Health Care in Ghana: A Study of Health Care Opinion Leadership

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Abstract— **Ghana is a developing sub-Saharan country in West Africa and it struggles with delivering health care within the universal health system. The primary barrier to medical care is the lack of access. The government of Ghana subsidizes universal health insurance for all of its citizens, but lacks technology, workforce, and more importantly access to sanitation and clean running water. Access to health care remains a challenge in Ghana, especially in rural areas. In this research, we studied opinion leadership for health care in Ghana using two surveys conducted in May, 2014. Student investigators administered a survey to explore who was identified as the health care opinion leaders by local community members. The respondents were asked to rank seven categories of health care providers by how often they spoke to the health care provider about their health, from most often to least often , including medical doctors, chemical sellers, herbalists, prayer camps, family members, midwives and shrines or voodoo priests. The study surveyed 157 respondents from local community members, including 51 people in cities, 65 people in rural villages and 41 people in Kpanla, a remote isolated island on Lake Volta. Student investigators also gave a self-designating survey to 61 health care providers to measure their health care opinion leadership. The results of these two surveys were consistent. Local community residents preferred to talk to medical doctors about their health care when medical doctors were accessible. Health care providers' responses to the self-designating opinion leadership survey supported their strong opinion leadership for health care.**

Keywords: health care access, opinon leadership, Ghana, chemical sellers, midwives, medical doctors, prayer camps, student research

I. INTRODUCTION

Ghanaians have been insured under the National Health Insurance Scheme since 2005. All citizens are required to enroll into the universal plan which covers most medical procedures. Access and cost, though nominal, for medical care coverage has remained unattainable for most. Medical attention has remained a barrier for many citizens living outside of urban areas. The cost, albeit a nominal one, has had no value to citizens without access to health care. Chemical sellers, traditional healers and voodoo priests have been providing healthcare for hundreds of years. Traditional health care is expensive for those living on less than one U.S. dollar per day. "[I]n the course of treatment, the sick can be asked to provide eggs, fowl or sheep to be used in performing rituals to find the cause of illness or a treatment." [1].

Due to Ghana's national health insurance program, potential sustainability of the Ghanaian health care system exists. In 2011, a United States health organization identified Ghana as a stable and promising site for global outreach expansion and long-term development. The initial commitment was to provide primary care for children and spread to the families later. The health system believes that the political and economic stability of this nation are strong external factors that supported such an expansion.

There has been support for efforts leading towards a permanent health care infrastructure, particularly for Ghana's rural areas, additionally. The health system's structural strategy includes the development of hub, spoke, and micro or polyclinic facilities. Each one has been tailored in accordance with the needs of the community served. Three clinics have been fully operational in Ghana since 2014. There is an ongoing need to deepen the understanding of how Ghanaians perceive health care in terms of access and services at the same time. Because modern medical clinics are relatively new to rural Ghanaians, the diffusion and acceptance of innovative changes has required education. Distribution of medical clinics in Ghana has constituted a social change because it altered the structure and function of the traditional health care system in this country [2]. Successful diffusion of medical clinics in Ghana has required intentional two-way dialogue over time with Ghanaians.

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Health care opinion leadership exploration is one way to understand how innovations have been successfully diffused in Ghana. Opinion leadership is defined as the degree to which an individual(s) is able to influence others in a desire way, either through technical competence, social accessibility, or system norm conformity [2]. Understanding who has acted as the health care opinion leaders in Ghana will benefit health care organizations that seek to diffuse health care innovations in that nation. This study intended to find out who were identified as health care opinion leaders by Ghanaians, and to adopt a self-designating leadership scale proposed by Rogers and Cartano in 1962 [3] to assess the opinion leadership of health care providers in Ghana. The study has proven to be timely given the changes of Ghana's national health insurance and the introduction of new health care models into the market.

II. Opinion Leadersip in HealthCare

A. Opinion Leadership

An opinion leader is defined as someone who has influence over others' attitudes and behaviors, constituting an informal leadership not necessarily reflective of a person's position or status [2]. Such leaders have earned the status as opinion leaders by maintaining technical competence, social accessibility, and/or conformity to norms [2, 4]. Opinion leaders are characterized as either monomorphic or polymorphic. One could find persons acting as opinion leaders on a single topic (monomorphic), such as a specific health policy. Others act as opinion leaders on a variety of topics (polymorphic), such as social justice issues. The degree to which an individual has seen someone engaging in polymorphic opinion leadership depends on a variety of factors, such as system norms and the extent of the interpersonal network [2]. Opinion leaders are important to the support or opposition of innovation efforts [2, 4, 5]. Hence it becomes crucial that change agents understand identified opinion leaders within a societal culture or organization culture.

