

CRITICAL REASONS AND RATIONALE FOR COLLABORATING BETWEEN
HEALTHCARE LEADERS AND NON-HEALTHCARE LEADERS IN
DETERMINING POPULATION HEALTH PROGRAMMING

Glennis Gaines

A dissertation submitted in partial fulfillment of
the requirements for the degree of
Doctor of Health Administration

School of Health Sciences

Central Michigan University
Mount Pleasant, Michigan
November 2011

Accepted by the Faculty of the College of Graduate Studies,
Central Michigan University, in partial fulfillment of
the requirements for the doctoral degree

Dissertation Committee:

Steven Berkshire, Ed.D.

Committee Chair

Stephen Harris, Ph.D.

Faculty Member

Sharon Albert-Honore, Ph.D.

Faculty Member

September 28, 2011

Date of Defense

Roger Coles, Ed.D.

Dean
College of Graduate Studies

March 26, 2012

Approved by the
College of Graduate Studies

This is dedicated to my mother, my hero, for all of her love, support, and prayers throughout this project. She taught me to trust God and that with Him all things are possible.

ACKNOWLEDGMENTS

I wish to recognize my family for supporting and motivating me to complete this project and for celebrating every step toward completion with me. Thanks to my husband, Varnell, whom I love with all of my heart. He never doubted that I would accomplish the many goals I set for myself. Thanks to my children, Varnell II, Joidaz, and Jartress for their patience. Thanks to my mother for her faith and continuous prayers that kept me focused and believing, even when things seemed impossible. Thanks to my siblings, Edna, Helen, George, Melvin, and Jesse for their unwavering support and prayers during this journey. Thanks to all of my cohorts who continually provided genuine support and encouragement. Thanks to the Doctor of Health in Administration program and its commitment to excellence and high expectations for its students.

I am particularly indebted to my doctoral committee, Dr. Steven Berkshire, Dr. Stephen Harris, and Dr. Sharon Albert-Honore, for their expertise and willingness to “stay in the climb” while providing the necessary support to ensure the completion of this work. Each individual provided invaluable contributions, knowledge, and expertise to this research endeavor. Finally, I wish to acknowledge the support of Central Michigan University in producing this work.

I will forever be indebted to all of you. God Bless.

ABSTRACT

CRITICAL REASONS AND RATIONALE FOR COLLABORATING BETWEEN HEALTHCARE LEADERS AND NON-HEALTHCARE LEADERS IN DETERMINING POPULATION HEALTH PROGRAMMING

by Glennis Gaines

The health industry is being pressured by the United States government to cut costs and improve the outcomes of care for defined population groups. Achieving these goals appears to be critical to the survival of healthcare organizations. According to experts in leadership, collaboration is vitally important to enhance populations' health status and to address health disparities that continually plague our countries and economies. This research study examined the critical reasons and rationale that are important for effective collaboration among healthcare and non-healthcare leaders in addressing population health issues. This study gauged attitude of leaders regarding their willingness to work in collaboratives to effectively address health disparities.

The researcher determined that the regional population of Augusta, Georgia, was representative of healthcare organization executives and physicians in larger metropolitan areas. A survey was administered to determine providers' attitudes toward collaboratives. Demographic information were gathered, including gender, age, racial grouping, practice specialty for physicians, hospital size, and whether the healthcare provider was located in a rural or metropolitan area.

Research consistently shows that certain factors must be addressed to help solve population health issues. Rather than the traditional treatment of disease by doctors and hospitals, this new trend of population health management examines the environment, heredity, lifestyles, and the medical care and delivery system to teach methods of disease

prevention. Hence, collaborative efforts are needed among healthcare leaders and community members or non-healthcare leaders.

This study was deemed important to the field of population health primarily because healthcare administration leaders need to collaborate with other medical care providers, social agencies, and non-healthcare leaders to improve population health and achieve healthcare goals. The study will be beneficial as researchers continue to gauge attitudes that healthcare providers have about the importance of collaboration as a means to affect patient care, income, and positively impact productivity, within population health culture. Furthermore, this study provided invaluable statistics that are helpful for healthcare leaders who want to improve population health and understand what forces shape and determine the health of a population.

TABLE OF CONTENTS

LIST OF TABLES	IX
LIST OF FIGURES	X
LIST OF ABBREVIATIONS	XII
CHAPTER	
I. INTRODUCTION	1
Determinants of Health	2
Partners for Medical Care and for Health	4
Leadership Skills for Partnering.....	6
Statement of the Problem.....	6
Background on the Dissertation.....	7
Purpose of the Study	10
Research Question.....	10
Significance of Study.....	10
Definition of Terms.....	13
II. REVIEW OF LITERATURE	15
Improving Public Health in a Managed Care System.....	15
Delivery System.....	19
Collaboration and Community.....	20
A Need for Collaboration.....	22
Models for Population Health	26
Not-So-Strange Bedfellows: Public Health and Managed Care	27
Approaches to Public Health and Prevention	28
Two Approaches to Care.....	29
The Dynamics of Collaboration.....	30
Interdisciplinary Collaboration: Old Ideas with New Urgency	32
Critical Access Hospitals	34
What Leaders Do.....	36
III. METHODOLOGY.....	38
Settings and Participants	40
Research Design.....	41
Limitations	42
Analytical Model Used	42
Summary	43
IV. DATA ANALYSIS AND RESULTS.....	44
Research Question.....	45
Statistical Evaluation of the Sample Randomness.....	48

Sample Randomness: Comparison of Profession between Respondents and Non-Respondents	49
Sample Randomness: Comparison of Profession between Respondents and Non-Respondents with HCOE excluded.	50
Sample Randomness: Comparison of Age Groups between Respondents and Non-Respondents	52
Sample Randomness: Comparison of Gender between Respondents and Non-Respondents	53
Sample Randomness: Comparison of Race between Respondents and Non-Respondents	54
Sample Randomness: Comparison of Demographics between Respondents and Non-Respondents	56
Test for Randomness: Attribute Summary.....	57
Statistical Analysis of Questionnaire Data.....	57
ANOM by Demographic Category for Q11 and Q14.....	62
Implications of Statistical Findings.....	68
V. DISCUSSION AND CONCLUSION.....	75
Conclusion	80
Study Limitations and Recommendations	85
APPENDICES	88
REFERENCES.....	92

LIST OF TABLES

TABLE	PAGE
1. Codes for the Five-Point Likert Scale.....	41
2. Survey Questions	46
3. Profession Types Included in Analysis	49
4. Profession Contingency Table	50
5. Test for Randomness of Returned Surveys	50
6. Test for Randomness of Returned Surveys by Profession	51
7. Test for Randomness of Returned Surveys by Age	53
8. Test for Randomness of Returned Surveys by Gender	54
9. Test for Randomness of Returned Surveys by Race	55
10. Test for Randomness of Returned Surveys by Demographic Region.....	56
11. Percentage for Non-Respondents versus Respondents (Non-Significant).....	57
12. Percentage for Non-Respondents versus Respondents (Significant).....	57
13. Contingency Table based on Survey Responses Based on the Simplified Likert Score.....	60
14. Analysis of Means for Proportions Summary	61

LIST OF FIGURES

FIGURE	PAGE
1. Mosaic Plot of Profession By Type	51
2. Mosaic Plot of Profession by Type	52
3. Mosaic Plot of Profession of Age by Type	53
4. Mosaic Plot of Gender By Type.....	54
5. Mosaic Plot of Race By Type	55
6. Mosaic Plot of Demographics By Type	56
7. Mosaic Plot of Simplified Likert Scale with “Neither” included	58
8. Mosaic Plot of Simplified Likert Scale By Survey Question	59
9. Analysis of Means for Proportions: Responses for All Questions (Q1-Q14).....	59
10. Analysis of Means for Proportion	62
11. Simplified Likert Score By Age for Q11 Analysis of Means for Proportions.....	63
12. Simplified Likert Score By Age for Q14 Analysis of Means for Proportions.....	63
13. Simplified Likert Score By Demographic for Q11 Analysis of Means for Proportions.....	64
14. Simplified Likert Score By Demographics for Q14 Analysis of Means for Proportions.....	64
15. Simplified Likert Score By Gender for Q11 Analysis of Means for Proportions.....	65
16. Simplified Likert Score By Gender for Q14 Analysis of Means for Proportions.....	65
17. Simplified Likert Score By Profession for Q14 Analysis of Means for Proportions.....	66
18. Simplified Likert Score By Profession for Q11 Analysis of Means for Proportions.....	67

19. Simplified Likert Score By Race for Q11 Analysis of Means for Proportions 67
20. Simplified Likert Score By Race for Q14 Analysis of Means for Proportions 68

LIST OF ABBREVIATIONS

- ACRH: Alaska Center for Rural Health
- CAH: Critical Access Hospital
- CAHS: Checkerboard Area Health System
- CHC: Community Health Centers
- CMS: Center for Medicaid and Medicare
- CRMC: Cross Road Medical Center
- CSF: Critical Success Factor
- EMS: Emergency Medical Services
- FESC: Frontier Extended Stay Clinic
- HCFA: Healthcare Financing Administration
- HRSA: Department of Health Resources and Services Administration
- LSR: Limited Service Rural Hospital
- MAF: Montana Medical Assistance Facility
- ORHP: Office of Rural Health Policy
- PAR: Participatory Action Research

CHAPTER I

INTRODUCTION

Hartley (2004) defined population health as an approach that focuses on interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well being of the populations. (p. 380)

In addition, population health is defined as “the health outcomes of a group of individuals” or “an approach to health that aims to improve the health of an entire population” (Minnesota e-Health, 2008, p. 1).

Before Hartley provided his definition, Blum (1974, 1983) asserted the same conceptualization, naming four major factors such as the environment in which people live, their lifestyles, their genetic endowment, and their medical care management and delivery system. Blum’s work gives healthcare leaders a framework to follow as they strive to improve the health of their respective populations. Blum (1983) also suggested that healthcare leaders and administrators must be willing to team up with non-healthcare organizations to address how to improve those factors, and to educate members of their communities.

Today’s chief executive officers should know how to collaborate beyond their hospital walls. She asserts that developing relationships with medical and nursing schools, governmental authorities, and key organizations and businesses in the community will be increasingly important. Chief executive officers should be open to building alliances with

other providers, as well---yes, even with competitors. These partnerships may be the best way to provide services to the greatest number of people in the community. Stowell (2010) defined collaboration as the vehicle for sharing responsibility and combining knowledge, creativity, and experience of others. Establishing collaborative relationships is not always natural or easy. The most robust definition—and the most commonly cited—may be found in Barbara Gray’s *Collaborating: Finding Common Ground for Multiparty Problems*. She describes collaboration as “a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible” (Gray, 1989, p. 5).

Fundamentally, collaboration starts with the leaders because they must be willing to let go of some control because the benefits can be significant. Effective leaders know how to collaborate when it isn’t easy. Leaders who believe in the power of collaboration can produce extraordinary results, while maintaining a healthy team environment (Blair, Irie, & Moore, 2002).

Determinants of Health

The environment is considered to be the most powerful force and therefore the most immediate concern in underdeveloped countries, it is imperative that healthcare leaders focus more attention on this critical area. These environmental factors include adequate housing, unpolluted air, clean water, sanitary waste disposal, recreational facilities, places to socialize, safe working conditions, and the absence of war and crime (Blum, 1983). In developed countries, people’s lifestyles and behaviors are especially important for improving health. For example, reducing the use of tobacco and alcohol,

avoiding accidental injury, obtaining adequate nutrition and exercise, managing stress, and enhancing emotional development can all significantly improve a population's health.

Heredity is another important factor, but until very recently, little could be done to change these factors to improve health. Recent research, however, has discovered ways to improve health with advances in genetics and the human genome project, the basic biological endowment of a population can be altered if society allows it. Additionally, "heredity (genetic inheritance) seems to play an important part because genetic factors are transmitted from one generation to the next" (Minnesota eHealth, 2008, p. 2).

The last and final determinant of health is the medical care system, which actually exerts the least amount of influence on health, despite receiving the most funding and media attention (Blum, 1974, 1983; Hartley, 2004). Although great progress has been made with medical advancement to treat disease, the environment, lifestyle and heredity continue to exert greater influences on a population's health (Olden & Clement, 2000). These four determinants of healthcare presented in the health management literature (Dever 1991; Longest, 1994), but they have not been fully attended to by most healthcare managers. Some HCOs and their leaders have improved the environment and lifestyles of their populations (Fromberg, 1997). Therefore, other healthcare organizations should do so if they really want to improve the health of their local and national populations (Rundall & Schauffler, 1997).

According to Kiely, Simon, Jones, and Morris (2000) and Estes and Rundall (1992), social interaction has demonstrated that older adults live longer and respond better to healthcare interventions when they have social support, and when they relate closely with their care providers. In particular, older adults who require supportive care in

institutions, or who are homebound, may rely primarily on healthcare providers for opportunities for social contact. In addition, people from community groups, neighborhood associations, and other grass-root organizations are likely to have different world views, cultural norms, communication styles, and expectations than healthcare leaders, professionals, and healthcare providers (Nussbaum & Sen, 1993).

Partners for Medical Care and for Health

To create medical care, healthcare organizations (HCOs) have, mainly, worked with medical care providers and payers. They have coordinated with other HCOs, such as physician group practices, outpatient diagnostic centers, mental health clinics, rehabilitation centers, hospitals, surgery centers, home care agencies, medical centers, nursing homes, medical supply companies, pharmaceutical firms, and other organizations in the healthcare sector. And of course, they have also worked with the payer organizations such as health insurers, managed care plans, government health financing bureaus and agencies. These leaders and their HCOs cannot do much, on their own, to improve the environment, change lifestyles, and resolve community social problems that jeopardize health. They need the help, support, resources, and expertise of others to have significant effect on population health status. Merely creating a better medical care system will not affect health status as much as will creating healthier environments and lifestyles. Furthermore, to improve environments and lifestyles of a population requires that healthcare leaders partner with organizations outside of the healthcare sector that are involved with these determinants of health.

According to Minnesota eHealth (2008), a joint effort in population health and public health needs a theoretical framework that allows a statewide exchange of public

information by informing public health agencies how to respond effectively to community health threats, as well as protecting the public from serious, but preventable, diseases or injury. It further allows these agencies to identify population hazardous health indicators. Examples of non-medical partners may include religious and faith organizations, the police system and courts, human service agencies, neighborhood associations, youth groups, government agencies, volunteer groups, businesses, and schools. These non-medical partners are often closer to, and more knowledgeable of, the people and problems pertaining to the local environments and lifestyles (Fromberg, 1997; Olden & Clement, 2000; Rundall & Schauffler, 1997).

Health Canada saw a renewed national health approach to population health, that manages risks to the health of Canadians, and that ensures universal access to appropriate and cost-effective healthcare (Public Health Agency of Canada, 2001). This vision is sustained by national leadership and partnerships, and the provision of timely, responsive and evidence-based advice and action on health issues. In 1974, their federal government's white paper, *A New Perspective on the Health of Canadians* (Lalonde Report, 1974) proposed that changes in lifestyles or social and physical environments would likely lead to more improvements in health than would be achieved by spending more money on existing healthcare delivery systems. The Lalonde report gave rise to a number of highly successful, proactive health promotion programs which increased awareness of the health risks associated with certain personal behaviors and lifestyles (e.g., smoking, alcohol, nutrition, fitness).

Leadership Skills for Partnering

Healthcare professionals tend to pay more attention to task assignments and goal achievement while various community groups are more concerned with group processes and partner relationships. Levine et al. (1999) asserted that practicum training for preventive medicine residents occurs in agencies while governance is linked to the public. Because of this, healthcare professionals may approach community health problems differently and, subsequently, work toward solutions differently than the non-professionals (Gofin, 2003). Invariably, the healthcare professionals have not developed their own communication styles, techniques, and methods.

Besides the grass root organizations and local community groups, there are other types of non-medical partners with whom healthcare organization leaders must work effectively. These non-healthcare leaders come from entities within the community which include churches, synagogues, parishes, and other religious and faith groups; all of which have different approaches to social issues and different ethical perspectives than other community health participants (Roberts, Johnson, Brems, & Warner, 2007). Of course, businesses will also have their world views, agendas, methods, and cultural norms and beliefs about what constitutes effective leadership (Gofin, 2003).

Statement of the Problem

Many regions in the United States, developing and emerging, are demanding better health for their populations and workers yet, healthcare leaders have focused mostly on medical care services and have collaborated mostly with only other medical care providers and insurers. They still have not met demands for better health in their communities. Concern extends to the national level where past legislation from congressional members,

such as Jesse Jackson and former senator Edward Kennedy (*S.1576: Minority Health Improvement and Health Disparity Elimination Act, 2007*), debated that healthcare and non healthcare providers do not collaborate efficiently, with a broader and more diverse group of economic and social partners, such as churches, schools, businesses, youth groups, courts, public agencies, volunteer groups, and neighborhood associations and introduced legislation to correct this issue. Consequently, healthcare leaders have not mastered the leadership skills in healthcare management using collaboration.

Background on the Dissertation

Healthcare leaders, working with their new community partners and stakeholders, may have to collaborate more than exchange information through informal discussions. To do this, they may want to share rather than negotiate, listen rather than talk. They may want to adapt to non-medical partners rather than expect the partners to readily adopt the medical model. There may have to engage in shared problem solving and decision making, shared resources and power, and shared accountability and rewards.

Within his or her own organization, the healthcare organization leader may have to take management steps to help develop collaborative partnership with new non-medical partners and stakeholders. This may include, for example, broadening the healthcare organization strategic planning process, re-allocating human resources, changing internal policies and procedures, modifying job descriptions, and revising some daily operations.

Education is inextricably linked to health conditions because a healthier population is more capable of educational achievement (Kao & Thompson, 2003). Conversely, the success of many health programs depends on education in personal hygiene, the development of health skills, and the timely use of preventive health services. Thus,

universal access to basic and secondary education, along with high rates of literacy, is fundamental determinants of good health and are essential in sustainable development (Kew, Morris-Glasgow, & Landaverde, 2002).

Establishing priorities for action ensures that healthcare leaders assess and synthesize information on health status and health service utilization data. Subsequently, the National Health Information Infrastructure must be utilized to gather information between healthcare providers and public health agencies. According to a report by the National Committee for Vital and Health Statistics (2001) the purpose of the National Health Information Infrastructure is to enable patients' electronic health records to be accessed and added to by all healthcare providers electronically (with patient authorization), virtually anywhere in the country, via the network. The electronic health records include health information entered for a specific patient at a specific point of service. This data affords research opportunities and more speedy development based on sound evidence, and may be used to improve population health (National Institute of Public Health, 2008).

Although medicine and public health are two different disciplines, they both focus on addressing the overall sustainability of health. Medicine, for example, is concerned with individual patient care and consultation by primarily addressing the diagnosis and treatment of diseases. The primary role of medicine is to address the physical health of the patient.

On the other hand, public health is concerned with addressing population health issues, while primarily focusing on promotion and prevention. In addition, public health is concerned with the overall health of the population including its behavioral, social, and

economic determinants. Historically, the difference between medicine and public health has not been based solely on professional perspectives and skills, but more on the institutional and social environment in which they were applied (Gofin, 2003).

The organization of health services needs to be more balanced if its' focus is to address health disparities. The division between individual healthcare and community health services, biomedical and psychosocial models, curative and preventive care, services provided by generalists and specialists, and between the public and private sectors are all evidence of a fragmented health system. Because of the continued fragmentation of the healthcare delivery system, there is a growing disparity in the delivery of healthcare services among different population groups (Hartley, 2004). Unfortunately, these disparities have the greatest effect on those that need the services the most (e.g. indigenous communities, people in the slums, and the poorest sectors of society, as well as children with special needs).

