DEVELOPMENT AND VALIDATION OF A SURVEY INSTRUMENT TO ASSESS HEALTH INFORMATION-SEEKING BEHAVIORS AMONG AFRICAN AMERICAN YOUNG PROFESSIONALS

by

SHAUNTICE ALLEN

BRIAN F. GEIGER, COMMITTEE CHAIR
VIRGINIA J. HOWARD
NATALIYA V. IVANKOVA
MICHELLE Y. MARTIN
MARcia O’NEAL
MONIKA M. SAFFORD

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DEVELOPMENT AND VALIDATION OF A SURVEY INSTRUMENT TO ASSESS
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AMERICAN YOUNG PROFESSIONALS

SHAUN TICE ALLEN

HEALTH EDUCATION/HEALTH PROMOTION

ABSTRACT

The lay public has had more opportunities than ever before to take an active role in their own health care. Despite these opportunities, many questions remain regarding the basis for barriers relating to seeking preventive health information. Following publication of the report of the Secretary’s Task Force of Black and Minority Health, health education researchers have documented health disparities among populations of color, in particular African Americans (United States Department of Health and Human Services, 1985).

Brashers, Goldsmith, and Heish (2002) pointed out the complexity of health information-seeking behaviors (HISB) and highlighted the increasing need to clearly understand the process of health information consumption. Examination of this concept is critical in addressing heart disease and stroke health disparities seen in minority populations.

Progress in stroke and cardiovascular disease prevention and effective behavior will depend, at least in part, on understanding the dynamic process of health information-seeking. A mixed methods research approach is useful in capturing the best of quantitative and qualitative data to better understand the concept of HISB or how
an individual searches and obtains information about health risks, disease and illness, and health promotion activities (Lambert & Loiselle, 2007). Two recent occurrences emphasize the necessity of understanding HISB: (1) the explosion of the health care consumerism movement across the globe (Booske, Sainfort, & Hundt, 1999; Brashers et al., 2002; Carlsson, 2000; Dutta-Bergman, 2004; Eysenbach & Diepgen, 1998; Marks & Lutgendorf, 1999; Navarro & Wilkins, 2001), and (2) the extensive access to health information from sources other than the health care provider (Brashers, et al., 2002).

A major component of preventive health practice is the availability and provision of information regarding risks to health and promotional measures for enhancing health status and narrowing the health disparity gap. Estimates indicate by the year 2050, 14.6% of the U.S. population will be African American and will constitute 6% of the stroke deaths (Centers for Disease Control, 2009). The proposed study of HISB investigated factors associated with primary prevention of stroke among young African Americans adults, a topic that has received limited research attention.

Keywords: health information-seeking, stroke, African American, sequential mixed methods, prevention
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<td>AHA</td>
<td>American Heart Association</td>
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<tr>
<td>ANOVA</td>
<td>analysis of variance</td>
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<tr>
<td>API</td>
<td>Autonomy Preference Index</td>
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<tr>
<td>ARIC</td>
<td>Atherosclerosis Risk in Communities Study</td>
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<tr>
<td>BRFSS</td>
<td>Behavioral Risk Factor Surveillance System</td>
</tr>
<tr>
<td>CARDIA</td>
<td>Coronary Artery Risk Development in Young Adults</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
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<tr>
<td>CLRD</td>
<td>chronic lower respiratory disease</td>
</tr>
<tr>
<td>CHD</td>
<td>coronary heart disease</td>
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<tr>
<td>CHS</td>
<td>Cardiovascular Heart Study</td>
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<td>CVD</td>
<td>cardiovascular disease</td>
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<td>FHL</td>
<td>functional health literacy</td>
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<tr>
<td>FHS</td>
<td>Framingham Heart Study</td>
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<td>GSS</td>
<td>General Social Surveys</td>
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<tr>
<td>HBM</td>
<td>Health Belief Model</td>
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<tr>
<td>HDL-C</td>
<td>high density lipoprotein cholesterol</td>
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<td>HINTS</td>
<td>Health Information National Trends Survey</td>
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<tr>
<td>HISB</td>
<td>health information-seeking behavior</td>
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<tr>
<td>HIV</td>
<td>Human immunodeficiency virus</td>
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<td>HP2010</td>
<td>Healthy People 2010</td>
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<tr>
<td>JCNHES</td>
<td>Joint Committee for National Health Education Standards</td>
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<td>Acronym</td>
<td>Full Form</td>
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<td>JHS</td>
<td>Jackson Heart Study</td>
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<tr>
<td>KHOS</td>
<td>Krantz Health Opinion Survey</td>
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<td>MASES</td>
<td>Medication Adherence Self-Efficacy Scale</td>
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<td>MBSS</td>
<td>Miller Behavioral Style Scale</td>
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<td>MPM</td>
<td>Monitor Process Monitor</td>
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<tr>
<td>MSA</td>
<td>metropolitan statistical area</td>
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<tr>
<td>NCHEC</td>
<td>National Commission for Health Education Credentialing</td>
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<td>NCHS</td>
<td>National Center for Health Statistics</td>
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<td>NCI</td>
<td>National Cancer Institute</td>
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<td>NHANES</td>
<td>National Health and Nutrition Examination Survey</td>
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<td>NHIS</td>
<td>National Health Interview Survey</td>
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<td>NHLBI</td>
<td>National Heart Lung and Blood Institute</td>
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<td>NUL</td>
<td>National Urban League</td>
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<tr>
<td>NULYP</td>
<td>National Urban League Young Professionals</td>
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<tr>
<td>PCHC</td>
<td>primary care health centers</td>
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<tr>
<td>REGARDS</td>
<td>Reasons for Geographical and Racial Differences in Stroke</td>
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<tr>
<td>RIES</td>
<td>Revised Impact of Event Scale</td>
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<tr>
<td>STD</td>
<td>sexually transmitted disease</td>
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<tr>
<td>S-TOFHLA</td>
<td>Short Test of Functional Health Literacy</td>
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<tr>
<td>TINQ-BC</td>
<td>Toronto Informational Needs Questionnaire Breast Cancer</td>
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<tr>
<td>TMSI</td>
<td>Threatening Medical Situation Inventory</td>
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DEFINITION OF KEY TERMS

Cardiovascular disease refers to a wide variety of heart and blood vessel diseases including ischemic (coronary) artery disease, hypertension, rheumatic fever/rheumatic heart disease and cerebrovascular disease (stroke).

Connected contributions describes were findings of one research method are used to elaborate on or modify the questions examined in another method.

Content Validity is the examining the extent to which an instrument samples items from a particular field.

Content Validity Ratio refers to the extent to which a measure represents all facets of a given social construct. \( CVR = \frac{(n_e - N/2)}{(N/2)} \)

Health information-seeking behavior describes how the individual searches for and obtains health and medical information about health risks, disease and illness, and health promotion activities (Lambert & Loiselle, 2007).

Health Belief Model (HBM) (perceive, beliefs, benefits) is a theoretical model comprised of six concepts that influences decisions on whether to take action to prevent, screen for, and control illness.

Health information search strategies are the methods used by individuals to gather information for personal health decisions and include requests made of clinical service providers; searching online databases and websites in libraries or at home; asking
for guidance from relatives, friends and co-workers; calling a health information referral service.

*Health literacy* as defined by the Institutes of Medicine is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.

*Legitimation* describes the process used in mixed methods research to make inferences that are credible, trustworthy, dependable, transferable, and/or confirmable.

*Longo’s Expanded Model of Health Information-Seeking Behavior* is a theoretical framework that examines variables that influence information-seeking behavior and phases of information use (active versus passive).

*Methodological triangulation* is a process that involves the convergence of data from multiple data collection sources.

*Mixed methods study* is a study featuring planned quantitative and qualitative data collection and mixing results of the two approaches to yield thick, rich, descriptions of the findings.

*Personal and contextual influences* includes demographics, cognitive abilities and traits, attitudes, values, past experiences and level of concern or anxiety about one’s health status.

*Reliability* is the extent to which an instrument produces a consistent result.
Self-efficacy as defined by Bandura (1985) describes an individual’s beliefs about their capabilities to perform a specific action or behavior and exercise influence over events that affect his/her life.

Young Professional includes those aged 21-40 and employed in a wide variety of professions, both work requiring and not requiring college degrees. Members’ annual income may range between $25,000 and $100,000+. In addition, some maybe pursing graduate degrees or unemployed and seeking work.
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CHAPTER ONE
INTRODUCTION

Preventive health practices refer to the provision of information regarding risks to health and promotional measures for enhancing health status. The lay public has had more opportunities than ever before to take an active role in their own health care. Despite these opportunities, many questions remain regarding the basis for barriers relating to seeking preventive health information. Brashers et al., (2002) pointed out the complexity of health information-seeking behaviors (HISB) and highlighted the increasing need to clearly understand the process of health information consumption. Examination of this concept is critical in addressing cardiovascular disease and stroke health disparities seen in minority populations. The first National Institutes of Health Working Group on Health Disparities defined disparities as including “differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions” (Mensah, Mokdad, Ford, Greenlund, & Croft, 2005).

A review of surveillance data from both the Behavioral Risk Factor Surveillance Survey (BRFSS) and the National Health and Nutrition Examination Survey (NHANES) reveal that marked disparities exist in the prevalence associated with stroke and their major risk factors. In general, population subgroups at especially high risk and adversely affected include African Americans, older adults, those with lower levels of education, and residents of the southeastern United States (American Heart Association Heart
The dissertation study addressed the need for empirical research to identify the sources used by African American young professionals to access health information, manage personal health, and obtain health care services to decrease risk of stroke. The researcher explored determinants of HISB among African Americans aged 21-40, who are disproportionately affected by stroke health disparities. The disparity in stroke incidence is particularly prominent among younger adults. For example, population based data show that the risk ratio of first-ever stroke in African Americans compared with whites is 2.05 (95% confidence interval [CI] 1.49 to 2.69) for those less than 34 years of age and 4.18 (95% CI 3.96 to 4.41) for those 35 to 44 years of age. Further, more than 3,000 people under the age 45 die of strokes each year (Kleindorfer et al., 2006). These numbers illustrate an emerging need for a systematic approach to studying how consumers obtain and comprehend health information. This investigation addressed the research gap identified by Cline and Haynes (2001) who examined how consumers seek on-line health information.

Two areas of health communication needing empirical research involve the prompts or stimuli to engage in an information search and sources consumers use to access health information. Comparison of personal and contextual influences on health oriented attitudes and behaviors among a young professional African American sample
has not been conducted, although limited health communication literature supports the existence of systematic motivational differences in HISB across different groups (Ferguson, 1992; Morris, Grossman, Barkdoll, & Gordon, 1987). Personal and contextual influences are important to consider when planning intervention activities to reduce stroke risk among African Americans, including community education to increase awareness about stroke risk factors, warning signs, and emergency response.

Statement of Problem

Cardiovascular disease (CVD) refers to a wide variety of heart and blood vessel diseases including ischemic (coronary) artery disease, hypertension, rheumatic fever/rheumatic heart disease and cerebrovascular disease (stroke). Heart disease and stroke are the most common of the major forms of CVD, affecting women and men of all racial/ethnic groups and ages. In 2008, 17 million Americans had prevalent coronary heart disease, 6.4 million had prevalent stroke, and 5.8 million had heart failure (American Heart Association Heart Disease and Stroke Statistics Update, 2013). The Statistics Committee and Stroke Statistics Subcommittee of the American Heart Association (2013) estimated the cost of CVD burden at $503.2 billion. By comparison in 2008, the estimated cost of all cancer and benign neoplasms was $228 billion. Direct burden refers to hospital and nursing home costs, physician and professional services, drugs and other medical durables and home health care. Indirect costs, lost productivity and mortality total $152.1 billion. CVD costs more than any other diagnostic group.
To further illustrate the scope of the problem, nearly 2,400 Americans die of CVD every day, an average of one death every 37 seconds. CVD claims approximately as many lives each year as cancer, chronic lower respiratory disease (CLRD), accidents, and diabetes combined (National Center for Health Statistics [NCHS], 2007). Heart disease and stroke share many of the same modifiable risk factors (hypertension, cigarette smoking, diabetes mellitus, obesity, physical inactivity). The percentage of U.S. adults free of these major risk factors decreased from 42% in 1991 to 36% in 2001 based on self-reported data from the BRFSS (Centers for Disease Control and Prevention [CDC], 2010).

BRFSS is used to collect self-reported data relevant to biological risk factors among community-dwelling adults. (Ahluwalia, Mack, Murphy, Mokdad, & Bales, 2003). The prevalence of self-reported diagnosed high blood pressure among adults has been collected at least biennially since 1984. There has been an increase among representative national samples of U.S. adults, (27.8% of the 2007 sample and 22.2% of the 1995 sample) who were told they had high blood pressure. African Americans were 8% more likely to be told they had high blood pressure than whites (34.1% v. 26%). High blood pressure is a modifiable risk factor for stroke. The opportunity to address this disparity in high blood pressure could potentially be addressed by examining the types of health information African Americans young professionals are exposed to regarding high blood pressure.

BRFSS data are useful to obtain a population scan; however, there are limitations when generalizing self-reported data. Self-report data may reveal information that cannot be obtained from other sources; for example, receipt of a seasonal vaccination from a
pharmacy or grocery store clinic. A disadvantage of self-report data is recall bias, meaning that respondents may have difficulty recalling events, understanding or interpreting questions, or responding truthfully to questions about socially unacceptable behaviors. Furthermore, cultural and language barriers and limited health knowledge can affect the quality of self-reported data (Nelson, Holtzman, Bolen, Stanwyck, & Mack, 2001).

Health information-seeking behavior describes how an individual searches for and obtains health and medical information about health risks, disease and illness, and health promotion activities (Lambert & Loiselle, 2007). How individuals obtain information is poorly understood (Case, 2002), and there is no apparent single theory or model to study HISB. Recent interest in HISB has been sparked by two different processes that have occurred almost simultaneously: (a) the explosion of the health care consumerism movement across the globe (Booske et al. 1999; Brashers et al. 2002; Carlsson, 2000; Dutta-Bergman, 2004; Eysenbach & Diepgen, 1998; Marks & Lutgendorf, 1999; Navarro & Wilkins, 2001), and (b) the limitless access to health information from sources other than the health care provider (Brashers et al., 2002).

Progress in stroke prevention and effective behavior will depend, at least in part, on understanding the dynamic process of HISB and developing new instruments to measure it. It is necessary to examine a conceptual framework of HISB as it affects health behavior. In summary, there is a need for empirical research to identify credible and non-credible sources used by African American young professionals to access health information, manage personal health, and obtain health care services to decrease their risk
of CVD and stroke. The researcher was particularly interested in determinants of HISB among African Americans aged 21 – 40. Stroke is often viewed as a disease of the aged, yet the percentage of people aged 25–44 who suffered a stroke in the Cincinnati/North Kentucky area increased from 4.5% in 1993 to 7.3% in 2005 (American Stroke Association’s International Stroke Conference, 2010). In addition, the public health burden of stroke for those aged 25-44 is high because of a relatively greater loss of productivity and wage-earning years (Goldstein, et al, 2010).

Purpose of the Study

The purpose of this mixed methods study was to use the Health Belief Model (HBM) as a framework to develop an instrument with evidence of content validity and reliability useful for assessing health information-seeking behaviors related to stroke among African American young professionals aged 21-40. The study examined personal, social, and contextual influences of HISB among an African American sample: predisposing cues to seek health information; barriers African Americans encounter when seeking information; comprehension and use of health information; and characteristics of African Americans seeking information (Abrahamson, Fisher, Turner, Durrance, & Combs-Turner, 2008).

In the dissertation study, the student researcher explored answers to the following research questions:

Phase I – Qualitative Exploration of HISB

The study was guided by the following research questions:
1. What beliefs do African American young professionals aged 21-40 have about the personal relevance of well documented risk factors for stroke (i.e. cigarette smoking, high blood pressure, high cholesterol, diabetes, obesity and physical inactivity, and existing heart disease)? \textit{(perceived susceptibility)}

2. What beliefs do African American young professionals aged 21-40 have about the seriousness of not following established guidelines for the primary prevention of stroke? \textit{(perceived severity)}

3. What beliefs do African American young professionals aged 21-40 have about the benefits of HISB to reduce their risk of stroke? \textit{(perceived benefits)}

4. What barriers do African American young professionals aged 21-40 perceive about following guidelines for health behavior to reduce stroke risk? \textit{(perceived barriers)}

5. How do participants judge quality of stroke information according to source? (e.g. family, peer, health provider, agency) \textit{(cues to action)}

6. How do participants describe their confidence to act and reduce stroke risk? \textit{(self-efficacy)}

\textit{Phase II– Quantitative Exploration of HISB}

1. What is the estimated validity and reliability of items to measure a construct termed “health information-seeking behavior”?

2. How do the items within the scale correlate to measure hypothesized factors of HISB?
Mixed Method Question

1. In what ways does the information obtained in qualitative phase help to develop a new quantitative instrument, *Young Adult Health Information-Seeking Behavior Survey*?

2. What do the qualitative and quantitative data together reveal about African American young professionals’ health information-seeking behaviors?

Conceptual Framework

Health care providers presume that providing health information is sufficient to prompt patients’ self-care behaviors (Case, Andrews, Johnson, & Allard, 2005). However, the concept of health information seeking behavior incorporates multiple influences from personal, behavioral, and environmental factors, e.g., normative beliefs and individual attitudes. For instance, the patient must recognize the need for health information, actively engage in a search, interpret information once obtained, and develop healthy habits (Allen, 1996; Case, et al., 2005; Czaja, Manfredi, & Price, 2003; Loiselle, 2001; Loiselle & Delvigne-Jean, 1998; Shiloh, Sinai, & Keinan, 1999).

The HBM served as a framework for a mixed methods research design to explore factors that influence health information-seeking behavior. Beliefs impacting susceptibility, severity, benefits, barriers, cues to action, and self-efficacy related to stroke risk in African American young professionals aged 21-40 were explored in focus groups conducted in Phase I. In Phase II, those derived beliefs, literature reviews, and expert panel feedback guided construction of a survey instrument with evidence of reliability and validity for assessing health information-seeking behavior.
The researcher explored beliefs affecting HISB including trust and quality of the health information, confidence in acting to reduce risk, and level of personal health concern. Furthermore using qualitative data methods enabled the researcher to consider how life experiences and the influence of social referents can impact health beliefs, which may affect informational sources. Of primary interest was how influences impacting HISB are derived from level of self-efficacy, past experiences, and their desire for mastery learning. Themes that emerged from the qualitative portion of Phase I aided in the development of a survey instrument with evidence of reliability and validity for assessing health information-seeking behavior in a young professional audience.

Significance of the Study

Currently, there is no consensus on a comprehensive model or theoretical approach to explain HISB across population groups as defined by race, age, income, geographic area, education, and health status. The limitations in current knowledge of a broad concept of HISB, with variables that have been operationally defined, presents a challenge to health education/health promotion research for the topic of stroke prevention.

There is a critical need for an integrated model to assess how HISB relates to comprehending health information, communicating about health, and practicing self-care in community settings. Longo (2005) called for an enhanced understanding of the nature, type, source, and use of health information by healthy consumers, including those with a known risk for various chronic diseases. Descriptions of HISB determinants and their interrelationships have not been verified through systematic study. To conceptualize the
dissertation proposal, the investigator reviewed published literature retrieved from library databases including: PubMed, PsyhInfo, Psychological Abstracts, CINAHAL, MEDLINE, OVID, and Science Citation Index Expanded. It is apparent that more research is needed in the African American young professional population to address methods to lessen disparities in stroke morbidity and mortality among groups defined by race or ethnicity. According to Dr. Brett Kissela at the University of Cincinnati College of Medicine (2010), the percentage of people ages 20 to 45 in the Cincinnati/Northern Kentucky area having a stroke increased from 4.5% in 1994 to 7.3% percent in 2005. Reducing death and disability related to stroke will require changes in public health systems, including providing access to health education and clinical care across primary, secondary and tertiary levels of prevention for all persons. One way is through examining what factors lead individuals to seek information on the specific chronic disease issues of stroke.

Health education efforts may be useful to communicate stroke awareness and prevention information to targeted populations such as African American young professionals. Among this group are opportunities for new modes of education through technology and worksite wellness approaches.

Study Assumptions

The following assumptions were made for the study:

1. Information-seeking occurs in an environment in which a variety of sources are available.

2. The information environment in which consumers interact shapes information-
seeking behavior.

3. Health practitioners and family are perceived to be important sources of health information.

4. Participants accurately report their perceptions of important sources of health information.

5. Adults under the age of 50 do not view CVD and stroke as health issues affecting their age group.

Limitations

The following study limitations were identified:

- Qualitative research may yield subjective data about individual perceptions of a phenomenon of interest to the researcher.

- Using a mixed methods study, which has data collection through self-report, may yield socially desirable responses from participants.

- The sampling methods, focusing on the southern region of the National Urban League Young Professional organization, will not represent all African Americans in the same age group.

- Results of this first study of health information-seeking behavior among young African American must be interpreted with caution due to small sample size.

Summary

This chapter presented the background, statement of the problem, and
conceptual framework. The purpose, aims, and research questions were designed to explore beliefs of African American young professionals toward accessing health information, managing personal health, and obtaining health care services to decrease the risk of stroke. The results of this study may assist researchers in planning intervention activities to reduce stroke risk among African Americans, including community education to increase awareness about stroke risk factors, warning signs and emergency response.

The study presentation is organized into five chapters. Chapter One provides the reader with an introduction to the topic area including a discussion of the study purpose, introduction of research questions, discussion of the significance of the problem, outline of study assumptions and limitations, and summary. Chapter Two provides a comprehensive review of the literature on the topics of population studies of cardiovascular disease and stroke, knowledge of stroke risk factors, stroke health disparities, theoretical framework guiding the study, and defining and measuring health information-seeking behavior. Chapter Three provides an overview of the study methodology including the rationale for using a sequential exploratory design, four critical decisions to selecting a mixed methods strategy of inquiry, identification of the study population, and procedures for qualitative and quantitative phases. Chapter Four describes the study findings for both phases and describes the development of codes and themes and how these were used to generate survey items. The chapter also includes results of survey piloting and exploratory factor analysis. Chapter Five provides a discussion of the integration of data from both phases, implications with reference to the discipline, plans to disseminate results, and recommendations for future research.
CHAPTER TWO

REVIEW OF LITERATURE

Chapter Two reviews milestone epidemiological studies of cardiovascular disease among U.S. populations, presents a review of research that measures stroke risk factors, and highlights disparities in stroke-related mortality and morbidity. The chapter discusses the application of a theoretical framework to understand HISB, stroke knowledge, and risk.

Population Studies of Cardiovascular Disease and Stroke

In the field of cardiovascular disease, studies using the epidemiological method have led to findings of considerable practical importance for prevention and treatment. Traditional risk factors for cardiovascular disease, i.e., age, high blood pressure, high serum cholesterol level, cigarette smoking, and diabetes explain approximately 50% of cardiovascular events (American Heart Association Heart Disease and Stroke Statistics Update, 2013). As a result, persons with multiple risk factors are more likely to develop CVD, whereas persons with none of these traditional risk factors are less likely to develop CVD. Nevertheless, there still remain an insufficient number of epidemiology studies of hypertension or arteriosclerotic cardiovascular disease, although these two account for the great majority of deaths from cardiovascular disease.

A role of epidemiologic research in the investigation of risk factors for CVD and stroke is one of the active interchange with other disciplines. Oftentimes, a basic discovery occurs first through epidemiologic investigation. The importance of CVD and stroke risk factors was first established through the Framingham Heart Study (FHS).
Framingham laid the foundation to design similar longitudinal studies that were more diverse in populations, locations, and additional risk factors, including subclinical disease. As a result of subsequent cohort studies, several novel risk factors for stroke, such as C-factor reactive protein and its role in the inflammation process, have been identified (American Heart Association Heart Disease and Stroke Statistics Update, 2013).

The last 35 years have yielded more than six large cohort cardiovascular studies in the U.S. These include an examination of the early natural history of CVD in a cohort of children and young adults in a biracial semirural community (the Bogalusa Heart Study) and the examination of inherited CVD risk factors unique to an African American sample (the Jackson Heart Study [JHS]). The Cardiovascular Heart Study (CHS) was a large cohort study focused on CVD in individuals over 65; and only 16% of the sample was African American. For purposes of this research, the CHS will not be discussed in detail. Those six large studies to be discussed are shown in Table 1.