Opinion leaders are those individuals at the center of interpersonal communication networks. They have exerted great influence in the system [2, 4, 6]. Because of their strong influence in the system, they are effective in promoting the diffusion of innovations. They act as role models and encourage behavior change toward trial and adoption of innovations. They provide information and advise others about the innovations [2, 4, 6, 7]. Many opinion leaders are altruistic and desire the satisfaction to help others reap the benefits of innovation [2]. They have strong interpersonal networks, which is indicative of a concern for others and the need to maintain healthy social relationships.

B. Characteristics of Opinion Leaders

Opinion leaders differ from others in a variety of ways. First of all, opinion leaders have greater exposure to external communication, such as radio, television and newspapers. Mass media communication is important to developing knowledge and helps reach large audiences quickly in order to spread information and influence attitudes [2, 4, 6, 8]. Opinion leaders are considered more cosmopolite. They seek communication channels outside of the social system or organization [2, 4, 6, 7]. Change agents pursue change to influence. Thus they have contact with opinion leaders in order to leverage these leaders and gain support for diffusion activities [2, 4].

Secondly, opinion leaders have the characteristic of accessibility. When a change agent needs to spread an innovation, he will turn to opinion leaders with extensive networks, especially interpersonal networks. Those face-to-face exchanges are important in addressing barriers, perceptions and clarification of information [2, 4, 6]. Thirdly, opinion leaders generally have higher socioeconomic status. Potential adopters of innovation look to persons perceived to be more technically competent when they want information and advice about the innovation [2].

Opinion leaders are more innovative than other members in their society. They are early adopters of innovation. Therefore they have built further credibility with their peers as a "go to" person for questions or concerns about an innovation. The innovativeness has a relationship to system norms at the same time [2]. If system norms favor change, then the opinion leaders will be more innovative. If the system norms do not favor change, opinion leaders will not be deemed as innovative [2]. This distinction is noticeably important. If a societal culture has a strong conventional norm, the innovators and opinion leaders will be in separate categories. Opinion leaders who are innovative can be viewed as suspicious in societies where conventional norms are strongly encouraged. Change agents need to be aware of distinguishing innovators and opinion leaders in this situation in order to appropriately identify the right individuals as opinion leaders.

C. Opinion Leadership in Health Care

Opinion leadership has been studied in health care to better understand its utilization in the diffusion process of health interventions and health programming, advancing the support for the application of diffusion theory in health care [9]. With regard to addressing the problems of sexually transmitted diseases (STD), studies show that the use of opinion leaders in prevention education has assisted in decreasing STD infections [10, 11, 12]. The use of opinion leaders has also revealed the benefits in promoting breast cancer screenings in minority populations [13], improvements in health behaviors in

workplaces [14], decreases in cesarean delivery rates [15], and enhancements in infection control compliance [16]. Specific to the studies of opinion leadership in Africa, researchers have found empirical support for the use of opinion leaders in effective HIV prevention and treatment [17, 18, 19], family planning [20], prevention and control of malaria [21], laboratory quality [22], and evidence-based obstetrics [23]. The ways in which opinion leaders have been identified is critical to understanding the impact of opinion leadership in health care [2].

D. Student Engagement in Research

The purpose of student participation in our study was to understand health care opinion leadership and what kind of health care providers the Ghanians preferred. Health and health care are socially constructed. Culture can affect the definition of health and people's health care behavior in a society. Out study attempted to explore and understand the patterns of Ghanaians' health care behavior. Students in our study trip were immersed in the culture, in presence as well as socially, to gather local knowledge in Ghana. Surveys from local communities pointed who were opinion leaders for health care in Ghana [24].

American health care systems have been planting their flag around the world — Cleveland Clinic, Mayo Clinic, Johns Hopkins, and Sanford, a network located at 126 cities in nine states. The initiatives of Sanford stemmed from T. Denny Sanford's $400 million gift in 2007, which changed the Sioux Valley health system into Sanford and established a goal of having the newly defined network expand globally. Sanford Health which has supported the University of South Dakota students for decades provided a platform for students to participate in research regarding opinion leadership during a faculty led program in May, 2014 [24].

Students demonstrated engagement through research techniques and fundamentals as student investigators on a faculty-led program to Ghana, Africa. The experience as student investigators provided not only a deeper understanding of health care research and the study topic of opinion leadership in health care but also a richer knowledge of cultural competency and global health care delivery including non-traditional providers. A broader definition of quality and access was acquired as students interacted with a variety of community members, leaders, and health professionals. Students developed a deeper appreciation for a premier health care organization that they were familiar with and felt honored to be supported for the research conducted during their program in Ghana in May 2014 [24].

Participation in real research that has made a difference and changed health care outcomes became a powerful educational tool and life lesson for the students. The benefits of research engagement are application of knowledge and growth in intelligence [25]. Students participating in this research experienced more academic rigor, active participation, collaborative activities, and application of knowledge than through traditional courses.

III. Health and Health Care in Ghana

A. Health Care in Ghana

Western medicine, which was introduced by Christian missionaries, did not occur in Ghana until the 19th century. Previously village healers and clerics were the primary health care givers, offering herbal remedies. The Medical Department was formed in the 1880s. This early health system included a Laboratory Branch for research, a Medical Branch of hospitals and clinics, and the Sanitary Branch for public health.