United States government legislation provides for research to improve the health of racial and ethnic minority groups. Subsequently, federal efforts introduced during The 109th and 110th Congress included a number of bills which focused on racial and ethnic disparities in health and healthcare (Thomas, James, & Lillie-Blanton, 2007). Consequently, The National Plan sought to improve minority health and eliminate health disparities in the United States and included terminology to reauthorize the Department of Health Resources and Services Administration diversity in the health professional programs and codify the CDC Racial and Ethnic Approaches to Community Health.

Although the difference between medicine and public health is primarily expressed at the primary care level, the two entities are often viewed as one and the same. However,

it is important to address the distinction between the two. Primary healthcare is a more comprehensive approach to health and healthcare.

Purpose of the Study

The purpose of this research study was to identify the critical reasons and rationale that are important in effective collaboration among healthcare and non-healthcare leaders in addressing population health issues. The goal of investigating the importance of collaboration among organizations was to provide information for physicians and administrators in leadership positions. This information will enable them to utilize specific leadership skills to form collaborative relationships with a new, wide, diverse group of partners outside the healthcare sector, and to improve health in their communities.

Research Question

What are the critical reasons and rationale that are important in effective collaboration among healthcare and non-healthcare leaders in addressing population health issues?

Significance of Study

The goal of investigating the importance of collaboration among organizations was to provide information for physicians and administrators in leadership positions. This information will enable them to utilize specific leadership skills to form collaborative relationships with a new, wide, diverse group of partners outside the healthcare sector, and to improve health in their communities and countries.

Additional research and follow-up studies could be helpful in bridging the gap between providing medical care and understanding population health. The unprecedented

changes that are occurring in the healthcare systems at national and international levels can change the expectations. For example, teamwork is increasingly viewed as necessary to contain costs and sustain the quality of care. Dentists operate within a theoretical framework of teams and close staff interaction, thus exhibiting a conceptual perception of more intimate work relationships. These factors influence the expectations of physicians and dentists about their professional collaboration, but market demands and corporate medicine in different professions may influence collaborative relationships between physicians and dentists differently.

This study is significant because it further explains why and how healthcare leaders, by forming collaborative relationships with a new and diverse group of partners outside the healthcare sector, may impact population health in the community (Olden, 2001).

A population health approach reflects a shift in people's thinking about how health is defined. The notion of health as a positive concept, signifying more than the absence of disease, led initially to identifying it as a state of complete physical mental and social well-being.

Population health builds on a long tradition of public health and health promotion. In 1974, the Canadian federal government's White Paper, "A New Perspective on the Health of Canadians" (Lalonde Report, 1974), proposed that changes in lifestyles or social and physical environments would likely lead to more improvements in health than would be achieved by spending more money on existing healthcare delivery systems. The Lalonde Report gave rise to a number of highly successful, proactive health promotion programs that increased awareness of the health risks associated with certain personal

behaviors and lifestyles, which include, but are not limited to, smoking, alcohol, nutrition, and fitness (Public Health Agency of Canada, 2002).

Changes in the United States healthcare system are influencing many healthcare executives and provider organizations to take increasing responsibility for the health of their local populations (Coye, 1995; Fromberg, 1997; McNerney, 1995; Romeo, 1996). Many leaders are becoming interested in—even liable and accountable for—the health of their local communities (Emanuel & Emanuel, 1996). The healthcare system has functioned merely as a medical care system, delivering care to the ill and injured, however, the new focus of health delivery emerging in many communities is now on well-being (Sigmond, 1995). This shift toward a broader understanding of health requires different work as well as altered behavior from providers.

The healthcare system is moving from a fee-for-service financing and delivery model toward a capitation risk-contracting model. Newbold (1995) states that many hospitals, healthcare system, physician practices, and other providers have capitation contracts that hold them accountable for the health of an enrolled population. Managed care plans increasingly emphasize health promotion and disease prevention in response to purchasers' demands, consumers' desires, and accreditation standards." (1997). Providers, now may be financially at risk because these providers are not only managing care, but they are also managing health (Coye 1995; Schaffler & Rodriguez, 1996).

Beyond capitation and reimbursement, other motives drive healthcare leaders to improve the health of their local populations. In their strategic planning, for example, some hospital and health systems have asked “what business are we in?” and they have answered, “the healthcare business” rather than “the hospital business.” According to

(Coye 1995), competition will be based on keeping people healthy, and competitive advantage will derive from maintaining the health of populations.

Definition of Terms

1. Population health: An approach that focuses on interrelated conditions and factors that influence the health of populations over the life course; identifies variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations. (Hartley, 2004, p. 1)
2. Public health activities: Systematically collected and analyzed data, using scientific principles and methodology to apply to both non-research and research activities wherein knowledge is generated in both cases (Bates & Bitton, 2010).
3. Collaboration: A process through which “parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible” (Gray, 1989, p. 5).
4. Health Information Technology: A policy framework for the development and adoption of a nationwide health information infrastructure, including standards for the exchange of patient medical information (Office of the National Coordinator for Health Information Technology, 2011).
5. Health Maintenance Organizations (HMOs): A healthcare system that assumes both the financial risks associated with providing comprehensive medical

services (insurance and service risk) and the responsibility for healthcare delivery in a particular geographic area to health maintenance organization members, usually in return for a fixed, prepaid fee. Financial risk may be shared with the providers participating in the health maintenance organization (Lockard & Williams, 2011).

6. Healthcare system: “combination of resources, organizations, financing and management that culminates in the delivery of health services to the population” (Roemer, 1991, p. 31).
7. Managed care: “a collection of interdependent systems that integrate the financing and delivery of appropriate healthcare services to covered individuals” (Health Insurance Association of America, 1999, p. 52).
8. Joint Commission Accredited Health Organization: An organization dedicated to influencing the processes of government to oversee groups of people with common goals, interests, or ideals formally bound together by a common set of rules or by-laws that influence public health policy (The Joint Commission, 2011).

CHAPTER II

REVIEW OF LITERATURE

The nature of healthcare needs in the United States has changed in the last century from a need for services to combat infectious disease to a need for care management to address chronic disease. Chronic illnesses are increasingly the focus of epidemiological research intervention efforts. It is vital that population-based planning efforts focus more attention on chronic care (Mausner & Kramer, 1985). Gibbs-Brown (1999) introduced the premise that there were calls for “healthcare providers and institutions to work closely with other sectors and players” (p. 13). They then go on to explore how hospitals can answer these calls. One question raised was, “How can the health system work closely to respond to these calls?” There must be some kind of theoretical framework requiring everyone’s collaboration.

The difference between the healthcare providers and the other sectors and players is the fact that these underlying premises have important implications for understanding how the health system (not individual providers or institutions) can best affect change that will lead to healthier people in healthier communities. Hospitals are only one component of the system, albeit a major one. Other components include continuing care, rehabilitation, community and primary care, and public health.

Improving Public Health in a Managed Care System

The system has both the provision of high quality care, and the improvement of population health as its goals. In order to maximize the effectiveness of interventions, it is important to build upon the strength of each sector. While each sector has a contribution

to make to community action, Hartley (2004) admitted that the typical skill set of hospital staff does not support a comprehensive approach to health and its determinants.

Collaboration will be provide an essential component for population health and thereby proves important for healthcare organization leaders striving to work with new partners and manage stakeholders. Roberts et al. (2005) explains that the incorporation of ethical collaboration allows people to create new values together, and is significantly different from exchange, when people get something back for something that they contributed. Thus, HCOs should try to create new community health, together, rather than trying to get back patients, referrals, and/or power.

Healthcare organizations must adapt to non-medical partners rather than expecting partners to readily adopt the medical model. There will have to be shared problem solving and decision making, shared resources and power, and shared accountability and rewards (Heller, Heller, & Pattison, 2003).

Even if healthcare organizations do not take a leadership role in the community health domain, their representatives who participate in community health efforts will still have to practice many of the skills and behaviors discussed above for leaders. They still must help develop the necessary collaborative relationships with new community partners and stakeholders. By the same token, HCOs can work with other community organizations to improve the health of the population and country as is now demanded by many health stakeholders (Chua, 2006).

Leadership in science, medicine, and government has helped to dramatically reduce the incidence of many incurable diseases through preventive measures such as immunization and education about the benefits of diet, exercise, and not smoking.

Leadership in public health has substantially affected health outcomes and is recognized beyond the health profession. Research on the relationship of collaborative leadership to health outcomes seems to fit three patterns.

First, there is research that is “quasi-experimental” in nature. It is clearly impossible to manipulate leadership factors the way variables are typically manipulated. Nevertheless, “quasi-experimental” research attempts to systematically examine the various kinds of leadership received by different populations and subsequent differences in health outcomes experienced among those populations. Important discoveries emerged from this research, including that “preventive services are enhanced through the use of community organization, which mobilizes a community’s energies and resources to define and address a problem in a way that promotes local ownership and generates increasing effect over time” (Koplan & Harris, 2000, p. 57).

Second, there is research that examines co-variances. That is, without “experimenting,” some researches examine the natural variations in leadership (or closely related factors) across a number of cases or locations, and ask whether health-related outcomes vary systematically with the differences in leadership. Research on leadership, especially social-scientific research, typically examines samples from given populations in order to explore correlations among variables. Specifically, the researcher aims to determine whether certain leadership behaviors or practices are systematically related to health outcomes.

Third, some research reports case studies. Discoveries that arise from the in-depth analyses of individual cases, organizations, programs, or initiatives, were considered relevant if the discoveries involved aspects of collaborative leadership. Most common

form of case studies is written reports of relationships between collaborative leadership and health outcomes. Finally, emerging disciplines or new fields of knowledge rely heavily on case studies for the discovery of patterns and relationships (Koplan & Harris, 2000).

Population health improvement has long been the purview of public health departments, not hospitals. Despite its noble mission, traditional medical care provided by physicians and nurses to individuals in hospitals and clinics has not always met its objectives. Although the causal relationship between funding and outcomes is complicated and often obscure, American public health outcomes are discouraging compared to other industrialized countries spending far less per capita (U.S. Public Health Service Commissioned Corps, 2011).

Even if there was a hospital that wants the role, it would need a community-wide collaboration to get the job done. Hospitals have risen as an alternative locus of community-based healthcare. It need not necessarily be that way, but in the hospital are strong potential resources, preferably in partnership with public health professionals and local physicians, to foster population health improvements efforts. In some communities, a hospital may play a facilitator or convener role, but in no communities should this be about the hospital “taking charge of the community’s health” (Stony Brook University Medical Center, 2007, p. 3).

Many of the most powerful determinants of health, such as transportation, food, employment, social exclusion, and the social gradient lie outside of the purview of healthcare. Population health has the potential for improvement if healthcare organizations would collaborate with other sectors (e.g. housing, transportation, food, economic

opportunity) to address these issues. Health plans and hospital frequently employ substantial number of employees in a community. If they are not for profit, they also have obligations to benefit the community (Kottke, & Isham, 2006).

The Robert Wood Johnson Foundation program “Leadership for Health Communities” is an example of a program that has engaged stakeholders both within and beyond the healthcare sector to address community characteristics and resources that affect health. The focus of the program is active living and health eating to prevent childhood obesity. Minnesota is developing the accountable health community initiatives. The intent of an accountable health community is to bring together healthcare, schools, worksites, local public health agencies, faith communities, chamber of commerce, nongovernmental agencies, governmental agencies, and others whose policy has an affect on health.

Delivery System

Despite the conceptual basis for a productive partnership between public health and managed care, concerns remain that perpetuate the separation between public health agencies and managed healthcare organizations. One area of concern arises from different ultimate accountabilities. Public health agencies are ultimately accountable to the entire population in their geo-political jurisdictions,

as represented by the elected officials to whom they report. Because these public agencies have been given a ‘safety net’ function, they are often particularly sensitive to the needs of disenfranchised persons and those without a source of private healthcare.

Private HMOs may have a broad range of accountability, but their managers ultimately report to either a board of directors or to stockholders. For-profit healthcare

organizations seek to maximize their profit and, therefore, have a well-defined framework for decision making. These different accountabilities sometimes lead to suspicions and lack of trust between public and private health agencies. Some public health workers are concerned that private healthcare agencies are interested in making money to the exclusion of really caring about improving the health of the public. Private health agency executives do not want to be over-regulated by public entities and are often fearful of government intrusion into the management of their business (Gofin, 2003).

Collaboration and Community

Collaboration holds widespread appeal to people from every position on the political spectrum, not because it offers everything to everyone, but because it deals with process, as distinct from a program, agenda, or outcome. Collaboration prompts us to look at the very process by which we arrive at political choices, whatever those choices happen to be (London, 2011).

Collaboration may be appropriate under a variety of circumstances, from resolving a neighborhood or environmental dispute, to revitalizing an economic depressed area, to settling a conflict between communities, to a joint venture among businesses, to promoting greater civic participation and involvement in the well being of a community. According to London (2011), he further believes that collaborative endeavors generally share a number of basic characteristics:

- The problems are ill-defined, or there is disagreement about how they should be defined.
- Several stakeholders have a vested interest in the problem and are interdependent.

- These stakeholders are not necessarily identified a priori or organized in any systemic way.
- There may be a disparity of power and/or resources for dealing with the problems among the stakeholders.
- Stakeholders may have different level of expertise and different access to information about the problems.
- The problems are often characterized by technical complexity and scientific uncertainty.
- Differing perspectives on the problems often lead to adversarial relationships among the stakeholders.
- Incremental or unilateral efforts to deal with the problems typically produce less than satisfactory solutions.
- Existing processes for addressing the problems have proved insufficient.

Collaborative endeavors take many forms. Some common varieties include public-private partnership, also known as social partnership—ad hoc alliances between otherwise independent organizations which can span both the public and private sectors; future commissions, also known as search conferences, in which citizens and community leaders analyze trends, develop alternative scenarios of the future, and establish recommendations and goals for the community. Interagency collaboration aimed at improving social services to children, families, and other members of a community (London, 2011).

A Need for Collaboration

Some have observed that, while working in some areas, the suspicion between public health and managed care is mutual. As is much of the private sector, the managed care world is woefully ill-informed about public health's role and contributions, and managed care with its few incentives and even less inclinations has thus far failed to bring public health to the table. The public health rarely fails to display an equally shocking ignorance about the mechanics of healthcare delivery and a knee-jerk opposition to the structure and administration of the healthcare delivery system. Ignorance and apathy on one side and ignorance and hostility on the other are certainly not the best recipe for establishing a collaborative relationship (Kamoie, 2002).

The population health approach requires multi-disciplinary collaboration among scholars in the social, clinical, and basic sciences and humanities, development of comprehensive, sophisticated health information systems, and the use of advanced analytical tools to examine health problems and evaluate responses to them. To effectively address population health issues, organizations and leaders must work together, utilizing all their academic and intellectual skills to accomplish a common goal: eradicating the healthcare disparities that continually plague the world's economies and countries. Thus, effective leadership skills require that healthcare leaders and administrators "step outside the box" and take a more statistical approach to implementing measures designed to solve the health system crisis (Stony Brook University Medical Center, 2007). Yet, collaboration between public health and managed care is imperative if the health of individuals and communities are to be improved. It is, indeed, a fact that managed care and public health are co-dependent in the most straight forward sense of the term. They

realistically need each other to get the job done. Modern public health practices, including immunizations, cancer screening, heart disease, risk management, injury prevention, and protection from environmental hazards, will certainly need collaboration from the healthcare delivery system to be implemented effectively.

The current challenges in public health, such as eliminating health disparities, improving the quality of life in an aging population, and combating an epidemic of obesity by integrating physical activity and healthy eating affect people's daily lives. This would require the involvement of healthcare providers in their offices and in their role as community leaders. The health system is more effective in addressing health disparities when both public health and managed care is on one accord, working together to achieve the population health agenda (Kindig & Stoddart, 2003).

Blacks and other healthcare providers from under-represented communities reportedly are most affected by these findings and express interest or actively participate in educational or community activities to help address healthcare disparities. Nelson L. Adams III, American physician and president of The National Medical Association suggests that concern shown by minority physicians and dentists is a direct result of pre-existing racism experienced by healthcare providers, non healthcare providers and the patients they serve who hail from under-represented populations (Kay & Kohn, 2008). National Medical Association is the largest and oldest national organization representing African American physicians and their patients in the United States is a 501 (c) (3) national professional and scientific organization representing the interests of more than 30,000 African American physicians and the patients they serve, with nearly 112 affiliated societies throughout the nation and U.S. territories.

The National Medical Association has been firmly established in a leadership role in medicine and claims a commitment to improving the quality of health among minorities and disadvantaged people through its membership, professional development, community health education, advocacy, research and partnerships with federal and private agencies. Throughout its history the National Medical Association has focused primarily on health issues related to African Americans and medically underserved populations; however, its principles, goals, initiatives and philosophy encompass all ethnic groups.

In 2008, Adams testified before the House Energy and Commerce Subcommittee on Health in support of the Health Equity and Accountability Act of 2007, which sought to reduce ethnic disparities in healthcare, improve "cultural competency" among medical providers, and improve medical workplace diversity (*HR 3014: Health Equity and Accountability Act of 2007*, 2007) Adams also served as a panelist during a National Hispanic Medical Association Congressional Lunch Briefing for members of Congress and staff to discuss strategies to lower healthcare costs by addressing health disparities and to spotlight and reform coalitions. During the same year, Adams was a panelist at a conference of the 37th Annual Conference of Rainbow PUSH Coalition in Chicago, called "Closing the Health Gap: The Civil Right to Healthcare," which examined the role of discrimination and other factors in explaining the health gap.

The presence of National Medical Association and other healthcare providers and non-healthcare providers from underrepresented populations, who display a vested interest in forming collaboratives is significant when formulating questions for this research study (Roberts et al., 2007). For example, the National Medical Association continues to provide a catalyst to initiate discourse among minority healthcare providers and non

healthcare providers. In recent years, more than 32% of healthcare providers from under-represented communities spoke with colleagues about ways to address specific healthcare needs of their minority patients and an additional 44%, reportedly had spoken with a community health worker about the health needs of patients in their practice community (Kay & Kohn, 2008).

Despite its importance, empirical research on physician–dentist attitudes about healthcare collaborative relationships has not received sufficient attention. This is partly due to the unavailability of a multi-dimensional and psychometrically sound research instrument that is applicable to both physicians and dentists in various regions of the country. A brief instrument (6 items) by Baggs (1994) has been developed for measuring physician/staff collaboration on patient care decisions, but it is a unidimensional tool that cannot address the multifaceted nature of physician–dentist collaboration. In response to a need for a multi-dimensional tool for measuring different aspects of physician–dentists attitudes about healthcare collaboration this study developed the Gaines’ Scale of Attitudes Toward Physician–Dentist Collaboration. A recent study using this scale with health practitioners (Gaines, 2010) noted interesting differences in opinions. Based on the notion that attitudes toward different aspects of physician–dentist collaboration could reflect the predominant cultural model of professional roles, we expected to find more similarities in attitudes toward physician–dentist about healthcare collaboration in the area of Georgia that was surveyed. Furthermore, we expected to find that dentists would express more positive attitudes than physicians toward collaborative relationships in all 14 questions in the survey instrument. Emphasis focused on the category comprised of dentists because of the significant response from this group of health professionals, which

required the researcher to examine the impact of their feedback on this study. This expectation was based on the principle of least interest proposed by Waller and Hill (1951) that was described previously.