The Framingham Heart Study, considered the hallmark of CVD epidemiologic studies, was designed in 1948 to identify the risk factors that influenced the development of CVD. Two by-products of the FHS were the efficiency of various diagnostic procedures and data on the prevalence and incidence of cardiovascular disease (Dawber, Meadors, & Moore, 1951). From Framingham emerged several epidemiologic studies with different cohort characteristics and study aims. The types of risk factors are similar across studies, although measurement types varied.
<table>
<thead>
<tr>
<th>Study name</th>
<th>Study design</th>
<th>Methods</th>
<th>Study Aims</th>
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<tbody>
<tr>
<td>Framingham Heart Study (1948 – present)</td>
<td>Longitudinal/ prospective study</td>
<td>Random sampling of 5,209 individuals aged 30-59 years in Framingham, MA</td>
<td>To secure epidemiological data on arteriosclerotic and hypertensive CVD</td>
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<tr>
<td>Bogalusa Heart Study (1973-1993)</td>
<td>Cohort longitudinal study</td>
<td>11,796 individuals ranging from birth to 38 years</td>
<td>To examine the early natural history of CVD in a cohort of children &amp; young adults in a bi-racial semirural community</td>
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<td>Coronary Artery Risk Development In Young Adults (CARDIA) (1984-present)</td>
<td>Cohort study conducted in 4 U.S. communities including Birmingham</td>
<td>5,115 young adults aged 18-30 years stratified by age (18-24) &amp; (25-30) Biometrics and lifestyle behaviors collected; Follow-up examinations done @yrs. 2,5,7,10,15&amp; 20</td>
<td>To study development of heart disease in young adults</td>
</tr>
<tr>
<td>Atherosclerosis Risk in Communities (ARIC) (1988-present)</td>
<td>Prospective epidemiologic study conducted in 4 U.S. communities</td>
<td>ARIC field center randomly selected eligible &amp; recruited cohort samples of ~4,000 individuals aged 45-64 years from a defined population in each community</td>
<td>To investigate etiology of atherosclerosis and its clinical sequelae through direct measurement of risk factors</td>
</tr>
<tr>
<td>Jackson Heart Study (1999 – present)</td>
<td>Population based longitudinal study of CVD among African Americans</td>
<td>5,301 African American adults recruited from the Jackson, MS MSA</td>
<td>To identify factors that influence the development and worsening of CVD in African Americans</td>
</tr>
<tr>
<td>Reasons for Geographical and Racial Differences in Stroke (REGARDS) (2003-present)</td>
<td>Cohort longitudinal study focused on stroke</td>
<td>30,000 randomly selected individuals aged 45+ years across U.S.</td>
<td>To examine racial &amp; geographical differences in stroke risk factors and incidence</td>
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The Bogalusa Heart Study spanned 20 years and was a long-term epidemiological study of the early natural history of arteriosclerosis in a biracial (1/3 African American and 2/3 White) community (Berenson, Wattingney, Bao, Srinivasan, & Radhakrishnamurthy, 1995). Seven cross-sectional cardiovascular risk factor screenings were conducted between 1973 and 1993 on children aged 5-17 years. Repeated cross-sectional examinations conducted approximately every three years, resulted in multiple observations for many participants who are now reaching middle age.

CVD risk factors such as obesity, blood pressure, lipoproteins, glucose and insulin were examined. Due to the unique nature of the Bogalusa exams, the data are both cross-sectional and longitudinal. Important results have surfaced from the Bogalusa Heart Study. Data have revealed such results as vascular function and structural changes seen in children as young as 11 years who had familial high cholesterol (Bao et al., 1997).

Observations show that the major etiologies of adult heart disease, atherosclerosis, coronary heart disease, and hypertension begin in childhood. Documented anatomic changes occur by ages 5 to 8 years (Berenson et al., 1995). The CVD risk factors in childhood are different than those in the adult years. The importance of risk factors increases with age, for example, atherosclerotic lesions caused by small arterial changes.

Further, a parental history of coronary artery disease was significantly related to baseline risk and rate of age-related increase in risk among a cohort sample (Bao et al., 1997). These results highlight the need for early education, and understanding HISB with a young adult sample is important to plan primary prevention programs.

In 1984, a prospective cohort study of the Coronary Artery Risk Development in Young Adults (CARDIA) was initiated to investigate life-style and other factors that
influence, both favorably and unfavorably, the evolution of coronary heart disease risk factors during young adulthood. More than 5,000 African American and white women and men, ages 18-30 years were recruited and examined in four urban areas: Birmingham, AL; Chicago, IL; Minneapolis, MN; and Oakland, CA. Similar to the Bogalusa study, blood pressure, cholesterol levels, obesity, and smoking were some of the risk factors explored in the CARDIA study (Cutter et al., 1991).

CARDIA recognized that young adulthood is characterized by rapid changes in lifestyle and health behaviors that may precipitate a coronary event. In a preliminary investigation of young adults (ages 18-30 years), Croft et al. (1986) examined alcohol, tobacco, and oral contraceptive use, as well as changes in educational, occupational, marital, and parenting status. The effects of physical stressors, such as one’s work environment or lack of sleep and distressful life circumstances on CVD risk are poorly understood. For instance, why were systolic blood pressure and alpha-lipoproteins higher among married men? Elevated levels of triglycerides were highest among married whites. CARDIA provides the foundation and justification for the current study of HISB study among African American young professionals and relationship of HISB to the primary prevention of stroke.

In 1988, the Atherosclerosis Risk in Communities (ARIC) Study began. Middle-aged adults enrolled in a multicenter prospective cohort study to investigate the natural history of atherosclerotic disease in four U.S. communities. Populations were examined in Forsyth County, NC; Jackson, MS; Minneapolis, MN; and Washington County, MD. The study design was similar to CARDIA with examinations conducted two to three years apart. Only African American participants were recruited in the Jackson cohort. A
total of 15,792 men and women between 45 to 65 years were selected by list or area probability sampling. Study participants were free of recognized stroke or coronary heart disease and had baseline information on risk factors (The ARIC Investigators, 1989).

In the ARIC Study, blood pressure was categorized into three levels, optimal, borderline and elevated. According to the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure, optimal blood pressure is a systolic pressure of <120 mm Hg and diastolic of <80 mm Hg. Borderline is 120-139 mm Hg at systolic and 80-89 mm Hg diastolic. Finally, elevated blood pressure is classified as systolic measurements ≥ 140 mm Hg and diastolic ≥ 90 mm Hg. A high volume of literature indicates that African Americans have higher rates of CVD mortality due to high blood pressure than whites (Y. Wang & Q. Wang, 2004). The proportion of subjects with all optimal risk factor levels was lower in African Americans (3.8%) than in white subjects (7.8%) (Hozawa, Folsom, Sharrett & Chambless, 2007).

ARIC investigators directly measured the early signs of atherosclerosis and the factors associated with it. A total of 143 CVD incidents were recorded among African Americans with diabetes during a mean follow-up period of 8.5 years. Researchers found that 65 individuals had strokes, 65 had coronary heart disease, and 13 experienced both events (Adeniyi et al. 2002). After adjustments for risk factor differences (e.g., diabetes, high blood pressure, levels of total cholesterol) and education level, African American and white subjects had identical rates of CVD. However, the excess risk in African Americans for lacunar stroke, strokes caused by a blockage of smaller branches of a larger vessel, remained significant after adjustment for traditional risk factors (e.g., levels
of total cholesterol, physical inactivity, prevalent hypertension, and smoking), along with nontraditional risk factors (i.e., hyperglycemia or increased inflammatory response). Further research on risk factors and genetic determinants of stroke is needed to understand these ethnic differences. Primary prevention of risk factors in African American participants might reduce occurrence of CVD. Investigation of factors contributing to HISB in African Americans is necessary to plan primary prevention and influence behavior.

The ethnic diversity of cohorts may enable investigators to identify specific risk factors and predict CVD occurrence; both are important to design new prevention strategies. Researchers should continue to compare groups and explore interactions among ethnicity, risk factors, and subclinical CVD (Frerichs, Chapman & Maes, 1984).

The incidence and prevalence of CVD differs among several racial and ethnic groups in the United States. Another prospective cohort study addressing the issue of racial differences in CVD is the Jackson Heart Study (JHS). The JHS currently assesses inherited genetic factors that affect high blood pressure, heart disease, stroke, diabetes, and other important diseases in African Americans (Jackson Heart Study, 2008).

Initiated in 1999, JHS aims to investigate the development of new treatments for a variety of heart, lung, and blood disorders. The JHS is population-based sample of 5,301 non-instutionalized African American men and women between the ages of 35-84. The cohort was selected from urban and rural areas of three counties comprising the Jackson, MS metropolitan statistical area (MSA), (including Hinds, Madison, and Rankin counties). The JHS design included participants from the Jackson, MS ARIC study who had originally been recruited through random selection from a drivers' license registry.
Ancillary study results from the JHS have yielded a positive association between gender and age of high density lipoprotein cholesterol (HDL-C) in which older women showed a steeper increase in HDL-C levels (Harman et al. in press).

The Reasons for Geographic and Racial Differences in Stroke (REGARDS) initiated in 2003 is unique in concept when compared to the Bogalusa Study, CARDIA, JHS, and ARIC. The study purpose was to specifically examine the causes of excess stroke mortality in the Southeastern U.S. and among African Americans. This specific study emphasizes the disparity in overall stroke mortality rates among African Americans compared to whites. Little is known about the causes underlying the excess stroke mortality in African Americans. One hypothesis is a higher incidence rate of stroke in African Americans (Broderick et al. as cited in Howard et al. 2005).

Risk factors examined in the REGARDS study were similar to previous studies of stroke and CVD risk factors (Kannel, 2000). Both the CARDIA and ARIC studies examined the development of atherosclerosis and its clinical sequelae through direct observation in a young and middle-aged population in distinct geographic regions. Both studies emphasized the influences of similar CVD risk factors. REGARDS specifically focuses on stroke mortality rates, yet it is not known whether regional differences in stroke incidence contribute to excess mortality. Traditional cardiovascular epidemiologic cohort studies are clinic based and are not designed to explore geographic variations in disease. REGARDS was designed to provide the necessary data to better understand the sources of racial and geographic disparities in stroke. Successful completion of the study should provide guidance for interventions to reduce the public burden caused by stroke.
In summary, prevention research should help identify multiple levels of risk for CVD including stroke. Risk management strategies can be addressed to specific populations including African Americans. The translation of epidemiological and behavioral research into daily choices is necessary for stroke risk reduction among individuals. The current study added to the discipline by exploring the demand for health information related to stroke risk among an African American population. Intervention programs are not always tailored to fit the community of interest (Green & Kreuter, 1999) resulting in poor intervention outcomes. Potential uses of these research data may include providing a framework for interventionists to improve stroke education among young adults in communities of color.

Knowledge of Stroke Risk Factors

The review of literature yielded few studies that measured knowledge of stroke risk factors, and most did not report psychometric properties. A 2007 international epidemiological study of stroke risk was conducted in the Gulf region (Kamran, et al., 2007). Individuals utilizing primary care health centers (PCHC) in Saudi Arabia, Kuwait, the United Arab Emirates, Oman, Bahrain, and Qatar were surveyed. The study examined the extent of stroke knowledge (signs, symptoms, and risk factors) and identified sociodemographic characteristics of individuals with higher rates of stroke knowledge. A 50-item questionnaire was developed and translated into Arabic and pilot tested on 50 subjects. Inclusion criteria were nationals 30 years of age and above who visited the PCHC on the day of the interview and who agreed to participate. Five thousand subjects were approached with 3,750 giving consent and completing the survey.
(response rate 75%). Only 29.4% of respondents knew the term “stroke.” With reference to the preferred source of information on stroke, health care professionals were ranked first, followed by health education material, TV and radio, books, newspapers/magazines, and finally family members.

Many factors contribute to stroke remaining the third leading cause of death in the United States. Researchers have documented limited knowledge regarding stroke signs and symptoms and the importance of rapid response for acute care indicators (Knogable, 1997). Williams, Bruno, Rouch, and Marriott (1997) reported that only 25% of patients presenting with acute stroke correctly interpreted the nature of their symptoms and 63% did not feel their symptoms were serious. Samsa et al. (1997) interviewed 1,135 patients at risk for stroke and reported that only 41% were aware of that risk. In addition, a recent Gallup survey indicated that only 58% of adults over age 50 years could correctly name stroke symptoms (weakness, numbness, or paralysis).

Other researchers (Kothari et al., 1997; Pancioli et al., 1998) found that 39% of patients with acute stroke and 43% of the general population were unable to identify any stroke warning signs. Stroke patients as well as the general population had a very limited knowledge of stroke risk factors. Poor public knowledge of stroke risk factors and symptoms limits effective stroke intervention and prevention.

Schneider et al. (2003) examined trends in community knowledge of the warning signs and risk factors for stroke within a five-county region around Cincinnati, Ohio. A random-digit selection of telephone numbers and random respondent selection within households was the methodology of choice. This survey was identical to one administered in 1995. Between July 13 and November 21, 2000, a total of 25,056
households were called. A total of 3,151 individuals were identified as demographically eligible. A final total of 2,173 individuals completed the telephone interview. Mass media sources were most frequently cited for stroke information in the 1995 and 2000 surveys, including television (32%), magazines (24%), and newspapers (22%). Other responses included physicians, family member with stroke, medical books, friend with stroke, and word of mouth.

Regional Overview of Stroke Risk in U.S.

Although many of these studies have assessed and reported poor knowledge of stroke in the general population, few of these studies included African Americans. Currently, African Americans constitute 12.8% of the U.S. population with 57% of the total African American population living in the South. States with the largest gains of African Americans are Florida, Georgia, Texas, and North Carolina (U.S Census, 2010). Of the 11 states designated as the southern region by the National Urban League Young Professional Network (NULYP), the African American population accounts for between 7.5% (KY) and 36.9% (MS). The proportion of the African Americans in eight of the 11 states is above the national average. This is important because the risk of stroke mortality is twice as high in African Americans as in whites (American Heart Association Heart Disease and Stroke Statistics Update, 2013). Based on this statistic, the southern region of the NULYP is an appropriate region to sample for research addressing barriers, educational preferences, and methods to improve health seeking behaviors that are important in increasing knowledge and decreasing disparities in stroke mortality in this region of the U.S. Figure 1 illustrates the percentage of all residents who reported as African American according to the 2005 Census. This shows the percentage of African
Americans is greatest in the Southeastern region of the country which also holds the greatest burden of stroke risk.

Figure 1. Percent Black or African American in the population for states in 2005

Although nearly 60% of African Americans live in the southern U.S., they are a heterogeneous group in terms of education, income, cultural affiliation, religiosity, and life experiences (Winham & Jones, 2011). There is a need for additional research to understand the perceived beliefs of seriousness, severity, benefits, barriers, cues to action, and self-efficacy of a young professional population. Little information is available regarding racial and ethnic differences in the quality of preventive care and patient compliance as mechanisms contributing to the disparities in stroke burden (NINDS Stroke Disparities Advisory Panel Meeting, 2002).
Stroke Health Disparities

Stroke disparities are an important cause of increased morbidity and mortality in African Americans worldwide (Murray & Lopez, 1997). On a global level, in 1990, stroke death rates among African Americans were similar to rates in Japan, lower than those in Eastern Europe, but higher than those of whites (Gilluim, Gorelick, & Cooper, 1999). In the 1960s, stroke death rates of Black Americans were among the highest in the world (Moriyama, Kruger, & Stamler, 1971). Although reliable stroke mortality rates are largely lacking for black populations outside the U.S., available data indicate relatively high rates for blacks in urban Africa, the Caribbean, and Latin American countries (Walker, 1994). Additional cohort and surveillance studies are needed to document international and national variations in stroke mortality among black populations.

The stroke belt was first identified in 1965 as a region of high stroke mortality in the southeastern U.S. (Borhani, 1965) and typically includes the following eight southern states: North Carolina, South Carolina, Georgia, Tennessee, Mississippi, Alabama, Louisiana, and Arkansas. Excess stroke mortality rates in this region have been documented since at least 1940 (Howard et al. 1995). In 1980, the National Heart Lung and Blood Institute (NHLBI), a component of the National Institutes of Health, designated 11 states as the stroke belt. In addition to the eight identified in 1965, Indiana, Kentucky, and Virginia were included in the designation based on age adjusted stroke mortality rates.

The largest disparity in stroke mortality rates between African Americans in the U.S. and whites is found at younger ages (<50) (Broderick et al., 1998). However, there
is limited empirical evidence about regarding the most influential risk factors that contribute to excess stroke mortality among African American young adults. NHANES yields national data on prevalence of stroke risk factors by ethnic group. Results indicate that physician-diagnosed diabetes was approximately twice as prevalent among black men as compared to whites (13.2% vs. 6.7%) in 2005. The prevalence of hypertension in African Americans who reside in the U.S. is among the highest in the world. An increase from 35.8% to 41.1% was seen between 1988 and 2002 (CDC, 2005). Research on stroke knowledge and barriers to stroke prevention among African Americans is limited. Further progress in stroke prevention and treatment will require additional research in understanding consumer HISB (Dutta-Bergman, 2004).

Who else is disproportionally affected by stroke? According to the latest data provided by the American Heart Association, stroke symptoms are more likely among older adults, African Americans, those with lower income and limited education, and women (American Heart Association Statistics Committee and Stroke Statistics Subcommittee, 2013). Gender differences show that women are more concerned about dying from breast cancer, even though heart disease and stroke are more significant causes of mortality (Legato, Padus, & Slaughter, 1997). On average, a stroke occurs every 40 seconds, and someone dies from stroke every 3.3 minutes in the U.S. It is a major cause of death and disability, especially among African Americans. For example, blacks have a higher prevalence of hospitalizations for stroke than whites. Racial and ethnic disparities in deaths due to stroke continue despite dramatic advances in diagnostic technology during the past century (Gaines & Burke, 1995).
Theoretical Framework

Although the majority of empirical studies do not specify a single model or theoretical framework for HISB, six were identified in the health-related literature. These include Lazarus and Folkman’s (1984) stress, appraisal, and coping theory; Miller’s (1987, 1989) monitoring and blunting hypothesis; Lenz’s (1984) information-seeking model; the Health Information Acquisition Model (Freimuth, Stein, & Karen, 1989); the Comprehensive Model of Information-Seeking (Johnson, 1997, 2003); and the Expanded Model of Health Information-Seeking Behaviors (Longo, 2005). Four of the six models are depicted as flowcharts that describe the process by which individuals seek information.

This study was guided by the Health Belief Model (HBM). The HBM is an explanatory model used to predict health behavior. Developed in the 1950s by social psychologists Hochbaum, Rosenstock, and Kegels, the HBM has been adapted to explore a variety of long- and short-term health behaviors. With health motivation as its central focus, the HBM is a good fit for addressing behaviors that evoke health concerns. When applying the HBM to HISB research, behavioral scientists should ground their efforts in an understanding of how susceptible the population of interest feels about the health problem, whether they believe it is serious, and whether they believe action can reduce the threat. This study used constructs from the model to investigate stroke knowledge, stroke risk, and approaches to stroke information and education among African American young professionals aged 21-40.

Health information-seeking behavior has emerged as a critical concept in the explanation of health behaviors (Burns, 1992; Janz & Becker, 1984, MacInnis, Moorman,
Moorman and Matulich (1993) define health information-seeking behavior as “a goal-directed arousal to engage in preventive health behaviors” (p. 210). Motivation triggers an individual’s interest in a particular issue or topic, subsequently leading to active engagement in cognitions and behavior related to the specific issue (Bloch, 1984; Petty & Cacioppo, 1986). A high level of motivation increases the attention paid by the individual to relevant information and the comprehension of such material (Ardell, 1977; Bloch, 1984; Celsi & Olson, 1988; Kraft & Goodell, 1993; MacInnis et al. 1991; Moorman & Matulich, 1993; Park & Mittal, 1985). Perhaps motivation extends to an active search for information to enhance health, e.g., learning about stroke prevention, which was the focus of this study.

Past research demonstrates systematic differences in the extent to which individuals engage in a healthy way of life. Whereas some individuals show a positive orientation toward health, others demonstrate a neutral stance. Others report a negative health orientation. Moorman and Matulich (1993) articulate that the motivation to be healthy defines the extent to which an individual is willing to take care of his or her health. Later research (Melkote, Muppidi, & Goswami, 2000) stressed the importance of understanding the social and economic factors as part of an integrated health communication program. Many variables impact HISB and ultimately behavioral outcomes. Race and ethnicity are common variables related to lifestyle practices and receptivity to health care messages. Values, beliefs, attitudes, and other health behaviors are factors that can reinforce or hinder health-information seeking behavior. Figure 2 illustrates variables that can influence HISB.
Health Information-Seeking Behavior (HISB)

Defining HISB

Health information-seeking behavior describes how an individual searches for and obtains information about health risks, disease and illness, and health promotion activities (Lambert & Loiselle, 2007). Two recent occurrences emphasize the necessity of understanding HISB: (1) the explosion of the health care consumerism movement across the globe (Boosk et al. 1999; Brashers et al 2002; Carlsson, 2000; Dutta-Bergman, 2004; Eysenbach & Diepgen, 1998; Marks & Lutgendorf, 1999; Navarro & Wilkins, 2001), and

Figure 2. Variables influencing HISB
(2) the extensive access to health information from sources other than the health care provider (Brashers et al. 2002).

Health status results from a dynamic interplay of personal, behavioral, and situational factors. For instance, Gracia (2009) studied the effects of Internet use on self-reported health among Spanish adults ages 55 and older. A significant positive relationship between use of Internet and health effect disappeared once social class was entered into the regression model. The author asserted the necessity of distinguishing between structural (i.e., social class) and intermediate (i.e., technology access) determinants to health.

Seeking information about one’s health has increasingly been documented as a key coping strategy in health-promotion activities and psychosocial adjustments to illness (Lambert & Loiselle, 2007). Researchers and clinicians alike are interested in understanding how and why individuals obtain health information, where they go to retrieve such information, what particular types of information they prefer and how the health information is used. Health information-seeking behavior (HISB) has been examined across different contexts, yet the concept of HISB has been poorly defined and measured. Several authors have measured HISB by examining the specific kinds of health-related information sought (e.g., information about disease process, information on self-care and self-management strategies) (Borgers et al. 1993; Butow, Maclean, Dunn, Tattersall, & Boyer, 1997; Szwajcer, Hiddink, Koelen, & Van Woerkum, 2005). In a broad sense, HISB describes how individuals obtain and comprehend health information, and intend to apply knowledge to practice.
Health information-seeking behavior may be important to discretionary health-related and preventive behaviors (Budden, Pierce, Hayes, & Buettne, 2003; Fahrenwald & Walker, 2003; Shi, Nakamura, & Takano, 2004; Shuyler & Knight, 2003; Warner & Procaccino, 2004; Yu & Wu, 2005). The concept has been most often studied in the context of coping with a health-threatening situation or participating in medical decision-making. Individuals’ HISB are recognized as initially motivated by an information need (Dunne, 2002; Griffin, Dunwoody, & Neuwirth, 1999; Holmes & Lenz, 1997; Johnson, 1997; Szwajcer et al., 2005; Warner & Procaccino, 2004). Information-seeking may precede a decision to engage in healthy lifestyles and/or preventive behaviors (Burbank, Reibe, Padula, & Nigg, 2002; Fahrenwald & Walker, 2003; Yu & Wu, 2005). Although information alone does not guarantee healthy behaviors, acquiring adequate information appears to be a determinant to future positive health practices (Loiselle, 2001). Specifically the breadth and nature of health information obtained influences individual knowledge, beliefs, and attitudes toward a specific health behavior. In addition, the extent of HISB may determine the number of alternative courses of action known to individuals, pros and cons of different actions, as well as resources available to carry out the different behaviors (Burbank et al., 2002; Griffin et al., 1999; Holmes & Lenz, 1997; Huber & Cruz, 2000; Johnson, 1997).

Loiselle (2001) operationalized HISB in terms of (1) type of health-related information sought, (2) amount of health-related information sought, (3) information sources used, and (4) discrete action implemented. Other researchers have examined related concepts, including the specific kinds of health-related information sought (e.g., disease and disease process) and uses of health information (e.g., self-care and self-
management strategies) (Borgers et al., 1993; Butow et al., 1997; Szwajcer-Barcott, 2005). Yet, health information-seeking is more than merely the engagement in a search for information; it involves complexities such as characteristics of the information seeker, the environment, context, current events, and the search process (Anker, Reinhart & Feeley, 2011).

It was necessary to operationalize HISB as a framework to guide the current research. Descriptions of HISB determinants and their interrelationships have not been verified through systematic study. The purpose of the present study was to examine the usefulness of HISB to identify preventive stroke behaviors among African American young professionals.

The health behavior of interest for the study was the decision whether to engage in health information-seeking behaviors (HISB) to reduce stroke risk. In particular, there is limited information to explain how personal, social, and contextual factors influence stroke-related HISB among African Americans. Examples of potential factors are cues to seek health information, barriers encountered when seeking information, and comprehension and use of health information (Abrahamson et al. 2008).

Measuring Health Information-Seeking Behavior (HISB)

Researchers have used various instruments to measure HISB including: (a) the Miller Behavioural Style Scale (MBSS) (Miller, 1987), (b) the Threatening Medical Situation Inventory (TMSI) (van Zuuren, deGroot, Mulder, & Muris, 1996), (c) the Krantz Health Opinion Survey (KHOS) (Krantz, Baum, & Wideman, 1980), and (d) the Autonomy Preference Index (API) (Ende, Kazis, Ash, & Moskowitz, 1989). Following a
brief consideration of each instrument, shortcomings are discussed. In addition to quantitative measurement of HISB, other researchers applied qualitative techniques for data collection, for instance, a series of structured interviews following a cancer diagnosis.