Ghana has had independence from Great Britain for 55 years and a promising outlook with a growing economy and stable government. Yet focus on health care in Ghana has not kept pace. Deficient funding (by both the government and citizens) for preventable and infectious diseases has resulted in a continual cycle of poverty and disease. The number one cause of death in Ghana has been reported as malaria followed by HIV/AIDS, diarrheal diseases, lower respiratory infections, and prenatal conditions. In 2010, these five diseases accounted for 50% of all deaths in Ghana and 70% of mortality for those under the age of 14 [26]. Malaria was hyper-endemic in Ghana, responsible for 9% of overall mortality and 22% of childhood mortality under the age of five in 2006 [27].

Access has been a challenge in Ghana, particularly for rural residents. The Ministry of Health reported that less than half of rural households had access to a medical facility, compared with nearly all of urban households. The Ministry of Health defined access as within an hour's travel to a public or private facility through any means of transportation. The majority of those with access received their health care from public, non-profit entities. These facilities served only 10% of the population, most of whom were the higher income households.

Ghanaians have utilized a variety of providers for health care needs, including chemical sellers, herbalists or traditional healers, shrines or voodoo/fetish priests, prayer camps, midwives, medical doctors, and family members**.** The preferred types of health care providers vary geographically throughout the country based on access and education. Medical care itself is subsidized, but additional uncovered costs have made health care unaffordable to many, such as losing wages from time that was spent traveling to and waiting in health care

facilities and pharmacies. Medical providers are significantly less accessible in rural and remote regions than other types of health care options.

B. Chemical Sellers

One of the first options for Ghanaians to treat health conditions has been chemical sellers and chemical shops. The Ghanaians who are not able to access formally trained health care providers rely on licensed chemical sellers (LCS) for treatment and many unlicensed sellers as well. Generally LCSs have not had formal training but have operated small-scale, family-run drug stores. The Ghana Pharmacy Council has authorized licensed chemical sellers to dispense non-prescription drugs only. Yet the lack of regulation has resulted in most common pharmaceuticals being sold at licensed chemical sellers as well as unlicensed sellers. Licensed chemical sellers are required to apply annually for an operating license. The criteria are simply that applicants should have proof of completion of senior secondary school or its equivalent, and have no criminal record. There have been approximately 8,000 chemical shops registered with the Pharmacy Council, and an estimated 2,000 unregistered chemical shops.

According to Felix D. Yellu, Chief Pharmacist, Ghana Ministry of Health, there are over 1,000 pharmacy outlets, both retail and wholesale, and about 8,000 chemical retail sellers. Some 75% of the retail pharmacies are located in Accra, Kumasi, and Secondi Takoradi, which altogether represent less than 30% of the population, indicating a very small coverage of the country by retail pharmacies. In other words, there has been heavy dependence on chemical sellers by rural communities. In over 60% of the cases, rural chemical sellers have been first-line providers of medicines [28]. Chemical sellers are structured or regulated to provide the quality, accessibility, and affordability that patients required, especially in rural areas. Licensed chemical sellers often lack standardization and education. While being an indispensable part of the health care system in Ghana, they present a threat to public health through the provision of incorrect, expired, substandard, or counterfeit drugs.

C. Herbalists or Traditional Healers

The popularity of traditional healers has been noted since the earliest research of health care in Ghana. Herbalists have remained a fixture today. Ghanaians have credited causes of numerous illnesses to social and spiritual reasons for thousands of years. There has remained a greater reliance on traditional healing in northern Ghana due to continued belief in spiritual origins of illness. People in the North have traditionally been less educated and have lived greater distances from hospitals.

Read and Doku [29] reviewed medical health research in Ghana. A 1973 study indicated that almost all (97%) persons with a mental health diagnosis sought other treatments before accessing medical treatment in Ghana. Among these patients, 64% consulted herbalists, 26% talked to prayer camps, and 2% turned to fetishes or voodoo priests for help. A more recent study in 2004 analyzed the use of traditional healers and pastors by 303 new patients attending state and private psychiatric services in Kumasi, Ghana. This study found that a smaller proportion of patients had consulted other forms of treatment, and a greater number reported consulting a pastor (43 patients (14.2%)) than a traditional healer (18 patients (5.9%)). This study reported an increasing use of medical facilities, including 14 patients visiting a family doctor, 6 patients visiting another psychiatric hospital and nearly a quarter of the 303 patients (24.4%) previously attending another mental health center in Kumasi. These studies all in common recommended collaborations with traditional and faith healers in the treatment of illness.