Models for Population Health

According to Kindig and Stoddart (2003), policies and interventions at the individual and social levels, and the patterns of health determinants over the life course (independent variables) determine the health outcomes and distribution in a population (dependent variables). Consequently, community-based health and disease prevention are equally essential. The World Health Organization (1986) defines health promotion as “the process of enabling people to increase control over, and to improve, their health” (p. 1). To reach a state of complete physical, mental, and social well-being, an individual or group must be able to identify and realize aspirations, to satisfy needs, and to change or cope with the environment. Therefore, “health promotion is not just the responsibility of the health sector but goes beyond healthy lifestyles to well-being” (p. 1).

This definition requires that various health organizations look at all the factors that influence health and individual lifestyle, and identify the most effective way to assure conditions conducive to health. This means that they should measure the health outcomes and their distribution, as well as what influences these outcomes. Afterwards, they should be able to establish policies that would deliver the optimal balance of determinants (Size, Kindig, & MacKinney, 2005; Stony Brook University Medical Center, 2007).

Health corporations should consider developing partnerships with a broad array of community and social agencies to address the underlying conditions so important in determining health status. Effective community-based programs require assessment of

community health problems, priority setting, and collaborative planning. Health organizations should take responsibility for collecting epidemiologic data not only concerning morbidity and mortality, but also the prevalence of risk factors, and for monitoring and evaluating community-based interventions. Public health agencies need to play a key role in bringing together the community with voluntary and governmental agencies to set priorities and develop effective interventions (National Institute of Health, 2008).

Not-So-Strange Bedfellows: Public Health and Managed Care

People can imagine a group of public health professionals, say 10 or 15 years ago, all relaxing after a long day of American Public Health Association sessions. Their discussions centered around the failing of the American Healthcare System. By brainstorming, they try to envision an improved version, consistent with public health values. Little did they know, the American Healthcare System would be a population-based system that viewed prevention as integral to its mission. This approach will place healthcare tasks in the hands of those most suited to perform them (Koplan & Harris, 2000).

By focusing more on primary care practitioners and giving nurses and physician's assistants more responsibility, the new population-based system has the potential to improve equity and access to care while controlling costs and maintaining or improving quality. Ultimately, the system would add accountability to the provision of healthcare. As a tribute to this vision, all will raise glasses and toast with a sigh of relief. As most of the group leaves the table, they are convinced that no matter how logical this seems, they will never actually see such a system.

Today, the public health idealists who sat around the table would probably be hesitant to admit that many of the same elements they imagined have become a reality, and are actually part of the current healthcare landscape in the form of managed care. Somewhere along the line, the many negative aspects of managed care have overshadowed its positive features. Shameless profiteering, restricted choices for patients, restricted decision-making latitude for physicians, and poor customer service are just a few of the complaints that have placed health maintenance organizations at the bottom of the public opinion polls (Predy & Lightfoot, 2001). This is not just limited to managed care, as the issues of equity and access have not been resolved in a broader healthcare delivery system. Nevertheless, we continue to criticize managed care for many of its inadequacies, without recognizing the considerable common ground and common purpose that exist between public health and managed care. In addition, let's not disregard the improved elements of the healthcare system that have been features of many managed care systems (Koplan & Harris, 2000).

Approaches to Public Health and Prevention

A panel of experts assembled at the Carter Center in 1984 examined 13 leading health problems in the United States. They estimated that 66% of the deaths in people under age 65 that occurred in 1980 could have been postponed if all the social, environmental, and behavioral factors leading to death and disability were effectively controlled. In the 1980s, death rates declined for the three leading causes of death: heart disease, stroke, and motor vehicle car crashes.

Much of the 40% decline in heart disease mortality since 1970 has been attributed to increased detection and control of hypertension, decreased smoking, and dietary

changes. Similarly, the 50% reduction in stroke reflects gains in hypertension control and declines in smoking. Because of public health interventions, between 1964 and 1992 an estimated 1.6 million deaths before age 75 from heart disease were prevented and between 1973 and 1992 an estimated 427,000 deaths (before 75) from strokes were prevented.

Clearly, prevention is an integral part of all medical care and pervades all clinical practice, including many measures that are directed to population groups. The importance of early diagnosis and treatment in the prevention of unnecessary hospitalization is illustrated by an analysis of hospitalization for ambulatory-care sensitive conditions carried out by the Codman research group and the United Hospital Fund of New York (Estes & Rundall, 1992). The study revealed that additional information would be necessary to determine true cost savings.

Two Approaches to Care

There are two ways to think about how to address healthcare needs through the provision of care can be population-based, provided to a defined population group or community as a whole. Care can also be individual-based, provided person by person to particular individuals who present their needs at particular points in time. The population-based approach is seen as the traditional public health model, and the individual-based approach is seen as the traditional medical model. But the two approaches are not mutually exclusive. In fact, one could assert that healthcare providers will increasingly use both in complementary ways.

The two approaches differ in their collection and use of data, their measurement of outcomes, and their organization and delivery of services. With a population-based approach, the point of focus is a defined population group. The healthcare organization

views individuals as members of a larger group. It collects community and population data and assesses the health status of entire communities, attempting to achieve the greatest possible improvement in health for the greatest possible number of people. It identifies and implements care interventions that are effective for subgroups within populations, for instance providing diabetes screening for high-risk groups or flu shots for the elderly.

With an individual-based approach, much emphasis is placed on the one-to-one relationship between the individual and a specific provider (physician). The healthcare provider collects person-specific data and assesses health status person by person, treating each person as unique. The provider creates each person's care

plan and treatment regimen independently of any other, and evaluates the effectiveness of different methods or interventions based on that person's responses. Rarely is information on similar patients aggregated and reviewed over time. These two approaches to care are joining hands in some healthcare systems. One factor in bringing about this collaboration is the greater availability of data and information showing trends in care and outcomes (Paone, 1997).

The Dynamics of Collaboration

The process of collaboration is seldom simple and straightforward. It usually moves through several distinct phases beginning with an analysis of the situation and a diagnosis of the key issues involved, and moving on to a definition of the fundamental mission or desired outcome, a shared vision, and a strategy to achieve the vision and the goals, a timetable for that strategy, and concluding with the measurement and evaluation of results.

Gray (1989) describes this as a three-phase process. The first phase, pre-negotiating or the problem-setting, is often the most difficult. Six issues need to be addressed at this point: (a) the parties must arrive at a shared definition of the problem, including how it relates to the interdependence of the various stakeholders; (b) the parties must make a commitment to collaborate; (c) other stakeholder must be identified whose involvement may be necessary for the success of the endeavor; (d) the parties must acknowledge and accept the legitimacy of the other participants; (e) the parties must decide what type of convener or leader can bring the parties together; and (f) the parties must determine what type of resources are needed for the collaboration to proceed.

During the second phase, the parties identify the interests which brought them to the table, determine how they differ from the interest of others, set directions and establish shared goals. Gray (1989) calls this the direction-setting phase. It is characterized by six essential steps: (a) establishing ground rules, (b) setting the agenda, (c) organizing subgroups (“especially if the number of issues to be discussed is large or the number of stakeholders exceeds the 12- to 15-member limit for effective group functioning”), (d) undertaking a joint information search to establish and consider the essential facts of the issues involved, (e) exploring the pros and cons of various alternatives, and (f) reaching agreement and settling for a course of action (pp. 74-86).

The final step of the collaborative process is the implementation phase during which (a) participating groups or organizations deal with their constituents; (b) parties garner the support of those who will be charged with implementing the agreement; (c) structures for implementation are established; and finally (d) the agreement is monitored and compliance is ensured (Gray, 1989, pp. 86-94). Collaborative ventures obviously vary

a great deal and not all of them can or want to follow this general framework. Much will depend on the nature of the endeavor, the number of people or parties involved, the time-frame, and the resources at hand.

Of course, there are differing opinions about what role consensus play in collaboration. Some argue that it is a process which does not necessarily lead to agree on all issues. Rather, as one report stated, a “culture of collaboration” evolves during a project in which participants come to accept differences and “redefine the terms of their agreement in order to reflect their growing understanding of mutual interest and goals.” Gray (1989) acknowledged that not all collaborations leads to consensus, but added that when agreements for action are reached they are always done so by consensus. “Consensus occurs when stakeholders concede their preferred solution in favor of a proposed solution that all believe they can live with (London, 2011).

Interdisciplinary Collaboration: Old Ideas with New Urgency

According to Mitchell and Crittenden (2000), the notion of interdisciplinary collaboration is enjoying resurgence in hospitals, in community healthcare settings, and in public health programs. Over the past decade, an increasingly complex healthcare system has led to transformations in service delivery. These transformations emphasize:

- Generalists and primary care.
- Managed care that links inpatient and outpatient services.
- Continuity of healthcare services in partnership with communities.
- Cost-effective care and population approaches.
- Accountability for outcomes.

- Explosion of information technologies.

Attempts have been made to differentiate public health and personal healthcare, the near collapse of healthcare reform and the blurring of lines between individual and population-based health are forcing practitioners to understand and negotiate both worlds. Such trends reinforce the need to improve education and training in interdisciplinary collaboration both for individual care and for health initiatives aimed at communities and population groups. Most healthcare professionals associate the specific term “interdisciplinary collaboration” with teams that provide individual, personal healthcare.

This approach was formalized in specialized ways in the 1970s with, for example, the geriatric teams providing community or acute-care assessment. The concept enjoyed a resurgence in the late 1980s with some evidence that lives were saved with better coordination and collaboration. Interdisciplinary programs linked with public health practice today are almost uniformly primary care teams working in community clinics or settings, but not necessarily focused on the health of a population.

Although interdisciplinary collaboration is one of the original cornerstones of public health practice, it traditionally has involved collective partnerships among governmental agencies, private -sector groups, and communities. With the healthcare system confronting difficult challenges and often wrenching changes, interest is greater than ever in developing skills that enhance the effectiveness of interdisciplinary skills.

To achieve the national goal of improved public health, interdisciplinary collaboration must expand beyond the acute care, individual health arena. Healthcare is too complex for any solo practitioner to handle it all; because the determinants of health are beyond the capacity of any one practitioner or discipline to manage; because

information is overwhelming us and beyond the management ability of any one practitioner or discipline. Our survival depends on our ability to collaborate, as disciplines and as professionals attempting to help our communities and each other achieve better health now and in the future (Mitchell & Crittenden, 2000).

Critical Access Hospitals

Congress created the Medicare Rural Hospital Flexibility Program in 1997, allowing small hospitals to be licensed as Critical Access Hospitals (CAHs) and offering grants to states to begin initiatives to strengthen rural healthcare infrastructure. The law stated that CAHs must be located in rural areas or areas treated as rural, be more than 35 miles from another hospital or 15 miles in areas with mountainous terrain, or be certified before January 1, 2006. These hospitals are required to provide 24/7 emergency care, have no more than 25 acute care and swing beds, and maintain an average length of stay of 96 hours or less.

The legislative authority for the cost-based reimbursement for CAHs is described in the Social Security Act, Title XVIII, Sections 1814 and 1820. The Medicare Rural Hospital Flexibility Program was determined to have played a positive role and had significant direct and indirect positive impact. It allowed for the provision of Medicare cost-based reimbursement, which improved the financial status of most CAHs. Additionally, the Medicare Rural Hospital Flexibility Program encouraged states to create expectations that CAHs would engage in collaborations that would strengthen their communities. Therefore, Medicare reimburses CAHs on a cost basis.

Under a contract with the Office of Rural Health Policy, the Flex Monitoring Team, a consortium of Rural Health Research Centers, conducted a performance

monitoring project for the Medicare Rural Hospital Flexibility Program. The goal of the monitoring project was to assess the effect of the Medicare Rural Hospital Flexibility Program on rural hospitals and communities and the states' role in reaching program objectives according to the federal guidelines. Some of the states' goals included improving access to and quality of healthcare services, improving the financial performance of CAHs, and engaging rural communities in healthcare system development (Coburn & Gale, 2008). To direct their efforts, the Flex Monitoring Team developed a framework of five components:

- Identifying unmet community needs.
- Addressing unmet community needs.
- Prevention and health improvement.
- Building a continuum of care.
- Building community health system capacity.

The Flex Monitoring Team involved six CAHs and communities to demonstrate the effects CAHs have had on each of the components. The team concluded that CAH efforts to meet community needs fell into two categories: (a) service growth/expansion and (b) development of services that meet specific, previously unmet community needs. The case study revealed that CAHs have filled significant gaps and contributed to building strong population health efforts in communities.

The Medicare Rural Hospital Flexibility Program was determined to have played a positive role and had significant direct and indirect positive impact. It allowed for the provision of Medicare cost-based reimbursement, which improved the financial status of most CAHs. Additionally, the Medicare Rural Hospital Flexibility Program encouraged

states to create expectations that CAHs would engage in collaborations to strengthen their communities.

The Flex Monitoring Team suggested that the next steps include using program funding to develop tools, resources, and technical assistance for CAHs to take on community needs assessments, support the development of community

collaborations, and support the community infrastructure in primary care, EMS, and other areas addressing community healthcare needs (Coburn & Gale, 2008).

What Leaders Do

The quality and safety of care provided by a healthcare organization depend on many factors. Some of the most important are:

- A culture that fosters safety and quality.
- The planning and provision of services that meet the needs of patients.
- The availability of resources---human, financial, physical, and information---for providing care.
- A sufficient number of competent staff and other care providers.
- Ongoing evaluation and improvement of performance.

Only the leaders of a healthcare organization have resources, influence, and control to provide for these factors. It is the leader who can together establish and promulgate the organization's mission, vision, and goals. It is the leader who can strategically plan for the provision of services, acquire and allocate resources, and set priorities for improved performance. And it is the leader who establishes the organization's culture through their words, expectations for action, and behavior—a

culture that values high-quality, safe patient care, responsible use of resources, community service, and ethical behavior; or a culture in which these goals are not valued (Schyve, 1993).

While leadership's responsibility includes strategically addressing the organization's culture, planning and provision of services, acquiring and allocating resources, providing sufficient staff, and setting priorities for improvement, the organization's leader must also actively manage each of these factors. Strategic thinking focuses on where to go, while management focuses on implementing a plan and sustaining the activities needed to get there. In between the where and the implementation lies determination of how to achieve the strategic goal—a determination that requires both strategic skills and management skills. Therefore, to fulfill its fiduciary responsibilities, leadership of an organization engages in both strategic and management thinking

In a hospital, it is difficult—or more accurately, impossible—for each leadership group, on its own, to achieve the goal of the hospital system: safe, high-quality care, accompanied by financial sustainability, community service, and ethical behavior. An all-wise governing body, an exceptionally competent chief executive and senior managers, and a medical staff composed of Nobel-Prize winning physicians cannot, each on their own, achieve safe, high-quality care, let alone all these goals (Schyve, 1993). Many skills provide the theoretical framework for understanding these variables: collaborative, verbal communication and listening, managing time and stress, managing individual decisions, problem solving, motivating and influencing others, setting goals and articulating a vision of self-awareness, team building, managing conflict, visible (Vaughn, 2006).

CHAPTER III

METHODOLOGY

The purpose of this research study was to identify the critical reasons and rationale that are important in effective collaboration among healthcare and non-healthcare leaders in addressing population health issues. The goal of investigating critical reasons or rationale for the importance of collaboration among organizations is to provide information for physicians, administrators and others in leadership positions. Statistical analysis of the Likert scale response data was used for exploring the rankings of reasons or rationale for collaborating in addressing population health issues. The analysis included the use Mosaic Plots, likelihood ratio Chi- Square testing, and analysis of means (ANOM) for proportions. A Mosaic plot, for example, is a graphical display that allows you to examine the relationship among two or more categorical variables. In this study the researcher examined the impact of respondent's sex, age, race, profession, demographics, and socio-economic status on the Likert scores. Results of examining these covariates helped the researcher determine if the responses were more prevalent among one group versus another.

A Mosaic plot is essentially a graphical representation of a contingency table. A Mosaic plot is divided into rectangles, so that the area of each rectangle was proportional to the frequency count of interest. The Mosaic plot was introduced by Kleiner and Hartigan (1981) and refined by Friendly (1994). In the Mosaic plots displayed in chapter 4, the horizontal axis represented the relative number of non-respondents and respondents. Likewise, the vertical axis represents the percentages corresponding to each variable of interest. A whole model test for nominal logistic fit was used to test for the randomness of

returned surveys (referred to as respondents). The test was conducted using the JMP Ver. 9.0.0 statistical software (SAS Institute, 2011) using a Chi-Square test based on the log likelihood ratio. Survey status (responded or not) was used as the dependent variable in the model.

In preparation for this study, the researcher conducted a pilot study (Gaines, 2010) to employ an iterative process, with each stage of data collection and analysis guiding and informing the next. The researcher analyzed questions and results from the pilot survey to construct a comprehensive questionnaire and pose questions about the effectiveness of healthcare collaboration. Comprehensive responses in the pilot study suggested that the researcher incorporate a more refined approach (additional study of physician-dentist collaboratives). As a result, the researcher identified a random sample of healthcare providers in the Augusta, Georgia, area as the target population. Not only did the survey research yield a comprehensive database, but also it introduced an unparalleled methodological approach for the study of healthcare collaboration among non-healthcare leaders and healthcare providers.

The survey instrument, based on the literature and inferences from the pilot, included reasons or rationale for collaboration in addressing population health issues. The statistical analysis of Likert scores resulting from the survey was used to determine if respondents believe that collaboration is an important leadership skill needed to effectively plan for community responses to population health issues.

The researcher's primary objective is to identify the critical reasons or rationales that enable healthcare leaders to effectively collaborate with non-healthcare organizations. The secondary objective focuses on expanding the current knowledge base about the

importance of both collaboration and leadership in addressing population health issues. This study provides valuable insight about critical reasons or rationale for why-leaders in healthcare organizations ought to collaborate with non-healthcare organizations to address population health issues.

The researcher used a mixed-study method of data analysis using descriptive, graphical, and inferential methods. The descriptive research involved gathering survey data which was then organized, tabulated, and finally analyzed to depict and describe the Likert responses (Gay & Airasian, 2005).

This study utilized literature from prior research studies in structuring a comprehensive random survey, and then mailing 150 questionnaires through the United States Postal Service to healthcare professionals located within a 200-mile radius of Augusta, Georgia. Approximately 93 (0.62×150) responses were anticipated (0.62 was the response rate from the pilot survey). With a second mailing and telephone follow-up, it was anticipated that more than 100 responses would be attained. Exactly 102 responses were ultimately attained (68%). The researcher followed-up with non-respondents to collect demographic data such as the respondent's race and age for complementing the database.

Settings and Participants

The Augusta, Georgia area was chosen because the researcher had ready access to the membership of medical associations, dental associations and other healthcare organizations, which provided the basis for selecting a random sample. Participants in the larger study were randomly chosen by mailing surveys to every fifth healthcare leader from hospital or healthcare organizations located within the 200-mile radius of Augusta,

Georgia. The criterion for inclusion was that the individual be a healthcare administrator, physician, or dentist.

A unique and confidential identification number was placed on each survey mailed to verify the randomness of the respondents based on demographics. Only results in aggregate were analyzed and presented. The confidentiality of each respondent was maintained. Demographic information was gathered including gender, age, racial grouping, and practice specialty for participants and whether they are located in rural or metropolitan areas.

Research Design

The sampling focused on participants who work in leadership positions in healthcare organizations. The data collection methods for this study involved the use of a survey questionnaire. Questions were determined from the literature review and research, and then tested in the pilot to determine if they were appropriate or needed to be modified. A five-point Likert scale (Table 1) was used and all questionnaire items were positively worded.

Table 1. Codes for the Five-Point Likert Scale

Code	Meaning
1	Strongly Disagree
2	Disagree
3	Neither Agree nor Disagree
4	Agree
5	Strongly Agree

Five-point Likert scales are perhaps the most commonly used. The Likert scale was developed to standardize the measure in social research. The scale was developed by psychologist Rensis Likert (1932) and is most used in surveys and questionnaires.