*Miller Behavioral Style Scale*

The MBSS measures an individual’s tendency to either to seek or avoid information within hypothetical situations viewed as threatening. The MBSS items are *not* specific to health-related contexts (Garvin & Kim, 2000). Miller theorized that when faced with a threatening event, individuals cope either by seeking out information (monitoring) or by distracting themselves from it (blunting). Individual subscores may be mapped on a continuum indicating monitoring and blunting preference. Cronbach’s alpha scores reported by other researchers were highest for the monitoring subscale (Nikoletti, Kristjanson, Tataryn, McPhee, & Burt, 2003). Further research is warranted to determine reliability indices for the blunting subscale (as cited in Shiloh, Koehly, Jenkins, Martin, & Hadley, 2008).

Miller (1989) refined a Monitor Process Model (MPM) in an attempt to understand how individuals, who are identified as high or low monitors, perceive information as sufficient for coping. Those identified as high monitors focused on health threats and outcomes and sought more information, which led to anxiety. Information assisted coping by providing meaning to the threat and permitting rehearsal of negative outcomes (Rees, Sheard, & Echlin, 2003). Miller posited that information about health may affect patients differently, depending on their monitoring style. In contrast to high
monitors, those identified as low monitors are less likely to seek information about long-
term health outcomes and report a diminished stress response.

Cowan and Hoskins (2007) used the MBSS to examine whether the information
seeking-behavior of patients receiving chemotherapy for breast cancer influences the
sources of information, the amount of information, and the satisfaction with information
accessed. Eighty-eight patients were recruited during appointments for chemotherapy
treatment in a medical oncology service in the U.K.

Information-seeking behavior was identified using a modified MBSS to derive
two groups, high and low monitors. Fifty-six percent were classified as high monitors and
44% were classified as low monitors. Hospital-based healthcare professionals (specialist
nurses, and hospital consultants) were the most frequently used sources of health
information, as found in previous studies. Non-hospital based (general medical
practitioners) were identified as a second source of health information for these female
cancer patients (C. James, N. James, Davies, Harvey, & Tweddle, 1999; Mills &
Davidson, 2002; Raupach & Hiller, 2002).

Printed materials were less often used as compared to trained health professionals.
There were no significant relationships between monitoring score, demographic and
social variables (age, marital status, SES). Cowan and Hoskins (2007) found a significant
correlation between high monitors and use of two written sources of information, i.e.
medical books/journals (p=0.02) and popular media (newspapers and magazines)
(p=0.049), as compared to female cancer patients classified as low monitors.

Shiloh and colleagues (2008) included the MBSS as a measure of coping style in
a study of 253 adults (95% Whites, mean age 42.45 years) seeking genetic testing for
colon cancer. Mean MBSS scores on the monitoring subscale derived from the sample were compared to mean scores from a non-medical population to describe sample characteristics, including stress activators, at baseline and six and 12-month follow-up periods. After controlling for demographic variables (gender, parenthood, income, cancer history, and age), researchers reported a significant effect for monitoring on distress (p<0.01). Distress was measured by the Revised Impact of Event Scale (RIES) developed by Horowitz and colleagues (1979). Repeated measures ANOVA indicated that among those with cancer mutations, high monitors were more distressed than low monitors.

*Threatening Medical Situation Inventory*

Van Zuuren and colleagues (1996) designed the TMSI as a scale that is more relevant to health contexts, as compared to a general measurement of response to threatening situations. The authors included health-related hypothetical scenarios. Scores were reported for two subscales (monitoring and blunting) across five community and clinical samples, i.e., college students, working adults, HIV patients, dental patients, and surgery patients. Mean scale totals differed among groups. Mean scores were highest for surgery patients, possibly since the TMSI was administered shortly before an operation. Older surgery patients sought information less often than younger patients. Among HIV patients, monitoring and blunting subscores varied by hypothetical threatening situation. Other assessments were also administered to measure problem-solving and coping with the health condition, social support, dental anxiety, and psychiatric symptoms.

The MBSS and TMSI appear to measure preferences for amount and source of information, rather than a broader concept of HISB. A limitation of using hypothetical scenarios in the MBSS and TMSI is the possibility of discrepancies between how
individuals think they might behave in a particular situation and their actual HISB to prevent illness and manage personal health (Garvin & Kim, 2000; Loiselle, 1995). None of the studies previously reviewed examined subscale scores to actual information-seeking at a future point in time.

Krantz Health Opinion Survey

The Krantz Health Opinion Survey (KHOS) (Krantz et al. 1980) is a measure of individual preferences for obtaining information from health professionals when undergoing medical treatments; however, it provides little information on the types or amounts of health-related information individuals actually seek. The 40-item KHOS yields two relatively independent subscales that measure preferences for information and for behavioral involvement (i.e., self-care and active participation) in medical care.

Van Wijk, Buchanan, and Hoogstraten (2009) administered the KHOS as part of a study of perceived anxiety for extraction of a molar among freshmen psychology students enrolled in the University of Amsterdam. Participants were randomly allocated to a high or low information condition prior to determining scores on the two subscales of the KHOS. Students also completed a post-test assessment of anxiety and satisfaction with information about the dental procedure.

Responses from 320 students indicated no significant interaction between high or low preference for information about molar extraction and low or high information condition. There was a significant between-group difference; specifically those in the high information condition more often rated the text as informative. Those in the low information condition were dissatisfied with the level of written explanation. Students judged to have a high preference for information were significantly more likely to be
dissatisfied with the level of information when assigned to the low information group. Anxiety scores were significantly higher among those with a high preference for information who actually received low level of information. As with the previous studies, results may not generalize from a hypothetical experiment to an actual dental treatment decision. Health information preference and satisfaction with level of detail may differ when a patient is in need of a dental extraction.

Autonomy Preference Index (API)

The Autonomy Preference Index (API) (Ende et al. 1989) is a measure of the degree to which patients prefer to be involved in healthcare decision-making. The API includes two scales to assess information-seeking and decision-making. The API includes a broad array of items about general health status, versus disease-specific items. Items are presented with Likert-type response options and assume a relationship between the doctor and patient.

The API was administered via 75-minute telephone surveys with lengthy mail follow-up surveys. Study variables included physician knowledge of patient (physician-patient relationship), disclosure and discussion of treatment choices, selection of treatment choice, SES marital status, health insurance, educational level, and physician-patient participation. Researchers hypothesized that those with a greater illness burden would prefer more active participation with their physician, as compared to peers with fewer health conditions. Study results indicated that a majority preferred to exchange information with physicians and disclose their complete medical history. Slightly more than one-half of the sample desired many treatment choices, rather than having their physician choose the treatment option.
For data analyses, researchers dichotomized participants into two groups, i.e. those wanting to be offered many choices (deliberates), and those who did not desire many choices (non-deliberates). Furthermore, participants were dichotomized into those wanting to make decisions themselves (autonomous), versus those who preferred the doctor to decide (delegators). Results revealed that preferences for participation differed based on self-assessed health status and history of treatment.

Between-group comparisons indicated that those with less education or more prescription medications were significantly more likely to be deliberate delegators (i.e., desire to receive many choices, but yield final decision to the doctor for the treatment outcome). Females with higher levels of education and self-rated health, fewer prescription medications, or a shorter relationship with the physician, were significantly more likely to be deliberate autonomous (i.e., desire many choices about treatment outcomes and will self-select). Men with lower levels of education and self-rated health, or longer relationships with their doctor, were significantly more likely to be non-deliberate delegators (i.e., desire fewer choices about treatment outcomes and permit the doctor to decide). Participants’ responses on two information exchange items revealed that although there was a strong preference to discuss different treatment options, this did not necessarily reflect a desire among participants to select the final treatment option, versus allowing the physician to do so.

In conclusion, authors argued that it is vital for physicians to enhance skills for patient relationship development and shared decision making, perhaps by enhancing communication skills during pre-service medical education. A challenge for health care providers is permitting patients to participate in decision-making in relation to treatment
options to the extent of their personal desire to do so. Perhaps, providers should solicit patient preferences when recording medical history and use this information to individualize treatment plans. It is important to measure changes in patient preferences over time.

In summary, researchers have measured aspects of HISB, including Miller (1987), van Zuuren et al. (1996), and Cowan and Hoskins, (2007). Each study utilized the MBBS to identify respondents as high or low information monitors, examine coping behaviors related to monitoring style and preferred information source, and level of distress following a cancer diagnosis. Van Wijk and colleagues (2009) administered the KHOS to college students to estimate individual preference for level of information about a dental procedure. Finally, the API was developed by Ende, et al (1989) to estimate preferences among patients for active involvement in their health care decision-making. Results revealed that preferences for participation differed based on self-assessed health status and history of treatment.

A noteworthy criticism of the scales previously reviewed is that information-seeking is conceptualized primarily as an all-or-nothing phenomenon; individuals either seek or avoid health-related information. Such a dichotomy may be overly simplistic. Perhaps HISB may be conceptualized as a continuum, ranging from avoidance and denial of the health issue, to the desire for discrete information about a specific threat or procedure, to a comprehensive search about prevention, treatment, and management (Johnson, 2003; Loiselle, 1995; Szwajcer et al., 2005). A review of the literature revealed how researchers have utilized a combination of both quantitative and qualitative methods to examine preferred sources and amounts of information, for instance among

The following four selected peer-reviewed research studies illustrate different measures for assessing HISB in adults and the need to further explore the concept of health information-seeking behavior. The majority of these studies were conducted with cancer patients. To advance health education and health services, program planners must understand the information behavior of consumers including minority populations for a variety of health conditions.

Toronto-Informational Needs Questionnaire – Breast Cancer

The Toronto-Informational Needs Questionnaire – Breast Cancer (TINQ-BC) (Galloway et al., 1997) was designed to identify needed health information for women recently diagnosed with breast cancer. A draft questionnaire of 73 items was developed after reviewing research literature and discussing the need for cancer information with 11 experienced oncology nurses. The nurses independently classified items into seven domains of informational need: Diagnosis, Investigational Tests, Treatments, Physical, Psychological, Family, and Finances, with 91% agreement. The TINQ-BC was administered to 114 Canadian women ranging in age between 21 to 91 years, all of whom were recently diagnosed with breast cancer. Participants responded during chemotherapy (n = 39), radiation therapy (n = 40), or surgery (n = 35). Item analysis determined that 51 items in five subscales should remain in the final questionnaire. Five subscales (Disease, Investigative Tests, Treatments, Physical, and Psychological) had strong
internal consistency reliabilities with Cronbach’s alpha values of 0.81 – 0.93; the Cronbach’s alpha value was 0.97 for the overall scale.

A total of thirty-four women, including those with and without breast cancer, lay people, and health care professionals assessed two versions of the questionnaire for clarity and organization. In one version, items were randomly positioned and in the other, items were clustered in unlabeled subscales. Women indicated that the non-random format was most acceptable. None of these women were subjects in the questionnaire testing phase. In summary, developers concluded that the TINQ-BC is a valid and reliable instrument to assess individual women’s preferences for health information about breast cancer.

*TINQ-BC and Health Opinion Survey*

A related study conducted by the same investigative team enrolled Canadian women receiving a five-week course of radiation treatment after surgery to remove cancerous tissue from breasts (Harrison, Galloway, Graydon, Palmer-Wickham, & Rich-van der Bij, 1999). The purpose was to examine the relationship between need and preference for cancer information. Participants (n=125) were randomly assigned to one of four subgroups. Subgroup 1 was enrolled at the beginning of the radiation treatment; subgroup 2 was enrolled during the middle of the therapeutic course when side effects may be experienced; subgroup 3 was enrolled at the end of treatment when there was less contact with clinic personnel; subgroup 4 was enrolled one month afterwards as women resumed regular daily activities. Interviews were conducted within the clinic for subgroups 1-3 and by telephone after radiation therapy was completed (subgroup 4).
Researchers administered the TINQ-BC and the information subscale of the Health Opinion Survey developed by Krantz et al. (1980). The latter instrument measures women’s preference for health information. The information subscale was chosen because it was previously used to measure preference for information in people with cancer over a course of radiation therapy (Dodd & Ahmed, 1987). Each item of the 7-item subscale was measured on a six-point scale with higher scores indicating a higher preference for information. The range of possible scores was 7-42 points.

Participants were classified by scores on the information subscale into two groups, i.e., those with “low preference for information” (score < 27) and women with “high preference” (score ≥ 27). Demographics were not significantly different among the four groups of women who were enrolled in the study. Between-group correlations were statistically significant for information preference during four time periods, i.e., beginning, middle, end and follow-up after treatment.

Data did not indicate changes in information need over the duration of the study. Results revealed variability in information preference between subgroups as measured by a subscale of the Health Opinion Survey, with scores ranging from 12-42. Younger women indicated a statistically significant preference for more information only at the mid-point of treatment as compared to older patients (subgroup 2; r = -0.36, P = 0.04).

**Information Needs Questionnaire**

A similar study designed by Luker, Beaver, Leinster, and Owens (1996) examined the specific needs and sources of information among 105 British women ages 35-80 years who had breast cancer. Nine information needs that covered physical, psychological, and social aspects of care and treatment were derived from a literature search of over 200
articles relating to breast cancer (Degner, Farber, & Hack, 1989 as cited in Luker et al., 1995). Researchers conducted two structured interviews with female cancer patients who had received the diagnosis. Interviews were conducted prior to treatment and 21 months later. Several open-ended questions were included during interviews to allow women to express their feelings about the breast cancer experience with comments captured verbatim at the time of the interview.

This study revealed that the information needs of women with breast cancer are not static but change over time. At the newly diagnosed stage, investigators identified three priority information needs: information about the likelihood of cure of breast cancer; information about how advanced the disease was and how far it had spread; and information about the different types of treatment. Information needs were related to the likelihood of cure and family risk of developing breast cancer at 21 months after diagnosis. The dissemination of information should be seen as an ongoing process and not limited to the period of diagnosis and treatment.

Assessing Information Needs Following Stroke

Similar conclusions were reported in a subsequent study by Wiles, Pain, Buckland, and McLellan (1998). Middle-aged stroke patients and their caregivers desired customized information during three different time points. Wiles and colleagues identified three types of needed information, i.e., clinical, practical, and community. Clinical information (recovery and prognosis, preventing recurrent stroke, effects of stroke, and treatment decisions) was a consistent need across time periods. Caregivers also desired to receive detailed community information (health insurance benefits, home adaptations, agency resources and assistance, support groups) soon after the stroke
incident to enable prompt application and receipt of services. The need for practical information (activities of daily living, personal care and independence, intimacy) increased with time after discharge from the acute care unit.

Summary

There have been an extensive number of publications focused on cancer diagnosis, treatment, and recovery information needs. However, it is clear that more research is needed to understand influential factors of HISB related to stroke and CVD. Stroke is one of the nation’s leading causes of adult disability and third leading cause of death, yet there is a dearth of information on the most influential factors of HISB, especially related to stroke and CVD in a younger sample. The current research will examined HISB from this perspective to help explain determinants of stroke-related HISB among African American younger adults.
CHAPTER THREE
RESEARCH METHODOLOGY

An exploration of the research literature reveals that the concept of HISB is only partially developed, i.e., its essential characteristics are not clearly delineated. Presently, HISB has been defined as the strategies used to search for health information and trusted sources (Lambert & Loiselle, 2007). It can be difficult to compare results across studies featuring different approaches, varied data collection methods, and data analyses. Furthermore, it is challenging to determine strength of association or influence of HISB on measured health variables, ranging from illness symptoms to treatment decisions.

Use of a mixed methods approach with emphasis on the qualitative phase for this study provided a systematic way to develop a new instrument. No instruments were identified from the literature to assess HISB among African American young professionals; therefore it is necessary to first explore the concept in depth. Progress in stroke prevention and effective behavior will depend, at least in part, on understanding the dynamic process of HISB. This is important because the experience of African American young professionals between 21-40 years of age may be unique due to behavior patterns associated with young adulthood. Moving from their parents’ homes to live independently and possibly having children during this life stage could impact health behaviors. Behavioral decisions about lifestyle choices (e.g., dietary intakes, physical activity, and smoking) could initiate health trajectories that predict chronic-disease risk,
including stroke in later life (Lynch, Liu, Kiefe & Greenland, 2006; Von Ah, Ebert, Ngamvitroj, Park & Kang, 2004).

Mixed methods strategies often are guided by more than one purpose. In that instance, study designs will include both a qualitative quantitative approaches. In a sequential design, results of one study inform another (Denzin & Lincoln, 1998). A mixed methods approach with emphasis on the qualitative phase was useful in capturing individual perceptions about a disease state such as stroke, and yielded an understanding of the concept of HISB and variables that influence it. A mixed methods approach also provided further rigor to the study ultimately resulting in a more robust understanding of the research questions (Johnson & Turner, 2003).

Mixed methods research is formally defined as a procedure for collecting, analyzing, and “mixing” or integrating both quantitative and qualitative data at a defined stage within a single study for the purpose of gaining a better understanding of the research problem (Tashakkori & Teddlie, 2003; Creswell, 2009; Tashakkori & Creswell (2009). Its logic of inquiry includes the use of induction (or discovery of patterns), deduction (testing of theories and hypotheses), and abduction (uncovering and relying the best set of explanations to understand results) (Creswell, 2011). The rationale for mixing both kinds of data within one study is grounded in the fact that neither quantitative nor qualitative methods independently are sufficient to capture the trends and details of a situation. Instead, the combined approach yields richer data about the phenomenon of interest (Onwuegbuzie & Johnson, 2006).

The use of a mixed methods approach in this study was appropriate because the qualitative phase provided a way to explore and describe beliefs and attitudes about
stroke among African American young professionals aged 21-40. It also allowed for item generation for pretesting during a subsequent quantitative phase. During the quantitative phase, the researcher administered a draft survey to a pilot sample with similar demographic characteristics and examined relationships among items. Integration of preliminary results from the two study phases enhanced generating knowledge of beliefs and attitudes regarding stroke among African American young professionals. The lack of understanding of those beliefs calls for exploring the phenomenon with this population.

Other studies have used a mixed methods approach to explore health-seeking behavior. For example, Means, Nigam, Zarrow, Loftus, and Donaldson (1989) used a mixed methods approach to improve the accuracy of gathering self-reported information about health-seeking behavior. They developed a multi-phase approach to improve accuracy of interviewing smokers about health-seeking behavior during a 12-month period. Free association interviews and auto-biographical timelines yielded event sequences for smoking cessation and relapse. The purpose was to improve the ability to report and date health events as included in the National Health Interview Survey. A second aim of the study was to explore the view that poorly designed questions result in poor data quality. Means et al. (1989) illustrated the importance of using mixed methods to improve respondents’ accurate reporting of health events. This is important to note because the present study used a sequential exploratory Qual → quan approach to generate items that measured health information-seeking behavior among a sample of healthy African American young professionals.
Sequential Exploratory Design

There are approximately 40 mixed method research designs reported in the literature (Tashakkori & Teddlie, 2003). Creswell and Plano-Clark (2011) identified the six most commonly used designs, which include three sequential and three concurrent designs. Sequential designs typically are implemented as steps within distinct phases. Concurrent designs usually are those in which qualitative and quantitative data are collected at the same time. The study of HISB for the dissertation research employed the sequential exploratory design.

The sequential exploratory design is often discussed as the model used when a researcher develops and tests an instrument (Creswell, 2009). The studies using this design are conducted in two phases with priority given to the first phase. This model is generally characterized by an initial phase of qualitative data collection and analysis followed by a phase of quantitative data collection and analysis (Creswell & Plano-Clark 2011). In a sequential design, results of one phase inform another (Denzin & Lincoln, 1998).

The findings of these two phases are then connected when codes and themes generated from the qualitative phase inform the development of a new instrument, such as measuring HISB in African American young professionals. Development is a process of considering how results obtained from one approach guide a subsequent approach. That is, themes that emerge from qualitative interviews are used to develop survey items. Data collected through survey administration reveals relationships among these items (Greene, Caracelli & Graham, 1989).
Creswell (2009) suggests that four decisions go into selecting a mixed methods strategy of inquiry:

1. What is the implementation sequence of the quantitative and qualitative data collection in the proposed study?
2. What priority will be given to the quantitative and qualitative data collection and analysis?
3. At what stage in the research project will the quantitative and qualitative data and findings be integrated?
4. Will an overall theoretical perspective be used in the study?

**Decision #1 – Implementation Sequence**

What is the implementation sequence of the quantitative and qualitative data collection in the proposed study? Implementation sequence means that the researcher collects both quantitative and qualitative data in phases, or concurrently (Creswell, 2009). When qualitative data are collected first, the intent is to explore the topic with participants in the natural settings. Results from implementation of qualitative methods can be used to help select the sample, develop the instrument, or inform the analysis for the subsequent or quantitative method (Greene et al. 1989).

A study conducted by Yount and Gittelsohn (2008) illustrates the importance of implementation sequence to a mixed methods approach. These researchers explored determinants of healthcare-seeking behavior for diarrheal illness among caregivers of Egyptian children. A standard child morbidity survey (Two Governorate Linkages Survey or TGLS) did not gather data about known determinants of health-seeking behavior, such as perceived cause of illness. Information needed to plan public health
intervention activities was missing. The study showed the necessity to understand the full range of behaviors that may influence the outcomes of an illness episode, such as reliance on home remedies and self-medication.

Semi-structured interviews were conducted with residents of Minya, Egypt, who reported episodes of diarrhea among children birth to four years in the two weeks before the interview. Interview data resulted in an iterative coding system and development of an original instrument known as the Integrated Illness History, which included items on perceived symptoms, in-home remedies, outside treatments, logistics of care, and intra-household decision-making about choices of care. Results indicated differences in how illness duration was reported using the TGLS or the Integrated Illness History. Researchers concluded that duration of the illness episode was an important determinant of healthcare-seeking behavior. Similarly, Okpala’s (2007) use of a sequential exploratory design to examine kindergarten teachers’ perceptions of student retention resulted in the development of a quantitative questionnaire items that addressed retention based on state teacher certification.

Based on the limited number of published studies using mixed methods to examine determinants of stroke prevention, the implementation sequence used for the dissertation study was qualitative data collection followed by quantitative methods. The sequential exploratory design permitted the interpretation of qualitative results to inform the quantitative findings and vice versa.
Decision #2 – Priority

What priority will be given to the quantitative and qualitative data collection and analysis? Priority refers to which approach, quantitative or qualitative (or both), is given more weight or attention during data collection and analysis (Morgan, 1998; Creswell, 2003). Priority of a data collection method and analysis is determined by goals of the study, nature of the research questions, type of study participants, particular design of each phase, and intended uses of data (Creswell, 2009; Morgan, 1998). Although several studies have focused on treatment and prevention of recurrent stroke events, little research has been conducted on stroke-related HISB. The scarcity of published research identifying the factors that influence stroke prevention behavior is an argument in favor of using a sequential exploratory design with priority on the qualitative phase.

Brown, Worthman, Costello, and Erkanli (2006) conducted a longitudinal epidemiological study featuring mixed methodology to develop an interview protocol useful to assess youth mental health in western NC. The emphasis was on a series of qualitative techniques to gather rich data to develop cognitive models for life course/achievement. These techniques included detailed one-on-one ethnographic life history interviews (n = 21), focus groups (16 total, n = 60), and pilot card sort procedures, followed by debriefing interviews (n = 150). Brown and colleagues concluded that it is possible to systematically describe life-course and achievement orientation among youth using a mixed methods approach.

A mixed methods design of four phases and eight sequential procedural steps was applied to determine perceptions about curriculum reform based on evidence-based dentistry (EBD) among faculty, students, and alumni. Researchers assigned priority to the
third phase, i.e., quantitative data collections, analysis, outcomes, and evaluation (Palcanis et al., 2012). Students and faculty individually responded to survey items developed after literature review and focus group interviews. Researchers conducted an exploratory factor analysis on 51 survey items yielding a three-factor solution: Factor I - EBD benefits (benefits to dental students and graduates, and how EBD enhances the learning experience); Factor II – translation of EBD into the clinical environment and curriculum enhancements; and Factor III - EBD barriers (student and faculty barriers to a focus on EBD and clinical practice barriers). A systematic integrative process to develop a quantitative tool informed by qualitative data collection yielded important information guiding dental curriculum enhancement.

Ogedegbe, Mancuso, Allegrante, and Charlson (2003) developed and evaluated a Medication Adherence Self-Efficacy Scale (MASES) in hypertensive African American patients. Priority was given to the qualitative portion of the study, since the role of self-efficacy had not been investigated in studies of adherence to prescribed antihypertensive medications. The research team wanted to explore patients’ experiences and challenges in taking their prescribed medications. Individual interviews were conducted with patients by telephone or through routine clinic visits over a 16-month period. Categories after saturation of themes included barriers that hindered adherence and those that facilitated adherence. A draft self-administered questionnaire was developed from the concepts included in two categories, barriers and facilitators. In addition to deciding which approach will receive priority in the study, it is also important to determine when data gathered from each approach will be integrated and explained with reference to research questions.
**Decision #3 – Integration**

During which stage in the research project will the quantitative and qualitative data and findings be integrated? Integration means that the researcher “mixes” the data (Yin, 2006). Integration of the two types of data might occur at several stages in the process of research: during data collection, data analysis, interpretation and discussion, or a combination. The present study featured both inter-method and intra-method mixing. Inter-method mixing describes use of more than one sequential method, i.e., focus group interviews and participant surveys. Intra-method mixing is the use of open-and close-ended items in a single survey (Johnson & Turner, 2003).