D. Shrines or Voodoo/Fetish Priests

Voodoo originated in the African kingdoms of Fon and Kongo at least 6,000 years ago. The word "voodoo" from Fon, has been defined as "sacred", "spirit" or "deity". Other words used in Voodoo practice today have also been derived from the Fon and Kongo languages, such as mambo or manbo, a Voodoo Priestess. This word is a combination of the Fon word for "mother" or "magical charm" and the Kongo word for "healer". The Fon Kingdom, now southern Benin, has been a region referred to as the "cradle of Voodoo"[30].

Voodoo has been recognized as an official religion in Benin, where as many as 60% of the population are followers. Approximately 30 million people in Togo, Ghana and Benin practice Voodoo today [30]. Voodoo has been represented in each village in Ghana by at least one priest or priestesses that contacted a supreme being and sought advice from their ancestors on behalf of the community. Fetishes, rituals, and alcohol have been used by the priest to communicate with the ancestors during ceremonies. Ghanaian priests have also been guided by small hairy spirits that walk backwards and are not seen by ordinary people, this type of spirit has been unique to voodoo practiced in Ghana.

Priests have often become community leaders, providing guidance and settling disputes. Priests and priestesses with their attendants have dedicated their work to ministering to others and providing medical care in the form of folk medicine. There has been an influx of voodoo priests from the Republic of Benin into the Volta Region of Ghana.

E. Prayer Camps

It is estimated that about 10% of the population in Ghana (about 2.5 million people) are disabled [31]. Disabilities, real or perceived disorders, are usually attributed to curses or justified as punishments for offenses committed by the afflicted individuals or their ancestors. The stigma and past transgression theory have led thousands of families to abandon relatives in "prayer camps", or spiritual healing centers, to "heal". Prayer camps were established privately by Christian religious institutions rooted in the Evangelical or Pentecostal denominations. These camps were created for prayer, counseling, and spiritual healing services.

Managed by self-proclaimed prophets who receive no medical training, these camps have been operating completely outside of government control. The afflicted are isolated from communities physically, emotionally, and psychologically and held in restraints in the prayer camps for weeks, months, years and even entire lifetimes. Once being admitted, residents of prayer camps may only be able to leave when the "prophet" deems them healed. More than 25% of Ghanaians have been identified as members of the charismatic and Pentecostal denominations, typically associated with prayer camps.

F. Midwives

Midwives have been important providers of reproductive health care in Ghana. The midwives have been a quickly aging profession throughout the nation. Seventy-nine percent of midwives are over 45-years old. The combined challenges of an aging midwife population and insufficient salaries have resulted in few incentives to practice in rural areas. There have been twice as many midwives as physicians. Midwives practice throughout the country while physicians congregate in large cities. Two-thirds of the midwives practice in the public sector in facilities of the Ghana Health Service (GHS). Midwives have been providing the majority of antenatal, delivery, and newborn and postpartum care, including emergency obstetric care, especially in rural areas. Midwives in Ghana have been critical health care providers in communities and have provided additional services in family planning, post abortion care, treatment and prevention of sexually transmitted infections (STIs), nutrition and breastfeeding counseling, and child health services.

IV. RESEARCH METHODS

This study in Ghana had two research objectives. One purpose was to identify which types of health care providers were viewed as healthcare opinion leaders by Ghanaians. The other was to assess the degree to which health care providers exerted their opinion leadership. Two surveys were conducted by faculty and student investigators during a faculty-led program to study health care in Ghana, Africa in May, 2014.

Our student investigators surveyed local community members in various settings including remote areas of medical outreach, cities, and rural villages. Community members were asked to rank their health care providers by how often they speak to them about health issues from most often to least often, including family member, midwife, shrines/voodoo doctor, medical doctor, chemical seller, herbalist/traditional healer, and prayer camp. The survey questionnaire was distributed to the community members from three broad groups, urban, rural, and remote areas. We intended to identify which type(s) health care providers were considered by the local community members as their health care opinion leaders who influenced their choices in health care. The inclusion of varied regions would help indicate whether the access to public health care would affect people's choice of health care opinion leaders.

To measure the health care providers' opinion leadership, we adopted a self-designating leadership scale that was developed by Rogers and Cartano in 1962 [3]. This scale consisted of six items. We adjusted these six items to our needs of measuring health care providers' health care opinion leadership. The six items that we asked in our survey were in table 2. We gave this survey to diverse health care providers in Ghana who we talked to during our faculty-led program, including physicians, clinicians, herbalists, Voodoos and Midwives. This composition almost covered all types of health care providers in Ghana except chemical sellers. Chemical sellers were supposed to sell non-prescription drugs only and not to give any medical practice, which kept them from answering our survey.

V. RESEARCH FINDINGS

A total of 157 of community members responded to our survey. Our survey sample was composed of 51 respondents from cities, 65 respondents from rural villages and 41 respondents from Kpanla, a remote isolated island.

The selection of community members was determined through research of medical treatment options in Ghana and input from a large healthcare system that has pledged to build medical clinics in Ghana. The study was limited by the local people's willingness to answer this survey, investigators' access to community members, and availability of translators in remote regions. The respondents in remote and rural areas required a translator and reader, who traveled with the group as a guide. Many community members in these areas, especially women, were illiterate and spoke a local dialect only.