Limitations

A challenge with defining population health is that definitions are often ambiguous and inconsistent. Another limitation is whether the researcher has personal biases with regard to questionnaire design. Limitations also include projections beyond the target population, say, Birmingham, Alabama because there may be broad cultural or demographic differences including ethnicity, gender, and income. Finally, the respondent group may not be representative of the target population (biases) even though healthcare providers were random selected.

Analytical Model Used

The Likert scale is often used to measure respondents' attitudes by asking the extent to which they agree or disagree with a particular question or statement. A 5-point Likert scale was used: "strongly agree, agree, not sure/undecided, disagree, and strongly disagree." On the surface, survey data using the Likert scale may seem easy to analyze, but there are important issues for a data analyst to consider.

1. Data were made ready for analysis by coding the responses. For example, this study asked respondents whether they agree or disagree with a set of positions. In this study the responses were coded as: Strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5.
2. The Likert scale data were treated as ordinal. As such, it could be said that one score was higher than another. However, we cannot say how much higher, as we could with interval data, which indicate the distance between two points. Here is the pitfall with the Likert scale: many researchers treat it as an interval

scale. This assumes that the differences between each response are equal in distance. The truth is that the Likert scale does not tell us that. In our study it only told us that the people with higher-numbered responses were more in agreement with the party's positions than those with the lower-numbered responses.

3. The data were analyzed using Mosaic Plots, logistic models (Chi-Square statistics) and ANOM for proportions. The 5-Point Likert scale can be collapsed into a 3-Point Likert scale for low cell counts.
4. All the items in the survey instrument were positively worded. The data was essentially ordinal data since one score could be recognized to be higher than another but could not be stated how much higher.

Summary

In conducting this study, the researcher made extensive use of quantitative data and accumulated a database of comprehensive information. The results obtained from the statistical analysis of data collected through random sampling can be extended to the larger target population of the study. Inferences on demographic variables were made with statistical (95%) confidence. The reliability and repeatability of such results are much more easily demonstrated than through qualitative data, in the sense of healthcare providers and non-healthcare leaders' attitudes about collaboration.

CHAPTER IV

DATA ANALYSIS AND RESULTS

This chapter presents the results of the data analysis. The data were collected and processed in response to the problems posed in chapter 1. The study setting included healthcare professionals with different social and cultural role expectations. This study analyzed opinions of a select group of healthcare providers to ascertain what they perceive as critical reasons and rationale that are important in effectively collaborating among healthcare and non-healthcare leaders in addressing population health issues.

In addition, this study utilized research on physicians and dentists' attitudes about population health collaboratives as a means to improve knowledge relative to health disparities and devise effective methods of preventing, diagnosing, and treating disease and promoting healthcare.

The present study's instrument was based on a pilot survey, which in turn was selected based on a review of literature on healthcare provider relationships and addressed areas of physician–dentist interactions, decision making, role expectations, authority, autonomy, and responsibilities for patient care and monitoring. The pilot survey was modified (Gaines, 2010) to investigate attitudes toward physician–dentist collaborative alliances. Further modifications were made to the survey in which 14 (out of the 20) items of the survey were retained after extensive psychometric analysis.

Results of pilot study provided support for the construct validity of this research tool. Two prominent disagreement factors of the Gaines' Scale of Attitudes toward Physician–Dentist Collaboration were question 11 ("Providing only medical care does very little to improve a population's health") and question 14 ("It is critical that healthcare

leaders focus more on population health than medical care to improve a population's health").

The survey was mailed to 150 randomly selected healthcare providers, including physicians, dentists, and healthcare executives in the Augusta, Georgia, area. All healthcare providers in the study were hospital/clinically-based and involved in direct patient care. The study was anonymous. Respondents did not sign their names, but they were asked to voluntarily provide information on their age, gender, professional status, and ethnicity. The fundamental goals led to the collection of data and the subsequent data analysis. The goal of investigating the importance of collaboration among organizations is to provide information for physicians and administrators in leadership positions.

Participants were surveyed utilizing closed-ended questions. Survey responses were analyzed to investigate the effectiveness of collaboration among healthcare and non-healthcare organizations in addressing population health issues. Participants from various healthcare organizations answered 14 questions using a five-point Likert scale. Below is the list of questions used to answer the research question.

Research Question

The research question asked: What are the critical reasons and rationale for collaborating between healthcare leaders and non-healthcare leaders in effecting population health in the community? The survey questions are presented in Table 2. Participants were instructed to indicate the extent to which they agreed or disagreed with each statement.

Table 2. Survey Questions

Statement	1: Strongly Disagree 2: Disagree 3: Neither Agree or Disagree 4: Agree 5: Strongly Agree
1. Our healthcare organization is actively involved in the community.	
2. Leaders in healthcare organizations need to collaborate more with non-healthcare organizations to address population health concerns.	
3. Hospitals' role is to help create community health rather than just provide medical care.	
4. Healthcare leaders and managers who want to improve population health should understand the importance of collaboration in achieving that goal.	
5. To really improve health and achieve complete well-being, healthcare organizations' leaders must now acquire specific leadership skills.	
6. Healthcare leaders will have a better understanding of population health if they collaborate more with non-healthcare organizations.	
7. A population's health is determined by its environment, heredity, lifestyle, and medical care system.	
8. Addressing environment factors will help improve a population's health.	
9. Healthcare leaders should focus more on improving health rather than just providing medical care.	
10. Healthcare leaders must be willing to collaborate with non-healthcare organizations to improve the health of a population.	
11. Providing only medical care does very little to improve a population's health.	
12. By improving communication between healthcare organizations and the public, healthcare leaders can improve population health.	
13. Population health is an approach to health that aims to improve the health of an entire population.	
14. It is critical that healthcare leaders focus more on population health than medical care to improve a population's health.	

Following the collection of surveys, data were entered into excel spreadsheet for statistical analysis and interpretation. Out of 150 surveys mailed, 102 were returned

(68%). Interpretation of the statistical results included reasons or rationale for collaboration in addressing population health issues. The questionnaire data were analyzed using Mosaic Plots, likelihood ratio Chi- Square testing, and ANOM for Likert scale response data. A Mosaic plot, for example, is a graphical display for examining the relationship among two or more categorical variables. In this study the researcher examined the impact of the demographic variables (sex, age, race, profession, demographics, and socio-economic status) on the Likert score responses. Results of examining these variables helped the researcher determine if the responses were more prevalent among one group versus another. Overall finding from study showed that at least 64% of healthcare leaders and administrators agreed that collaboration between healthcare leaders and non-healthcare leaders is critical to effect population health.

The ANOM chart (Figure 9) shows significant disagreement with Q11 and Q14. However, when these two questions are eliminated from the data, there are no significant differences (see Figure 10) with regard to the overall average level of disagreement (8.27%). There still can be significant individual pair-wise differences for example between Black and White groups. Numerous other potential differences were evaluated and presented later in this chapter.

Physicians showed the highest level of disagreement among other healthcare leaders which is why the focus shifted from other healthcare leaders and administrators to reflect the relationship between them. Moreover, physicians had statistically the same level of disagreement (see Figure 18) as dentists on Q11, which may suggest that only medical care does very little to improve a population's health and a higher level of

disagreement than dentists on Q14 suggesting that healthcare leaders focus more on population health than medical care to improve a population's health.

Statistical Evaluation of the Sample Randomness

In judging statistical differences between the respondent and non-respondent groups for each attribute (e.g., profession, age), a logistic response function was fit using maximum likelihood (JMP Ver. 9.0.0). Significant differences were determined from the tail probabilities of the likelihood ratio Chi-Square statistic. The results on the evaluation of the returned surveys are the following:

- Profession is not balanced between non-respondents and respondents with regard to Physicians, Dentists and HCOE. The impact is caused by HCOE ($p = 0.0368$ in Table 5). This aspect could be easily adjusted by randomly deleting two of the responding HCOEs.
- Profession is balanced between non-respondents and respondents with regard to Physicians, Dentists ($p = 0.9498$ in Table 6) Approximately 65% of Physicians and Dentists responded.
- Age is balanced between non-respondents and respondents ($p = 0.0567$, Table 7).
- Gender is balanced between non-respondents and respondents ($p = 0.1422$, Table 8).
- Race is not balanced between non-respondents and respondents ($p = 0.0006$, Table 9).

- 87% of American Indians, 79% of Blacks responded, while only 52% of Whites responded (Table 12).
- Demographics are not balanced between non-respondents and respondents ($p = 0.0022$, Table 10).
- 68% of Suburban and 60.5% of Urban responded versus 95.5% of Rural responded (Table 12).

Taken in totality, adjustment of the sample of respondents to achieve randomness as in the initial mailing is not realistic. Statistical results and evaluation may reach interesting conclusions. However, those conclusions would pertain to the sample at hand. Because of the non-randomness of the respondents, the conclusions may not extend into the population.

Sample Randomness: Comparison of Profession between Respondents and Non-Respondents

The profession types (Physician, Dentist, and Healthcare Organizational Executive) included in the analysis are displayed in Table 3. The others (e.g., Chiropractor, Healthcare Organizational Executive/Registered Nurse) were deleted because of low cell counts.

Table 3. Profession Types Included in Analysis

Profession	Definition	N Rows	Disposition
P	Physician	80	Included
D	Dentist	58	Included
HCOE	Healthcare Organizational Executive	8	Included
CHIRO	Chiropractor	1	Excluded
HCOE/RN	Healthcare Organizational Executive/Registered Nurse	1	Excluded
RN	Registered Nurse	1	Excluded
RN/HC	Registered Nurse/Healthcare	1	Excluded

A contingency table (Table 4) is often used to record and analyze the relation between two or more categorical variables. The numbers to the far right representing the number of respondents (98) and non-respondents (48) are called marginal totals. The grand total, i.e. the total number of individuals represented in the contingency table, is the number in the bottom right corner (146). The likelihood ratio test statistics for testing the difference between respondents and non-respondents with regard to the profession distribution is included in Table 5. The Chi-Square statistic tail probability 0.0368 is less than 0.05 indicating a significant difference in professions (non-randomness).

Table 4. Profession Contingency Table

	Dentist	Healthcare Executive	Organizational	Physician
Non-Respondent				
Count	20	0		28
Col%	34.48	0.00		35.00
Row%	41.67	0.00		58.33
Respondents				
Count	38	8		52
Col%	65.52	100.00		65.00
Row%	38.78	8.16		53.06
	58	8		80
				14
				6

Table 5. Test for Randomness of Returned Surveys

Model	Log Likelihood	DF	Chi Square	Prob > ChiSq
Difference	3.30360	2	6.607197	0.0368*
Full	121.59961			
Reduced	124.90321			

Sample Randomness: Comparison of Profession between Respondents and Non-Respondents with HCOE excluded.

In Figure 1, it appeared that if the HCOE group was eliminated (8 respondents), there would be no statistical difference in respondents and non-respondents with regard to

the profession distribution (Physician and Dentist). Once statistically tested, the profession distribution was essentially the same for respondents as for non-respondents, as confirmed by the likelihood ratio test in Table 6 ($p = 0.9498$).

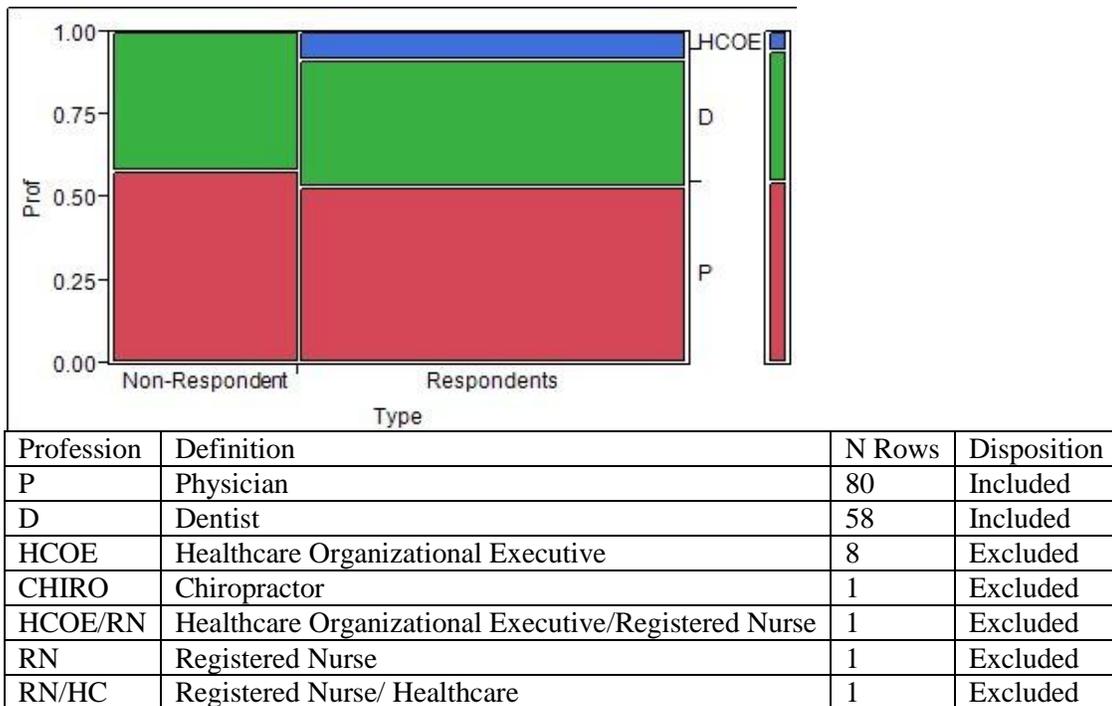
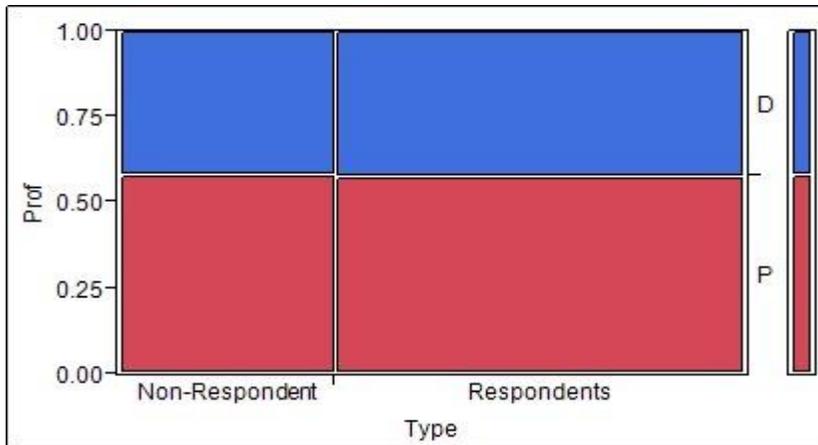


Figure 1. Mosaic Plot of Profession By Type

Table 6. Test for Randomness of Returned Surveys by Profession

Model	Log Likelihood	DF	Chi Square	Prob > ChiSq
Difference	0.001984	1	0.003967	0.9498
Full	93.891200			
Reduced	93.893183			



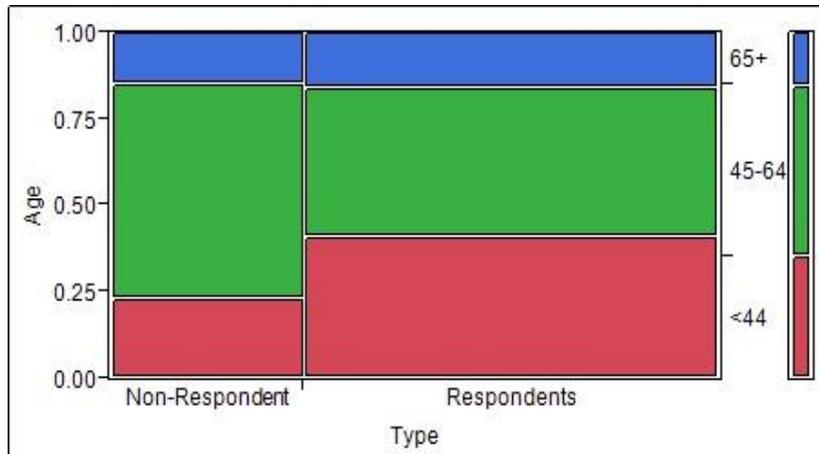
	Dentist	Physician	
Non-Respondent			
Count	20	28	4
Col%	34.48	35.00	8
Row%	41.67	58.33	
Respondents			
Count	38	52	9
Col%	65.52	65.00	0
Row%	42.22	57.78	
Count	58	80	138

Figure 2. Mosaic Plot of Profession by Type

Sample Randomness: Comparison of Age Groups between Respondents and Non-Respondents

The age distributions for respondents and non-respondents were investigated next.

The Mosaic Plot (see Figure 3) suggests a difference by respondent type but once statistically tested, this difference was not large enough to be significant (Table 7, $p = 0.0567$).



	44 and below	45 to 64	65 and over	
Non-Respondent				
Count	11	30	7	48
Col%	20.75	40.54	30.43	
Row%	22.92	62.50	14.58	
Respondents				
Count	42	44	16	10
Col%	79.25	59.46	69.57	2
Row%	41.18	43.14	15.69	
Count	53	74	23	150

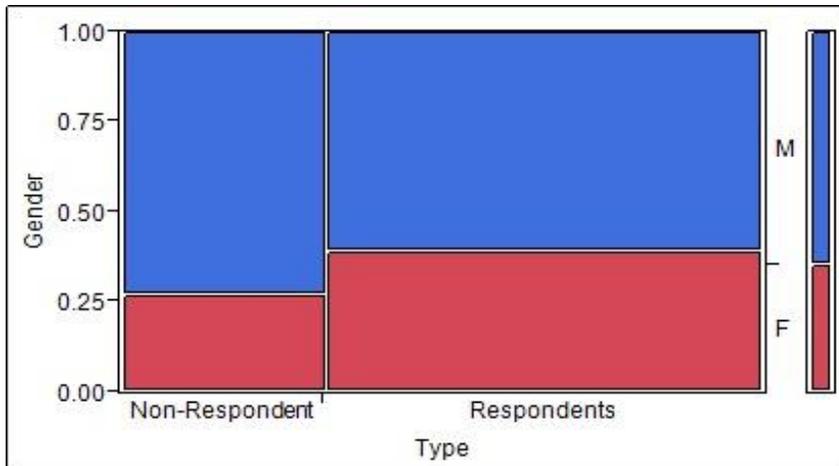
Figure 3. Mosaic Plot of Profession of Age by Type

Table 7. Test for Randomness of Returned Surveys by Age

Model	Log Likelihood	DF	Chi Square	Prob > ChiSq
Difference	2.86979	2	5.739583	0.0567
Full	147.68285			
Reduced	150.55264			

Sample Randomness: Comparison of Gender between Respondents and Non-Respondents

In testing the difference in gender distributions, for respondents and non-respondents, no statistical differences are found (Table 8, $p = 0.1422$).