For example, Winham and Jones (2011) administered a survey of heart disease knowledge to a sample 172 African American adults 18-26 years of age. Only 16% correctly responded to an open-ended question that heart disease is a leading cause of death, as compared to 34% who correctly identified heart disease from a list of response options. The use of both a closed and open-ended item to assess heart disease knowledge illustrates integration at the data collection level and intra-method mixing. Knowledge of determinants and response to stroke and access to trustworthy health information were not assessed in this study. The focus of the dissertation research was to explore in-depth HISB perceptions and practices related to cardiovascular disease and stroke among a similar sample of young adults.

An example of intra-method mixing in the present study was during Phase I where the investigator asked participants to respond to the question, “What actions do you take to prevent stroke and CVD?” After focus group discussion, each participant individually rank ordered a listing of 10 items indicating self-care actions including
annual physical examination by a health care provider; regularly checking blood pressure; and choosing healthy foods daily including fresh fruits, vegetables, and lean meats. The investigator was interested in comparing participants’ responses in a group discussion to individual responses.

Yin (2006) noted that the goal of analytic integration is not to force the mixed methods into the exact same analytic routines. Rather, the goal is to design and carry out “counterpart” (Yin, 2006, p. 45) analyses. The use of a mixed methods approach is appropriate when the methods used are similar across all study participants (such as a scaled quantitative questionnaire and a structured interview). Mixed methods are also appropriate when the methods examine different facets of the same phenomenon (Clarke, 2009).

In the mixed method sequential design, the qualitative and quantitative phases are connected (Hanson, Creswell, Plano-Clark, Petska, & Creswell, 2005). For instance, a qualitative interview with a small group of patients may result in themes and concepts used to design a quantitative questionnaire administered to a large group of participants. Another example would be to perform a secondary analysis of an existing data set (e.g. Health Information National Trends Survey [HINTS] NIH, 2007) to derive themes about HISB that would be explored during individual telephone interviews with a small number of patients receiving either radiation or chemotherapy cancer treatment (Galloway et al., 1997).

Conclusions that are made on the basis of the results of the first phase lead to formation of questions, data collection, and data analysis for the next phase. Morgan (2006) defines this as connected contributions, where the findings of one method are used
to elaborate on or modify the questions examined in another method. Final inferences are based on the results of both phases of the study. The second phase of the study is conducted either to confirm or disconfirm the inferences of the first phase or to provide further explanation for findings from the first phase (Tashakkori & Teddlie, 2003).

Ivankova, Creswell, and Stick (2006) connected the quantitative and qualitative phases in a sequential explanatory study design to examine graduate students’ persistence in a distance-learning doctoral program at the University of Nebraska. Although the design differs from that selected for the current research, the study illustrates how data was integrated for understanding a research problem. Connections of both phases (quantitative and qualitative) were made during the intermediate stage in the research process. A discriminant function analysis of survey data from 207 participants revealed five significant variables (program, online learning environment, student social support, faculty, and self-motivation) that contributed to students’ persistence.

In the Ivankova et al. (2006) study, four cases were selected for the qualitative follow-up portion of the study based on the number of academic credits completed, year of graduation, program withdrawal, or inactivity. Detailed telephone and e-mail interviews with case participants and review of academic records enabled the researchers to understand indicators of program persistence beyond responses to a quantitative survey. By introducing both quantitative and qualitative research questions during the study’s design, results of the entire project were informed by outcomes from both phases. The fourth and final decision described by Creswell (2009) as important to a mixed methods study is how theory will guide research questions, design and methodology.
Decision #4 – Theoretical Perspective

A final factor to consider is whether a larger theoretical perspective guides the entire design. The researcher’s emphasis on either the quantitative or qualitative approach in a mixed methods study is supported by the selection and application of theoretical constructs deemed important to the health issue. As stated in Chapter 2, the theoretical basis for the present study was derived from the HBM (Becker, 1974; Rosenstock, 1974).

The HBM is an explanatory model used to predict health behavior. Developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels, the HBM has been adapted to explore a variety of long-and short-term health behaviors. With health motivation as its central focus, the HBM is a good fit for addressing behaviors and beliefs related to health concerns. When applying the HBM to HISB research, behavioral scientists should ground their efforts in an understanding of how susceptible the population of interest (African American young adults aged 21-40) feels to the health problem, whether they believe it is serious (personal concerns about stroke), and whether they believe action (seeking health information) can reduce the threat.

To illustrate the application of the HBM in a young African American sample, a study by Winham and Jones (2011) was conducted to determine the level of knowledge of lifestyle risk factors for CVD among young African Americans aged 18-26. Research objectives were to describe knowledge, attitudes, and practices about CVD among young adult African Americans in metropolitan Phoenix, AZ and to determine if the HBM concepts of perceived seriousness, perceived susceptibility, perceived self-efficacy, and perceived benefits to CVD varied by gender, age, education, and health status. Results revealed perceived seriousness about heart disease among the 172 young adults. More
than 50% of participants stated they did not worry at all about seven of the 12 diseases and risk factors: heart disease/heart attack, AIDS, diabetes, general cancer, breast cancer, stroke, lung cancer, Alzheimer’s, osteoporosis, smoking, drug addiction/alcoholism, and violent crime.

One noticeable exception in the Winham and Jones (2011) study was a gender difference in exercise. In contrast to their male peers, young adult African American women were unlikely to engage in physical activity or exercise. Barriers to exercise were not explored in this study.

A study by Jaworski and Carey (2007) illustrated how theory was used to develop and validate an instrument to measure comprehensive knowledge of sexually transmitted diseases (STD) for use with a college-aged population in Southern California. Measuring STD knowledge is important because such knowledge is often identified as a determinant of future risk behavior according to the HBM. Researchers emphasized the weakness of approaches attempting to quantitatively measure a specific level of STD knowledge as a presumed precursor of awareness and risk reduction practices (Petri, Geiger, Lan, & Winnail, 2000). Jaworski and Carey (2007) postulated that STD knowledge is not a distinct construct, but is incorporated into attitudes and perceptions, such as perceived vulnerability to infection (susceptibility). Individuals acquire STD-related information and misinformation and evaluate it in terms of its personal relevance to risk reduction. Similar to Jaworski and Carey (2007), the investigator hypothesized that external influences may affect the integration and use of health information about stroke among African American young professionals ages 21-40 enrolled in the study.
The investigator for the dissertation study used focus group interviews with semi-structured questions guided by concepts of the HBM to explore how knowledge, beliefs, attitudes, and practices relate to HISB among African American young professionals ages 21-40. The study also used constructs from the HBM to explore stroke knowledge, stroke risk, and approaches to stroke information and education. The study described the knowledge, beliefs, and perceptions about stroke among African American young professionals in the southern region of the National Urban League Young Professional Network. The alignment of theory, sequence, priority, and the integration of findings were all criteria imposed to strengthen this mixed methods study and its implications for future research.

When designing a mixed methods study the researcher should decide in advance how to strategically combine qualitative and quantitative methods, approaches, and concepts in a way that produces complementary strengths and non-overlapping weaknesses (Johnson, Onwuegbuzie, & Turner, 2007). An advantage of mixed methods research is systematic exploration of concepts as perceived by participants and integration of data obtained from different phases. Potential limitations of the approach are length of time and resources required to collect and analyze the data obtained from the quantitative and qualitative data. (Rauscher & Greenfield, 2008).

Study Population

The most common approach in research is to use random or probability samples. However, there is no evidence that the perceptions, beliefs, and attitudes that form the core of qualitative investigation are normally distributed, making the probability
approach inappropriate (Marshall, 1996). Review of published research examining health information needs indicated a past focus on individual needs for defined services to treat or manage specific illnesses or conditions (Buckland, 1994). This is not surprising given that patient samples are more convenient to access by medical researchers. There has been very limited research in the area of assessing unmet needs for health information in a general well population and even less examination of the topic of stroke among a young-adult African American population. The present study explored the beliefs and perceptions of health information-seeking behavior and stroke knowledge primarily through the National Urban League Young Professional Network, an auxiliary of the National Urban League.

The National Urban League is a historic civil rights organization dedicated to economic empowerment in order to elevate the standard of living in historically underserved urban communities (National Urban League, n.d.). Founded in 1910 and headquartered in New York City, the National Urban League spearheads the efforts of its local affiliates through the development of programs, public policy research, and advocacy. Today, there are more than 100 local affiliates in 36 states and the District of Columbia, providing direct services that impact and improve the lives of more than 2 million people nationwide.

Members of the National Urban League Young Professionals (NULYP) were recruited to participate in this dissertation study. The National Urban League Young Professionals (NULYP) is a volunteer auxiliary that enables young professionals ages 21-40 to empower their communities and change lives through the Urban League Movement. NULYP’s mission is to support the Urban League movement through
volunteerism, philanthropy, and membership development. NULYP and its affiliate chapters provide leadership development, networking opportunities, and community outreach activities to more than 4,000 young professionals in 58 chapters nationwide (National Urban League, n.d.).

Permission was obtained from the NULYP President and Southern Region Chapter President in 2011 before approaching the membership. The purpose of the study was to assess stroke knowledge and attitudes among a sample of young adults without known health problems or incidence of stroke. Therefore, the investigator did not solicit participants from clinical settings or gather protected health information. Two samples of African American from the NULYP southern region were selected, one for the QUAL phase and one for the QUAN phase. The two samples included individuals drawn from the 24 chapter Southern Region of the NULYP. Participant support was solicited with the assistance of each chapter’s President. A roster of recent chapter Presidents was obtained online and all 24 Southern Region Presidents were e-mailed between September – November 2012 to ask their membership to take the survey. Membership rosters were not directly obtained from each chapter participating in either phase due to confidentiality. The student investigator solicited samples from the Chapter Presidents from the same underlying population, (members of the Atlanta, GA, Jackson, MS, Nashville, TN, and Birmingham, AL affiliates) for Phase I. During Phase II, the investigator sampled from the remaining 20 southern region chapters. The student investigator worked to comprise focus groups that reflected the metro statistical areas (MSA) the sample was drawn from. For example, the student investigator attempted to recruit focus group participants in the Birmingham NULYP chapter whose characteristics
mirrored the percentage of male and females in the Birmingham MSA (US Census, 2010). Communication with both the Nashville and Atlanta chapter presidents was extensive; however it did not yield any NULYP members. The student investigator solicited support through other networks in both cities, including a student group associated with the largest independent historically black medical college in the nation, to obtain focus group members for those sites.

For the purpose of this study, African American young professionals were defined broadly as “those aged 21-40 and employed in a wide variety of professions, both work requiring and not requiring college degrees. Members’ annual income may range between $25,000 and $100,000+. In addition, some are pursuing are graduate degrees or are unemployed and seeking work.” (Thursday Network, Greater Washington Urban League, 2010). Membership included, but was not limited to, full-time students, architects, insurance agents, retail management, and health care professionals.

The mixed methods study of two phases (qualitative and quantitative), included four stages and 10 procedures to develop and pretest a new instrument, as shown in Table 2. Key issues related to HISB and stroke prevention were identified from review of scholarly literature. The next steps were gathering and analyzing qualitative data. Themes, codes, and categories guided development of the draft Young Adult HISB Survey, which was pretested in the third stage. Both types of data were integrated before results were interpreted with reference to literature of the discipline. Each stage and method is described in detail in the subsequent section.
Table 2.

**Phases, Procedures, and Products of a Mixed Methodology Study to Determine Health Information-Seeking Behavior for Prevention of Stroke**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Procedure</th>
<th>Product</th>
</tr>
</thead>
</table>
| I - Qualitative Data Collection (Fall 2011-Spring 2012) | 1. Review of literature to identify key issues related to HISB and prevention of stroke  
2. Focus group interviews with a purposeful sample of 8-10 African American adults 21-40 years of age across the NULYP southern Region N = 30-40 adults | Identification of key concepts related to stroke and CVD prevention from professional literature and participants’ experiences |
| II - Qualitative Data Analysis (Summer 2012) | 3. Interpret data from interviews with reference to findings from literature review about HISB and prevention of stroke.  
4. Organize and transcribe data; code data and examine for themes | Theme, code, and category development  
Illustrative participant quotes |
| INTEGRATION | 5. Instrument development  
6. Review by 3-5 content and methodology experts | Pool of survey items  
Scales  
Reviewers content validity ratio |
| III. Pretesting (Fall 2012) | 7. Pretest draft survey with a sample of 10 African American adults 21-40 years of age and structured discussion  
8. Derive internal consistency reliability and validity statistics and conduct exploratory factor analysis from a sample of 50 or more African American young adults | Draft of Young Adult HISB Survey Study  
Revise survey content and format  
Confirm clarity of survey directions, item content, and length |
| VI - Integration (Fall 2012) | 9. Interpret how newly developed instrument is grounded in the qualitative and quantitative data. Illustrate relationship between new instrument and qualitative data. | Newly developed survey comprising items that measure HISB |
Phase I – Qualitative Phase

Six questions guided the qualitative data collection during focus group discussions with NULYP members. Questions were derived from components of the HBM.

Qualitative Questions

1. What beliefs do African American young professionals ages 21-40 have about the personal relevance of well documented risk factors for stroke (i.e., cigarette smoking, high blood pressure, high cholesterol, diabetes, obesity and physical inactivity, and existing heart disease)? *(perceived susceptibility)*

2. What beliefs do African American young professionals ages 21-40 have about the seriousness of *not* following established guidelines for the primary prevention of stroke? *(perceived severity)*

3. What beliefs do African American young professionals ages 21-40 have about the benefits of HISB to reduce their risk of stroke? *(perceived benefits)*

4. What barriers do African American young professionals ages 21-40 perceive about following guidelines for health behavior to reduce stroke risk? *(perceived barriers)*

5. How do participants judge quality of stroke information according to source? (e.g. family, peer, health provider, agency) *(cues to action)*

6. How do participants describe their confidence to act and reduce stroke risk? *(self-efficacy)*
Sample and Recruitment Strategy

Glense and Peshkin (1992) recommend recruiting through existing organizations and networks and enlisting the assistance of a contact person to gain entrance. The Southern Region of the NULYP is a 24-chapter consortium across 11 states and is the largest region of the NULYP network. The Regional VP for each region is responsible for communicating with each chapter president and disseminating any information that comes from the National Urban League office in New York. After obtaining approval from the NULYP and Southern Region VP who are based in Dallas, TX and Orlando, FL respectively the student investigator approached the four Southern Region Chapter Presidents for Phase I.

Each Southern Region Chapter President received a detailed study flyer describing the purpose, the nature of the data and its uses, time commitment, and who to contact for more information, see Appendix A. The electronic flyer could be posted on chapter websites or group Facebook pages, attached to a mass distribution e-mail, or placed in an on-line newsletter. Each chapter also has a designated membership chair. The researcher attempted to gather demographics about members enrolled in each chapter, for instance, age ranges, gender, mean age, date joined; however, each chapter’s membership chair does not record this information in a standardized way. Instead, the researcher gathered this information from participants who elected to enroll in Phase I of the study. In addition, the researcher offered to answer any questions about participant enrollment by e-mail or telephone.

Focus group members for the study included African American adults who were members and non-members of the Atlanta, GA, Birmingham, AL, Jackson, MS, and
Nashville, TN and had not been treated for a stroke event. Between September 2011 and May 2012, focus groups were conducted in those four cities. Focus group cities were selected based on the driving distance to the researcher’s home state (AL) and the chapter’s age. The four selected chapters differed in the length of time affiliated with The National Urban League, ranging from 1-12 years.

The student investigator attempted to recruit NULYP members in the Atlanta and Nashville NULYP chapters that mirrored the percentage of male and females in the Atlanta and Nashville MSAs (US Census, 2010). Communication with both the Nashville and Atlanta chapter presidents was extensive in Phase I, however did not yield any NULYP members. The student investigator solicited support through alternate networks in Atlanta and Nashville, including in one city, a student group associated with the largest independent historically black medical college in the nation. Table 3 provides a listing of the number of participants who were asked to attend and the yield of those requests. Both the Nashville, TN and Jackson, MS groups were formed through a third party intermediary, so it is not known how many individuals were solicited in those two cities.

Table 3

*Focus Group Sampling Table*

<table>
<thead>
<tr>
<th>City</th>
<th>Number of Participants that were Solicited</th>
<th>Number that Participated</th>
<th>Communication Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td>13</td>
<td>4</td>
<td>Personal Facebook Network of Atlanta residents</td>
</tr>
<tr>
<td>Birmingham</td>
<td>25</td>
<td>5</td>
<td>Personal Facebook Network of Birmingham residents</td>
</tr>
<tr>
<td>Jackson</td>
<td>Unknown</td>
<td>6</td>
<td>Jackson NULYP President</td>
</tr>
<tr>
<td>Nashville</td>
<td>Unknown</td>
<td>5</td>
<td>Meharry Medical College Division of Public Health Practice, School of Graduate Studies and Research</td>
</tr>
</tbody>
</table>
During Phase I recruitment, all who were interested were informed of the study methods and time commitment before indicating whether they would participate. NULYP members could decline to enroll without penalty. The researcher attempted to convene mixed gender focus groups. In every chapter, male and female members attend NULYP meetings together. Discussion with chapter officers revealed multiple challenges composing a series of gender-specific focus groups. Two of the four focus groups resulted in all female participants.

The natural setting identified for the focus groups was the monthly meeting locations of each NULYP chapter. The investigator attempted to coordinate with each of the chapter presidents to conduct all four focus groups in one month, or schedule one focus group in each city over a four-month time span. Conducting the focus groups in the same month allows for ease of replication of qualitative methods. Three of the four focus groups were not held on a regular chapter meeting date due to scheduling conflicts. Only Jackson, MS was held on the regularly scheduled chapter meeting date.

Each focus group was held on a weekday evening and lasted approximately 1.5 hours. Locations believed to be convenient for participants were identified in each city (Vissandjee et al., 2002). The investigator used personal networks and referrals in order to choose times and venues that were most appropriate. College campuses, small office conference rooms, and local coffee houses all served as venues. The unit of analysis in focus group research is the focus group, not the individual participants in the group (Kidd & Parshall, 2000). Krueger and Casey (2000) suggest that focus groups shall not exceed six to eight participants; however, the number of participants does not by itself, determine the quality of the group data collected. A manageable number is fewer than 10.
participants, large enough to gain a variety of perspectives and small enough not to
become disorderly or fragmented (Merton, Fiske, & Kendall, 1990). Each focus group
for the study consisted of 4 – 6 participants.

At the start of each group the investigator explained the purpose of the study, uses
of data, and protection of privacy before obtaining informed consent. Each participant
completed a demographic data form used to describe who enrolled in Phase I of the
study, see Appendix B. The next step was to establish ground rules, such as only one
individual speaking at a time, and each may express their own thoughts aloud without
censure.

One of the distinct features of focus groups is its group dynamics; hence the type
and range of data generated through the social interaction of the group are often deeper
and richer than those obtained from one-to-one interviews (Thomas & Quinn, 1991).
Focus groups are a popular method for assessing public experience and understanding of
illness, identifying ideas concerning health-risk behaviors and danger, and discovering
the public’s perception of causes of diseases (Ritchie, Herscovitch, & Norfor, 1994).

Anticipated benefits of a focus group include (a) gathering key information
quickly and more cost-effectively than by individual interviews; (b) identifying and
exploring a range of beliefs, attitudes, ideas, opinions, and behaviors regarding stroke
prevention among small groups of young African American adults, and (c) generating
relevant and appropriate questions for the quantitative questionnaire to be administered to
a larger sample of adults during Phase II of the study.

The focus group guide, see Appendix C, was designed to explore stroke
knowledge, beliefs, and prevention practices. It was also purposed to understand how
stroke is viewed by young African American professionals and to determine what health information is deemed most helpful.

All groups were audiotaped using an Olympus WS-700M digital voice recorder and transcribed verbatim by the student investigator. Audiotape is often easier for a transcriptionist to work with than videotape, but it leaves room for doubt about who said what and does not reproduce nonverbal behavior that may be important (Kidd & Parshall, 2000). A summary of observations or reflective notes enabled the researcher to identify potential bias and improve the protocol before conducting subsequent groups, see Appendix D.

Each transcript, see Appendix E were checked against the recordings by the student investigator and assigned note taker for each group for accuracy. Detailed notes taken during the focus group sessions were used to augment the transcripts of the audio recordings. Each written transcription was shared by e-mail approximately three weeks following the focus group with participants in each city for review. Participants were instructed to review the transcription and provide any corrections and/or clarification to the transcribed focus group. Two participants, one in Atlanta and Nashville responded with comments and corrections. One participant in Birmingham was specifically asked by the student investigator to clarify a comment made; however response to that request after two attempts by e-mail failed to yield a reply.

A checklist guided the planning process (MacDougall & Fudge, 2001) and included recruitment strategies, implementation procedures, data management and analysis methods, and dissemination and follow-up procedures. Table 4 shows a checklist for sampling and recruiting. The contents specify three steps to recruitment.
Table 4

**Sampling and Recruiting Strategy**

<table>
<thead>
<tr>
<th>Recruitment Steps and Task</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prepare</strong></td>
<td></td>
</tr>
<tr>
<td>Describe the sample</td>
<td>Detailed description of NUL and NULYP</td>
</tr>
<tr>
<td>Find information sources</td>
<td>Chapter web sites and e-mails</td>
</tr>
<tr>
<td>Find key contacts or champions</td>
<td>Southern Region VP and Chapter Presidents in Atlanta, Birmingham, Jackson, and Nashville</td>
</tr>
<tr>
<td>Discover recent or related projects</td>
<td>NUL Walgreens Wellness Tour, Family Fitness Day</td>
</tr>
<tr>
<td>Select alternative samples</td>
<td>Approach four different cities, e.g. Greenville, New Orleans, Memphis and Jacksonville</td>
</tr>
<tr>
<td><strong>Contact</strong></td>
<td></td>
</tr>
<tr>
<td>Initial approach</td>
<td>E-mail to Southern Region VP</td>
</tr>
<tr>
<td>Negotiations with key contacts</td>
<td>Request Chapter Presidents’ rosters from Southern Region VP</td>
</tr>
<tr>
<td>Direct negotiations</td>
<td>Request support from Chapter Presidents</td>
</tr>
<tr>
<td>Confirmation</td>
<td>Confirm meeting dates, times, locations, and attendance</td>
</tr>
<tr>
<td>Involvement</td>
<td>Participate in data collection</td>
</tr>
<tr>
<td><strong>Follow-up</strong></td>
<td></td>
</tr>
<tr>
<td>Feedback to and from participants</td>
<td>Summary report of focus group findings</td>
</tr>
<tr>
<td>Feedback to key contacts and champions</td>
<td>Summary report and next steps</td>
</tr>
<tr>
<td>Continuing links</td>
<td>E-mail follow-up</td>
</tr>
<tr>
<td>Public events</td>
<td>Presentation at Whitney M. Young Leadership Conference in Atlanta and NULYP media outlets (Facebook, Twitter, NULYP website)</td>
</tr>
</tbody>
</table>

*Note: Adapted from “Planning and Recruiting the Sample for Focus Groups and In-Depth Interviews” by C. MacDougall and E. Fudge, 2001, *Qualitative Health Research*, 11, p. 122. Copyright 2001 by Sage Publications. Reprinted with permission.*

During the preparation stage MacDougall and Fudge (2001) recommend an iterative process of working from the research or evaluation goals while finding out about...
information sources and community networks. It is important to plan different approaches to compose a sample and to describe participants in detail.

The reason for drafting alternative samples is that it makes the second stage, Contact, easier because it minimizes the complicating consequences of failing to gain access to, or endorsement from, groups, networks or key people. Lastly, MacDougall and Fudge suggest that researchers acquaint themselves with other similar projects to avoid imposing an unnecessary burden on people’s time or asking the same questions asked by other groups of researchers. Based on the investigator’s e-mail communication with the Southern VP, there has not been a research project of this nature conducted across any of the NULYP regions (K. Anderson, personal communication, March, 16, 2011).

During the qualitative phase of the research, it is important to establish trust and maintain contact with participants (MacDougall & Fudge, 2001). All eligible young professionals received printed information about heart health and stroke prevention and a written summary report of the focus group discussion.

