to medical doctors and 14 spoke to family most often about their health showing that these two options carry the same value to this community's members, and as a result were the two most prominent healthcare opinion leaders. Another important aspect of Kpanla was the noticeable increase in the use of traditional healthcare providers such as herbalists and shrine/witch doctor signifying the importance traditional medicine has in this type of community.

Variations

As stated before there are significant differences between urban communities, rural communities, and Kpanla which occur for a considerable amount of reasons. For instance, the downward trend of chemical shops is likely attributed to majority of chemical shops being located only in urban cities, and the upward trend of family members is likely attributed to the lack of other health resources/options in rural and isolated areas. With limited access to resources such as chemical shops there is a shift to family members for healthcare services out of necessity.

Similarly, the number of medical doctors is highest in cities decreasing into rural areas where often times a doctor may make only a few days visit a month before moving along to another location; in the case on Kpanla there is no residing doctor at all. In rural areas, individuals may wait a couple weeks before a doctor is even in town, and then wait majority of a day in line to see one. As a result, it is more convenient and less time consuming for these individuals to seek alternative options such as prayer camps, family, and herbalists which have little use in cities. For isolated communities, lengthy boat rides are required before even possibly seeing medical personnel, which may be costly to the community if unsuccessful. For this reason, seeing a medical doctor usually is required in emergency situations only or if an organization is initiating an

outreach project to provide health services. Due to these circumstances, isolated areas experience a wider and more traditional range of healthcare providers mostly based on what is available to them.

Expert and Peer Opinion Leadership
The variations discussed above and who the recognized opinion leaders are in each region have created a difference in how to continue improving healthcare outcomes. As a result of these discrepancies, both expert and peer opinion leadership is present in Ghana requiring two approaches to advance innovation in healthcare for Ghanaian citizens. A study on the use of opinion leadership in improving clinical effectiveness by Louise Locock defines both expert and peer opinion leadership in accordance with their findings but describes the characteristics of both.

The expert opinion leader was seen as a credible authority able to explain the evidence and respond convincingly to challenges and debate, or whose support for the initiative was itself sufficient endorsement. The peer opinion leader was seen as someone who could relate problems to their own working lives and give others confidence that they could do it too. Their influence over colleagues was largely based on a sense of trust, which in turn often derived from the fact that they were perceived to have a close understanding of their colleagues' daily working lives. (Locock, Dopson, Chambers, & Gabbay 2001).

For this study expert opinion leadership was predominantly located in urban communities due to the high selection of medical doctors. Doctors are seen as credible authoritative figures and it is a rarity that their word or suggestions are questioned. However, expert opinion leadership was also located with witch doctors due to their standing in the tribal/communal setting. Many individuals could not speak unless spoken to or asked to speak and many had to receive permission before performing and action such as taking a seat or leaving a room. He was perceived as an "expert" in all things and as a result of his status displays expert opinion leadership.

Peer opinion leadership was more located in the rural and isolated communities due to the high selection of family and the overall use of more diverse resources. Family members are seen as trusting and have a close understanding of their loved ones health. In these two areas people are acquiring healthcare from individuals of relatively the same social and economic status whom are knowledgeable and experienced, but not highly skilled and professionally trained.

Understanding expert and peer opinion leadership, and which health professionals are in each category, is important because it can suggest how fast individuals will accept evidence-based health services and health education/information. Urban communities will likely see improved health outcomes the fastest because they most deal with opinion leaders seen as experts. Medical doctors already practice evidence-based medicine and provide accurate health information so individuals are able to receive reliable healthcare services and have little trouble adopting and following doctors' health advice. As more doctors, and programs involving doctors, extend into rural and isolated communities their positive health outcomes will significantly increase as well.

With rural and especially isolated communities, improved health outcomes will come at a much slower pace. Just because an individual receives health advice from a family member, assuming the health advice is accurate which it may well not be, does not mean that particular individual will place the same level of importance on the advice as he/she would if it had come from someone viewed as an expert. As a result individuals may simply ignore the health advice or information given. In the case of health services those in need may receive services that are sub-par at best, and at times potentially harmful. In many instances the family member sought for health consultation may not know what the problem is and how to alleviate it, leaving their loved one to deal with their ailment for an extended period of time.