Gender	Definition	N Rows	Disposition
F	Female	53	Included
M	Male	97	Included

	Female	Male	Total
Non-Respondent	13	35	48
Count	24.53	36.08	
Col%	27.08	72.92	
Row%			
Respondents	40	62	102
Count	75.47	63.92	
Col%	39.22	60.78	
Row%			
	53	97	150

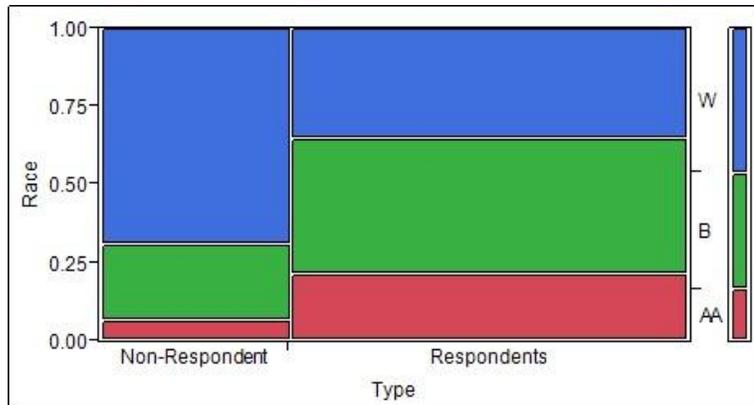
Figure 4. Mosaic Plot of Gender By Type

Table 8. Test for Randomness of Returned Surveys by Gender

Model	Log Likelihood	DF	Chi Square	Prob > ChiSq
Difference	1.077016	1	2.154032	0.1422
Full	96.345842			
Reduced	97.422858			

Sample Randomness: Comparison of Race between Respondents and Non-Respondents

Statistically significant differences were found across race distributions for respondents and non-respondents (Table 9, $p = 0.0006$). Race categories with low cell counts were eliminated, leaving African American, Black, and White.



Race	Definition	N Rows	Disposition
Unknown		3	Excluded
AA	African American	23	Included
AI	Asian Indian	1	Excluded
AMERICAN	American	1	Excluded
ASIAN IND	Asian Indian	3	Excluded
B	Black	52	Included
KOREAN	Korean	1	Excluded
MULTI/R		1	Excluded
OTHER AS	Other Asian	1	Excluded
W	White	64	Included

	African American	Black	White	Total
Non-Respondent				
Count	3	11	31	45
Col%	13.04	21.15	48.44	
Row%	6.67	24.44	68.89	
Respondents				
Count	20	41	33	94
Col%	86.96	78.85	51.56	
Row%	21.28	43.62	35.11	
	23	52	64	139

Figure 5. Mosaic Plot of Race By Type

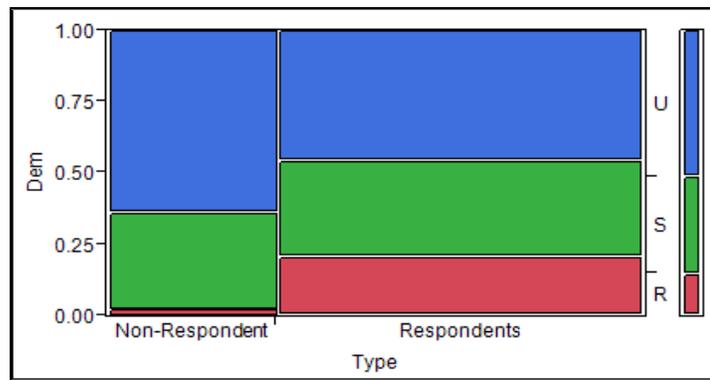
Table 9. Test for Randomness of Returned Surveys by Race

Model	Log Likelihood	DF	Chi Square	Prob > ChiSq
Difference	7.45494	2	14.90987	0.0006*
Full	134.68738			
Reduced	142.14232			

Sample Randomness: Comparison of Demographics between Respondents and Non-Respondents

Statistically significant differences were found when testing the difference in geographic distributions for respondents and non-respondents (Table 10, $p = 0.0022$).

Categories with low cell counts were eliminated, leaving Rural, Suburban, and Urban.



Demographic Region	Definition	<i>N</i>	Disposition
Unknown		1	Excluded
R	Rural	22	Included
S	Suburban	50	Included
S/U	Suburban/Urban	1	Excluded
U	Urban	76	Included

	Rural	Suburban	Urban	Total
Non-Respondent				
Count	1	16	30	47
Col%	4.55	32.00	39.47	
Row%	2.13	34.04	63.83	
Respondents				
Count	21	34	46	101
Col%	95.45	68.00	60.53	
Row%	20.79	33.66	45.54	
	22	50	76	148

Figure 6. Mosaic Plot of Demographics By Type

Table 10. Test for Randomness of Returned Surveys by Demographic Region

Model	Log Likelihood	DF	Chi Square	Prob > ChiSq
Difference	6.10956	2	12.21913	0.0022*
Full	140.73804			
Reduced	146.84760			

Test for Randomness: Attribute Summary

Respondent and non-respondent distributions appeared similar with respect to age, gender, and profession (Table 11). However, significant differences between respondents and non-respondents existed by race and geographic type (Table 12). The Journal of the American Medical Association identifies race as a significant determinant in the level of quality of care, with ethnic minority groups receiving less intensive and lower quality care (Bradley et al., 2004). Since other research has proven that blacks and other minorities are most affected by these findings, and many physicians expressed an interest or are actively participating in educational or community activities to help address healthcare disparities the researcher concluded this to be a significant factor which impacted the survey.

Table 11. Percentage for Non-Respondents versus Respondents (Non-Significant)

	Profession	Profession	Age	Age	Age	Gender	Gender
	Doctors	Physicians	<44	45-64	65+	Male	Female
Non-Respondents	34.5	35.0	21.0	40.5	30.4	24.5	36.0
Respondents	65.5	65.0	79.0	59.5	69.6	75.5	64.0

Table 12. Percentage for Non-Respondents versus Respondents (Significant)

	Race			Demographics		
	Native American	Black	White	Rural	Suburban	Urban
Non-Respondents	13.0	21.0	48.0	4.6	32.0	39.5
Respondents	87.0	79.0	52.0	95.5	68.0	60.5

Statistical Analysis of Questionnaire Data

ANOM for proportions (Nelson, Wludyka, & Copeland, 2005) was used to statistically test for differences in the proportion disagreement among the fourteen questions, and also for statistical differences in the proportion disagreement among the

demographic categories (e.g., profession, race). The ANOM charts provided immediate interpretation of results with respect to both statistical and practical significance. The ANOM charts were ideal for conducting multiple comparisons of proportions, and were used for both balanced and unbalanced data. The comparisons were done to see if any of the proportions were significantly different from the overall proportion. The ANOM charts are similar in appearance to statistical process control charts. The five-point Likert scale was simplified to a three-point scale because of low counts in many of the cells. Responses of 1 and 2 were reassigned as “1”, responses of 3 were reassigned as “2”, and responses of 4 and 5 were reassigned as “3”.

Figure 7 shows substantial disagreement with Q11 and Q14. The proportion corresponding to Likert score “3” was not remarkable across all questions. Therefore all responses corresponding to Likert score “3” were deleted in subsequent analyses allowing concentration primarily on the proportions disagreeing with the survey questions (see Figure 8). Figure 8 shows substantial disagreement with Q11 (36%) and Q14 (36%). There is generally good agreement with the other questions (84% to 97%).

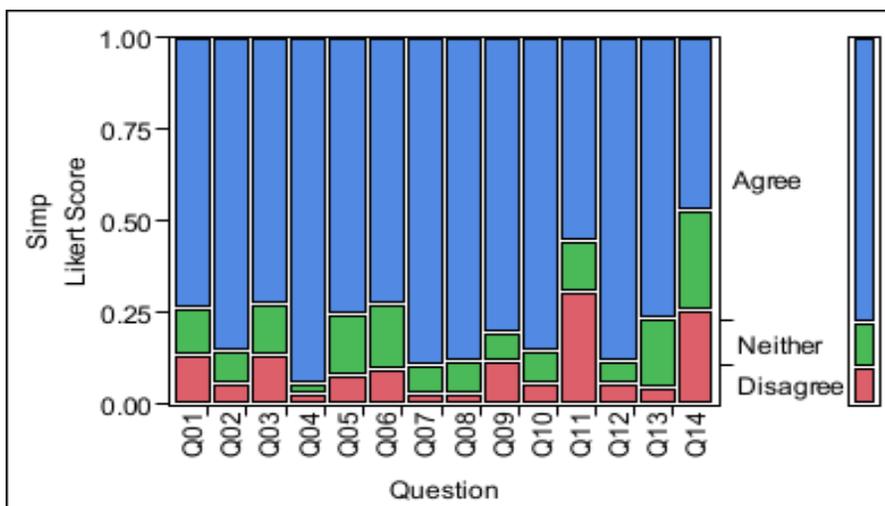


Figure 7. Mosaic Plot of Simplified Likert Scale with “Neither” included

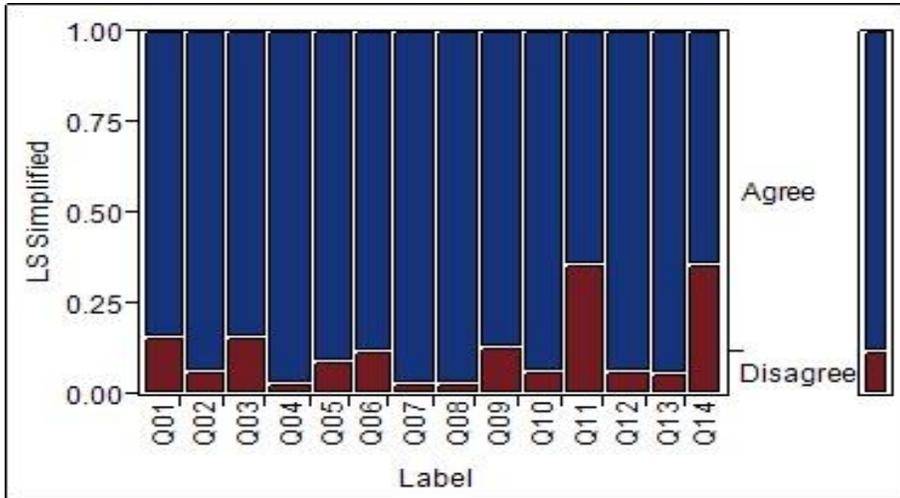


Figure 8. Mosaic Plot of Simplified Likert Scale By Survey Question

The proportion disagreeing with Q11 and Q14, based on the simplified Likert Score, are significantly different from the other questions as seen in ANOM Figure 9. ANOM shows that the proportion disagreement for Q11 and Q14 is substantially greater than the mean.

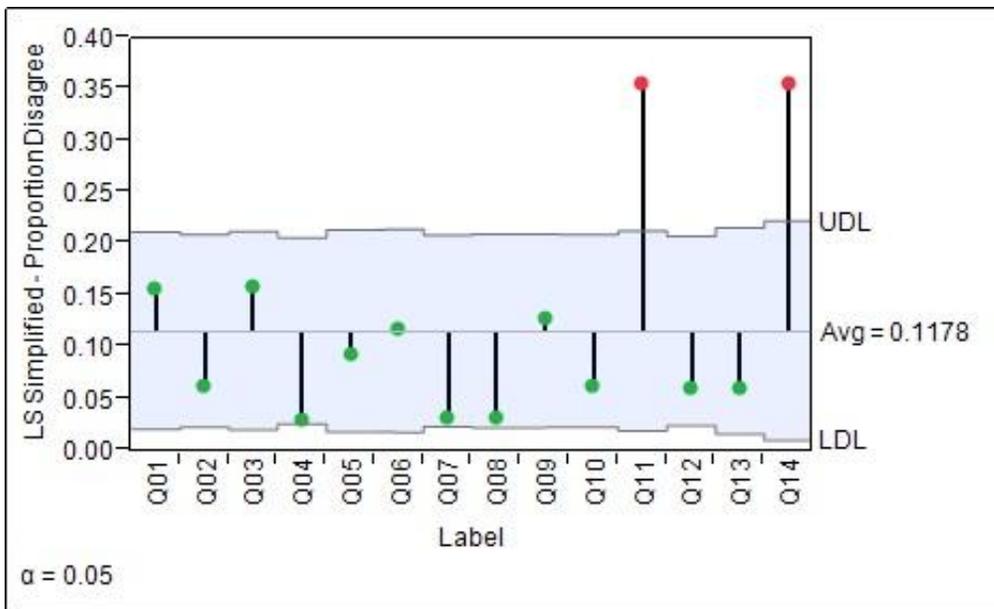


Figure 9. Analysis of Means for Proportions: Responses for All Questions (Q1-Q14)

The statistical results suggested that there is a large level of respondent disagreement for Questions 11 (36%) and 14 (36%), suggesting that more emphasis should be placed on educating healthcare leaders and administrators about the importance of collaboration between medical care and population health and implementing measures that will address and eradicate the disparities that still exist.

Table 13. Contingency Table based on Survey Responses Based on the Simplified Likert Score

	Disagree N (%)	Agree N (%)	N
Q01	14 (15.73)	75 (84.27)	89
Q02	6 (6.45)	87 (93.55)	93
Q03	14 (15.9)	74 (84.09)	88
Q04	3 (3.03)	96 (96.97)	99
Q05	8 (9.41)	77 (90.59)	85
Q06	10 (11.90)	74 (88.10)	84
Q07	3 (3.19)	91 (96.81)	94
Q08	3 (3.26)	89 (96.74)	92
Q09	12 (12.90)	81 (87.10)	93
Q10	6 (6.45)	87 (93.55)	93
Q11	31 (35.63)	56 (64.37)	87
Q12	6 (6.25)	90 (93.75)	96
Q13	5 (6.10)	77 (93.90)	82
Q14	26 (35.62)	47 (64.38)	73
	147	1101	1248

Table 14. Analysis of Means for Proportions Summary

Level	Group N	Lower Limit	Group Proportion	Upper Limit	Limit Exceeded
Q01	89	0.022152	0.157303	0.213425	
Q02	93	0.024393	0.064516	0.211184	
Q03	88	0.021568	0.159091	0.214008	
Q04	99	0.027503	0.030303	0.208074	
Q05	85	0.019759	0.094118	0.215818	
Q06	84	0.019135	0.119048	0.216442	
Q07	94	0.024931	0.031915	0.210646	
Q08	92	0.023846	0.032609	0.211731	
Q09	93	0.024393	0.129032	0.211184	
Q10	93	0.024393	0.064516	0.211184	
Q11	87	0.020975	0.356322	0.214602	Upper
Q12	96	0.025983	0.0625	0.209594	
Q13	82	0.017853	0.060976	0.217724	
Q14	73	0.011464	0.356164	0.224113	Upper

The ANOM for proportions shows that these two proportions disagreement for Q11 and Q14 are significantly higher than the average (11.78% disagreement). For Q14, there is 50% disagreement for physicians whereas there was only 20% disagreement for dentists. When the responses for Q11 and Q14 were deleted, the average percentage disagreement for the remaining questions is 8.27% (see Figure 10). The ANOM in Figure 10 shows that there is no statistical difference in the proportion disagreement among the remaining 12 questions. The estimated percentage disagreement among the questions ranges between 3% and 16%. Conversely this shows that there is good agreement among the questions ranging between 84% and 97%. ANOM uses the normal approximation to the binomial. Therefore, if the sample sizes are too small, a warning appears below the plot.

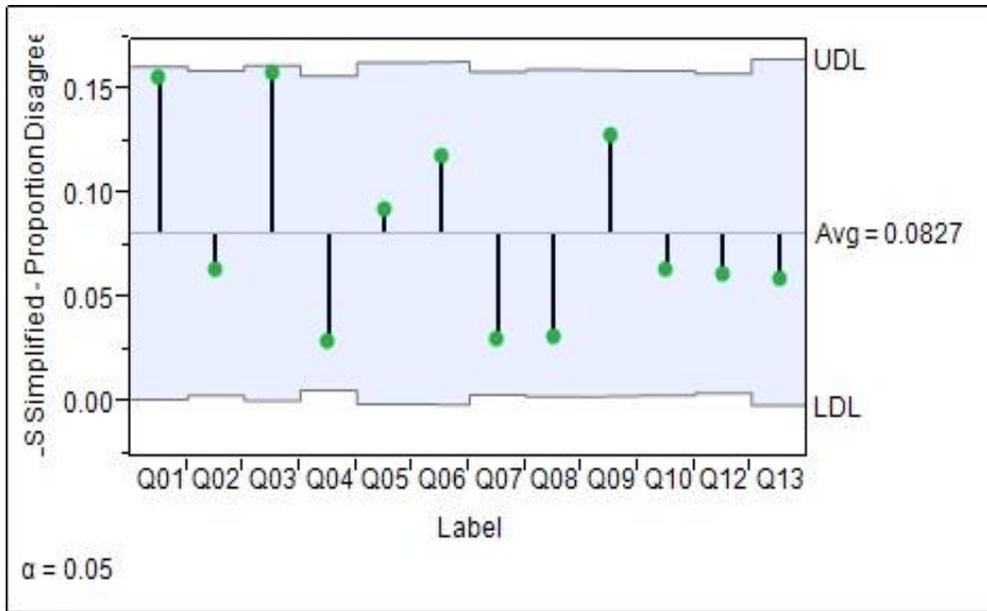


Figure 10. Analysis of Means for Proportion. Some sample sizes were too small to use the normal approximation to the binomial distribution. Responses for Questions 11 and 14 were deleted. All proportions are not statistically different without Q11 and Q14.

ANOM by Demographic Category for Q11 and Q14

ANOM is used to compare proportions for the attribute levels (Profession, Age, Gender, Race and Demographics) to the overall response proportion.

In Figures 11 and 12, ANOM show no significant differences among the age groups and the overall averages for Q11 and Q14, respectively. In addition, no differences were found among geographic location as seen in Figures 13 and 14. Furthermore, there is not a significant difference in the opinions of females (37%) and males (35%) for Q11 and Q14 (Figures 15 and 16, respectively) concerning the need to address population health as being critical to resolving population health issues.