Theoretical Basis of Focus Group Questions

The investigator explored how participants conceived of stroke risk, searched for health information, and practiced self-care behaviors. Focus group discussions were guided by a series of questions and follow-up probes. Table 5 presents each focus group question along with its complementary theoretical component. Focus group questions were constructed using both HISB concepts and HBM components to explore the beliefs, attitudes and preventive health behaviors of members of the NULYP network. The focus group guide questions and probes were derived from the HINTS 2007 Annotated Version
mailed instrument (DHHS, 2007), BRFSS (CDC, 2011), and reviewed literature. The focus group guide is included as Appendix C.
Table 5

**Theoretical Basis of Focus Group Questions**

<table>
<thead>
<tr>
<th>Focus Group Discussion Guide Question</th>
<th>Theoretical Construct or Model Concept(s)</th>
<th>Citation</th>
</tr>
</thead>
</table>
| 1. In your opinion, who is responsible for your overall health and wellness?  
*Probes:* If you feel responsible, what makes you feel that way?  
If others are responsible, why do you feel this way? | Hypothesized model of Health Information Seeking Behavior (HISB)  
**Beliefs**  
• Life experience  
• Formal education  
• Influence of social referents  
• Locus of control  
**Perceived Susceptibility to and Severity of Illness**  
• Personal likelihood of stroke  
**Perceived Benefits and Barriers**  
• Cannot afford preventive health care  
**Personal health behaviors**  
• Seeking clinical care  
• Hand washing  
• Nutrition habits  
• Physical activity  
• Take vitamins  
| 2. What actions do you take to prevent illness (in general)?  
*Probes:* Tell me more about that.  
How did it work? | HISB  
**Health Information Seeking Behavior (HISB)**  
**Specific health behaviors**  
• Tobacco use  
• Limit alcohol use  
• Using medications if hypertensive  
**Perceived Barriers minus Costs (Benefits)** | HINTS 2007 National Trends Survey Annotated Version, Mail (DHHS) – Construct Your Use of Health Care Services  
| 3. What do you know about stroke?  
*Probes:* Do you know where a stroke occurs in the body? What is likely to happen if you have a stroke? | HBM  
**Specific health behaviors**  
• Tobacco use  
• Limit alcohol use  
| 4. What actions do you take to prevent stroke and heart disease?  
*Probes:* Tell me more about WHY you used these particular actions.  
Tell me more about HOW you used these. | HBM  
**Specific health behaviors**  
• Tobacco use  
• Limit alcohol use  
• Using medications if hypertensive  
**Perceived Barriers minus Costs (Benefits)** | Becker (1974); Rosenstock, Strecher & Becker (1988) |
Table 5 (continued)

Theoretical Basis of Focus Group Questions

<table>
<thead>
<tr>
<th>Focus Group Discussion Guide Question</th>
<th>Theoretical Construct or Model Concept(s)</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Who do you most trust to provide information about your health?</td>
<td>HISB  Perceived Benefits</td>
<td>HINTS 2007 National Trends Survey Annotated Version, Mail (DHHS) – Constructs Seeking Information About Health, and Ways You Might Get Health Information</td>
</tr>
<tr>
<td>7. What are the best methods to provide stroke information to people like you within (fill in chapter city)?</td>
<td>HISB  Information source and strategy</td>
<td>Lambert and Loiselle (2007)</td>
</tr>
</tbody>
</table>
Organization, Interpretation and Review of Focus Group Data

Although it may be difficult to infer an attitudinal consensus from focus group data, the information from the focus group discussion(s) was analyzed to identify major themes and concepts regarding health values and stroke-related HISB among an African American young professional audience. Themes were determined according to (1) the level of consensus of the concept, (2) strength and depth of concept, and (3) frequency of a concept throughout the discussions (Britigan, Murnan, & Rojas-Guyler, 2009). Patterns of interactions that emerged from the focus groups were identified and explored, as these revealed strategies of HISB (Lambert & Loiselle, 2008). Data and preliminary themes were reviewed by the investigator, committee members, and focus group participants to verify accuracy of analysis. Themes were also identified during the data analysis process to represent the characteristics, opinions, beliefs, and behaviors of the group members invited to participate.

Transcripts were typed from the audio recorded focus groups. A codebook was developed after initial review of the transcribed groups. See Appendix F. The codes included core concepts (e.g., sources of health information, barriers to seeking health information, and demographics such as age, gender, etc.). Thematic content analysis was conducted to search for themes across the data set (Braun & Clarke, 2006). The investigator read each focus group transcription carefully and broke the text down to small units. Each unit was organized according to category, thus creating a large mass of data segments and annotations (McLeod, 2001). The process begins with organization and microanalysis of the data (Strauss & Corbin, 1998). Once audio tapes were transcribed, the researcher completed line-by-line analysis comparing records to
observation field notes, when applicable, to envision categories, their properties and dimensions. Once transcribed, the researcher read and re-read the transcripts to identify meaning and associations across all four focus groups. To accomplish this, the researcher completed simultaneous coding through open and axial procedures. The researcher constantly compared the data during open and axial coding, using decisions to modify and inform the process (Strauss & Corbin, 1998).

*Thematic content assembly.* Qualitative analysis approaches are diverse, complex, and nuanced (Holloway & Todres, 2003). Technical rigor in analysis is a major factor in the credibility of qualitative findings. Analysis does not take place in a linear form; rather one part of the process overlaps another. Thematic analysis should be seen as a foundational method for qualitative analysis. Through thematic analysis the researcher captures important meaning from the data in relation to the research question(s). (Braun & Clarke, 2006). For example, repeated patterns of meaning were derived from thematic analysis across the four focus groups conducted for the dissertation study. Analysis involved a constant moving back and forth among the focus group data sets. There are multiple ways to do thematic analysis. The student investigator utilized the six steps outlined by Braun and Clarke, (2006).

*Step 1: Familiarization with the data.* Immersion in the data to the extent that one is familiar with the depth and breadth of the content is important. Immersion usually involves ‘repeated reading’ of the data in an active way (i.e. searching for meanings, patterns, etc.). Note taking and marking ideas for coding began here.

*Step 2: Generating initial codes.* The most common types of coding leading to themes are inductive and deductive coding. Using inductive coding, the researcher
examines data, identifies meaning units, and attaches codes. In the process of deductive coding, a set of codes obtained from scholarly literature or a theory is used to classify the data. (Leech & Onwuegbuzie, 2007, 2008).

Step two comprises generating an initial list of ideas about what is in the data. Codes identify a feature of the data that appears interesting to the analyst (Boyatzis, 1998). Coding involves working systematically through the entire data set (i.e. focus group transcriptions), giving full and equal attention to each data item, and identifying interesting aspects of the data that may form the basis of repeated patterns (themes) across the data set. Coding for as many potential themes as possible is important (Bryman, 2001). The process of manual coding features note taking from the text and using colors to indicate patterns and segments of data.

*Step 3: Searching for themes.* Step three begins after all data has been coded and collated. Here different codes are sorted into potential themes. Visual representations such as tables and maps were helpful when sorting codes into different themes. Step three is discovering relationships between codes, themes, and levels of themes. For instance, data that explored stroke knowledge was coded as warning signs, prevention, and response, leading to the theme of *understanding of risk factors.*

Keywords-in-context analysis identified keywords and surrounding words to determine the overall meaning of the keyword. The investigator used probes to further explore the meaning of keywords. For instance, keywords such as stress, deadlines, and career goals indicated the theme *barriers to seeking health information.*

Narrative analysis treats data as potential stories allowing the researcher to take into account research participants’ personal evaluations. The study revealed *health*
concerns as a theme based on narrative analysis of participants’ responses to the
instructions to think of an adjective or phrase that best described their view of their health
at that time. For instance, a participant described a past health encounter where trust was
not established with the provider leading to a reluctance to return.

**Step 4: Reviewing themes.** Step four involved two levels of reviewing and refining
themes. Level one was a review of all coded data with consideration of whether they
formed a coherent pattern. Level two reviews were similar, but of the entire data set. This
involved coding any additional data within themes that was missed in earlier coding. If
the process of reviewing and refining did not adding anything substantial, coding should
stop at this point. A table of codes was developed and grouped by similarity listing any
sub-codes.

**Step 5: Defining and naming themes.** Step five began with a completed thematic
map. Each theme should have a detailed written analysis. It is also important to consider
how a theme fits into the broader illustration of the entire data set. This step should
clearly define what the themes are and what they are not. Themes should be named with
concise titles that convey what the theme is about.

**Step 6: Producing the report.** Step six involved the final analysis and write-up.
The purpose of the write-up was to tell the story of the data in a manner that showcases
the validity of the analysis. It is important that the write-up include illustrative participant
quotes.

Credibility of findings was conducted using audit trails, member checking and
multiple analyst review. Credibility refers to the connection between the experiences of
the group(s) and the concept being studied (Baxter & Eyles, 1997). An audit trail is a
documentation of the researcher’s decisions, choice, and insights (Morse & Fields, 1995). Basic types of documentation for the audit trail are contextual documentation, methodological documentation, analytic documentation and personal response documentation (Rodgers & Cowles, 1993). For the dissertation study, the investigator kept ongoing records of meetings, changes to protocols, sampling and recruitment strategies, methods of transcription (verbatim or not), and evolution of coding and thematic interpretation.

Member checks are traditionally seen as an opportunity to gain insight and share opinions, reactions, and clarifications (Borkan, 1999). Study participants can also help confirm the interpretation of the researcher (Crabtree & Miller, 1999; Lambert & Loiselle. 2008). Lincoln and Guba (1985) view member checking as a critical technique for establishing credibility.

All focus group participants were invited to participate in member checking to confirm codes and themes. This was done electronically. Focus group summaries and emerged themes were shared by e-mail with all participants from each of the four sites for review. Participants were given a set of reflective questions to help guide the member checking process. In the instance that multiple discrepancies arose from the summarized data, the researcher contacted those members for further clarification by e-mail.

Consulting the research literature to legitimate emerging themes further helped to refine the content domain for the quantitative instrument. Similarities and differences of themes were shared with the expert panelists, a group of 8-10 members. Panelists included the principal investigator of a longitudinal heart study funded by NHLBI, coordinator of community health engagement at an academic health center, and a
neurologist at an academic medical center, who responded to concepts that the researcher deemed important for instrument construction.

Integration and Connection of Qualitative Data

*Multiple Analyst Review*

A panel of 8-10 members was recruited to review the Phase I data including but not limited to, the principal investigator of a longitudinal heart study funded by NHLBI, and a neurologist at an academic medical center. *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1985) emphasize the necessity of relevant training, experience, and qualifications of content experts. In the case of this study, the panel included qualified mixed methods researchers, those who have experience with stroke and heart disease prevention education, and individuals who guide consumers’ search for health information.

The investigator also sought expert panelists from four of the 11 states within the southern region with the National Urban League Young Professional chapters. Selection of members from different geographic locations can increase the chance of identifying colloquial terms inappropriate for an instrument (Grant & Davis, 1997). Expert panelists received a brief study description and methodology with a visual diagram. The thematic analysis and reflective notes composed at the end of each focus group were reviewed for credibility by a pair of panelists. Findings from focus groups are not typically generalizable (O’Donnell et al. 2007). In this case, the investigator was not trying to generalize findings to a qualitatively distinct population. Findings were meant solely to
assist in using information from one group of people and applying it to the development of a quantitative survey.

Codes and themes from Phase I were used to craft items for the quantitative survey. The student investigator reviewed items from the HINTS survey, a validated instrument administered by the Department of Health and Human Services. Language and potential item structure also was informed by the Windham and Jones (2011) study, along with reviewing the MBSS. For example from the theme Stroke Knowledge and code risk factor recognition, a survey item created was indicate the level of importance of each health behavior to reduce your stroke risk with a listing of health behaviors that were rated on a three point Likert scale.

Panel members independently evaluated draft instructions, items, format, and length of the developed survey, *Health Information-Seeking Behaviors among African American Young Professionals Survey* for content validity. An on-line invitation, explanatory cover letter with reviewer instructions, definitions of terms, and a content review questionnaire was the standardized method for soliciting information on the content validity of the items and total instrument included in Appendix G. The investigator solicited comments and suggested edits from the expert panel to improve organization and clarity of items. A comprehensive content review of the newly developed survey was conducted by the dissertation committee and two individuals representing the American Heart Association’s Health Equity Division in Alabama and Mississippi.
Structural Elements in Content Reviews

Item Content

Items on an instrument are operational definitions, therefore it is important that items reflect the sample and measure a domain of content (Slocumb & Cole, 1991). When examining the content validity of an instrument, Berk (1990) suggested panel members be asked to judge how representative individual items are of the content domain. Panel members also should address whether the content domain adequately measures all dimensions of the construct. As part of the review process, panelists for the Health Information-Seeking Behaviors among African American Young Professionals Survey were asked to suggest revisions for items that were not consistent with conceptual definitions or were not representative of the content domain (Lynn, 1986). Items deemed by a majority of panelists to be tangential to measuring stroke awareness were eliminated.

Comprehensiveness

The panel of experts evaluated the total instrument for comprehensiveness as the final measure of completeness of the content domain (Grant & Davis, 1997). All dimensions of the desired content domain of a concept should be included in a comprehensive instrument. This step is necessary because an instrument may have acceptable inter-rater agreement, but still not cover the content domain. In judging the entire instrument, content experts evaluated whether the complete set of instrument items was sufficient to represent the total content domain. By asking content experts to evaluate the total instrument, the student investigator was able to identify items that needed to be added to the content domain or deleted because they did not represent the content domain.
When experts do not agree, or when the panel identifies missing domain areas, the instrument should be revised and reassessed (Lynn, 1986). A content validity ratio (Lawshe, 1975) was obtained using a three point rating scale was used to assess each item on the draft survey (Essential= 2, Useful, but not essential = 1, Not necessary =0). A numeric decision rule to edit or delete was established in advanced. Any item with a mean score of 1.5 was retained. Items averaging 1.4 – 1.0 were reexamined; anything with less than an average of 1.0 was deleted. Following return of reviews, interviews and e-mail follow-up with the panel members was done to explore and clarify any additional instrument issues.

Item Format

Clarity of items also is a pertinent area for content experts (DeVellis, 1991). An instrument may represent a content domain accurately, but participants may not respond or respond inaccurately due to unclear instrument directions, item format, and response options (Ferketich, 1991). Content experts can be asked to review the simplicity of item presentation and instructions to respondents. Items with complex sentence structure or vague definitions were eliminated.

Following expert panel review of the survey instrument, the researcher convened a small group of 12 members of the intended audience to pretest survey instructions and items. Results of pretesting are described in Phase II survey pretesting. Following pretesting, a sample of 89 African American young professionals pilot tested the survey. Results were used to estimate internal consistency reliability. Two questions guided the quantitative phase. Questions were derived to estimate the reliability and validity of the
newly developed instrument and provide preliminary information about HISB of African American young professionals.

The quantitative phase of the study yielded a new instrument to measure HISB among the intended audience. Instrument items reflected the perceptions of participants in Phase I of the study. Results of the pilot test included descriptive statistics and Cronbach’s alpha for each scale to estimate internal consistency reliability.

**PHASE II – QUANTITATIVE**

*Quantitative Questions*

What is the estimated validity and reliability of items to measure a construct termed “health information-seeking behavior”? How do the items within the scale correlate to measure hypothesized factors of HISB? The following section describes Phase II of the study, including pretesting and piloting the survey with African American young professionals with no known history of stroke, quantitative data analysis and integration of the results from the two study phases.

*Survey Pretesting*

Developing and evaluating questions has been a key challenge for survey researchers (Beatty & Willis, 2007). Cognitive interviewing has emerged as one of the prominent methods for identifying and correcting problems with survey questions. Two primary paradigms provide the basis for cognitive interviewing: probing and thinking-aloud. The probing interviewer guides the interaction, generally asking additional, direct questions about the basis for responses. The interview may be a scripted, semi scripted, or largely improvised protocol based on the issues that emerge from the discussion.
The method chosen for this study was think-aloud. After 12 selected participants completed the draft instrument, the researcher facilitated discussion of their thought processes. Participants were asked to “think out loud” as much as possible with little intervention from the investigator (Beatty & Willis, 2007). The goal was to generate verbal information that was unseen in order to evaluate how well the survey questions were aligning with the research questions.

There are advantages and disadvantages to this approach. The think-aloud procedures are relatively standardized where the data are collected during the response process. Think-aloud procedures reduce the chances that the interviewer introduces bias into the data collection process (Beatty & Willis, 2007). Another advantage is that interviewers do not need to be knowledgeable about questionnaire design or the purpose and utility of specific questions (Bolton & Bronkhorst, 1996). Forsyth and Lessler (1991) and Van der Veer, Hak, and Jansen (2002) summarized an advantage of this research method; i.e., because think-aloud data are collected during the response process, they have a certain purity that probe responses (provided after responding) do not. Think-aloud procedures have been challenged as being mere “reconstructions” of the thought process (Nisbett & Wilson, 1977). Willis (2005) reviewed evidence that some cognitive interview participants perform the think-aloud process poorly.

Originally, criteria to select pretest participants included:

1. member of a southern chapter of NULYP.
2. African American young professionals of both genders.
3. previously searched for health or medical topics from any source, and
4. consent to participate in an audio-taped interview.
Based on the logistical challenges to reach additional NULYP members across the southern region, the investigator recruited a group of graduate students enrolled in a health education evaluation course and convened the pretest in a university classroom computer lab. Individuals were provided the survey link through Surveymonkey and asked to respond to each question. Twelve female graduate students completed the draft survey. Eight were African American and four were white. All completed the on-line draft survey in 10 minutes or less.

Participants completed the survey independently in the class followed by a guided discussion using a semi-scripted procedure (Akyol, Garrison, & Ozden, 2009). Participants responded to questions such as: What changes do you recommend to improve the instructions? Is the sequencing of questions clear and understandable? Were the response options clear? In your own words explain what each group of items is asking. The process resulted in suggested edits such as keeping the demographic questions at the start of the survey because respondents were able to move through those questions quickly at the initial start of responding. Other suggestions included adjusting item order within the survey to avoid confusion. Two researchers, the student investigator, and dissertation committee chairperson, recorded notes from the discussion and asked participants to verify content when responses were unclear. A combined summary from both facilitators was produced. See Appendix H.

Following pretesting, the student investigator invited the dissertation committee and expert panelists to review the revised instrument for further refining. Clarity, order, formatting, and general comprehension of the instrument were again assessed. Following the committee review, an independent review and discussion was conducted with a
doctoral-level trained researcher with extensive years of experience in instrument development. Responses from the pretest, committee review, and instrument development expert guided additional modification of the instrument before pilot testing.

The researcher solicited participation in the fall of 2012 by way of e-mail invitations sent to each of the 24 ULYP Southern Region chapter presidents. Chapter presidents were asked to share a survey link and encourage their members to complete the survey anonymously. Chapter presidents were informed that this was a voluntary study, and it was at their discretion whether they wished to forward the email and survey link to their membership. Presidents were contacted a maximum of three times. Atlanta, Birmingham, Jackson, and Nashville participants were not originally contacted for the piloting of the survey, however, after initial low response from the other 20 NULYP Southern Region Chapters, those four chapters were added to the Phase II recruitment. Table 6 outlines the 24 NULYP Southern region chapters contacted and the outcome of that communication.
Table 6  
**NULYP Southern Region President Communication Summary Table**

<table>
<thead>
<tr>
<th>NULYP Chapter</th>
<th>Contact Date(s) to Presidents</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <em>Atlanta, GA</em></td>
<td>10/10/12</td>
<td>NR</td>
</tr>
<tr>
<td>2. Austin, TX</td>
<td>10/1/12</td>
<td>Stated they would send it to their membership through their e-blast notification method</td>
</tr>
<tr>
<td>3. <em>Birmingham, AL</em></td>
<td>10/10/12</td>
<td>Members were sent survey link through Facebook messaging. Those who participated in Phase 1 were not surveyed in Phase 2</td>
</tr>
<tr>
<td>4. Broward Co. (Ft. Lauderdale)</td>
<td>10/1/12, 10/10/12</td>
<td>Stated she would send to their membership</td>
</tr>
<tr>
<td>5. Central Carolinas (Charlotte)</td>
<td>10/1/12</td>
<td>Replied that they were on hold per their CEO of the Urban League there. Provided another the name of the President of an African-American MBA Association. Link sent to individual. Yields no response.</td>
</tr>
<tr>
<td>6. Central Florida (Orlando)</td>
<td>10/1/12</td>
<td>Replied that he would send out to their membership roster.</td>
</tr>
<tr>
<td>7. Charleston/Trident</td>
<td>10/1/12</td>
<td>Sent to their membership roster</td>
</tr>
<tr>
<td>8. Chattanooga</td>
<td>10/1/12</td>
<td>Replied that she would send to her Executive Board and on to the membership.</td>
</tr>
<tr>
<td>9. Columbia (SC)</td>
<td>10/1/12, 10/10/12</td>
<td>Forwarded message to Chapter Secretary to send out to membership</td>
</tr>
<tr>
<td>10. Dallas</td>
<td>10/1/12</td>
<td>Sent to their membership through their Facebook group page</td>
</tr>
<tr>
<td>11. Greater New Orleans</td>
<td>10/1/12, 10/10/12</td>
<td>Placed on their on-line newsletter and Facebook group page</td>
</tr>
<tr>
<td>12. Houston</td>
<td>10/1/12, 10/10/12</td>
<td>Replied they would place on their on-line newsletter</td>
</tr>
<tr>
<td>13. *Jackson, MS</td>
<td>10/10, 11/14/12</td>
<td>NR</td>
</tr>
<tr>
<td>14. Jacksonville, FL</td>
<td>10/1/12</td>
<td>Undeliverable notice on e-mail address provided</td>
</tr>
<tr>
<td>15. Knoxville</td>
<td>10/1/12</td>
<td>Replied they would send to their membership</td>
</tr>
<tr>
<td>16. Lexington</td>
<td>10/1/12</td>
<td>Replied they would send to their roster</td>
</tr>
<tr>
<td>17. Louisville</td>
<td>10/1/12, 10/10/12, 11/14/12</td>
<td>NR</td>
</tr>
<tr>
<td>18. Memphis</td>
<td>10/1/12, 10/10/12, 11/14/12</td>
<td>NR</td>
</tr>
<tr>
<td>19. <em>Nashville</em></td>
<td>10/1/12, 10/10/12</td>
<td>Responded and asked how they could help. Researcher reiterated sending out link. Sent to membership roster</td>
</tr>
<tr>
<td>20. Oklahoma City</td>
<td>9/28/12</td>
<td>NR</td>
</tr>
<tr>
<td>21. Palm Beach Co.</td>
<td>10/1/12, 10/10/12, 11/14/12</td>
<td>NR</td>
</tr>
<tr>
<td>22. Pinellas Co.</td>
<td>10/1/12</td>
<td>Responded that she would encourage participation</td>
</tr>
<tr>
<td>23. The Upstate (Greenville, SC)</td>
<td>10/1/12, 10/10/12, 11/14/12</td>
<td>NR</td>
</tr>
<tr>
<td>24. Winston-Salem</td>
<td>10/1/12, 10/10/12, 11/14/12</td>
<td>NR</td>
</tr>
</tbody>
</table>

*Note:* * Denotes Phase I focus group chapter. NR = No response
Pilot Testing and Data Analysis

Following pretesting, a purposeful sample of African American adults ages 21-40, with no known history of a stroke episode was recruited from networks of young professionals to participate in the pilot test. Analysis included internal consistency reliability (Cronbach’s alpha) to determine if the item scales demonstrated reliability. A Cronbach’s alpha value of 0.7 or higher is the minimum acceptable internal consistency score (Nunnally & Bernstein, 1994). Exploratory factor analysis of the instrument was also conducted. This was noted a strength when estimating content validity of the instrument. Finally, descriptive statistics were produced for demographics and scales to answer mixed methods research question 2.

The investigator interpreted results from the entire study within the framework of the discipline of health education. The investigator reported on the determinants that influence HISB in relation to stroke by comparing quantitative results to the qualitative focus group findings. The investigator also returned to related literature and compared data from this study to what was previously published in order to make connections to complementary scholarship and offer new insights. The logic behind triangulation was selecting a combination of methods to yield trustworthy data of value to the researcher and discipline (Johnson & Turner, 2003). Different kinds of data may yield somewhat different results, because various types of inquiry are sensitive to real world nuances. Understanding gaps and inconsistencies in findings across different kinds of data can be helpful in health education prevention research and interventions for other populations of interest.
The researcher provided the NULYP Southern Region chapters a brief report highlighting key results. The student investigator solicited their preferences for formats to share brief results with membership, for example electronic newsletter and Facebook postings.

SUMMARY

The purpose of this chapter was to explain the rationale for using sequential exploratory mixed methods approach to measure HISB in an African American young professional group and to describe the methods used in this study. Chapter 4 contains the results from both phases of the study. Data from the first phase (qualitative) informed the development of a new survey to measure HISB among African American young professionals residing in southeastern states administered in the second phase (quantitative). Results are presented in Chapter 4 and implications are discussed in Chapter 5. Final inferences are based on the results of both phases of the study.
Chapter Four describes the qualitative and quantitative findings interpreted with reference to the research questions. The chapter is divided into two sections: Phase I (qualitative findings) and Phase 2 (quantitative results). A sequential exploratory mixed methods approach (Creswell, 2010) was applied to explore and describe health information-seeking behavior about stroke among African American young professionals aged 21-40. This approach was useful to generate survey items for pretesting and piloting during Phase II of the study (Creswell, 2009).