The exception to expert opinion leadership leading to more a greater acceptance of evidence-based medicine to improve health outcomes is in the case of the witch-doctor in the tribal/communal setting. While this is no doubt expert opinion leadership through the eyes of the community members, the practices are far from evidence-based. Ailments are often treated by admitting wrong doings that are the source of the problem, and then consuming concoctions or administering ointments prepared by the witch doctor. Individuals seeking healthcare in this type of setting will see little to no improved health outcomes in the long run. However, this poses an interesting opportunity for organizations and program planners. If witch doctors can be shown and convinced of the mass benefits of evidence-based medicine to a point where they promote it in their tribal/communal locations, there is no doubt evidence-based medicine will be fully accepted and utilized by the community of which these doctors serve. These communities require the innovation adoption of only one individual rather than the progression of many because of the position and dominance the witch doctors hold.

CONCLUSION
The healthcare system currently in place in Ghana is, like all countries, not perfect by any means. There continues to be health burdens on Ghanaian society diminishing the quality of life for citizens, in particular, HIV/AIDS and Malaria. However despite the complexity of a national healthcare system and the high prevalence of these diseases, Ghana has taken a symbolic stance on improving the health of its citizens and the healthcare services provided. Ghana is a leader among African

nations in this regard and could potentially be a model for other developing countries to replicate from alleviating the burden of disease in other countries as well. One reason healthcare outcomes have improved in Ghana is due to the rise in use of opinion leaders. With Ghana currently aligning with the early adopter status of evidence-based medicine, opinion leaders can be used to spread and speed up evidence-based medicine use, as well as bring accurate health education to a greater number of individuals. This study aimed to determine who the Ghanaian opinion leaders were through community designation and self-designation, thereby identifying the most influential individuals on health in various communities.

The study conducted found that doctors were the primary opinion leaders in Ghana, especially within urban communities. However, there was a steady rise in family members as being identified as opinion leaders as the study moved into rural and isolated areas. Due to the lack of access to medical doctors in rural and isolated communities, citizens and these areas are forced to seek healthcare from alternative sources. Because of the difference in the opinion leaders between urban and rural and isolated communities, we expect to see a difference in the speed of adoption of evidence-based medicine and health education. This is in part because doctors represent expert opinion leadership while family represent more peer opinion leadership, and experts are typically regarded more experienced than peers. Consequently, citizens are more likely to follow doctors' advice and instruction more strictly than family.

Regardless of the differences between communities, opinion leaders are needed to increase the number of positive health outcomes for Ghanaian citizens. Expanding doctors into more areas of Ghana through outreach programs and clinic construction will result in a rise of positive health outcomes. Educating opinion leaders in rural and isolated areas will increase the accuracy and quality of health services also increasing positive health comes. Collaborating with the identified opinion leaders to improve healthcare access and quality can significantly benefit Ghanaian citizens as the country continues to develop.

APPENDICES

APPENDIX A
Survey Number One
Rank the health care providers in this community with whom you would like to speak to about your health on from 1 to 8, where 1 is most likely and 8 is least likely.
____ Family member
____ Midwife
____ Shrines or Witch Doctor
____ Medical Doctor
____ Chemical shops
____ Herbalist or Traditional Healer
____ Prayer Camps
____Other_____

APPENDIX B
Survey Number Two
1. In general, do you speak to others about health care?
Very often   Never
5   4   3   2   1

2. When you speak to others about health care do you:
Give a great deal of information   Give very little information
5   4   3   2   1

3. During the past six months, how many others have you spoken to about health care?
Spoke to many   Spoke to no one
5   4   3   2   1

4. Compared with your circle of friends, how likely are you to be asked about health care?
Often asked   Never asked
5   4   3   2   1

5. In discussions of health care, which of the following happens most often?
You tell others about health care   Others tell you about health care
5   4   3   2   1