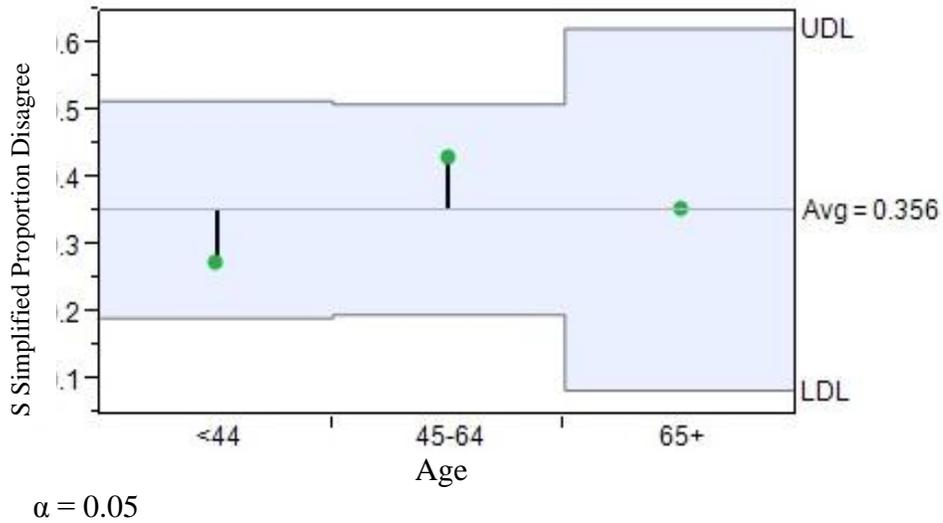


Figure 11. Simplified Likert Score By Age for Q11 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

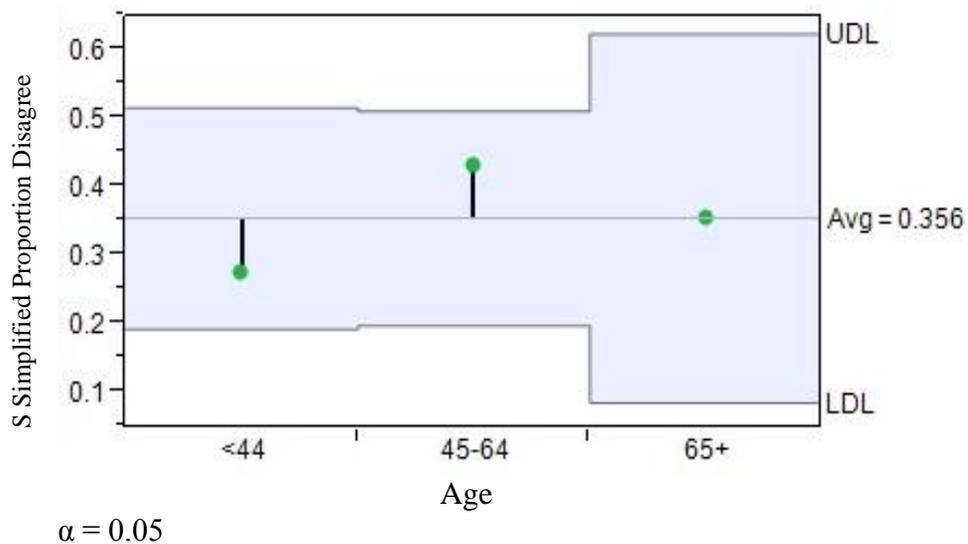


Figure 12. Simplified Likert Score By Age for Q14 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

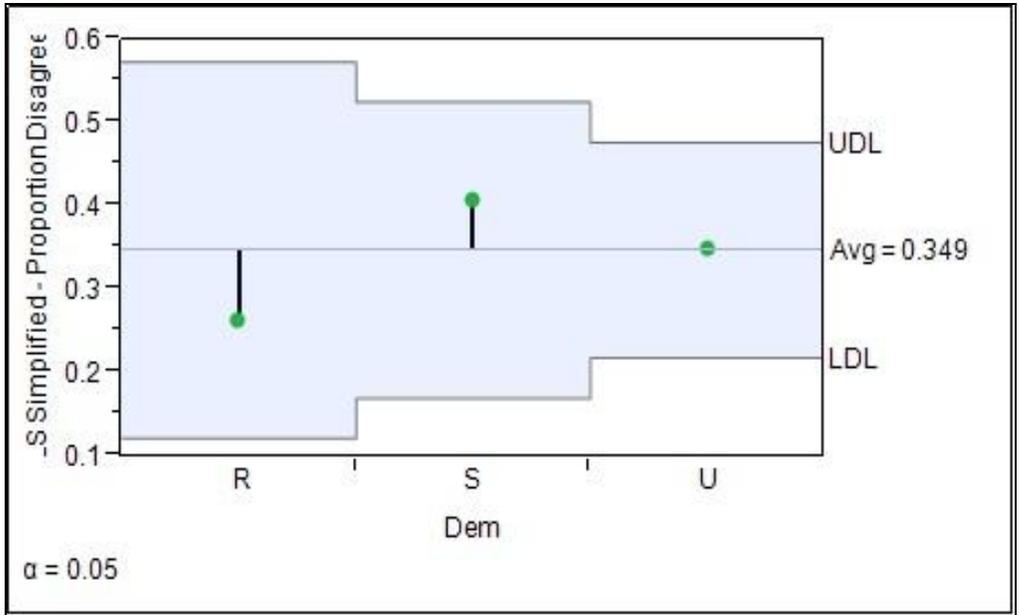


Figure 13. Simplified Likert Score By Demographic for Q11 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

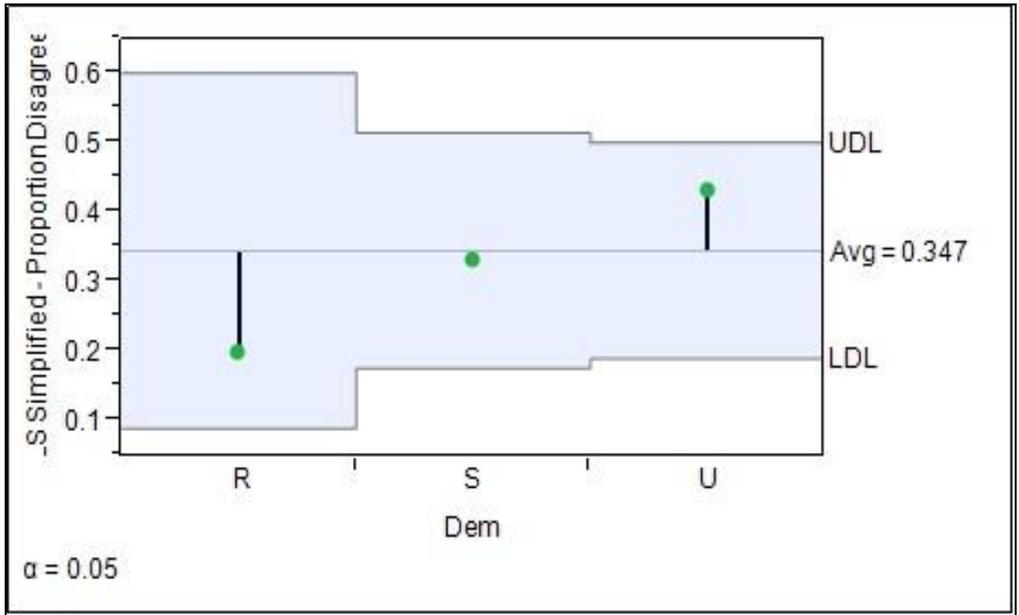


Figure 14. Simplified Likert Score By Demographics for Q14 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

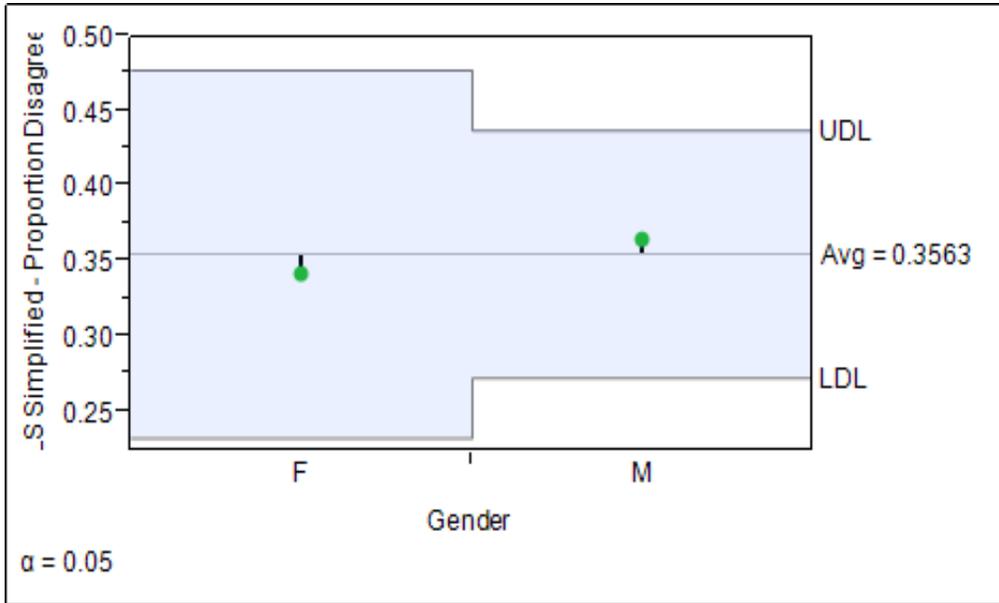


Figure 15. Simplified Likert Score By Gender for Q11 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

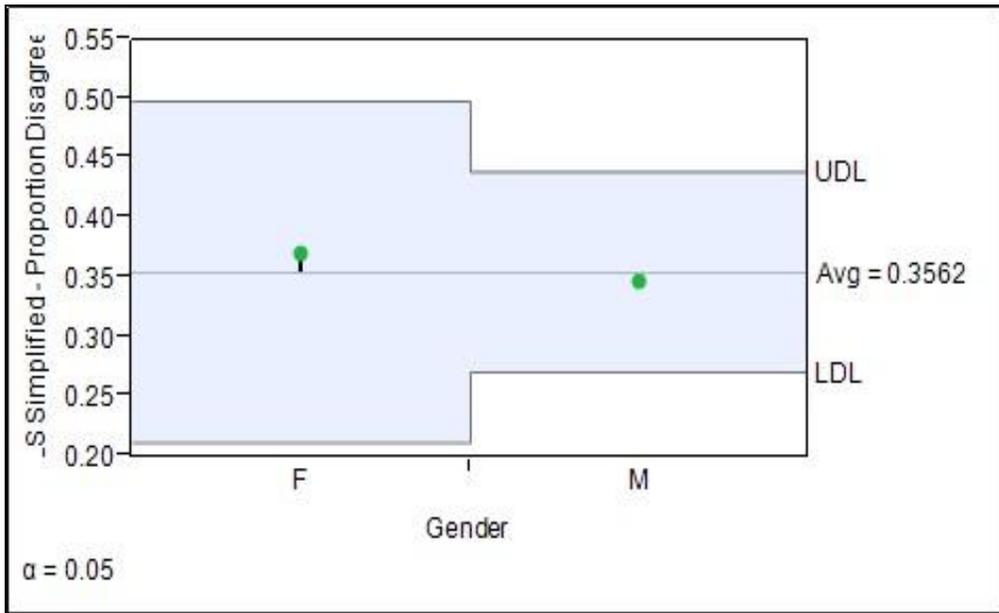


Figure 16. Simplified Likert Score By Gender for Q14 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

The results from comparing inequities in access to adequate healthcare and gender are somewhat surprising, with women in the United States generally having higher levels

of access to care. These disparities can be explained in part by looking at rates of overall insurance coverage (privatized and publicly assisted) between men and women, the effects of certain socioeconomic factors on levels of coverage between men and women, and overall gender-based differences in perception of health and healthcare.

Focusing on the ANOM for Q14 by profession, physicians showed the highest level of disagreement among other professions. This difference is statistically significant (see Figure 17) for Q14. Although exhibiting the highest level of disagreement for Q11, this proportion is not statistically significant (see Figure 18). It is possible that physicians believed that the question suggested that providing only medical care has little relevancy to overall health or they did not understand the question.

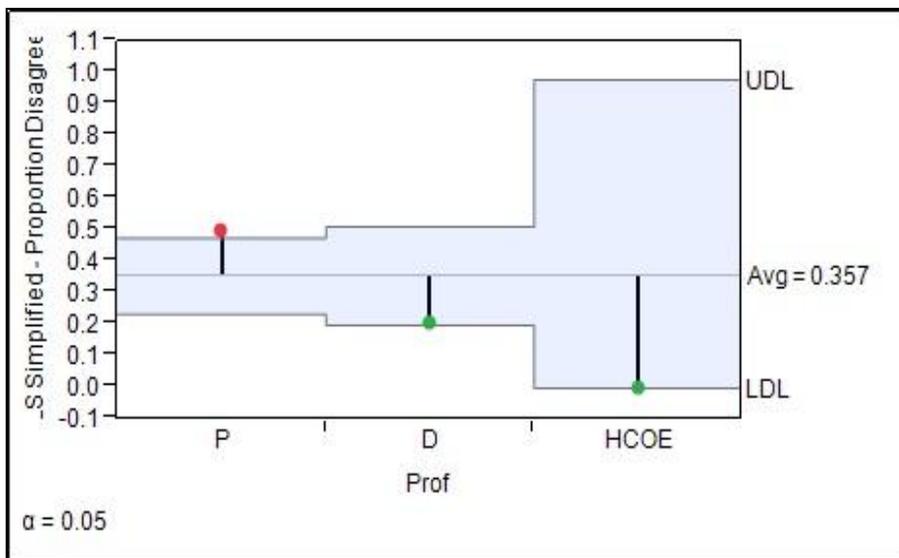


Figure 17. Simplified Likert Score By Profession for Q14 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

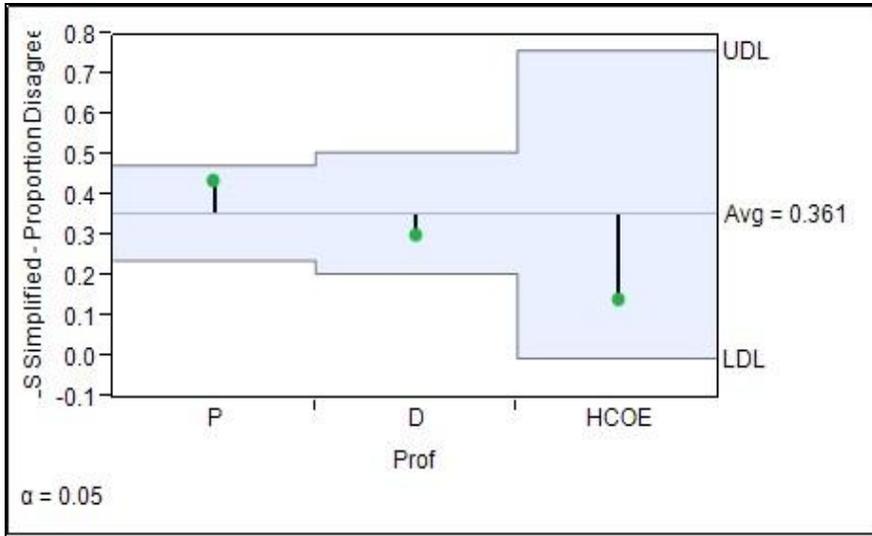


Figure 18. Simplified Likert Score By Profession for Q11 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

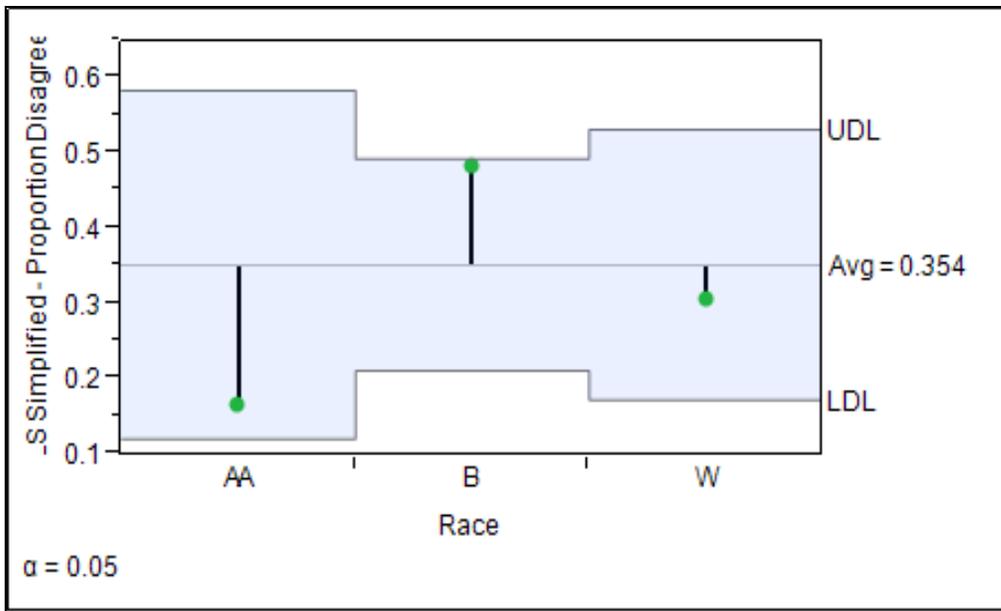


Figure 19. Simplified Likert Score By Race for Q11 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

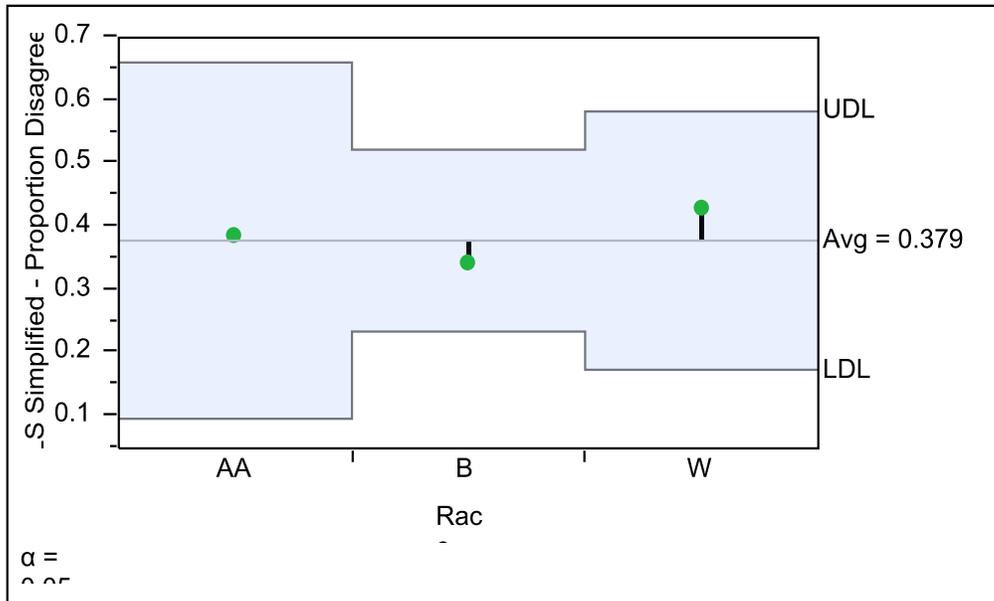


Figure 20. Simplified Likert Score By Race for Q14 Analysis of Means for Proportions. Some sample sizes were too small to use the normal approximation to the binomial distribution.

Implications of Statistical Findings

The statistical results suggest that there is a large level (and significant) of respondent disagreement for questions Q11(36%) and Q14(36%) which suggest that more emphasis should be placed on educating healthcare leaders and administrators about the importance of collaboration between medical care and population health and implementing measures that will address and eradicate the disparities that still exists. Persons from under-represented populations are most affected by these disparities and may benefit, most, from the interest and active participation in community and educational activities of said physicians. For example, the past decade has afforded opportunities for a significant number of physicians and dentists to exchange viewpoints about ways to address specific healthcare needs of their minority patients which proved to be of direct benefit to patients in the poorest served healthcare communities.

Subsequently, these leaders of healthcare concerns formed discussion boards with

community health workers to discuss the health needs of patients in their practice community (AMA, 2011).

It has been proposed that those in a greater power position are less likely to express a desire for a collaborative relationship. This notion was first described as the "principle of least interest" by Waller and Hill (1951). My study examined this concept relative to answers received in question Q11 and question Q14 of my questionnaire. Based on the principle of least interest, we expected physicians to express less orientation toward sharing powers and a full collaboration with dentists since they have traditionally been in a more of a power position.

Unlike the gradual shift in medicine away from solo practice, dentists predominantly continue to work in small solo and group practices. Within dental practices, the range of oral healthcare providers has remained fairly static and well delineated. Almost all general dentists, who make up 80% of the dental workforce, employ dental assistants as well as dental hygienists (Young, Karp, & Karp, 1990).

Physicians may believe that question Q14 suggests that providing only medical care has little relevancy to overall health or possibly did not understand the question. Furthermore, the advent of the current healthcare and delivery systems have positioned physicians with extended responsibilities such as difficulty with managed care organizations, demands on time, malpractice concerns and defensive medicine-all of which may impact the physician attitudes about the relationship between medical care and population health and the need for the two to work together.

The disparities in healthcare could possibly explain the substantial disagreement that is seen among healthcare leaders and administrators about the importance of

understanding medical care and its relevancy to addressing population health concerns.

Overall, there was general agreement among survey participants, however; there was substantial disagreement on Q11 and Q14 which was very significant to the study.

Although suburban populations do not share the same challenge and disparities as rural and urban populations, (i.e., transportation issues, access to care, modern or advanced healthcare systems, large disparities in socioeconomic status, higher rates of crime and violence, high risk behaviors, and the presence of psychological stressors) these points do not significantly impact attitudes about population health and the need to connect it to the current healthcare and delivery system. Subsequently, urban populations share similarities to suburban populations and the two can easily be confused because of their geographic location.