Presented within Phase I of the results are focus group characteristics, identification of themes, and generation of quantitative items based on the qualitative research questions. The qualitative method provided the insiders’ perspective about meaning assigned to the phenomena of health information-seeking related to stroke prevention (Thomas, 2007). Sample characteristics and the analysis of the quantitative results are presented in Phase II of the results.
Participant Characteristics

The researcher gathered demographic data from 20 participants in Phase I of the study. The mean age of participants was 30.9 years; the range was between 21-42 years of age. This compares to an average age of 26 years for all members of the National Urban League Young Professional Network (National Urban League Young Professionals Annual Service Report, 2012). One participant in the Atlanta group was over the age of 40. Due to low attendance at this location (N=4), the participant was not turned away. The majority of study participants was female (70%), similar to the 73% female membership for all National Urban League Young Professional Network members (National Urban League Young Professionals Annual Service Report, 2012). Most (75%) study participants resided in their respective city an average of nine years. One group, Nashville, differed and consisted of participants who were all pursuing graduate studies at a historically black academic medical center; where the average time in the city was approximately 12 months. Demographic characteristics for the qualitative phase are presented in Table 7. Following presentation of demographics, the themes that emerged from the Phase I focus groups are discussed.
Table 7  
*Phase I Demographic Characteristics*

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N = 20</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td>4</td>
<td>20%</td>
</tr>
<tr>
<td>Birmingham, AL</td>
<td>6</td>
<td>30%</td>
</tr>
<tr>
<td>Jackson, MS</td>
<td>5</td>
<td>25%</td>
</tr>
<tr>
<td>Nashville, TN</td>
<td>5</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-30</td>
<td>6</td>
<td>30%</td>
</tr>
<tr>
<td>31-42</td>
<td>14</td>
<td>70%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>70%</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>4</td>
<td>20%</td>
</tr>
<tr>
<td>Single</td>
<td>16</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed (full &amp; part time)</td>
<td>14</td>
<td>70%</td>
</tr>
<tr>
<td>Student (full-time)</td>
<td>6</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Years of Education</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College graduate</td>
<td>20</td>
<td>100%</td>
</tr>
<tr>
<td>Graduate or professional degree</td>
<td>14</td>
<td>70%</td>
</tr>
<tr>
<td><strong>Occupational Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>18</td>
<td>90.0%</td>
</tr>
<tr>
<td>Student</td>
<td>6</td>
<td>6.0%</td>
</tr>
<tr>
<td>Homemaker</td>
<td>5</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

*Note:* Occupations represented included attorneys, business owners, higher education staff and faculty, engineering, and retail sales.  
*The majority of participants were college graduates with graduate degrees.*  
**Some full time employees were also students.*
**Themes**

Thematic analyses of stroke-related knowledge, beliefs, and attitudes among young African American professionals who participated in focus groups revealed five main themes: (a) *Health Concerns*, (b) *Preventive Actions*, (c) *Preventive Awareness*, (d) *Stroke Knowledge*, and (e) *Trust in Information Source*. Analysis involved systematically working through the focus group transcriptions to identify keywords and repeated patterns.

During thematic content assembly, the theoretical framework described in Chapter Two was used to connect constructs of the Health Belief Model and components of HISB to explore beliefs, attitudes and preventive behaviors of African American young professionals. Personal health concerns as a contextual factor for seeking information was explored during Phase I. In addition to participants’ view of their health status, the value they placed on the credibility of health information and trust in the information source was expressed throughout each focus group.

Participants’ beliefs regarding their personal networks as social referents and life experiences were illustrated in Phase I. The majority of participants knew someone who had had a stroke (55%) and often mentioned family members, friends, and social connections as sources of health information. Participants' attitudes regarding controlling food consumption and awareness of the benefits of physical activity did not always align with their action or confidence to act. Health information-seeking behavior as an outcome is influenced by values, beliefs and attitudes. Table 8 contains codes and related themes derived from the focus group discussions that will be discussed and illustrated by participant quotes further in the chapter.
Table 8

Themes and Codes

<table>
<thead>
<tr>
<th>Themes</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Concerns</td>
<td>weight loss, more sleep, more exercise, unhealthy, and prone to illness</td>
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<tr>
<td>Preventive Actions</td>
<td>hand washing, taking multi-vitamins, drinking H2O, reducing salt intake, maintaining medication regimen, choosing healthy foods</td>
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<td>Preventive Awareness</td>
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Health Concerns

Health Concerns emerged as a common theme during each focus group discussion. Participants consistently commented across four focus groups about weight loss and the need for more sleep. For instance, ATL003 said, “I consider myself pretty healthy in general, but definitely could use exercise and better sleep management. I have not done that well at all as of lately.” NAS001 echoed a similar idea about the need for adequate sleep, “I don’t get as much sleep as I should…but that’s also a good thing to try to get sleep.”
Feeling overly tired coupled with the need to lose weight to feel healthier were comments from 7 of the 20 participants across four focus groups. Several quotes illustrate these codes related to health status.

Regarding weight management, one participant expressed the need for their weight to align with BMI standards. NAS004 acknowledged having understanding of BMI standards by stating “…but I’m overweight by BMI standards, so I’m trying to lose weight and just feel more healthy…so that’s why I say a work in progress.”

Stress was identified by BHM007 as having an impact on weight management. “…from the summer to the latter part of last year…my weight was fluctuating because I had a number of stressors to come at one time. So my weight went from healthy to a large number of pounds I lost…and now I’m trying to get back to a more healthy state. So right now the saying is improving.”

In summary, the theme Health Concerns, as described by participants in four focus groups, included feeling overly tired and the need for weight loss. Additionally, areas such as personal stressors’ impact on weight and the need to meet recognized national weight standards were identified within the theme of Health Concerns.

Preventive Actions

Participants were asked what actions they take to prevent illness in general. Responses included regular hand washing, reducing salt intake and maintaining a medication regimen. These particular behaviors were articulated as actions to prevent illness, such as the common cold, allergy reactions, and high blood pressure.
Hand washing. Across four focus groups, hand washing was mentioned as a preventive action to reduce illness from germ transmission. One participant identified proper hand washing as an important action within their work environment. Proper hand washing was described as using hot soapy water and not just hand sanitizer to ensure clean hands.

BHM001: I think one of the things that stood out to me recently; again having just started working in infectious diseases is washing your hands and washing your hands properly. Uhm, not necessarily just using hand sanitizer, but soap and warm water…makes a big difference.

ATL004: I am very careful of just washing my hand because I know you can pick up a lot of things with that.

Participants in both the Atlanta and Birmingham groups reported adequate hand washing as a preventive behavior that reduced germ transmission.

Taking multi-vitamins. Taking multi-vitamins was mentioned as a way to improve immune response and reduce susceptibility to illness. Participants specifically mentioned as important choosing formulas with Vitamins C and D. One participant commented how taking vitamins was a challenge due to their inability to swallow larger medications.

ALT004: I am the worst at taking vitamins. I want to and I have them, but I am not a person who takes a vitamin everyday like I’m supposed to. I’m supposed to take vitamins and an iron pill and I just don’t know why. I think it’s been something since I was young. It’s so hard to swallow vitamins so that’s one of things I don’t do. F: Is it because of the size? Yes, I don’t do well with taking large (horse) pills. That’s one thing I’d like to do better at but I don’t.”

Drinking water. Water consumption was discussed as a means to remain hydrated during hot summer months in the South. One participant stated, “I hydrate often especially with the heat wave coming, so I make sure to drink a lot of water” (NAS004).
Water was viewed by three participants in two different groups as a healthy beverage option and means to improve overall health.

*Reducing salt intake.* Unique only to the Atlanta focus group was that participants recognized the link between salt intake and an increased risk for stroke, perhaps because 3 of 4 were married and expressed responsibility for the health of their spouses. In addition, the average age of participants in this group was slightly older (35 years) than the other three groups (29.6 years). Reducing salt intake was seen as a preventive health action to reduce risk of hypertension. ATL001 acknowledged attempting to reduce salt intake by way of food preparation “…the salt I have gotten to where…at least with my eggs and so forth, I do not add salt to that. I try not to add seasoned salt and so forth to my other food, because I figure salt is in some of the other seasonings that I’m using, garlic powder and so forth, so I try not to add salt to those items, but I still use it for my grits and my rice, but that’s about it.”

ATL002 shared how her primary care provider has encouraged her to reduce her salt intake “My primary care physician has tried to give me…put me on the right diet where I’m reducing my sodium intake and whatnot…so I try and do all those things…”

Health care providers as a trusted source of health information was a recurring coded item within Phase I.

Spousal interaction was a unique characteristic amongst the Atlanta participants due to 3 of the 4 being married. Participants ATL003 and ATL004 shared how they have influenced their spouse’s behavior when addressing sodium reduction. ATL003 stated “one thing that I forgot was laying off the salt too…just trying…I have broken up my husband from shaking salt on top of everything without even….you don’t even know
how it tastes and then you just automatically…you know…so like I have, I’ve won on that battle…with the white salt on top of stuff.” ATL004 shared “I pretty much follow the same thing as ATL003. I’m watching for the fat….protein, sodium especially.”

“When I met my husband and the first meal I fixed and he grabbed the salt shaker, I was so offended. I said, ‘you didn’t even!’ I ripped into him and that was the last time…so over the years I’ve actually broken my husband from that and knowing he’s gonna (sic) want a little more seasoning than I would like, I buy the no salt seasoning, cause it’s a give and take.” Spousal behavior and spousal interaction is a life experience that can influence individuals’ beliefs and HISB.

*Maintaining medication regimen.* When asked to rank by likelihood of preventive health care practice, ATL003 replied, “my number two is take medications as prescribed by my doctor.” Another participant in this focus group (ATL002) ranked the same health behavior in third position.

Several focus group participants discussed taking medications to reduce allergic reactions. One participant observed, “I do have allergies, so if I don’t take my allergy medications as soon as the symptoms start, I will get bronchitis. I guess to prevent bronchitis, I take my allergy medicine” (NAS003). A participant in the Atlanta focus group expounded on acting to prevent unpleasant allergy symptoms “I have allergies now, some kind of way as in the last three years I have severe allergies. And so I try to maintain the medication I’m prescribed for that and you know…not skip it and keep up with it…things like that” (ATL003). Maintaining correct dosage and frequency of the medications were mentioned as complex health behaviors requiring calendar or smart phone reminders.
Choosing healthy foods. Focus group participants across four cities stated the need to limit intake of high-calorie foods, such as fried items, to prevent illness. BHM013 ranked “chose healthy foods including fresh fruits (I love the grapes) and vegetables and lean meats” as the second most important personal health practice. Two other participants in the same focus group ranked choosing healthy foods as third priority. A participant in the Atlanta focus group specifically mentioned calorie counting as a part of daily eating behavior as suggested by a primary health care provider. “I try to watch what I eat; I count my calories. Not only am I watching for the calories, I’m watching for the fat….protein, sodium especially” (ATL002). Understanding the nutritional content of foods and acting on that knowledge was seen as a preventive health behavior.

The theme Preventive Action involved participants sharing behaviors that they engaged in to reduce illness in general. Participants expressed that hand washing as a general hygiene behavior was important in reducing risk. The emergence of this theme also illustrates a strong belief that healthy food choices, staying hydrated, and supplementing ones’ diet with a multi-vitamin are important actions to reduce the risk of illness.

Preventive Awareness

Preventive awareness means understanding that specific behaviors may reduce one’s risk of illness. When asked, what actions would you take to prevent a stroke, BHM007 replied, “Uhm…one of the important factors would be diet. You are what you eat and what you bring into your body will definitely affect what type of health outcome you have.” Reducing consumption of red meat and carbohydrate/sugars and regular
exercise were identified by participants as actions that should be practiced, “I usually don’t do red meat” (NAS001). One Atlanta participant commented,

“I am a lot more conscious about not taking in fried foods…or not excessively,” and “…I didn’t want to be the one saying well you need to eat like this (referring to husband) and I wasn’t doing it. So we are totally off of any fried foods…I do feel like I kind of have to assert and be like, ‘look, let’s stick to this,’ because even though we’re younger now, we don’t want to contribute to problems later” (ATL003).

A Nashville participant acknowledged that limiting carbohydrates could reduce one’s risk of illness and was a difficult decision “recently, I’ve kind of given up bread…it’s been hard” (NAS001).

Although participants articulated awareness of healthy behaviors, comments did not indicate consistent practice. ATL004 explained, “If I want to have a cheat night and send my husband to buy a burger, he’s not gonna be like, ‘aren’t you watching your weight?’ He’s gonna say, ‘Okay, I’m gonna get you whatever you want.’ He gonna do whatever makes me happy.” A participant in the Birmingham focus group stated, “I don’t eat as much…well, I don’t eat well and I’m always eating on the road, so I can’t even remember that last time I’ve cooked” (BHM001). Meals prepared at home were not a consistent practice for BHM001. Fast food, processed meals and decreased time to eat were acknowledged as behaviors that required action.

Awareness of Physical Activity. Participants across focus groups identified physical activity as a preventive behavior to reduce illness. When asked, what actions would you take to prevent a stroke, BHM001 responded, “I would like to add just exercise.” Another participant in the Birmingham focus group (BHM002) suggested,
“Go to your primary care physician BEFORE…BEFORE anything. Don’t wait until something happens to go see him. Go find out, get the proper blood tests to find out what all is going on, so that you can create a diet and exercise plan accordingly.”

As with consumption of healthy foods, participants across focus groups reported infrequent or no planned physical activity. Barriers to exercise included a dislike for physical activity. “I don’t exercise and I hate to exercise” (ATL001). Procrastination and making a concerted effort to change were also acknowledged as obstacles to regular exercise. “I consider myself pretty healthy in general, but definitely could use more exercise,” also “I think that probably the most important thing for me is to actually stop talking about getting exercise and then really do it…changing the lifestyle and making sure that it gets in” (ATL003). Consistency in maintaining a regular exercise regimen was also stated as a difficult health behavior. “Something [exercise] that I’ve been working on for a while…I mean I’m inconsistent, I fluctuate” (JAX006). A participant in the Birmingham focus group expressed similar challenges, “uhm, I want to say I’m healthy. I have fallen off the last year. I used to exercise daily and have not done so in a year. I’m pretty ashamed to say that. Uh, since I’ve started this new job, I’ve stopped exercising” (BHM001). Although awareness of physical activity was illustrated throughout all four focus groups, a dislike for exercise, procrastination, and inconsistency were seen as barriers to maintaining a regular fitness program.

Preventive Awareness as a theme illustrated participants understanding of food consumption and the benefits of physical activity. This theme is important to further explore in order to understand the connection between awareness and full engagement in balanced eating and consistent physical activity.
Stroke Knowledge

Participants were asked to share what they knew about stroke or share what they had heard or thought they knew about it. Four primary categories emerged from the data gathered across four focus groups: (a) Risk Factor Recognition, (b) Stroke Physiology, (c) Stroke Symptoms, and (d) Stroke History of a Social Referent.

Risk factor recognition. Across groups, hypertension, high cholesterol, use of tobacco and alcohol, diabetes and obesity were correctly identified by participants as risk factors for stroke. “I know there are some contributing factors of things that make you more susceptible to stroke, which are obesity, diabetes, hypertension, uhm…smoking” (BHM012). A second participant in the Birmingham group (BHM002) was less confident and hesitated to respond when the group was asked to share what they know about stroke, “Uh…it’s, it actually can start from factors such as high blood pressure and high cholesterol. And, uhmm, you know, that can lead straight from your heart and cause issues with your uhm brain.”

Jacksonville participant 005 related a story of family history and recognized several risk factors of a stroke in the story. Excessive alcohol, smoking, lack of exercise and stress were all identified as stroke risk factors.

“My dad had a stroke in ’91, which left him…he was forced to retire from work. And so, I can remember vividly that night he had stroke. My dad was a…he drank a lot…well drank alcohol and he also smoked. But I’d probably say…I think…I know the one thing that probably led to his stroke…a lot of it was a lack of exercise and a lot of stress from his job.”

Participants understood that stroke can affect younger and older African Americans. Among participants in the Jackson group, JAX004 stated,

“I’ve not had a stroke, but I have a history of hypertension. So it’s been to the point where I was at THAT level. So I know if I have a high level of hypertension, I’m at a
point where I can have a stroke. I was at that point at a younger age… I’m still young… at a younger age.”

One participant in the Atlanta group commented, “People actually do recover from it… however, it does not discriminate on age…” (ATL001).

Two focus group participants correctly described increased stroke risk among African Americans. Within the Birmingham group, participant BHM013 noted, “…and race usually, I guess race will have a higher… most people that are African American may have a higher tendency to have stroke compared to others…” Participant 003 in Nashville said, “I know it’s a leading killer in women… and men, but you’ll be surprised in women. Especially in African American and some statistics on rates.”

Stroke physiology. There was limited understanding across focus groups of the mechanism of a stroke. Atlanta participant ATL001 commented by recalling a story of a family member who had a stroke, “stroke… hmm, I know it can be caused from blood clots. It happens with uhh, what did my aunt have? Congestive heart failure, so then she was put on blood thinners.” A second participant in the same focus group stated, “I think I thought that maybe the definition of stroke was a type of blood clot in the brain” (ATL003).

Few other participants knew that a stroke is defined as a blood clot or bleed in the brain, yet they did identify the brain as the organ most affected by stroke. Comments such as, “I must say that I honestly don’t know much… I know that it can cause some paralysis, again, that you can recover fully, but honestly not as much as I know I should” (ATL004); “It can cause issues with your brain” (BHM002); or “basically… like the blood flow to your brain stops” (NAS002), indicated a limited understanding of the physiology of what occurs when a stroke happens.
Stroke symptoms. Five primary stroke symptoms were readily identified by participants of different focus groups. Between one and three participants at each focus group correctly identified blurred vision, trouble speaking/speech impairment, impaired cognition, headaches, paralysis, and numbness on one side of the body as warning signs and symptoms of a stroke (American Heart Association, 2012). Nashville participant 002 contributed, “basically, like the blood flow to your brain stops and it can cause like paralysis on one side, speech impairment…” An Atlanta participant recalled having seen printed information about the signs and symptoms of stroke through use of an acronym that described stroke symptoms.

“I’ve gotten some instructions on maybe how you can try to detect or you can tell if someone is having a stroke at the time. Or maybe I seem to remember something like, smile, or have the person stick out your tongue, or have them speak a sentence to you or what have you…the thing that first comes to my mind is people having paralysis of their facial muscles maybe” (ATL003).

Another participant in the Atlanta group (ATL001) discussed mini-strokes (transient ischemic attacks, TIAs) and described the symptoms that she physically witnessed of a family member. Both strokes and TIAs can be very visual manifestations of illness. Participant ATL001 was familiar and knowledgeable of both due to a close family member having experienced both.

“You can also have mini-strokes. You might think of the headaches and you’re having a stroke. It can alter your brain pattern…your thinking. Because, again, with my aunt, I could notice even before she had her big stroke that she just started acting different (sic), you know. I notice that occasionally she would accuse me of things that she would never do that before. And it was so off-base, like, ‘oh, you left my house a mess’.”

Stroke history of a social referent. Eleven of the 20 focus group participants (55%) knew someone who had experienced a stroke, especially family members and
friends. Three of those 11 participants shared stories of individuals under the age of 40 who had experienced a stroke. One participant recounted the story of an office colleague who had a stroke at a young age and the impact of that personal episode on the need for more stroke information geared toward younger adults.

JAX003: In my office building, there’s a young guy who owns a very successful web site design company and he’s probably 33 years old and he had a stroke...so what I’ve been trying to implement over in my office building is to get a health and wellness program together for the individuals in there, because as an entrepreneur you’re very stressed out all—the—time. I believe...he didn’t even know he had a stroke. He didn’t know until he’d gotten to the doctor, because he thought he was having a really bad headache that wouldn’t go away for several days. He went to the doctor and he was like, ‘you’ve had a stroke.’ Luckily for him, he’s gonna be okay. He didn’t lose any memory or anything like that. Seeing people our age and showing how it affects people in your age group I think is very effective.

Atlanta participant 003 stated how a stroke was often associated with death based on an experience where a family member succumbed to complications from a stroke. This personal experience can influence one’s attitudes towards seeking information about stroke.

“There are a few people that I’ve known or seen that have one side of their mouth or face...they can’t move it. My grandmother did suffer stroke right before her death. I mean it was at the very end when she had already gone downhill and was ill with so many other things...I don’t know if that’s just more of my personal experience, I most often think of it as, ‘oh, this person is passing.’ I don’t have a lot of other close connections really other than that with people who might have suffered a stroke.”

Although there was strong recognition of stroke risk factors, there was limited understanding of the actual physiological mechanism of stroke. Primary stroke symptoms were identified by at least one to three participants across all focus groups indicating a strong awareness of these symptoms.
Trust in Information Source

When asked, *who do you most trust to provide information about your health* most responses centered on trusting one’s health care provider. For example, Nashville participant 002 said, “I trust doctors. I mean I feel like they didn’t go to med school for nothing. I mean, I may not understand them completely, but they can at least give me a sense of what’s going on with me, versus asking a friend or asking my mom or dad.”

A personal, yet professional relationship with their health care provider was deemed important to establish and maintain trust. Providers that showed compassion, took time and presented accurate information were viewed as trustworthy. For instance, ATL003 shared,

“There are doctors that I’ve established relationships with here, like I first started seeing them after first moving here. I do trust them 100%, because I have hmm…I’ve had them, you know, key in on diagnosis that turned out to be just what they thought. They went right to the solution and solved the problem and everything…if I have a provider that I have confided in and trusted our care with them, then I insist on seeing those individuals even though there are others in the practice. I insist on seeing those individuals…I do tend, I do take their word for gospel, because in the past I’ve had history with them actually uncovering things and going the extra mile to find something that maybe could have been easily, in some cases WAS overlooked by someone else.”

Jackson participant 005 said, “I did a little research on him (my doctor) and he’s done a whole lot. He’s all around the country speaking about the holistic approach to medicine. I was just impressed with his résumé.” This quote illustrates health information seeking behavior to determine the trustworthiness of a health care provider. Credentials, national recognition, and a holistic approach were seen as important criteria for trusted information sources. BHM007 also expressed trust in a more universal approach to medicine, “well first of all I trust my primary care physician and chiropractor with my health.” Finally, BHM013 summarized perceptions of how health care professionals can
be viewed, leading to mistrust of health care professionals; “you know, we don’t need people who just rush us through. We need someone who takes us personally and make sure that we’re actually progressing and improving our health over time. So that’s one thing I look for, too.”

Trustworthiness was not solely built on the office visit, but was related to the entire experience, i.e. scheduling an appointment, waiting to be seen by the provider, and receiving follow-up care. Nashville 004 related an experience calling different physicians’ offices before choosing one.

“So I do a little bit of research on the person and even in calling the office…this is a perfect example. I called two different doctor’s offices yesterday, one of whom I didn’t know and one who was my old doctor back in New Jersey…(I consider) wait time, how nice you are to people, if they offer you water. If it’s busy in there, if there are snotty nose kids are in there and wiping their stuff on you. All of those things contribute to people’s level of comfortability (sic)…”

In Atlanta, participant 004 challenged conventional views and stated, “It’s not most of us in the past…most African Americans, I mean, I think about some of my older family members, we don’t trust doctors…we’re not bred to trust doctors…”

When asked what characteristics make a source trustworthy the majority of participants expressed online sources as credible, particularly ones were a health care professional provided the information or the site presented research-based information. This preference was most often expressed amongst the Atlanta participants. Participant ATL001 stated they carefully examine a website to determine who is providing the information. “It has to be a site that’s attached to a doctor of some sort, who’s giving information. Then I’m looking at that doctor’s information and like “okay…is this a credible person as well?” ATL003 also mentioned that information posted by a physician was deemed credible. “…but generally in WebMD they will actually site a physician you
know usually and say that this was doctor so-and-so who gave this information.” ATL004 echoed ATL003 by saying “…and like ATL003 said I think it [a website] would really have to be associated with a doctor or some other entity for me”

Websites that contained commercial advertising or information provided by the average consumer were not deemed credible. ATL003 expressed how excessive advertisements were not seen as credible when seeking health information.

“The other thing that I would say really turns me off and makes kind of discount…is if I go to a site and I’m overcome by ads. And I’m like I can’t even find the article in here, like what? I start reading something and like ‘oh that’s not the article this is some advertisement.’ If I see something that look like it’s got too much selling of products going on, that overcomes the site.

Participant BHM012, who indicated experience in the field of Health Sciences Librarianship, expressed their preference for a particular online source. “I like Medline Plus because I know that the information they’re getting is coming from a credible source…like the National Library of Medicine.”

*Internet-based portals.* Established search engines such as Google, Internet Explorer and Mozilla Firefox were all mentioned as tools used to conduct an initial search for online health information. Nine of the 20 focus group participants (45%) sited Google as their first search engine choice for online health information. Websites, such as WebMD, Medline Plus, and Cancer.org (NCI), were also mentioned as useful resources. Eight participants stated they used WebMD as their first choice for seeking health information.