We found striking differences between cities, rural villages and the isolated island in which the local people identified as a health care opinion leader. In cities, 82% of the respondents chose to speak to medical doctors or chemical sellers most often about their health. Out of the 51 respondents in cities, 23 chose medical doctors and 19 chose chemical sellers to talk about their health most often. That is, medical doctors and chemical sellers were the most prevalent health care opinion leaders for the Ghanaians in cities. Medical doctors, in particular, were used most often by most respondents in cities. Thirty-nine out of the total 51 respondents in cities (76.5%) chose to speak to medical doctors most often or second most often.

Medical doctors and chemical sellers were also used most often for health care opinions by the respondents in rural villages. Yet the percentage that chose a medical doctor or chemical seller declined to 63% (82% in cities). Out of the 61 respondents in rural villages, 22 spoke to medical doctors and 19 spoke to chemical sellers most often about their health. Family members were another prevalent resource for health care opinions. As many respondents chose to speak to family members about their health most often or second most often as chemical sellers (31 respondents for each). Forty out of the total 65 respondents in rural villages (61.5%) reported speaking to medical doctors about their health most often or second most often. The percentage of those that used chemical sellers and family members were both 47.7%.

On Kpanla (the isolated island), only 46% of the respondents reported speaking to medical doctors or chemical sellers most often for health care opinions. Though medical doctors were still the one who the respondents on the island spoke to most often, family members took the place of chemical sellers to be the second popular resource for health care opinions. Out of the 41 respondents on the island, 15 spoke to medical doctors and 14 spoke to family members most often about their health. In other words, medical doctors and family members were the two most popular health care opinion leaders on the isolated island. A noticeable distinction between residents on Kpanla and people living in cities and rural village's choice of health care opinion leaders was that residents on the isolated island were more likely to choose traditional healthcare providers as their healthcare opinion leaders, including herbalists and witch doctors.

Another difference in health care opinion leaders between cities, rural villages, and the isolated island was that community members in rural villages and on the isolated island used more diverse resources for health care opinions, compared to people in cities. In cities, no respondent reported to talk to herbalists, midwives, or witch doctors about their health care. Family members acted as an important health care opinion leader in rural areas and on the isolated island. Compared to the rural areas, people on the isolated island used even more diverse health care opinion leaders. Besides medical doctors, herbalists, prayer camps, family members, and chemical sellers all played an important role on providing health care opinions.

A noticeable distinction between residents on Kpanla and people living in cities and rural villages was that residents on the isolated island were more likely to choose traditional health care providers as their health care opinion leaders, including herbalists and witch doctors. Fourteen out of the 41 surveyed respondents on that island (34%) said they talked to herbalists or witch doctors about their health most often or second most often. The respondents in cities did not talk to traditional health care providers about their health at all, like herbalists, midwives and witch doctors. Only 6% of the respondents in rural villages chose herbalists or midwives as their second option to receive health care opinion.

TABLE 1: THE HEALTHCARE PROVIDER THAT THE RESPONDENTS TALK TO MOST OFTEN

		Doctor	Chemical Shop	Family Member	Prayer Camp	Herba-list	Mid-wife	Shrine/ Voodoo
Cities	1	23	19	6	3	0	0	0
	2	16	14	5	10	0	0	0
Rural Area	1	22	19	15	9	0	0	0
	2	18	12	16	8	2	2	0
Kpanla	1	15	4	14	3	5	0	0
	2	13	9	3	9	8	0	1

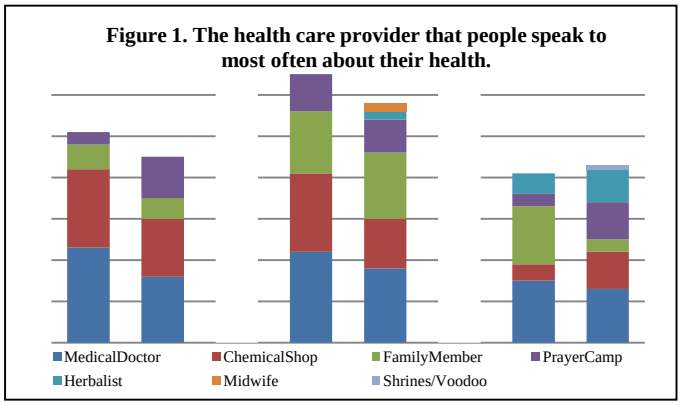

Figure 1. The health care provider that people speak to most often about their health.