6. Overall, in all of your discussions with others are you:

Often used as a source of advice   Not used as a source of advice

| 5 | 4 | 3 | 2 | 1 |

adapted from Roger's (1961) Opinion Leadership Scale

APPENDIX C
Complete Results of Survey Number One

Urban	Healthcare Providers						
Survey Number	Herbalist or Traditional Healer	Prayer Camps	Family Members	Midwife	Shrine or Witch Doctor	Medical Doctor	Chemical Shop
1	.	3	.	.	.	1	2
2	.	2	.	3	.	1	.
3	.	3	.	.	.	1	2
4	4	5	.	3	.	2	1
5	.	.	.	.	.	.	1
6	.	.	.	.	.	2	1
7	.	.	.	3	.	1	2
8	.	.	.	.	.	1	2
9	.	.	.	.	.	.	1
10	.	.	.	.	.	.	1
11	.	3	.	.	.	1	2
12	.	2	.	.	.	.	1
13	.	2	.	.	.	.	1
14	.	.	.	.	.	2	1
15	.	3	.	.	.	1	2
16	.	3	.	.	.	2	1
17	.	3	.	.	.	1	2
18	.	3	.	.	.	2	1
19	.	.	.	.	.	.	1
20	.	.	.	.	.	.	1
21	.	.	.	.	.	1	2
22	3	4	.	.	.	1	2
23	.	.	.	.	.	1	2
24	.	.	.	.	.	1	2
25	.	.	.	.	.	2	1
26	.	.	.	.	.	2	1
27	.	.	.	.	.	2	1
28	.	.	.	.	.	.	1
29	.	.	.	.	.	1	2
30	.	.	.	.	.	2	1
31	.	.	.	.	.	2	1
32	.	.	.	.	.	2	1
33	.	1	3	.	.	2	.
34	.	2	1	.	.	3	.
35	4	3	2	.	.	1	.
36	4	3	1	.	.	2	.
37	.	3	1	.	.	2	.
38	.	2	.	.	.	1	.
39	.	.	2	.	.	1	.
40	.	1	2	.	.	3	4
41	.	2	.	.	.	1	3
42	.	.	2	.	.	1	3
43	.	3	1	.	.	2	.
44	.	1	2	.	.	3	.
45	.	.	1	.	.	2	.

46	.	2	1	.	.	3	.
47	5	2	3	.	.	1	4
48	.	2	3	.	.	1	.
49	.	2	.	3	.	1	.
50	3	.	.	.	.	1	2
51	3	.	.	.	.	1	2

Rural Survey Number	Healthcare Providers						
	Herbalist or Traditional Healer	Prayer Camps	Family Members	Midwife	Shrine or Witch Doctor	Medical Doctor	Chemical Shop
93	3	5	4	.	.	1	2
94	.	1	2	.	.	3	.
95	.	3	1	.	.	2	.
96	.	3	1	.	.	2	.
97	.	3	1	.	.	2	.
98	4	2	1	.	.	3	.
99	.	3	1	.	.	2	.
100	3	1	2	.	.	4	.
101	.	2	1	.	.	3	.
102	.	.	2	.	.	1	.
103	.	.	2	.	.	1	.
104	.	3	1	.	.	2	.
105	.	2	3	.	.	1	.
106	.	1	2	.	.	3	.
107	.	1	2	.	.	3	.
108	.	3	2	.	.	1	.
109	.	.	2	.	.	1	3
110	.	3	1	.	.	2	.
111	4	3	.	.	.	1	2
112	3	.	.	.	.	2	1
113	3	.	.	.	.	1	2
114	.	1	2	.	.	3	.
115	.	.	2	.	.	1	.
116	.	3	1	.	.	2	.
117	.	3	1	.	.	2	.
118	.	1	2	.	.	3	.
119	.	2	1	.	.	3	4
120	.	2	1	.	.	3	4
121	.	2	1	.	.	4	3
122	.	.	1	.	.	2	.
123	.	1	2	.	.	3	.
124	.	1	2	.	.	3	.
125	.	1	2	.	.	3	.
126	.	3	2	.	.	1	.
127	.	3	2	.	.	1	.
128	.	3	1	.	.	2	.

Survey Number	Herbalist or Traditional Healer	Prayer Camps	Family Members	Midwife	Shrine or Witch Doctor	Medical Doctor	Chemical Shop
129	4	2	.	.	5	1	3
130	2	3	.	.	.	1	4
131	.	.	.	.	.	1	2
132	.	.	.	.	.	.	1
133	.	.	.	.	.	.	1
134	.	.	.	.	.	2	1
135	3	4	.	.	.	1	2
136	.	.	.	.	.	.	1
137	.	.	.	2	.	.	1
138	.	.	.	.	.	2	1
139	.	.	.	3	.	1	2
140	.	.	.	.	.	.	1
141	.	.	.	.	.	.	1
142	.	.	.	.	.	.	1
143	.	.	.	.	.	.	1
144	.	3	.	.	.	1	2
145	2	.	.	.	.	3	1
146	.	.	.	.	.	2	1
147	.	.	.	.	.	2	1
148	.	.	.	.	.	2	1
149	.	2	.	3	.	.	1
150	.	3	.	2	.	.	1
151	.	3	.	.	.	1	2
152	.	.	.	.	.	1	2
153	.	.	.	.	.	2	1
154	.	.	.	.	.	1	2
155	.	3	.	4	.	1	2
156	3	5	.	4	.	1	2
157	4	3	.	.	.	2	1