Coupled with the internet search engines was the mention of smart phone apps, which are software applications that can be accessed on a smart phone or tablet device. Two participants from Birmingham and Nashville stated they use their phones for health
information-seeking purposes. BHM007 expressed technology and social media apps as a key component of how he receives information, “uh…being that I’m kind of a tech junkie…the best ways for me are through apps, Facebook, Twitter…any social media.” A Nashville participant (NAS002) expressed that they used cell phone apps to track and assess personal fitness goals. “I’ve been trying to monitor my calorie intake with the whole My Fitness Pal app” Smart phone apps, such as My Fitness Pal, a tracking tool, and searchable databases of food items, were mentioned as useful tools for consumers for health information. Counter to the idea of technology as an acceptable outlet for health information, a Birmingham participant BHM001 challenged that view and by stating, “I’m the opposite, I don’t do technology very well…ummm, and I don’t do apps or anything like that. I’m a visual person and I like stories. Ummm, I think… personally, when I think of stroke I always think of older people and I think if some of the health educators would try to relate that a little bit more to younger people, specifically African Americans, (sic), then I’d be more…more app to listen…and to pay more attention.

Credibility of the host/website/informant. Participants shared that the source of the information was just as important as the actual information itself. Unique to participants in the Jackson group were comments on how they compared information obtained from different online searches for consistency. JAX002 stated, “I would click on the first five and compare to see if the information is consistent.” Another Jackson participant (JAX005) shared “I check out the reviews of the website too. I look at the star ratings…to see if they’re a safe website.”

Personal Contacts. Participants relied on personal contacts for trusted health information. Family members, close friends, and members of civic organizations were all mentioned as trusted sources of health information. Familial relationships as health information sources were deemed important in each focus group. Participants expressed
relying upon medical advice from family members in the medical profession, or their spouse. ATL003 expressed the need to consult multiple family members to gather health information. “I want to say one thing, too, this is just me, after I’ve discussed it with every member of my family and gotten their take on it…you know…so you’re like ‘have you ever felt like this?’…or ‘do know somebody that has x, y, z?’ I guess that all the informal like you know…surveying of people, first.” Nashville participants NAS005 and NAS004 shared that family members in the medical profession were a source of health information for them.

NAS005 “I was gonna say my mom is a nurse and so I usually say ‘mom what’s up with this?’”

NAS004: My brother-in-law is a physician; so I may you know…. follow-up with him.

BHM001 shared that a close relative served as a sounding board and source of information and advice. “My cousin is probably my best friend and she’s the only one that I really talk to about anything.”

Close friends, associates and civic organizations were also identified as trusted sources of information. These networks within an African American audience are especially important to consider when developing new methods to disseminate health information about stroke.

Membership based groups such as sororities, where members represent a number of different professions, were identified sources of health information. BHM013 stated “depending on the topic or what I’m interested in, I will go to someone in the health field as another source. A lot of my sorority sisters are nurses and doctors and depending upon what topic it is, I will go to them for information because they are in the field and they
have the medical degree to give me accurate information and ways that have and have not
worked based on the patients that they’ve seen in the doctor’s office.”

Other trusted sources involve personal relationships. One Jackson participant
(JAX001) shared that personal relationships can and do influence professional ones. “I
think about my gynecologist. Because initially the one that I liked using, she was the wife
of a friend. When I went in there and talked to her even though I see her outside in other
settings, I felt like what she was telling me was the truth because she was the wife of a
friend.” One participant in Atlanta expressed that one’s personal network and their
opinion of an information source was important. “…knowing other people that see him or
her in addition to me. Another mark for me is knowing that there are other people in my
circle that also trusts this person.”

Health Care Providers. Eight participants across the four groups stated that their
health care provider was a trusted source of health information. Providers that
demonstrated experience and accuracy in treating patients’ concerns in addition to being
clear communicators when addressing a health concern were seen as trusted sources.
Two participants in the Birmingham and Nashville groups expressed the importance of
healthcare providers having current knowledge of healthcare treatment options.

BHM013 …knowledgeable of current trends…well not trends…knowledgeable of
current umm…medical advances in your particular uh…problem. I guess a personal
one is when I had the surgery; I was making sure that everyone knew whoever my
doctor was…the current treatment for this particular surgery that I really did not want
to have, but needed to have.

NAS004: “We have two residents in our program and I find myself asking them
questions and I have them look at something on my foot. And in my mind it’s a
learning opportunity and they need to learn also. But I also feel comfortable that
they’re highly trained competent individuals because they’re recent graduates of
medical institutions. So for the latest cutting edge information, in my opinion, those
that are more recent graduates may have a little bit more exposure and may readily remember those types of things.”

Based on the comments provided, information sources that lack current evidence are not seen as relevant or reliable with a young professional audience.

*Church and Faith-based Outlets.* Faith-based leaders and health ministries were identified as community sources of trusted health information. Unique only to the Birmingham focus group was the belief that the faith community serves as an outlet for health information. Churches and faith organizations were seen as foundations in the community and should be utilized more often as a place of not only spiritual information but physical and health information also. Two Birmingham participants expressed the ability of churches to serve as primary health information sources for those who attend.

BHM012: Another one that I think is important; because in African American community, the faith based institutions…our churches have a tendency to be a staple of the community and the center of the community. ‘Cause I know the one thing our church doing every month, on the 3rd Sunday of every month, my Pastor takes out some time to…like talk about some type of health fact…and like yesterday we focused on heart attack. Umm…I think that’s important, because you have a large group of people that are there that hear the information all at one time, and kind of get a little discussion or dialogue going that way.

BHM013: I definitely agree with his comment… BHM012 as far as using health…the church as an avenue to relay health messages we do have this opportunity, or have this venue that we can use that we’re not…we’re using it, but it hasn’t been researched or recorded or documented so much so that it can be used as a feasible opportunity for additional programs that can take place (sic).

Trust in information sources involved health care professionals that were knowledgeable in their area of practice and who showed concern for patients. Other trusted sources included credible online information supported by reputable agencies and individuals. Personal relationships through membership organizations such as a sorority were another source of trusted information. The concept of the churches and houses of
faith as places to obtain trusted information was also expressed as an important aspect of trusted information.

Summary of Qualitative Findings

Across the four focus groups, the majority of participants indicated that they were responsible for their own health. There were a number of proactive behaviors that illustrated individual responsibility for one’s health. Regular exercise, proper hand washing, hydrating with water, and taking vitamins were common preventive behaviors across each focus group. Reducing one’s salt intake and counting calories were distinct preventive health behaviors mentioned by all individuals in the Atlanta focus group.

Stroke risk factors were not as easily recognized across the groups. Participants identified high blood pressure and high cholesterol, smoking, diabetes and obesity as primary risk factors. Others identified less documented risk factors such as stress, being African American, and heavy drinking as additional stroke risk factors. Over half of participants (55%) were able to share personal stories of family and friends that had suffered a stroke and relate those personal experiences to their knowledge of stroke risk factors. Those personal experiences allowed transient ischemic attacks (TIA) or “mini strokes” along with congestive heart failure to also be recognized as stroke risk factors.

Health information sources such as online websites and personal informants (i.e., family and friends) were mentioned across focus groups as initial sources when looking for health information. Credible information was acknowledged as information that came from government-based sites, academic health institutions, and health care providers. Less credible information came from sources such as lay individuals and consumer
opinions. Health care providers were often cited as trusted sources of health information. Yet, providers that showed compassion, took time with patients, and presented accurate medical knowledge and information were deemed most trustworthy.

When asked about best outlets for disseminating information about stroke, most participants expressed outlets such as social media sites, visual portrayals, and personal experiences, and testimonies of individuals in their age bracket were all acceptable methods. Faith-based settings and city-wide signature events were unique venues for health information dissemination in Birmingham and Atlanta respectively. Pamphlets, brochures, and other written material were seen as less suitable methods of sharing stroke information. Overall, participants identified health information-seeking behavior for stroke by way of source and content of the information. Table 9 shows the alignment of HBM constructs with developed themes from Phase I and survey items from Phase II. The next section will discuss the findings of the online quantitative survey that was administered to the 24 NULYP southern region chapters.
Table 9

Alignment of Theoretical Constructs, Themes and Items

<table>
<thead>
<tr>
<th>HBM Construct</th>
<th>Phase I Themes</th>
<th>Phase II Survey Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perceived susceptibility</td>
<td><strong>Theme: Health Concerns</strong></td>
<td>Q15</td>
</tr>
<tr>
<td></td>
<td>Codes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Weight loss</td>
<td>Q16</td>
</tr>
<tr>
<td></td>
<td>- More sleep</td>
<td>Q17</td>
</tr>
<tr>
<td></td>
<td>- Exercise</td>
<td>Q18</td>
</tr>
<tr>
<td></td>
<td>- Unhealthy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Prone to illness</td>
<td></td>
</tr>
<tr>
<td>2. Perceived severity</td>
<td><strong>Theme: Preventive Awareness</strong></td>
<td>Q14</td>
</tr>
<tr>
<td></td>
<td>Codes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Controlling food consumption</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Awareness of benefits of physical activity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Knowing family history</td>
<td></td>
</tr>
<tr>
<td>3. Perceived benefits</td>
<td><strong>Theme: Preventive Actions</strong></td>
<td>Q13</td>
</tr>
<tr>
<td></td>
<td>Codes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Hand washing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Taking multi-vitamins</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Drinking H2O</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Reducing salt intake</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Maintaining medication regimen</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Choosing healthy foods</td>
<td></td>
</tr>
<tr>
<td>4. Perceived barriers</td>
<td>Did not emerge as a theme in Phase I</td>
<td>Was not explored during Phase II</td>
</tr>
<tr>
<td>5. Cues to action</td>
<td><strong>Theme: Trust in Information Source</strong></td>
<td>Q20</td>
</tr>
<tr>
<td></td>
<td>Internet-based portals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personal contacts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Credibility of host/website/informant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health care providers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Church and faith-based outlets</td>
<td></td>
</tr>
<tr>
<td>6. Self-efficacy</td>
<td><strong>Theme: Stroke Knowledge</strong></td>
<td>Q12</td>
</tr>
<tr>
<td>(confidence)</td>
<td>Codes:</td>
<td>Q19</td>
</tr>
<tr>
<td></td>
<td>- Risk factor recognition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Stroke physiology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Stroke symptoms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Personal experience with stroke</td>
<td></td>
</tr>
</tbody>
</table>
Phase II: Quantitative Findings

Sample Characteristics

The demographic variables included in Phase II were gender, age, racial/ethnic group, state one currently resides, NULYP chapter affiliation, highest level of education, occupation, and annual household income before taxes. The majority of the participants were female (75.3%), and had a mean age of 33.2 years. Nearly 90% of the participants reported obtaining a college degree and over 90% were employed. A total of 15 states were identified in the data, along with 9 of the 24 NULYP Southern Region Chapters selected. A description of the demographic variables is presented in Table 10.
Table 10  
*Description of Demographic Variables*

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Number of Subjects</th>
<th>% of Total</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>22</td>
<td>24.7%</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>67</td>
<td>75.3%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td>33.2</td>
<td></td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>89</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td><strong>State of Residence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL</td>
<td>42</td>
<td>46.7%</td>
<td></td>
</tr>
<tr>
<td>TX</td>
<td>13</td>
<td>14.4%</td>
<td></td>
</tr>
<tr>
<td>GA</td>
<td>10</td>
<td>12.2%</td>
<td></td>
</tr>
<tr>
<td>FL</td>
<td>8</td>
<td>8.9%</td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>4</td>
<td>4.4%</td>
<td></td>
</tr>
<tr>
<td>TN</td>
<td>2</td>
<td>2.2%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>12.1%</td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First college degree (Associate, Bachelor)</td>
<td>47</td>
<td>45.2%</td>
<td></td>
</tr>
<tr>
<td>Graduate or professional degree</td>
<td>46</td>
<td>44.2%</td>
<td></td>
</tr>
<tr>
<td>Some college, but did not graduate</td>
<td>6</td>
<td>5.8%</td>
<td></td>
</tr>
<tr>
<td>Completed career or technical school</td>
<td>3</td>
<td>2.9%</td>
<td></td>
</tr>
<tr>
<td><strong>Occupational Status</strong>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>91</td>
<td>91.0%</td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>6</td>
<td>6.0%</td>
<td></td>
</tr>
<tr>
<td>Homemaker</td>
<td>5</td>
<td>5.0%</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* “Other” for state of residence included states outside of the NULYP Southern Region designation  
*For this variable the percentages do not sum to 100% because multiple responses were possible
Results of Analysis – Survey Piloting

The designed instrument included 10 demographic questions, 8 sets of items comprising scales and 2 dichotomous questions. A total of 42 items were in the survey. Questions on scales ranged between six to 14 items. Scales ranged from a three-point Likert scale to a five-point Likert scale. A total of 106 surveys were attempted. Nine respondents were omitted due to incomplete surveys. An additional eight were omitted because the respondents were over the age of 40. Results are presented separately for each quantitative research question. A total of 89 respondents completed the entire instrument and were used in the quantitative analysis. Results of this first study of health information-seeking behavior among young African American must be interpreted with caution due to small sample size.

Exploratory factor analysis was performed using a Varimax rotation procedure. The analysis was performed using Statistical Package of the Social Sciences version 21.0. The number of factors to extract and rotate was estimated using two measures: Kaiser’s Rule of Thumb (eigenvalues greater than 1) and examination of the scree plot. Factor loadings $\geq .45$ were considered acceptable (Tabachnick & Fidell, 2007) and were retained for consideration within each research question. Methodologists have recommended that at least three to five measured variables representing each common factor be included to designate a factor (MacCallum, Widaman, Zhang, & Hong, 1999; Velicer & Fava, 1998). In some cases, items were retained that loaded strongly on one component while showing lower but still strong loadings on another. In this instance, the student investigator returned to the qualitative themes and codes to determine if the item fit with the
underlying construct to be measured. If the qualitative data supported retaining the item, it remained with the factor.

**Research Question 1**

What beliefs do African American young professionals aged 21-40 have about the personal relevance of well documented risk factors for stroke (i.e. cigarette smoking, high blood pressure, high cholesterol, diabetes, obesity and physical inactivity, and existing heart disease)?

_Perceived susceptibility._ Survey questions 15 through 18 asked respondents about smoking tobacco, confidence for choosing not to smoke tobacco, drinking alcoholic beverages, and confidence for limiting use of alcohol to no more than 2 drinks daily. Sample frequencies revealed most respondents were non-smokers (93%). Of the seven respondents who did smoke, four of them were not confident about abstaining from smoking tobacco. In contrast, two thirds of respondents reported drinking alcoholic beverages. The overwhelming majority (89.2%) felt confident that they could limit use of alcohol to no more than two drinks per day. Chi-squares showed little variation by gender for drinking alcoholic beverages (p=.094). Any tobacco use and regular alcohol consumption are known risk factors for stroke. The perceived susceptibility of this sample related to tobacco and alcohol use is low. (American Heart Association Statistics Committee and Stroke Statistics Subcommittee, 2013).

**Research Question 2**

What beliefs do African American young professionals aged 21-40 have about the seriousness of not following established guidelines for the primary prevention of stroke?
Perceived severity. Survey question 14 asked respondents to rate (on a three point scale (unimportant, neutral and important) their level of importance of each of 10 health behaviors to reduce one’s stroke risk. At least 90% rated each behavior as important.

Cronbach’s alpha coefficient revealed an internal consistency reliability of 0.72. The Kaiser rule (eigenvalues >1) and the scree plot were used to estimate the number of factors to extract and rotate for exploratory factor analysis. These two rules suggested extracting and rotating two to four factors. The scree plot suggested two factors. The Kaiser rule suggested four factors and those factors accounted for 72% of the variance.

The four factor solution revealed only two items on two of the factors. For both the three factor and two factor solution, one of the items, maintaining a normal blood pressure, did not load on any factor in either solution. The decision was made to remove this item. This preventive measure did not emerge as a major code in the qualitative phase. This is not surprising for a young adult audience who does not have hypertension and does not consider themselves at risk for stroke.

Examination of the items loading on each factor of the two and three factor solution suggested that the two factor solution was easier to explain in terms of the literature and the qualitative findings from Phase I. Table 11 contains the results of the final two factor solution with one item removed. This solution explained 51% of the variance of the construct, perceived severity.

Limiting my use of alcohol loaded on two factors in both the two and three factor solutions. This item loaded on the factor that also contained two other volitional behaviors to reduce chronic illness. Choosing healthy foods did not load on either factor in the final two factor solution. However, it was retained in the final solution because it
emerged as an important element of the *Preventive Action* theme in Phase I. The first factor loaded items that show importance of the healthcare provider’s role in reducing stroke risk. The second factor loaded items that revealed lifestyle behaviors that an individual would control. Item 2 fit best on the second factor as an individual lifestyle behavior.

Table 11

*Summary Table of Factor Analysis for the Final Two-Factor Solution: Perceived Severity*

<table>
<thead>
<tr>
<th>Indicate the level of importance of each health behavior to reduce your stroke risk (Item #14).</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. Speaking to a doctor or provider about your risk of stroke.</td>
<td>.657</td>
</tr>
<tr>
<td>2. Choosing healthy foods daily.</td>
<td>.430</td>
</tr>
<tr>
<td>3. Choosing not to smoke.</td>
<td>.191</td>
</tr>
<tr>
<td>4. Choosing to exercise for at least 30 minutes on most days.</td>
<td>-.224</td>
</tr>
<tr>
<td>5. Limiting my use of alcohol to no more than 2 drinks daily.</td>
<td>.451</td>
</tr>
<tr>
<td>6. Completing a physical examination each year.</td>
<td>.546</td>
</tr>
<tr>
<td>7. Taking medicine as prescribed by a doctor or provider.</td>
<td>.755</td>
</tr>
<tr>
<td>8. Caring for diabetes as directed by a doctor or provider.</td>
<td>.661</td>
</tr>
<tr>
<td>9. Seeking immediate medical attention for confusion or sudden difficulties seeing, speaking or walking.</td>
<td>.587</td>
</tr>
</tbody>
</table>

*Note:* Factor loadings $\geq .45$ are in boldface.

**Research Question 3**

What beliefs do African American young professionals aged 21-40 have about the benefits of HISB to reduce their risk of stroke?
**Perceived benefits.** Survey question 13 asked respondents to rate, on a five-point scale, their level of agreement or disagreement with each of six items to reduce one’s stroke risk. Table 12 contains the frequencies and percentages for each response choice of each item. At least 50% agreed or strongly agreed with the first four items. Fewer agreed with the last two items.

Table 12

*Frequency Table for Survey Item 13*

13. Choose one response to each statement indicating your level of disagreement or agreement. I can reduce my stroke risk by.

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree % (f)</th>
<th>Disagree % (f)</th>
<th>Neutral % (f)</th>
<th>Agree % (f)</th>
<th>Strongly Agree % (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating credible stroke information in print (brochure, pamphlet, article).</td>
<td>5.1% (5)</td>
<td>5.1% (5)</td>
<td>12.1% (12)</td>
<td>51.5% (51)</td>
<td>26.3% (26)</td>
</tr>
<tr>
<td>Locating credible stroke information in broadcast media (TV, radio).</td>
<td>6.1% (6)</td>
<td>12.2% (12)</td>
<td>24.5% (24)</td>
<td>43.9% (43)</td>
<td>13.3% (13)</td>
</tr>
<tr>
<td>Locating credible stroke information online.</td>
<td>2.0% (2)</td>
<td>2.0% (2)</td>
<td>12.2% (12)</td>
<td>50.0% (49)</td>
<td>33.7% (33)</td>
</tr>
<tr>
<td>Asking my doctor or provider for stroke information.</td>
<td>1.0% (1)</td>
<td>2.1% (2)</td>
<td>6.2% (6)</td>
<td>43.3% (42)</td>
<td>47.4% (46)</td>
</tr>
<tr>
<td>Asking people who are close to me for stroke information.</td>
<td>5.1% (5)</td>
<td>11.2% (11)</td>
<td>34.7% (34)</td>
<td>37.8% (37)</td>
<td>11.2% (11)</td>
</tr>
<tr>
<td>Using smartphone apps to find stroke information.</td>
<td>12.2% (12)</td>
<td>16.3% (16)</td>
<td>28.6% (28)</td>
<td>28.6% (28)</td>
<td>14.3% (14)</td>
</tr>
</tbody>
</table>

Cronbach’s alpha coefficient revealed an internal consistency reliability coefficient of 0.68. The Kaiser rule (eigenvalues >1) and the scree plot were used to estimate the number of factors to extract and rotate for exploratory factor analysis. These
two rules suggested extracting and rotating two factors. The two factors accounted for 57% of the variance. However when a two factor solution was run, the second factor had fewer than three items loaded on it. Running a three and four factor solution achieved the same outcome. Data suggest that the most parsimonious solution is a single factor. All of these items within the scale were identified in Phase I as important sources of health information. Although data from the qualitative phase strongly suggested doctors and providers as trusted sources of information, they were not engaged specifically for stroke information. The Cronbach’s alpha for question 13 does approach the threshold of .70; the smaller number of items in the set may have contributed to a slightly lower alpha coefficient.

Research Question 4

What barriers do African American young professionals aged 21-40 perceive about following guidelines for health behavior to reduce stroke risk?

Perceived Barriers. The original intent was to identify and examine potential barriers to follow recommended practices to reduce stroke risk within Phase I of the study. Results of the qualitative phase did not support item development to address barriers to health information-seeking. It is possible that barriers did not emerge among a population who do not perceive themselves as susceptible.

Research Question 5

How do participants judge the quality of stroke information according to source (e.g. family, peer, health provider, and agency)? (Cues to action)

Survey question 20 asked respondents to rate, on a five-point scale, their likelihood of choosing each of 14 stroke information items with certain features. Table
13 contains the frequencies and percentages for each response choice of each item. Respondents were most likely to choose stroke information given by a trusted health professional, presenting specific causes and consequences, and clearly defining and describing the condition. Respondents were least likely to choose information unsupported by research evidence. They felt neutral about choosing stroke information that is shared through social media, is commercial and promotes a product, or is sent through e-mail or a listserv.

Cronbach’s alpha coefficient revealed an internal consistency reliability coefficient of 0.80. The Kaiser rule (eigenvalues >1) and the scree plot were used to estimate the number of factors to extract and rotate for exploratory factor analysis. These two rules suggested extracting and rotating two to five factors. The scree plot suggested two factors. The Kaiser rule suggested five factors, and those factors accounted for 71% of the variance.