The focus of this study does not include research which suggests that blacks and other minorities have higher incidence of chronic diseases, higher mortality, and poorer overall health outcomes. For example, the cancer incidence rate among African Americans is 10% higher than among whites and adult African Americans and Latinos have approximately twice the risk as whites of developing diabetes. When viewing health from this perspective, it's not surprising that whites overall may not have the same opinion about population health as blacks and other minorities. Therefore, when addressing population health concerns as a preventative approach to healthcare, intracultural differences exist.

Even though disagreement exists, overall concern about collaborative efforts, relative to population health is comparable among healthcare providers, and thereby this study these may be useful for monitoring progress toward the second goal of eliminating

health disparities. The level of disagreement among physician is highest (50%) while the level of disagreement among dentists (21%) reflects a substantial difference. For example, in question Q11 and question Q14, there is substantial disagreement relative to the other questions. Out of numerous ANOM tests for proportions only physicians stood out.

The question this study poses as a result of data collected would be if it is appropriate to combine the data and stats backing it up and the relevant demographics would have to be available or collected. In any event, the obtained sample from the main survey, initially were random, however, the responses were not balanced and so additional research and further testing are recommended.

Other healthcare administrators show a 17% level of disagreement with results proving that physicians view medicine differently than other healthcare administrators. For example, the primary role of medicine is to address the physical health of the patient and question Q14 states that “It is critical that healthcare leaders focus more on population health than medical to improve a population’s health.” According to Arah (2008), The relationship between individual and population health is partially built on the broad dichotomization of medicine into clinical medicine and public health.

Population health is a relatively new, rather fashionable term in the medical field. From its probable origins in Canada to its current use in literature (Arah & Westert, 2005; Kindig & Stoddart, 2003), population health calls up images of non-individual health, at least in its literal meaning.

Statistically, there is no significant difference in the attitudes of females (37%) and males (35%) concerning the need to address population health as being critical to resolving population health issues. For example, the results from comparing inequities in

access to adequate healthcare and gender are somewhat surprising, with women in the United States generally having higher levels of access to care. These disparities can be explained in part by looking at rates of overall insurance coverage (privatized and publicly assisted) between men and women, the effects of certain socioeconomic factors on levels of coverage between men and women, and overall gender-based differences in perception of health and healthcare.

Suburban populations do not share the same challenge and disparities as rural and urban populations, i.e. transportation issues, access to care, modern or advanced healthcare systems, large disparities in socioeconomic status, higher rates of crime and violence. Urban populations share similarities to suburban populations and the two can easily be confused because of their geographic location. Question Q11 and question Q14 share some similarities and may be perceived the same across regions.

The results show that both respondents and non-respondents recognize the need for healthcare organizations to collaborate more with non-healthcare organizations to affect population health. Physicians and administrators participated in this research study which was designed to educate and integrate a population health approach into healthcare. This insight enabled them to utilize specific leadership skills to help eradicate the disparities in their communities.

Based on demographics, adults aged 65 and older comprise 12.4% of the United States Population. Females outnumber males, accounting for 7.3% of this population. The overall percentage of older adults is anticipated to increase dramatically over the next several years. According to the 2000 Census, the most rapid increase in population growth

was among 45-54 year olds. Older Americans are more likely to experience health related issues and, therefore, recognize the need to address population health concerns.

Overall finding from study showed that 67% of healthcare leaders and administrators agreed that collaboration between healthcare leaders and non-healthcare leaders is critical to affect population health. Dentists and physicians showed the highest level of disagreement among other healthcare leaders which is why the focus shifted from other healthcare leaders and administrators to reflect the relationship between them.

It is critical that healthcare leaders focus more on population health than medical care to improve a population's health. Even though disagreement exists, overall concern about collaborative efforts, relative to population health is comparable among healthcare providers, and thereby this study may be useful for monitoring progress toward the second goal of eliminating health disparities. The level of disagreement among physician is highest (50%) while the level of disagreement among dentists (21%) reflects a substantial difference. Other healthcare administrators show a 17% level of disagreement with results proving that physicians view medicine differently than other healthcare administrators.

For example, the primary role of medicine is to address the physical health of the patient and question Q14 states that "It is critical that healthcare leaders focus more on population health than medical to improve a population's health." According to Arah (2008), the relationship between individual and population health is partially built on the broad dichotomization of medicine into clinical medicine and public health.

Population health is a relatively new, rather fashionable term in the medical field. From its probable origins in Canada to its current use in literature (Arah & Westert, 2005;

Kindig & Stoddart, 2003), population health calls up images of non-individual health, at least in its literal meaning.

The purpose of this research study was to identify the critical reasons and rationale that are important in effective collaboration among healthcare and non-healthcare leaders in addressing population health issues. Older Americans are more likely to experience health related issues and, therefore, recognize the need to address population health concerns

CHAPTER V

DISCUSSION AND CONCLUSION

Overall, findings from this study demonstrate that healthcare leaders understand the importance of collaboration in addressing population health issues, however dentists and physicians differed substantially on questions 11 and 14 which may suggest that the questions may have been confusing. Also, physicians have traditionally focus on medical care and has not transitioned into a population health approach to care. Dentists, on the other hand, has basically focused on providing oral care with not as much emphasis on the overall care, which suggest that dentists need to adopt a population health approach to eliminating the disparities that still exists (Sweet & Moynihan, 2007).

Healthcare leaders and administrators are becoming increasingly aware of the need for healthcare organizations to collaborate more with non-healthcare organizations to effect population health. Therefore, efforts should be taken to better educate leaders about the importance of collaboration among organizations as well as provide information for physicians and administrators in leadership positions.

This research study examined the critical reasons and rationale that are important in effectively collaborating among healthcare and non-healthcare leaders in addressing population health issues. This study was conducted by mailing surveys to 150 healthcare administrators in the Augusta, Georgia, area. The initial mailing was to a random sample of the target population. However, the final sample attained through the initial mailing and follow-up represented a biased sample. This radius around Augusta, Georgia was picked because the researcher had ready access to the membership of medical associations, dental associations and other healthcare organizations. Demographic information was gathered

including gender, age, racial grouping, and practice specialty for physicians or hospital size and whether located in a rural or metropolitan area for healthcare organizations.

Results of the study revealed there to be general agreement among respondents, but substantial disagreement on questions #11-Providing only medical care does very little to improve a population's health and question #14-It is critical that healthcare leaders focus more on population health than medical care to improve a population's health. These questions were very significant to the study and, therefore, provided valuable and usable information to help the researcher better understand and implement measures that will bridge the gap between our understanding of medical care and population health.

The United States historically had large disparities in health and access to adequate healthcare between races, and current evidence supports the notion that these racially-centered disparities continue to exist and are a significant social health issue. The disparities in access to adequate healthcare include differences in the quality of care based on race and overall insurance coverage based on race. The Journal of the American Medical Association identifies race as a significant determinant in the level of quality of care, with ethnic minority groups receiving less intensive and lower quality care (Bradley et al., 2004). Ethnic minorities receive less preventative care, are seen less by specialists, and have fewer expensive and technical procedures than non-ethnic minorities. For example, Hispanic Americans tend to have less insurance coverage than white Americans and receive less regular medical care. The level of insurance coverage is directly correlated with the level of access to healthcare including preventative and ambulatory care.

The goal of eliminating disparities in healthcare in the United States remains. Even as quality improves on specific measures, disparities often persist. Addressing these disparities must begin with the fundamental step of bringing the nature of the disparities and the groups at risk for those disparities to light by collecting healthcare quality information stratified by race, ethnicity, and language data. Then attention can be focused on where interventions might be best applied, and on planning and evaluating those efforts to inform the development of policy and the application of resources (McDonough, Gibbs, & Scott-Harris, 2004).

Politicians, public servants and organizations at all levels are increasingly called upon to be transparent, open to comment and scrutiny, and accountable for the short- and long-term impact of their decisions. The desired outcome of our work depends on the role that we are fulfilling, how we are working, with whom we are working and what we are working on. If we are the intermediary or the facilitator and catalyst, then our desired outcomes are different than if we are the program deliverer.

The population health approach calls for an increased focus on health outcomes (as opposed to inputs, processes and products) and on determining the degree of change that can actually be attributed to our work. This emphasis will have an impact on planning and goal-setting processes as well as on the choice of interventions or strategies employed. In making decisions on the best investment of resources, strategies that have the potential to produce the greatest health gains will be given priority. Outcome evaluation is essential in a population health approach. It examines long-term changes in both health and the determinants of health. These include changes in knowledge, awareness and behavior, shifts in social, economic and environmental conditions, as well as changes to public

policy and health infrastructure. Outcome evaluation also seeks to measure reduction in health status inequities between population sub-groups. Longer-term outcome evaluation is essential to a comprehensive evaluation program, which also includes process evaluation (to determine whether a policy or program is meeting its goal and reaching its target population) and impact evaluation (to measure immediate results of a program or policy (Arah, 2008).

Before determining how to develop comprehensive strategies in any community, it is important to know what local conditions will support or inhibit a collaborative effort. It is important to learn about the school's readiness for collaboration by talking with school administrators, teachers, paraprofessionals, and support staff; parents and parent-teacher organizations leaders; and teacher union leaders. In the community, city or county council members, and representatives of neighborhood and youth-serving organizations can provide useful insights into potential for a comprehensive partnership. Involve community members, parents, and other partners in developing an understanding of the context for collaboration.

There are many catalysts for comprehensive partnerships. Some form when school leaders or local policymakers initiate collaboration. Others begin when a community becomes aware of an urgent need for change, or when funding becomes available to respond to conditions in the community. A school superintendent, for example, notified of new public or private funds for comprehensive services, may work with teachers, parents, and community agencies to develop school-linked strategies for healthcare, adult education, child care, job preparation, and violent prevention programs (Learning Point Associates, 2008).

On a national level, President Barack Obama sent a belated Valentine's Day bouquet to the population health industry when he released his \$3.1 trillion 2010 budget plan. Times have been tough in population health (disease management and wellness companies) and experts have increasingly questioned disease management's effectiveness. The Center for Medicaid and Medicare ended the disease management-inspired Medicare Health Support demonstration, claiming that it was not successful. Recently, another study, this one focused on the Medicare Coordinated Care Demonstration, showed that care coordination programs with substantial in-person contact that target moderate to severe patients can be cost-neutral and improve some aspects of care (Brown, 2007).

On the flip side, Randall Brown, Ph.D., director of health research at Mathematica Policy Research, Inc., in Princeton, New Jersey, and coauthor of the Medicare Coordinated Care Demonstration study, questioned whether the typical disease management program with a nurse call center and little or no face-to-face interaction would actually improve patient outcomes and reduce costs. Brown questions the disease management model and said the population health industry has not provided strong evidence about its program successes. His concerns are an example of what population health is facing. These questions are also causing forward-thinking companies to test other ways that could bring about long-lasting behavior change.

Don't count population health out just yet. President Obama's 2010 budget proposal included two provisions that could reinvigorate the population health industry:

A focus on prevention. In his budget document, Obama wrote "The plan must invest in public health measures proven to reduce cost drivers in our system-such as

obesity, sedentary lifestyles, and smoking-as well as guarantee access to proven preventive treatments.”

Changing the way Medicare pays for hospital stays. Obama proposes paying hospitals under a bundled system that combines payment for the hospital stay as well as care for the patient for 30 days after release.

Population health companies could play a vital role in helping hospital oversee patient care after discharge through its health coaching and remote patient monitoring programs. Though President Obama hasn't put a dollar amount on preventive efforts and the administration is vague on specifics, the population health industry is not waiting to find out. According to Tracey Moorhead, President and chief executive officer of Disease Management Association of America, The Care Continuum Alliance, released a statement the president's budget is a “welcome step toward a national commitment to chronic disease prevention and care.” The population health industry believes they are well positioned to help effect change.

Population health improvement providers-Prevention and wellness companies, disease management organizations and others serving people with and at risk of chronic disease-are uniquely qualified to assist policymakers with designing and evaluating prevention, care coordination and care management programs. This is all good news for population health, except in his budget, President Obama said the country needs to invest in prevention that has been “proven to reduce cost drivers.”

Conclusion

In America, the models for healthcare include the use of traditional delivery and financing which have proven inadequate. An increasing number of people from

underrepresented populations continue to need basic primary health services despite an increase in the variety of healthcare and non healthcare providers, highly advanced technologies, and accelerating expenditures. The crisis has compelled community leaders, healthcare providers, advocates, states, and other key stakeholders to apply collaborative practices to resolving the complex problem of access to healthcare. These community-based initiatives have the potential to expand access to care, improve health outcomes and productivity, and even reduce healthcare costs over the long term.

Yet for collaborative approaches to be successful, leaders at all levels of government must be committed participants. By supporting existing collaboratives aimed at improving access and coverage, governors and other leaders can help move projects beyond the demonstration or pilot stages into sustainable programs with enduring benefits.

Conveners and participants in a process must think and act for the long term. In doing so, there are a several important factors to consider before committing time and energy to collaborative processes. First, successful collaborations take time. Where financial and technical support is needed, it likely will be required for some years or—for some projects— indefinitely. In addition, providing “seed money” alone can lead to failure in communities requiring some amount of continued external funding or other resources. Secondly, program evaluation requirements may stall community initiatives when the reporting measures or bureaucratic details are onerous.

Modest investments of state funds to enable and support community collaborations can have a big payoff. States can play a key role in assisting with data collection and dissemination, and in developing new data to provide the factual basis for agreements. State agencies can assign resources for monitoring the outcomes and effectiveness of

programs, or by assisting community groups in developing assessments and plans that are manageable and compliant with existing regulations.

State and federal involvement in community level collaboratives holds great promise for improving healthcare access, just as it does for environmental protection, stewardship of resources, education, and regional economic development. Based on past experiences and the growing record of accomplishments across the country, community collaborations to improve access to healthcare will achieve greater success and sustainability with increased state support and active participation by leaders at all levels (National Policy Consensus Center, 2004).

It is imperative that healthcare administrators focus more on collaborating with non-healthcare organization to affect population health as a key issue in developing summary measures is defining and measuring health and health change (Molla, Madans, Wagener, & Crimmins, 2003). This study is significant because it explains why and how healthcare leaders will affect population health in the community. This can be achieved by forming collaborative relationships with a new and diverse group of partners outside the healthcare sector (Olden, 2001).

Collaborative partnerships, comprised of people and organizations from multiple sectors working together in common purpose, are a prominent strategy for population health improvement and reflect a shift in healthcare providers' attitudes about how health is defined (Roussas & Fawcett, 2000). Health is more than the absence of disease but rather a state of complete physical mental and social well-being. The population health approach recognizes that health is a capacity or resource rather than a state, a definition which corresponds more to the notion of being able to pursue goals, acquire skills and

education, and to grow. This broader notion of health recognizes the range of social, economic, and physical environmental factors that contribute to health (Judd, Frankish, & Moulton, 2001).

The researcher's primary objective was to identify the critical reasons or rationales that enable healthcare leaders to effectively collaborate with non-healthcare organizations. The secondary objective focused on expanding the current knowledge base about the importance of both collaboration and leadership in addressing overall population health issues. Consequently, the researcher believes that this study will provide valuable insight about critical reasons or rationale for why-leaders in healthcare organizations ought to collaborate with non-healthcare organizations to address population health issues. The researcher designed questions based on Likert Scale responses. There was general agreement on most questions, but substantial disagreement on Questions 11 and 14, which demonstrates that healthcare leaders and administrators are aware of the critical need for healthcare organizations to collaborate with non-healthcare organizations to address population health issues. Furthermore, substantial disagreement on Question 11 and 14, which were vital to the study, suggest that more education is involved in an effort to bring awareness to the need for population health involvement.

Transitions and changes in the healthcare system require that physicians and dentists make adjustments and in their professional roles regardless of the differences in their demographics, which include but are not limited to sex, age, and gender norms. Subsequently, Questions 11 and 14 shed light on the importance of examining intercultural and intra-cultural similarities and differences in attitudes toward physician–dentist relationships. Our findings help to better understand their contribution to

professional roles and expectations because such understanding can help to enhance inter-professional education for the purpose of increasing collaboratives and improving healthcare outcomes, regardless of professional boundaries. Although providers and organizations cannot go beyond the law, they may have broad discretion to develop the terms of the collaborative agreement within the bounds of the law.

Focusing on the ANOM for Q14 by profession, physicians showed the highest level of disagreement among other professions. This difference is statistically significant (see Figure 17) for Q14. Although exhibiting the highest level of disagreement for Q11, this proportion is not statistically significant (see Figure 18). It is possible that physicians believed that the question suggested that providing only medical care has little relevancy to overall health or they did not understand the question. Furthermore, the advent of the current healthcare and delivery systems has positioned physicians with extended responsibilities such as difficulty with managed care organizations, demands on physicians' time, malpractice concerns and defensive medicine-all of which may impact the physician attitudes about the relationship between medical care and population health and the need for the two to work together. In addition, there is no statistically significant disagreement among dentists as well, but implementing measures within healthcare organizations can significantly improve healthcare leaders understanding of the importance of population health by collaborating more with non-healthcare leaders. Furthermore, additional research and follow-up studies could be helpful in bridging the gap between providing medical care and understanding population health.

For example, the primary role of medicine is to address the physical health of the patient and question Q14 stated that "It is critical that healthcare leaders focus more on

population health than medical to improve a population's health." According to Arah (2008), the relationship between the individual and population health is partially built on the broad dichotomization of medicine into clinical medicine and public health.

Population health is a relatively new, rather fashionable term in the medical field. From its probable origins in Canada to its current use in literature (Arah & Westert 2005; Kindig & Stoddart, 2003), population health calls up images of non-individual health, at least in its literal meaning.

Study Limitations and Recommendations

This study builds on the history of research to eliminate health disparities.

Although the first large- scale effort toward this end was the Secretary's Task Force Report on Black and Minority Health (U.S. Department of Health and Human Services, 1986), this dissertation utilized previous research which included a follow-up evaluation more than 2 decades later (Giles et al., 2004). This research requested healthcare and non healthcare providers to provide their socio demographic and risk factor characteristics, and the information was then processed regarding the effectiveness of collaborative strategies to eliminate disparities.

This study is different because it builds on previous research (H.R. 3014--110th Congress: Health Equity and Accountability Act, 2007; National Policy Consensus Center, 2004; U.S. Department of Health and Human Services, 1986). However, the researcher acknowledges that there were several limitations. Although closed-ended surveys were used, an open-ended survey would allow for the sharing of ideas which is very important to affect population health. Collecting non-respondent demographics on individuals who did not respond initially would solidify explanations about lack of interest

or response from healthcare providers and non-healthcare providers and provide a base to further explore this topic.

In this study, a lower factor score on importance of medical care and improvement of population healthcare dimension indicates a lower orientation toward interdisciplinary study and inter-professional collaborations. A low factor score on the caring, as opposed to curing, dimension indicates a more negative view of physicians' contributions to psychosocial and educational aspects of patient care. A low factor score on the physicians' autonomy dimension indicates less agreement with dentists' involvement in decisions on patient care and policies. A low factor score on physicians' dominance suggests acceptance of a totally dominant role of physicians in aspects of patient care. Additional research could further explain these factor indicators.

In addition, intra-cultural comparisons showed attitudinal discrepancies between physicians and dentists within in various regions of Georgia. Our findings showed that dentists desire collaborative healthcare relationships more than physicians, regardless of demographics. This is consistent with recent findings on attitudes toward physician–dentist relationships in which physicians viewed collaborative relationships as less important than did others in the profession. (Rosenstein & O'Daniel, 2008). These findings are also consistent with the prediction based on the Waller and Hall's (1951) principle of least interest which was described previously.