We surveyed 61 health care providers. Three of them did not answer all six questions. We only included the 58 respondents who answered all six items in our frequency distribution table (table 2). The internal reliability of this scale measured by the Cronbach-Alpha coefficient was 0.71. This coefficient supported the reliability of our measure to assess the health care providers' opinion leadership. The mean scores of all six

items were all above 4.0/5.0, varying from 4.21 to 4.55. For each item in this self-designating opinion leadership scale, 5.0 meant the strongest opinion leadership. In four items (Item #1, #3, #5 and #6), over 50% of the respondents indicated the strongest opinion leadership. The median scores of the other two items (Item #2 and #4) were both 4.5, which meant the majority of the respondents performed fairly strong opinion leadership. These scores indicated that the health care provider respondents in our survey acted as health care opinion leaders. They gave health care advice to others and were asked about health care very often.

TABLE 2: THE FREQUENCY OF SCORES FOR EACH ITEM IN THE HEALTH CARE OPINION LEADERSHIP SCALE

Items	Scores					Mean
1. Do you speak to others about health care?	5 (Very often)	4	3	2	1 (Never)	
	35	22	3	0	0	4.55
2. When you speak to others about health care, do you	5 (Given a great deal of information)	4	3	2	1 (Give very little information)	
	27	22	10	1	0	4.26
3. During the past six months, how many people have you spoken to about health care?	5 (Many)	4	3	2	1 (Nobody)	
	38	17	5	0	0	4.55
4. Compared with you circle of friends, how likely are you to be asked about health care?	5 (Often asked)	4	3	2	1 (Never asked)	
	28	21	8	4	0	4.21
5. In discussions of health care, which of the following happens most often?	5 (You tell others about healthcare)	4	3	2	1 (Others tell you about healthcare)	
	38	17	4	2	0	4.53
6. Overall, in all of you discussions with others, are you	5 (Often used as a source of advice)	4	3	2	1 (Never used as a source of advice)	
	37	15	8	0	1	4.41

We calculated the average mean score of all six items in this opinion leadership scale as a respondent's opinion leadership score. The perfect score of this opinion leadership scale was 5.0. Table 3 listed the descriptive statistics. The health care provider respondents' opinion leadership scores varied from 3.0 to 5.0. Half of the respondents reported a score 4.5, which could be considered as an excellent opinion leadership. Less than a quarter of the respondents reported a score blow 4.0. These statistics of the health care providers' opinion leadership score showed that the majority of health care providers exerted strong an opinion leadership in the field of health care.

TABLE 3: The DESCRIPTIVE STATISTICS OF THE HEALTH CARE OPINION LEADERSHIP SCORE

N	Mean	Median	Standard Deviation	25% Percentile	75% Percentile
58	4.42	4.5	0.48	4.17	4.83

VI. CONCLUSION

Because of its commitment to improving access to health care services to all Ghanaians and introducing national insurance and reimbursement schemes for services, Ghana has had the opportunity to act as a leader both regionally and internationally by championing the importance of providing comprehensive healthcare to combat maternal and infant mortality and provide primary care to children and families. Information regarding the perceived opinion leaders in health care assists in an understanding of the degree to which a health care opinion leader could influence health care choices of community residents and ultimately improve health outcomes.

Our research found that Ghanaian people in cities were more likely to speak to medical doctors about their health than people in rural villages and remote isolated areas did. People in the latter two areas, especially on the isolated island used more diverse resources for health care opinions. These regional differences could be attributed to the availability of and access to medical doctors. Our survey results showed that people preferred to consider medical doctors as their health care opinion leaders when they had access similar to those in cities. People were willing to accept medical doctors as their health care opinion leaders. More clinics, polyclinics, and medical care facilities, therefore, should be developed to facilitate the local people accessing medical doctors. Identification and education of the opinion leaders in the community could be used to improve health care quality. More convenient access to medical care will

make the national health insurance coverage become more valuable.

To overcome the shortage of access to medical care, developments of other strategies are warranted in order to meet Ghanaian's needs and preferences. For example, mobile medical clinics could be considered as a method for reaching Ghanaians in rural and isolated areas, which have been used for many years in Zimbabwe [32] to distribute medical training and medical supplies, and also in the Philippines for family planning purposes [33]. Davey, Davey, and Singh [34] conducted a meta-analysis of the literature on mobile health approaches and found that they increased access and quality to health care in rural populations with great potential for developing countries. Likewise, e-health (broadly defined as electronic methods of public health and health care) has had the potential to advance access to health care in Ghana given the goal of cabling Africa by 2015. Such goals are to make mobile telephones and other technology innovations possible, despite long implementation phases [35]. Utilizing the benefits of opinion leaders can assist in advancing implementations of new ideas.