Kpanla-Remote Isolated Island							
		Healthcare Providers					
Survey Number	Herbalist or Traditional Healer	Prayer Camps	Family Members	Midwife	Shrine or Witch Doctor	Medical Doctor	Chemical Shop
52	1	.	2	.	.	.	3
53	2	.	.	.	.	1	3
54	.	.	1	.	.	2	3
55	3	.	.	.	.	2	1
56	3	.	.	.	.	2	1
57	3	.	.	.	.	2	1
58	1	.	.	.	.	3	2
59	.	.	.	3	.	1	2
60	3	.	.	.	.	1	2
61	2	.	1	.	.	3	.
62	6	5	3	4	7	1	2
63	7	3	4	5	6	1	2
64	2	3	.	.	.	7	1

65	2	5	6	4	.	1	3
66	2	4	.	.	.	1	3
67	2	1	.	.	.	3	4
68	3	5	.	4	6	1	2
69	.	.	.	.	.	1	2
70	.	.	.	.	.	1	.
71	2	2	.	.	.	1	.
72	.	2	1	.	.	3	.
73	.	2	3	.	.	1	.
74	.	3	2	.	.	1	.
75	.	.	3	.	.	1	2
76	.	.	1	.	.	2	3
77	.	2	3	.	.	1	.
78	.	2	1	.	.	3	.
79	1	4	3	.	.	2	.
80	.	3	1	.	.	2	.
81	.	.	1	.	3	2	.
82	.	.	1	.	2	3	.
83	.	3	1	.	.	2	.
84	.	3	1	.	.	2	.
85	.	3	1	.	.	2	.
86	.	1	2	.	.	3	.
87	.	2	1	.	3	.	.
88	3	2	1	.	.	4	.
89	2	4	1	.	.	3	.
90	3	1	.	.	.	2	.
91	1	.	3	.	.	2	.
92	1	3	4	6	.	5	2

APPENDIX D
Complete Results of Survey Number 2

Subject Number	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6
1	3	4	4	5	4	4
2	5	4	4	5	5	4
3	5	3	4	4	5	4
4	5	4	4	5	5	4
5	5	4	5	5	5	5
6	4	5	5	4	4	5
7	4	4	5	3	4	3
8	5	3	5	5	5	5
9	4	3	4	5	4	5
10	4	4	5	4	5	5
11	4	4	5	4	4	5
12	4	4	4	4	3	5

13	4	5	4	4	4	4
14	4	2	5	4	4	5
15	4	3	4	5	5	4
16	4	5	5	4	5	4
17	5	5	5	4	5	4
18	4	3	5	3	4	3
19	3	3	3	2	4	3
20	4	4	5	2	3	5
21	5	5	5	5	5	5
22	5	5	5	4	5	5
23	5	5	4	4	5	5
24	5	5	5	5	5	5
25	5	3	5	4	5	5
26	4	.	5	5	5	4
27	5	5	5	5	5	5
28	5	5	5	5	5	5
29	5	5	5	5	5	5
30	5	5	5	3	3	3
31	5	4	5	4	4	5
32	5	4	5	5	5	5
33	5	5	5	5	5	5
34	4	3	3	4	4	4
35	4	4	.	5	4	5
36	4	3	5	3	3	3
37	5	5	5	5	5	5
38	3	4	5	4	4	4
39	5	5	5	5	5	5
40	5	5	5	5	5	5
41	5	4	4	5	4	5
42	5	5	4	5	4	5
43	4	5	3	4	4	1
44	5	4	4	3	5	5
45	5	4	5	3	5	5
46	5	5	5	5	5	5
47	.	4	4	2	2	5
48	5	4	5	4	5	3
49	5	5	5	4	2	5
50	5	5	5	5	5	5
51	4	4	4	5	4	4
52	4	3	4	5	5	4
53	5	4	4	3	5	4
54	5	5	4	5	5	5
55	5	5	5	5	5	5
56	4	4	5	4	5	5

57	5	5	3	3	5	4
58	4	5	5	4	5	5
59	4	4	3	2	5	3
60	5	5	5	5	5	5
61	5	5	5	4	5	3

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