The pattern of intra-cultural comparison findings generally suggests that attitudes of white physicians in all of the sampled areas of Georgia toward inter-professional collaboration relative to healthcare are more congruent than those in the dentists sampled in all areas of Georgia. These findings suggest that less conflict in the professional roles of

physicians and dentists in regions with more traditional professional roles (suburban and urban) may be expected.

The level of disagreement among physician is highest (50%) while the level of disagreement among dentists (21%) reflects a substantial difference. For example, in question 11 and question 14, there is substantial disagreement relative to the other questions. Out of numerous ANOM tests for proportions only the category of physicians stood out. However, if additional research data were integrated into the analysis other demographic variables would possibly test significantly different.

Although the obtained sample obtained from the survey was biased, interesting and perhaps informative results were obtained. It is anticipated that additional research and further testing may confirm the findings from the survey even though the general levels of agreement or disagreement may shift.

APPENDICES

APPENDIX A

INFORMED CONSENT LETTER

Research Project Title: Critical reasons and rationale for collaborating between healthcare leaders and non-healthcare leaders in determining population health programming.

Dear Participant:

I am currently in the doctoral program at Central Michigan University pursuing a doctoral degree in Health Administration. I am working on my dissertation research study and need your help.

This study is designed to determine the critical reasons and rational that is important in effectively collaborating among healthcare and non-healthcare leaders in addressing population health issues. I am asking that you participate in this research study. As part of the study, you will be asked to complete a survey. There are no risks involved in this study. No individual benefits are anticipated from participating in this study. Your participation in this research is voluntary.

Your responses to the survey will be kept confidential and all respondents will be anonymous. Results will be aggregated for analysis and presentation. Data will be stored securely in a locked cabinet and computer information will only be accessible with a secured password. Data will be made available only to me and the dissertation chairperson.

By completing the survey instrument you have agreed to participate in this study. If at any time you wish to withdraw, you may.

I trust that you will agree to participate in this study. Your assistance is greatly appreciated. If there are any questions, you can contact me, Glennis Gaines, at [contact information][or my Dissertation Committee Chair, Dr. Steven Berkshire at [contact information].

Glennis Gaines

APPENDIX B

Survey Questionnaire

Research Question: What healthcare leadership skills are needed for healthcare organizations to collaborate with non-healthcare organizations to effectively address population health issues?

Instructions: Please indicate to what extent you agree or disagree with the statements below:

Statement	1 Strongly Disagree	2 Disagree	3 Neither Agree or Disagree	4 Agree	5 Strongly Agree
1. Our healthcare organization is actively involved in the community.					
2. Leaders in healthcare organizations need to address population health concerns.					
3. Hospitals' role is to help create community health rather than just provide medical care.					
4. Healthcare leaders and managers who want to improve population health should understand what they must do to achieve that goal.					
5. To really improve health and achieve complete well-being, healthcare organizations' leaders must now acquire specific leadership skills.					
6. Healthcare leaders understand the factors that most affect population health.					
7. A population's health is determined by its environment, heredity, lifestyle, and medical care system.					
8. Addressing environment factors will help improve a population's health.					
9. Healthcare leaders should focus more on improving health rather than just providing medical care.					
10. Healthcare leaders must be willing to collaborate with non-healthcare organizations to improve the health of a population.					
11. Providing only medical care does very little to improve a population's health.					
12. By improving communication between healthcare organizations and the public, healthcare leaders can improve population health.					
13. Population health is an approach to health that aims to improve the health of an entire population.					
14. It is critical that healthcare leaders focus more on population health than medical care to improve a population's health.					

Please provide the following information for use in determining representativeness of the study to other groups.

1. Your profession
 Healthcare Organizational Executive
 Physician

2. If a healthcare organization, are you located in
 Rural area
 Suburban area
 Urban

3. If a physician, are you located in
 Rural area
 Suburban area
 Urban

4. Please check whether you are
 Male
 Female

5. Select your age group (These should be gotten from the census bureau).

6. Please check your ethnic background (use the census bureau format).

REFERENCES

- Arah, O. (2008). Approaching health disparities from a population perspective: The National Institutes of Health Centers for Population Health and Health Disparities. *American Journal of Public Health*, 98(91), 1608-1611.
- Arah, O. A., & Westert, G.P. (2005). Correlates of health and healthcare performance: Applying the Canadian health indicators framework at the provincial-territorial level. *BMC Health Services Research*, 5, 76.
- American Medical Association. (2011). Retrieved from <http://www.ama-assn.org/ama/pub/about-ama/our-history.page>
- Baggs, J. D. (1994). Development of an instrument to measure collaboration and satisfaction about care decisions. *Journal of Advanced Nursing*, 20, 176-182.
- Bates, D.W., & Bitton, A. (2010 April). The future of health information technology in the patient-centered medical home. *Health Affairs*, 29(4), 614-621.
- Blaire, J., Irie, E., & Moore, M. (2009). Building effective organizations: An evaluation of the organizational capacity grants initiative (OCGI). Berkeley, CA: BTW Informing Change, BTW Consultants, Inc.
- Blum, H. L. (1974). *Planning for health*. New York, NY: Human Sciences Press.
- Blum, H. L. (1983). *Expanding healthcare horizons: From a general systems concept of health to a national health policy* (2nd ed.). Oakland, CA: Third Party.
- Bradley, E. H., Herrin, J., Wang, Y., McNamara, R. L., Webster, T., & Magid, D. J. (2004). Racial and ethnic differences in time to acute reperfusion therapy for patients hospitalized with myocardial infarction. *Journal of American Medical Association*, 292(13), 1563-1572. doi:10.1001/jama.292.13.1563
- Brown, R. (2007, March). The evaluation of the Medicare coordinated care demonstration: Findings for the first two years. Mathematica Policy Research, Inc. Contract Number 500-95-0047 (09): MPR Reference No: 8756-420. Managed Care Research and Demonstration Task Order Contracts, the Centers for Medicare & Medicaid Services, Department of Health and Human Services.
- Chua, K. (2006, Feb. 10). Overview of the U.S. healthcare system. Retrieved from <http://www.amsa.org/uhhealthcaresystemoverview.pdf>
- Coburn, A., & Gale, J. (2008, March). The community benefit and impact of critical access hospitals: The results of the 2007 CAH Survey (Policy brief 8). Retrieved from <http://flexmonitoring.org/documents/PolicyBrief6.pdf>

- Coye, M. J. (1995). Healthier communities and the business of creating health. *Healthcare Executive*, 10(4), 4-7.
- Dever, G. E. A. (1991). *Community health analysis* (2nd ed.). Gaithersburg, MD: Aspen.
- Emanuel, E. J., & Emanuel, L. L. (1996). What is accountability in healthcare? *Annals of Internal Medicine*, 124(2), 229-239.
- Estes, C. L., & Rundall, T. G. (1992). *Social characteristics, social structure, and health in the aging population—Aging, health, and behavior*. Boston, MA: Sage.
- The Joint Commission. (2011). *About the Joint Commission*. Retrieved from http://www.jointcommission.org/about_us/about_the_joint_commission_main.aspx
- Judd, J., Frankish, C. J., & Moulton, G. (1996). Setting standards in the evaluation of community-based health promotion programmes—a unifying approach. *Health Promotion International*, 16(4), 367-380.
- Friendly, M. (1994). Mosaic displays for multi-way contingency tables. *Journal of the American Statistical Association*, 89(1), 190–200.
- Fromberg, R. (1997). Measuring up under managed care. *Healthcare Executive*, 12(1), 6-11.
- Gaines, G. (2010). *Healthcare leadership skills needed for population health*. Unpublished manuscript.
- Gay, L., & Airasian, P. (2005). *Educational research: Competencies for analysis and application* (6th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Giles, W. H., Tucker, P., Brown, L., Crocker, C., Jack, N., Latimer, A., . . . , Harris, V. B. (2004). Racial and Ethnic Approaches to Community Health (Reach 2010): An overview. *Ethnicity & Disease*, 14(1), S1:5–S1-8.
- Gofin, J. (2003). *Integrating medicine and public health*. Retrieved from <http://the-networktufh.org>
- Gray, B. (1989). *Collaborating: Finding common ground for multiparty problems*. San Francisco, CA: Jossey-Bass.
- HR 3014: Health Equity and Accountability Act of 2007*, 110th Congress (2007). Retrieved from <http://www.govtrack.us/congress/bill.xpd?bill=h110-3014>
- Hartley, D. (2004). Rural healthcare disparities, population health, and rural culture. *American Journal of Public Health*, 94(10), 1675-1678.

- Health Insurance Association of America. (1999). *Source Book of Health Insurance Data: 1999-2000*. Health Insurance Institute. New York, NY: N.Y.
- Heller, R. F., Heller, T. D., & Pattison, S. (2003). Putting the public back into public health, Part I: A re-definition of public health. *Public Health, 117*(1), 62-65.
- Hjortdahl, P., & Rygh, E. M. (2007). Continuous and integrated healthcare services in rural areas: A literature study. Retrieved from <http://www.rrh.org.au>
- Kamoie, B. (2002, July 1). Managed care and public health: Conflict and collaboration. Retrieved from <http://allbusiness.com/legal/3586865-1.html>
- Kao, G., & Thompson, J. S. (2003). Racial and ethnic stratification in educational achievement and attainment. *Annual Review of Sociology, 29*, 417-442. Retrieved from <http://www.jstor.org/stable/30036974>
- Kay, L., & Kohn, D. (2008, July 11). AMA apologizes for past racism: Effects “are still with us today.” Baltimore Sun Newspaper. Retrieved from <http://www.amaapology.com/news2.html>
- S.1576: Minority Health Improvement and Health Disparity Elimination Act.* (2007). Introduced to the Senate Committee on Health, Education, Labor, and Pensions, Sen. E. Kennedy & Rep. J. Jackson. Retrieved from <http://www.kff.org/minorityhealth/upload/7724.pdf>
- Kew, O., Morris-Glasgow, V., & Landaverde, M. C. (2002, Apr. 12). Outbreak of poliomyelitis in Hispaniola associated with circulating Type 1 vaccine-derived poliovirus. *Science, 296*(5566), 356-359.
- Kiely, D., Simon, K., Jones, S. E., & Morris, J. N. (2000). The protective effect of social engagement on mortality in long-term care. *Journal of the American Geriatrics Society, 48*(11), 1367-1372.
- Kindig, D., & Stoddart, G. (2003, March). What is population health? Models for population health. *American Journal of Public Health, 93*(3), 380-383.
- Kleiner, B., & Hartigan, J.A. (1981). Representing points in many dimensions by trees and castles. *Journal of the American Statistical Association, 76*, 260-276.
- Koplan, J. P., & Harris, J. R. (2000). Not-so-strange bedfellows: Public health and managed care. *American Journal of Public Health, 90*(12), 1824-1826.
- Kottke, T. E., & Isham, G. J. (2006, Spring). Measuring healthcare access and quality to improve health in populations. *Journal of Rural Health*. Retrieved from <http://www.blackwell-synergy.com>

- Lalonde M. (1974). *A New Perspective on the Health of Canadians. A Working Document*. Ottawa, Canada: Government of Canada.
- Learning Point Associates. (2008). *Publications*. Retrieved from <http://goal.learningpt.org/catalog/>
- Levine, R. S., St. Onge, J., Moriarty, C. J., Bailey, S., Logan, T., Zhu, K., . . . , Marino, W. (1999, January 8). Preventive practicum training in healthcare organizations: The Meharry Model. *American Journal of Preventive Medicine*, *17*(1), 91-96.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, *140*, 1-55.
- Lockard & Williams. (2011). *Health care terms*. <http://lockardandwilliams.com/testjoomla/index.php/en/tpa/health-care-terms.html>
- London, S. (2011). *Collaboration and community*. Retrieved from <http://www.scottlondon.com/reports/ppcc.html>
- Longest, B. B. (1994). *Health policymaking in the United States*. Ann Arbor, MI: Health Administration Press.
- Mauser, J. S., & Kramer, S. (1985). *Epidemiology* (2nd ed.). New York, NY: United States Institute of Health. Retrieved from <http://www.pt.wkhealth.com>
- McDonough, J. E., Gibbs, B. K., & Scott-Harris, J. L. (2004). *A state policy agenda to eliminate racial and ethnic health disparities*. New York, NY: The Commonwealth Fund.
- McNerney, W. J. (1995). Community health initiatives are widespread, challenging our sense of civic obligation. *Frontiers of Health Services Management*, *11*(4), 39-44.
- Minnesota e-Health. (2008). Population health and the public health information systems workgroup charge 2007-2008. Retrieved from <http://www.health.state.mn.us/phphin/phmodel12008.pdf>
- Mitchell, P. H., & Crittenden, R. A. (2000). Interdisciplinary collaboration: Old ideas with new urgency. *Washington Public Health*, *17*, 51-53.
- Molla, M. T., Madans, J. H., Wagener, D. K., & Crimmins, E. M. (2002). *Summary measures of population health: Report of findings on methodologies and data issues*. Hyattsville: MD: National Center for Health Statistics.
- National Committee for Vital and Health Statistics. (2001). Information for health: A strategy for building the national health information infrastructure. <http://ncvhs.hhs.gov/nhiilayo.pdf>

- National Institute of Health. (2008, December). National Center for Population and Health Disparities. Retrieved from <http://dccps.nci.nih.gov/populationhealthcenter/cphhd/index.html>
- National Policy Consensus Center. (November 2004). Improving healthcare access: Finding solutions in a time of crisis, problem solving for states and communities. Portland State University. Portland, Oregon. Retrieved from <http://www.policyconsensus.org/publications/reports/docs/Healthcare.pdf>
- Nelson, P. R., Wludyka, P. S., & Copeland, K. A. F. (2005). The analysis of means: A graphical method for comparing means, rates, and proportions. Philadelphia, PA: SAIM.
- Newbold, P. A. (1995). Building healthy communities. *Frontiers of Health Services Management, 11*(4), 45-48.
- Nussbaum, M. G., & Sen, A. K. (Ed). (1993). *The quality of life*. New York, NY: Oxford University Press.
- Office of the National Coordinator for Health Information Technology. (2011). Retrieved from http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov__home/1204
- Olden, P. C. (2001, July 2). Healthcare leadership skills needed for population health. A presentation to the ABAS 2001 International Conference in Quebec City, Canada.
- Olden, P., & Clement, D. (2000). The prevalence of hospital health promotion and disease prevention services: Good news, bad news, and policy implications. *The Milbank Quarterly, 78*, 115-146. doi: 10.1111/1468-0009.00163
- Paone, D. (1997). Population-based planning: Emerging approaches for chronic disease: An Issue Brief. A paper presented to the National Chronic Care Consortium. Retrieved from http://www.nccconline.org/pdf/QualityMethods05_11_01.pdf
- Predy, G., & Lightfoot, P. (2001). Commentary: A health system approach to population health. *Healthcare Quarterly, 4*(3), 60.
- Public Health Agency of Canada. (2001, December 12). Towards a common understanding: Clarifying the core concepts of population health. Retrieved from <http://www.phac-aspc.gc.ca/ph-sp/docs/common-commune/vision-eng.php>
- Public Health Agency of Canada. (2002, Nov. 29). Implementing the population health approach. Retrieved from <http://phacaspc.gc.ca/phdd/implement/index.html>

- Roberts, L.W., Johnson, M.E., Brems, C., & Warner, T. D. (2007, Fall). Ethical disparities: Challenges encountered by multidisciplinary providers in fulfilling ethical standards in the care of rural and minority people. *Journal of Rural Health*, 23 Suppl, 89-97.
- Roberts, L. W., Warner, T. D., Monaghan-Geernaert P., Battaglia J., Brems C., Johnson M. E. (2005). Ethical considerations in rural healthcare: A pilot study of clinicians in Alaska and New Mexico. *Community Mental Health Journal*, 41(1), 21-33.
- Roemer, M. I. (1991). National health systems of the world: The issues. New York, NY: Oxford University Press.
- Romeo, S. J. W. (1996). Community health and managing the care of a population. *Medical Group Management Journal*, 43(6), 10-16, 81.
- Rosenstein, A. H., & O'Daniel, M. (2008, August). A survey of the impact of disruptive behaviors and communication defects on patient safety. *Joint Commission Journal on Quality and Patient Safety*, 34(8), 464-471.
- Roussas, S., & Fawcett, S. B. (2000). A review of collaborative partnerships as a strategy for improving community health. *Annual Review of Public Health*, 21, 369-402.
- Rundall, T. G., & Schauffler, H. H. (1997). Health promotion and disease prevention in integrated delivery systems: The role of market forces. *American Journal of Preventive Medicine* 13(4), 244-250.
- SAS Institute. (2011). *JMP® Statistical Discovery Software*. Retrieved from <http://www.jmp.com/software/>
- Schauffler, H. H., & Rodriguez, T. (1996). Exercising purchasing power for preventive care. *Health Affairs*, 15(1), 73-85.
- Schyve, P. M. (1993). The role of accreditation in quality oversight and improvement under healthcare reform. *Quality Letter for Healthcare Leaders*, 10, 11-14.
- Sigmond, R. M. (1995). Back to the future: Partnerships and coordination for community health. *Frontiers of Health Services Management*, 11(4), 3-36.
- Size, T., Kindig, D., & MacKinney, C. (2005, March 25). Commentary: Population health improvement & rural hospital balanced scorecards. *Journal of Rural Health*, 12(7), 10-12.
- Stony Brook University Medical Center. (2007). *What is population health?* Retrieved from <http://stonybrookmedicalcenter.org>
- Stowell, C. (2010). Collaboration—An important leadership development skill. Retrieved from http://ezinearticles.com/?expert=Chris_Stowell

- Sweet, M., & Moynihan, R. (2007). *Improving population health. The uses of systematic reviews*. New York, NY: Milbank Memorial Fund in collaboration with the Centers for Disease Control and Prevention.
- The Department of Health and Human Services, Defense, and Veterans Affairs. (2004, July). The national health information infrastructure and population health. Retrieved from <http://www.hhs.gov/news/press/2004pres/20040721.html>
- Thomas, M., James, C., & Lillie-Blanton, M. (2007). Key health disparities-focused legislation. Introduced in the 110th Congress (December 2007). *Comprehensive Minority Health Legislation*. Washington, DC: Henry J. Kaiser Foundation. Retrieved from <http://www.kff.org/minorityhealth/upload/7724.pdf>
- U.S. Department of Health and Human Services. (1986). Report of the secretary's task force on Black and minority health. Volume II: Crosscutting issues in minority health. Washington, DC: U.S. Department of Health and Human Services. Retrieved from <http://www.archive.org/details/reportofsecretar00usdepar>
- U.S. Public Health Service Commissioned Corps. (2011). Retrieved from <http://www.usphs.gov/>
- Vaughn, T. (2006, March). Engagement of leadership in quality improvement initiatives: Executive quality improvement survey results. *Journal of Patient Safety*, 2(1), 2-9.
- Waller, W., & Hill, R. (1951). *The family: A dynamic interpretation*. New York, NY: Dryden.
- World Health Organization. (1986, November 21). Ottawa Charter for Health Promotion, First International Conference on Health Promotion, Ottawa, Canada. (WHO/HPR/HEP/ 95.1). Retrieved from http://www.who.int/hpr/NPH/docs/ottawa_charter_hp.pdf
- World Health Organization. (2002, October). Integrating prevention into healthcare. Retrieved from <http://who.int/mediacentre/factsheets/fs172/en/index.html>
- Young, S., Karp, N., & Karp, W. (1990, Winter). Dentists' and physicians' attitude on the role of the dental healthcare team in a cardiovascular risk factor reduction program. *Journal of Public Health Dentistry*, 50(1), 38-41.