Finally, collaborations between developed and developing countries offer ongoing opportunities in strengthening access to health care and health improvements through the use of medical doctors. Collaboration among education, business, and government entities in developed and developing countries can move innovations forward and address health disparities, workforce shortages, and access issues. For example, a number of linkages exist in education between the UK and Ghana to educate physicians. More exchange is needed and becomes possible with government stability in Ghana [36]. Increasing the supply of formally educated providers can assist in positively advancing Ghana's strategic health goals. Its national insurance coverage also creates opportunities for organizations in developed countries to help the Ghanaian government create a credible health system focusing on access, quality, and safety while addressing the economic needs of Ghanaians and their concerns with health care costs at the same time. Choice in health care providers exists, which can be predicated upon the perceptions, cultures, and personal beliefs of Ghanaians utilizing the services [37]. It reinforces the need to better understand the health care opinion leaders of Ghanaians in various geographic regions of the country. Identification of opinion leaders by community members is as important to health care delivery improvement as self-identification of the opinion leaders themselves. Acknowledgement and support of the various health care providers through partnerships is the next step.

REFERENCES

[1] W. K. Asenso-Okyere, "Health financing health care in Ghana", World Health Forum, vol. 16, pp. 87, 1995.

[2] E. M. Rogers, Diffusions of innovations, 5th ed. New York, NY: Free Press, 2003.

[3] E. M. Rogers and D. G. Cartano, "Methods of measuring opinion leadership", Public Opinon Quarterly, vol. 26(3), pp. 435-441, doi: 10.1086/267118, 1962.

[4] J. H. Myers and T. S. Robertson, "Dimensions of opinion leadership", Journal of Marketing Research, vol. 9(1), pp. 41-46, 1972.

[5] W. W. Burke, Organization change: theory and practice, 3rd ed. Thousand Oaks, CA: Sage Publications 2011.

[6] B. Lyons and K. Henderson, "Opinon Leadership in a computer-mediated environment", Journal of Consumer Behavior, vol 4(5), pp. 319-329, doi: 10.1002/cb.22, 2011.

[7] V. Raghupathi, O. Arazy, N. Kumar, and B. Shapira, "Opinon leadership, non-work-related advice in a work setting", Journal of Electronic Commerce Research, vol. 10(4), pp. 220-234, 2009.

[8] G. Weimann, D. H. Tustin, D. Van Vuuren, and J. P. R. Joubert, "Looking for opinion leaders: Traditional vs. modern measures in traditional societies", International Journal of Public Opinion Research, vol. 19(2), pp. 173-190, 2007.

[9] J. W. Dearing, "Improving the state of health programming by using diffusion theory", Journal of Health Communication, vol. 9, pp. 21-36, doi: 10.1080/10810730490271505, 2004.

[10] D. C. Celentano, K. C. Bond, C. M. Lyles, S. Eiumtrakul, V. F.-L. Go, C. Beyrer, C. Chiangmai, K. E. Nelson, C. Khamboonruang and C. Vaddhanaphuti, "Preventive intervention to reduce sexually transmitted infections: A field trial in the royal Thai army", Archives of Internal Medicince, vol. 160, pp. 535-540, 2000. .

[11] J. A. Kelly, T. G. Heckman, L. Y. Stevenson, P. N. Williams, T. Ertl, R. B. Hays, N. A. Leonard, L. O'Donnell, M. A. Terry, E. D. Sogolow and M. Spink Neumann, "Transfer of research-based HIV prevention interventions to community service providers: Fidelity and adaptation", AIDS Education and Prevention, vol. 12 (Supplement A), pp. 87-98, 2000.

[12] R. L. Miller, D. Klotz, and H. M. Eckholdt, "HIV prevention with male prostitutes and patrons of hustler bars: Replication of an HIV prevention intervention", American Journal of Community Psychology, Vol. 26(1), pp. 97-131, 1998.

[13] Earp, J. L., Eng, E., O'Malley, M. S., Altpeter, M., Rauscher, G., Mayne, L., Matthews, H. F., Lynch, K. S., & Gaquish, B. (2002). "Increasing the use of mammography among older, rural African American women: Results from a community trial." *American Journal of Public Health, 92*(4), 646-654.

[14] M. Campbell, I. Tessaro, B. DeVellis, S. Benedict, K. Kelsey, L. Belton, and A. Sanhueza, "Effects of a tailored health promotion program for female blue-collar workers: health works for women", Preventive Medicine, vol. 34(3), pp. 313, doi:10.1006/pmed.2001.0988, 2002.

[15] R. L. Kravitz, D. Krackhardt, J. Melnikow, C. E. Franz, W. M. Gilbert, A. Zach, D. A. Paterniti, and P. S. Romano, "Networked for change? Identifying obstetric opinion leaders and assessing their opinions on caesarean delivery", Social Science & Medicine, vol. 57, pp. 2423-2434, 2003.

[16] W. H. Seto, T. Y. Ching, K. Y. Yuen, Y. B. Chu and W. L Seto, "The enhancement of infection control in-service education by ward opinion leaders", American Journal of Infection Control, vol. 19, pp. 86-91, 1991.

[17] M. Boulay, L. Tweedie and E. Fiagbe, "The effectiveness of a national communication campaign using religious leaders to reduce HIV-related stigma in Ghana", African Journal of AIDS Research (AJAR), vol. 7(1), pp. 133-141, doi:10.2989/AJAR.2008.7.1.13.441, 2008.

[18] C. Mathews, S. Guttmacher, A. Hani, I. Antonetti and A. Flisher, "The identification of student opinion leaders for an HIV prevention programme in Cape Town high schools", International Quarterly Of Community Health Education, vol. 20(4), pp.369-379, 2000.

[19] R. A. Smith, S. T. Lanza, "Testing theoretical network classes and HIV-related correlates with latent class analysis", AIDS Care, vol. 23(10), pp. 1274-1281, doi:10.1080/09540121.2011.555747, 2011.

[20] M. R. Heath, S. J. Bekker and P. A. Human Sciences Research Council, "Identification of opinion leaders in public affairs, educational matters and family planning in the township of Atteridgeville", Research Finding Comm N-142, 1986.

[21] A. Menaca, C. Pell, L. Manda-Taylor, S. Chatio, N. A. Afrah, F. Were, and R. Pool, "Local illness concepts and their relevance for the prevention and control of malaria during pregnancy in Ghana, Kenya and Malawi: Findings from a comparative qualitative study", Malaria Journal, vol. 12(1), pp. 1-14, doi:10.1186/1475-2875-12-257, 2013.

[22] G. Cooper, N. DeJonge, S. Ehrmeyer, J. Yundt-Pacheco, R. Jansen, C. Ricós and M. Plebani, "Collective opinion paper on findings of the 2010 convocation of experts on laboratory quality", Clinical Chemistry & Laboratory Medicine, vol. 49(5), pp. 793-802, doi:10.1515/CCLM.2011.149, 2011.

[23] K. Daniels and S. Lewin, "The growth of a culture of evidence-based obstetrics in South Africa: A qualitative case study", Reproductive Health, vol. 8(1), pp. 5-13, doi:10.1186/1742-4755-8-5, 2011.

[24] C. South-Winter, W. Dai and J. Porter, "A Study of Healthcare Opinion Leadership in Ghana", Conference Proceeding of The 4th Annual Global Healthcare Conference, 2015.

[25] R. Kozma, "The material features of multiple representations and their cognitive and social affordances for science understanding", Learning and Instruction, vol. 13(2), pp. 205-226, doi:10.1016/S0959-4752(02)00021-X 2003.

[26] The Centers for Disease Control and Prevention. "CDC in Ghana Factsheet",http://www.cdc.gov/globalhealth/countries/ghana/pdf/ghana-2013.pdf.

[27] N. De La Cruz**,** B. Crookston**,** K. Dearden**,** B. Gray**, N.** Ivins**,** S. Alder, and R. Davis, **"**Who sleeps under bednets in Ghana? A doer/non-doer analysis of malaria prevention behaviours", Malaria Journal, vol. 5(61), pp. 1-10, doi: :10.1186/1475-2875-5-61, 2006.

[28] J. Sergre and J. Tran, "Improving Access to Medicines for All", Management Sciences for Health, http://www.msh.org/news_room/news_releases/7june05.html, 2008.

[29] U. M. Read and V. CK. Doku, "Mental health research in Ghana: A literature review", Ghana Med Journal, vol.46(2 Suppl), pmc id: 3645145, 2012.

[30] C. Neuenhofer, GHANA, Fetish Priests, Witch Camps and Funeral Rites (ebook), 2012.

[31] P. Carlucci, "The blind side: disability and development in Ghana", Think Afric Press, http://thinkafricapress.com/ghana/disability-poverty-and-development, January 3, 2012.

[32] J. L. Jacobson, "Zimbabwe's birth force", World Watch, vol. 4(4), pp. 5-6, 1991.

[33] J. B. Dumindin, "Family planning as preventive health measure", Initiatives In Population, vol. 8(3), pp. 36-41, 1986.

[34] S. Davey, A. Davey and J. Singh, "Mobile-health approach: A critical look on its capacity to augment health system of developing countries", Indian Journal of Community Medicine, vol. 39(3), pp. 178-182, doi:http://dx.doi.org/10.4103/0970-0218.137160, 2014.

[35] A. Brooks, T. A. Smith, T. A., D. de Savigny and C. Lengeler, "Implementing new health interventions in developing countries: why do we lose a decade or more?", BMC Public Health, vol. 12(1), pp. 683-699. doi:10.1186/1471-2458-12-683, 2012.

[36] J. B. Eastwood, J. Plange-Rhule, V. Parry and S. Tomlinson, "Medical collaborations between developed and developing countries", QJM: An Internationa Journal of Medicine, vol. 94(11), pp. 637-41, 2001.

[37] R. M. Gyasi, C. M. Mensah and L. P. Siaw, "Predictors of traditional medicines utilisation in the ghanaian health care practice: Interrogating the ashanti situation", Journal of Community Health, vol. 40(2), pp. 314-325, doi:http://dx.doi.org/10.1007/s10900-014-9937-4, 2015.

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