The five factor solution revealed only two items on two of the factors. When the four factor solution was run, only one item loaded on factor four. The three factor solution shown in Table 14, had at least three items loading on each factor and only one item \(\text{(is confirmed by a family member or friend)}\) that did not load on any factors. The two factor solution had three items that did not load on any factor, and these items reflected important elements found during Phase I. One item in particular, \textit{features personal stories or testimonies from young adults}, was emphasized during Phase I focus group discussions and considered especially important to retain. After examination of items and their loadings, the three factor solution which explained 57% of the variance was chosen as the final solution. The first factor loaded items from Authoritative Sources
as trusted information sources. The second factor loaded items that revealed trusted information sources from Mass Media Channels. The third factor loaded items that focused on Personal Networks as trusted sources of information. Two items (is consistent with messages from other sources) and (is broadcast on TV or radio) loaded on two factors. Consistency with other messages loaded as .489 on the Authoritative Sources factor and as .510 on the Personal Networks factor. Although it loaded stronger on the third factor, retaining it as an item in the Authoritative Sources factor was the best fit.
### Table 13

**Frequency Table for Survey Item 20**

20. Indicate how likely you are to choose stroke information that . . .

<table>
<thead>
<tr>
<th>Item</th>
<th>Very Unlikely % (f)</th>
<th>Unlikely % (f)</th>
<th>Neutral % (f)</th>
<th>Likely % (f)</th>
<th>Very Likely % (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>features personal stories or testimonies from young adults</td>
<td>1.0% (1)</td>
<td>6.1% (6)</td>
<td>18.4% (18)</td>
<td>42.9% (42)</td>
<td>31.6% (31)</td>
</tr>
<tr>
<td>clearly defines and describes the condition</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>6.1% (6)</td>
<td>34.7% (34)</td>
<td>59.2% (58)</td>
</tr>
<tr>
<td>presents specific causes and consequences</td>
<td>0.0% (0)</td>
<td>2.0% (2)</td>
<td>7.1% (7)</td>
<td>30.6% (30)</td>
<td>60.2% (59)</td>
</tr>
<tr>
<td>is shared through social media (Facebook, Twitter, blog)</td>
<td>4.1% (4)</td>
<td>16.3% (16)</td>
<td>30.6% (30)</td>
<td>29.6% (29)</td>
<td>19.4% (19)</td>
</tr>
<tr>
<td>is given by a trusted health professional</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>4.1% (4)</td>
<td>27.6% (27)</td>
<td>68.4% (67)</td>
</tr>
<tr>
<td>is confirmed by a family member or friend</td>
<td>0.0% (0)</td>
<td>3.1% (3)</td>
<td>19.6% (19)</td>
<td>49.5% (48)</td>
<td>27.8% (27)</td>
</tr>
<tr>
<td>is found on the web site of a known authority (e.g. state or federal health agency)</td>
<td>1.0% (1)</td>
<td>1.0% (1)</td>
<td>13.3% (13)</td>
<td>33.7% (33)</td>
<td>51.0% (50)</td>
</tr>
<tr>
<td>is consistent with messages from other sources</td>
<td>0.0% (0)</td>
<td>5.2% (5)</td>
<td>22.7% (22)</td>
<td>38.1% (37)</td>
<td>34.0% (33)</td>
</tr>
<tr>
<td>is printed (brochure, pamphlet, poster)</td>
<td>3.1% (3)</td>
<td>3.1% (3)</td>
<td>18.4% (18)</td>
<td>49.0% (48)</td>
<td>26.5% (26)</td>
</tr>
<tr>
<td>is broadcast on TV or radio</td>
<td>4.1% (4)</td>
<td>9.3% (9)</td>
<td>28.9% (28)</td>
<td>45.4% (44)</td>
<td>12.4% (12)</td>
</tr>
<tr>
<td>is sent through email or a listserv</td>
<td>7.1% (7)</td>
<td>20.4% (20)</td>
<td>38.8% (38)</td>
<td>23.5% (23)</td>
<td>10.2% (10)</td>
</tr>
<tr>
<td>is unsupported by research evidence</td>
<td>34.7% (34)</td>
<td>21.4% (21)</td>
<td>13.3% (13)</td>
<td>14.3% (14)</td>
<td>16.3% (16)</td>
</tr>
<tr>
<td>is current and up-to-date</td>
<td>0.0% (0)</td>
<td>4.1% (4)</td>
<td>5.1% (5)</td>
<td>43.9% (43)</td>
<td>46.9% (46)</td>
</tr>
<tr>
<td>is commercial, promoting a product or service</td>
<td>12.2% (12)</td>
<td>22.4% (22)</td>
<td>35.7% (35)</td>
<td>20.4% (20)</td>
<td>9.2% (9)</td>
</tr>
</tbody>
</table>
Table 14

Summary Table of Factor Analysis for Cues to Action

<table>
<thead>
<tr>
<th>Indicate how likely you are to choose stroke information that…</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. features personal stories or testimonies from young adults</td>
<td>.187</td>
<td>.038</td>
<td>.559</td>
</tr>
<tr>
<td>2. clearly defines and describes the condition</td>
<td>.850</td>
<td>.152</td>
<td>-.043</td>
</tr>
<tr>
<td>3. presents specific causes and consequences</td>
<td>.830</td>
<td>.232</td>
<td>-.065</td>
</tr>
<tr>
<td>4. is shared through social media (Facebook, Twitter, blog)</td>
<td>-.164</td>
<td>.079</td>
<td>.857</td>
</tr>
<tr>
<td>5. is given by a trusted health professional</td>
<td>.661</td>
<td>.226</td>
<td>-.052</td>
</tr>
<tr>
<td>6. is found on the web site of a known authority (e.g. state or federal health agency)</td>
<td>.604</td>
<td>-.125</td>
<td>.247</td>
</tr>
<tr>
<td>7. is consistent with messages from other sources</td>
<td>.489</td>
<td>-.080</td>
<td>.510</td>
</tr>
<tr>
<td>8. is printed (brochure, pamphlet, poster)</td>
<td>.295</td>
<td>.520</td>
<td>.204</td>
</tr>
<tr>
<td>9. is broadcast on TV or radio</td>
<td>.090</td>
<td>.693</td>
<td>.459</td>
</tr>
<tr>
<td>10. is sent through email or a listserv</td>
<td>-.003</td>
<td>.679</td>
<td>.445</td>
</tr>
<tr>
<td>11. is unsupported by research evidence</td>
<td>.079</td>
<td>.548</td>
<td>-.178</td>
</tr>
<tr>
<td>12. is current and up-to-date</td>
<td>.735</td>
<td>.095</td>
<td>.189</td>
</tr>
<tr>
<td>13. is commercial, promoting a product or service</td>
<td>.082</td>
<td>.833</td>
<td>-.129</td>
</tr>
</tbody>
</table>

Note: Factor loadings ≥.45 are in boldface.

Research Question 6

How do participants describe their confidence to act and reduce stroke risk?

Cronbach’s alpha coefficient revealed an internal consistency reliability coefficient of 0.85 for both survey Questions 12 and 19. The Kaiser rule (eigenvalues >1)
and the scree plot were used to estimate the number of factors to extract and rotate for exploratory factor analysis. These two rules suggested extracting and rotating one factor for Question 12 and between two and three factors for Question 19. These two rules suggested two factors for Question 19 and those factors accounted for 65% of the variance. Table 15 contains the frequencies and percentages for each response choice of each item for survey item 12.

Question 12 asked participants to indicate, on a three-point scale from not confident to very confident, their level of confidence to perform each of six actions. The one factor solution for question 12, with only five items appeared to be the most parsimonious solution. There were too few items to yield more than one factor.

Table 15

*Frequency Table for Survey Item 12*

12. Choose one response to each item indicating your level of confidence. I feel confident to . . .

<table>
<thead>
<tr>
<th>Item</th>
<th>Not confident % (f)</th>
<th>Somewhat confident % (f)</th>
<th>Very Confident % (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find a doctor or provider who listens to my health concerns.</td>
<td>1.0% (1)</td>
<td>25.3% (25)</td>
<td>73.7% (73)</td>
</tr>
<tr>
<td>Rely on the doctor or provider's training and experiences.</td>
<td>4.0% (4)</td>
<td>32.3% (32)</td>
<td>63.6% (63)</td>
</tr>
<tr>
<td>Find a doctor or provider who helps me practice healthy behaviors.</td>
<td>4.1% (4)</td>
<td>37.8% (37)</td>
<td>58.2% (57)</td>
</tr>
<tr>
<td>Trust a doctor or provider to address my health needs.</td>
<td>4.0% (4)</td>
<td>35.4% (35)</td>
<td>60.6% (60)</td>
</tr>
<tr>
<td>Ask my doctor for credible health information.</td>
<td>0.0% (0)</td>
<td>29.3% (29)</td>
<td>70.7% (70)</td>
</tr>
</tbody>
</table>
Survey Question 19 asked respondents to indicate, on a three-point scale from not confident to very confident, their level of confidence to perform each of eight behaviors. The three factor solution had at least three or more items loading on each factor. The items checking my blood pressure regularly, choosing to exercise for at least 30 minutes on most days, and taking medicine as prescribed by a doctor or provider all loaded on more than one factor.

Table 16
Frequency Table for Survey Item 19

<table>
<thead>
<tr>
<th>Item</th>
<th>Not Confident % (f)</th>
<th>Somewhat Confident % (f)</th>
<th>Very Confident % (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Speaking to a doctor or provider about your risk of stroke.</td>
<td>1.0% (1)</td>
<td>14.3% (14)</td>
<td>84.7% (83)</td>
</tr>
<tr>
<td>2. Choosing healthy foods daily.</td>
<td>0.0% (0)</td>
<td>19.4% (19)</td>
<td>80.6% (79)</td>
</tr>
<tr>
<td>3. Checking my blood pressure regularly.</td>
<td>4.1% (4)</td>
<td>20.4% (20)</td>
<td>75.5% (74)</td>
</tr>
<tr>
<td>4. Choosing to exercise for at least 30 minutes on most days.</td>
<td>5.1% (5)</td>
<td>27.6% (27)</td>
<td>67.3% (66)</td>
</tr>
<tr>
<td>5. Completing a physical examination each year.</td>
<td>3.1% (3)</td>
<td>11.2% (11)</td>
<td>85.7% (84)</td>
</tr>
<tr>
<td>6. Taking medicine as prescribed by a doctor or provider.</td>
<td>2.1% (2)</td>
<td>14.6% (14)</td>
<td>83.3% (80)</td>
</tr>
<tr>
<td>7. Caring for a chronic medical condition as directed by a doctor or provider.</td>
<td>1.0% (1)</td>
<td>14.6% (14)</td>
<td>84.4% (81)</td>
</tr>
<tr>
<td>8. Seeking immediate medical attention for confusion or sudden difficulties seeing, speaking or walking.</td>
<td>0.0% (0)</td>
<td>9.3% (9)</td>
<td>90.7% (88)</td>
</tr>
</tbody>
</table>
Table 17

Summary Table of Initial Factor Analysis for Self-Efficacy Q19

Mark one response to each item showing your level of confidence for the behavior.  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Speaking to a doctor or provider about your risk of stroke.</td>
<td>.090</td>
<td>.831</td>
<td>.132</td>
</tr>
<tr>
<td>2. Choosing healthy foods daily.</td>
<td>.843</td>
<td>-.082</td>
<td>.166</td>
</tr>
<tr>
<td>3. Checking my blood pressure regularly.</td>
<td>.550</td>
<td>.253</td>
<td>.547</td>
</tr>
<tr>
<td>4. Choosing to exercise for at least 30 minutes on most days.</td>
<td>.475</td>
<td>-.043</td>
<td>.718</td>
</tr>
<tr>
<td>5. Completing a physical examination each year.</td>
<td>.071</td>
<td>.397</td>
<td>.811</td>
</tr>
<tr>
<td>6. Taking medicine as prescribed by a doctor or provider.</td>
<td>.691</td>
<td>.545</td>
<td>.081</td>
</tr>
<tr>
<td>7. Caring for a chronic medical condition as directed by a doctor or provider.</td>
<td>.730</td>
<td>.286</td>
<td>.342</td>
</tr>
<tr>
<td>8. Seeking immediate medical attention for confusion or sudden difficulties seeing, speaking or walking.</td>
<td>.105</td>
<td>.858</td>
<td>.195</td>
</tr>
</tbody>
</table>

Research Question 7

What is the estimated validity and reliability of items to measure a construct termed “health information-seeking behavior”?

Evidence of content validity and reliability was derived through literature reviews, focus groups, and expert panel feedback. Each of these methods guided construction of a survey instrument with evidence of content reliability and validity for assessing health information-seeking behavior. Construct validity was estimated through factor analysis as reported for research questions 2, 3, 5, and 6. Factor analysis results as reported in research questions 2, 3, 5, and 6 provided evidence of identifiable factors for each scale. Factor analysis results should be interpreted with caution due to the small sample size.
Cronbach’s alpha was calculated for each set of items on survey questions 14, 13, 20, 12, and 19 to provide evidence of internal consistency reliability. Cronbach’s alpha coefficients ranging between 0.68 and 0.85. Table 18 contains alpha coefficients and number of factors for each relevant research question.

Table 18
Summary of Findings for Research Questions

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Survey Question</th>
<th>Number of Items</th>
<th>Alpha Coefficient</th>
<th>Number of Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ 2 Perceived Severity</td>
<td>14</td>
<td>10</td>
<td>.72</td>
<td>2</td>
</tr>
<tr>
<td>RQ 3 Perceived Benefits</td>
<td>13</td>
<td>6</td>
<td>.68</td>
<td>1</td>
</tr>
<tr>
<td>RQ 5 Cues to Action</td>
<td>20</td>
<td>14</td>
<td>.80</td>
<td>3</td>
</tr>
<tr>
<td>RQ 6 Self Efficacy</td>
<td>12, 19</td>
<td>5, 8</td>
<td>.85</td>
<td>1, 3</td>
</tr>
</tbody>
</table>

Research Question 8
How do the items within the scale correlate to measure hypothesized factors of HISB?

Appendix I contains item correlations tables for research questions 2, 3, 5, and 6. Results reveal the correlations among items were consistent with the factor analysis findings. For example, self-efficacy items in survey question 12, which revealed a single factor, all correlated with one another (p < .0001). Similar patterns emerged for items related to the other three research questions.

Mixed Method Question 1
In what ways does the information obtained in the qualitative phase help to develop a new quantitative instrument?
The complexity of health information-seeking behaviors (HISB) highlights the increasing need to clearly understand the process of health information consumption. This sequential mixed methods study used the Health Belief Model as a framework to develop an instrument that began to tap theoretically meaningful and interpretable factors of health information-seeking behaviors related to stroke among African American young professionals. Themes that emerged from the qualitative phase of study helped to validate item retention, removal, or editing in the quantitative phase. The qualitative phase provided detailed insights into perceptions that African American young adults had regarding stroke and risk factors related to stroke.

The qualitative data revealed that the simple and straightforward results produced by the quantitative phase gave limited insight into issues that African American young adults may have when seeking information about any health topic.

**Mixed Method Question 2**

What do the qualitative and quantitative data together reveal about African American young professionals’ health information-seeking behaviors?

In summary, many of the items within questions had mid to strong correlations, with Cronbach alpha coefficients ranging between 0.6 and 0.85. The structures are the result of a stepwise approach used to identify, extract factors and rotate factors in order to obtain the simplest solution. Decisions regarding item retention and discarding were guided by Phase I data, HISB and HBM theoretical constructs, and the estimated reliability of items. Nunnally and Bernstein (1994) caution against the use of rigid guidelines to determine the number of factors to extract and ultimately items and factors.
for retention; instead, the researcher should identify items that make theoretical sense and use this information when interpreting the factor structure for the simplest solution.

The systematic approach including using mixed methods has played a vital role in informing the factor structure of each scale. Factor analysis indicates each survey question may be measuring certain constructs of the HBM and HISB. Chapter Five provides a discussion of the way in which Phase I and II of the study integrate to present a comprehensive overview of African American young professionals’ beliefs about health information seeking behaviors related to stroke.
CHAPTER 5

DISCUSSION AND RECOMMENDATIONS

Chapter 5 provides a discussion of the study results, specifically addressing the research questions. This chapter presents the discussion and interpretation of the findings, limitations of the study, implications for practice, and recommendations for further research.

Major Findings

The discussion of major findings is organized by phases and research questions.

Phase I

Research Question 1

The first qualitative research question addressed what beliefs did African American young professionals aged 21-40 have about the personal relevance of well documented risk factors for stroke (i.e. cigarette smoking, high blood pressure, high cholesterol, diabetes, obesity and physical inactivity, and existing heart disease).

Results revealed that African American young professionals aged 21-40 can identify and understand stroke risk factors. However, awareness of stroke risk factors and the study participants’ beliefs regarding their personal relevance were not directly aligned. The interplay of awareness and personal relevance can impose a facilitatory or inhibitory behavior when seeking general health information or conducting a specific search. Data obtained from the likelihood of preventive action ranking exercise in Phase I and survey data from Phase II indicated that the majority of respondents were confident in their ability to abstain from smoking cigarettes or using other tobacco products.
However, the relevance of knowing one’s blood pressure did not emerge as a strong belief across either phase of the study. Participants possessed beliefs about stroke risk factors that primarily revolved around awareness, but not personal relevance. This may have resulted from the belief that the study sample did not perceive they were at personal risk for stroke based on the 21-40 age bracket of the study.

Life experiences as a pre-determinant to health information-seeking behavior may also play a role in African American young adults’ beliefs about the personal relevance of well-documented risk factors. Participants often expressed the need to see and hear about stroke from individuals in their age range. Although knowledge alone may be insufficient to change behavior, assessment of knowledge to develop culturally and age-appropriate messages and determine salient leverage points to encourage behavior change can serve as a first step to increase awareness of stroke.

*Research Question 2*

What beliefs do African American young professionals aged 21-40 have about the seriousness of not following established guidelines for the primary prevention of stroke?

Results revealed that African American young professionals aged 21-40 do understand that obesity, smoking, unhealthy eating practices, lack of physical activity, and other behaviors can lead to stroke within their age bracket. However, maintaining a normal blood pressure by having it checked regularly did not strongly resonate as one of the established guidelines for participants in either phase of the study.

Winham and Jones (2011) found that 91.4% of the African American respondents aged 18-26 who had a college education knew that high blood pressure was a risk factor for heart disease, where only 67.9% of the respondents who did not have a college
education were aware of this fact. Approximately 90% of the sample in the HISB study indicated having a college or graduate degree, yet the item *maintaining a normal blood pressure* did not highly load on any factors in the quantitative analysis or emerge as a major code in the qualitative phase. More research is needed to understand and develop appropriate messages about high blood pressure within the young adult African American community to raise perceived risk and susceptibility awareness.

*Research Question 3*

What beliefs do African American young professionals aged 21-40 have about the benefits of HISB to reduce their risk of stroke?

Results revealed that health information was primarily obtained through the internet. Along with using online sources, respondents valued credible information that is populated by researchers, healthcare providers, and large research-based agencies (i.e. CDC or NIH). Additionally, personal contacts such as family members, close friends and civic organizations were all mentioned as trusted sources of health information. The importance of one’s social network when seeking information is a concept that requires further research. The Office of Minority Health defines cultural competence as the ability of healthcare providers and healthcare organizations to understand and respond effectively to the cultural and linguistic needs of patients (Office of Minority Health, 2013). Phase 2 revealed that asking one’s doctor or provider for stroke information did not strongly load as a health information seeking behavior on any factor. African American young adults aged 21-40 do not see themselves at risk for stroke or other chronic diseases and would not ask their healthcare provider for information on stroke. Grandinetti (2000) found that consumers of online health information rated it more
helpful than physicians in numerous ways (i.e. convenience, cost effectiveness, and in-depth information).

According to Tatlisumak (2012) five percent of all ischemic strokes occur in people below 45 years of age and 10% occur in those under 50 years. By uncovering the reasons that prevent this age group from attaining an adequate level of stroke information from their healthcare providers, health educators and population scientists may be able to make a significant contribution to bringing awareness to the issue of stroke and the benefits of seeking information on the issue in a young adult population.

Research Question 4

What barriers do African American young professionals age 21-40 perceive about following guidelines for health behavior to reduce stroke risk?

The researcher intended to explore perceived barriers and opportunities to educating African American young professionals aged 21-40 about reducing stroke risk; however, the quantitative survey items did not clearly match to this construct. Qualitative data in Phase I revealed preliminary themes related to effective context for health education and merit further exploration.

Health educators may wish to consider these when developing stroke prevention programs, including establishing trust necessary to communicate about health and modeling good health practices. Several participants in the Birmingham focus group identified qualities of the professional who provides health information that make it possible to learn preventive care, including primary interest in the patient’s wellbeing, valuing conversation, and displaying a nonjudgmental attitude. Results of this study indicate that healthcare providers of African American young professionals require
customized interventions that emphasize the importance of patient-provider communication.

Research Question 5

How do participants judge the quality of stroke information according to source (e.g. family, peer, health provider, and agency)?

Results revealed that respondents judged stroke information that was researched-based as quality information. Additionally, information with excessive commercial advertising or information that was provided by the average consumer was not seen as quality information. Health care providers that demonstrated accuracy and proficiency in their practice were also quality information sources. Gollop (1997) also found that physicians were considered the most believable source of health information, as indicated by 74.4% of the subjects in a study of health information-seeking behavior of older African American women.

Participants in this study expressed that quality health information was just as important as the source from which it was obtained. For African Americans, trust in the information source plays an important role in the of quality information. Interpersonal communication concepts such as empathy, validation, and connection are future areas to explore as components of health information-seeking behaviors. Phase II results revealed that stroke information provided by a trusted health professional (68.4%), along with information that was current and up-to-date and clearly defined and described the condition were characteristics of information that an African American young adult would be likely to choose. Both phases indicate a need for more relevant, current and detailed information about stroke for an audience of African Americans aged 21-40. A
major component of preventive health practice is the availability and provision of information regarding risks to health and promotional measures for enhancing the health status among this population.

This study’s findings may assist in informing physicians and health educators about the informational needs of African Americans and improving patient counseling. These findings may be useful as a base for future research focused on stroke education, patient and provider communication, and improvement of awareness of a younger audience’s disease risk.

*Research Question 6*

How do participants describe their confidence to act and reduce stroke risk?

Participants were asked to describe actions they took to prevent a stroke. Actions ranged from individual behavior such as increased physical activity and adjusting diet to knowing one’s family history and having strong support systems in place. Approximately 55% of Phase I participants knew someone who had suffered from a stroke and recalled those experiences when describing personal lifestyle changes they would make. This seems logical, because when participants were presented with a list of preventive health actions in Phase I that they ranked as likely or unlikely to perform they not only become more knowledgeable, they were also more exposed and hence more confident in their knowledge stroke and able to recognize the benefits of practicing health behaviors. Family history is an important preventive measure for stroke. Understanding within the African American community how family health history can be used to design health education interventions for stroke is a critical area of study.
The study also provided insight into additional education and public health outreach to a younger African American adult on the dangers of smoking and alcohol consumption as stroke risks. Examining these two behaviors more closely with a young professional African American audience would be an additional important research contribution. Perhaps smoking is viewed as a less desirable behavior than drinking. Alcohol consumption often is part of the social, professional, and cultural fabric of young African American professionals and viewed as a more widely accepted behavior. There is a need for future research to understand health information-seeking behaviors as it pertains to smoking and alcohol consumption.

Phase II

Research Question 7

What is the estimated validity and reliability of items to measure a construct termed health information-seeking behavior?”

The primary consideration when developing a new instrument to measure a new phenomenon or unobservable constructs is estimating validity and reliability. As described previously, validity refers to the extent a survey instrument measures what the creator intends to measure, whereas reliability focuses whether the instrument produces a consistent result. Lambert and Loiselle (2007) contended that explicit definitions of HISB are difficult to locate, and there is no apparent dominant definition. Longo (2005) also called for more vigorous testing of HISB in various populations and cultures due to a lack of validated instruments that address HISB in non-clinical populations.
More rigorous studies using a model such as the one explored in the dissertation study are needed as health professionals attempt to better understand patient and consumer desires for health information, how they will change over time, and how we must modify and develop new and more appropriate types of information that consumers will use and find helpful as they face an illness, or simply wish to remain proactive in maintaining health. The use of a systematic exploratory sequential mixed methods design addressed this gap in the professional literature.

*Research Question 8*

How do the items within the scale correlate to measure hypothesized factors of HISB?

Results reveal the correlations among items were consistent with the factor analysis findings.

*Mixed Method Question 1*

In what ways does the information obtained in the qualitative phase help to develop a new quantitative instrument? In an effort to better understand HISB, a two-phase sequential exploratory design was employed. First, focus group meetings with NULYP members and young professionals who were not members were conducted. This qualitative data collection phase allowed exploration of a variety of long-and-short-term health behaviors. The sequential exploratory design permits the interpretation of qualitative results to inform quantitative instrument development.

The dissertation study used focus group interviews with semi-structured questions guided by concepts of the HBM to explore how knowledge, beliefs, attitudes and practices relate to HISB among African Americans young professionals ages 21-40.
The study also used constructs from the HBM to explore stroke knowledge, stroke risk, and approaches to stroke information and education. The study described the knowledge, beliefs, and perceptions about stroke among African American young professionals in the southern region of the National Urban League Young Professional Network. By way of the sequential exploratory approach, the alignment of theory, sequence, priority and the integration of findings were all criteria imposed to strengthen the mixed methods study and its implications on future research.

*Mixed Method Question 2*

What do the qualitative and quantitative data together reveal about African American young professionals’ health information-seeking behaviors?

Based on the findings of the study, the qualitative and quantitative data together Reveal that African American young professionals identify themselves as being responsible for their own health. As it relates to stroke, information sources such as health care professionals and personal informants were acknowledged as credible information sources. There is a difference with this audience between prevention awareness and preventive action. Maintaining a regular blood pressure was indicated as important, however in the qualitative phase of the study, having one’s blood pressure regularly checked was ranked as least likely to do by 7 of the 20 (35%) Phase I participants.
Study Limitations

A limitation of analyzing health beliefs is that those beliefs are constantly evolving. Previous health belief researchers acknowledged the dynamic nature of health belief was modified by interactions with events and individuals (Rosenstock, 1974). Another limitation focuses on the variable nature of HBM factors measured across studies. Concepts of perceived susceptibility, efficacy, cues to action, and health motivation may be defined differently and consequently lack comparability. Because the study explored perceptions that are thus inherently subjective, the results require careful consideration of how individuals acquire health information.

Other limitations were that the participants represented a cross-sectional convenience sample of self-identified, young, adult African Americans. The sample was not random, and findings may not be representative of other young adult African Americans in other U.S. cities or elsewhere. Furthermore, because only African Americans were included in the study, it is not known if these results would be similar or different for same aged people of different ethnic background.

Recommendations for Future Research

Based on the findings of this study, the recommendations for future research are as follows:

1. Conduct further research enrolling a larger number of participants across the entire NULYP national network to explore health information-seeking behavior amongst African Americans aged 21-40.
2. Pilot test the instrument with young professionals associated with other organizations (i.e. Rotary, Kiwanis, etc.) to examine the validity and reliability of the factors with other populations.

3. Continue to identify items that may strengthen the factor structure of the proposed instrument.

4. Utilize research data to inform the National Urban League and the National Urban League Young Professionals Network to enhance its health initiatives.

Dissemination of Research

Key findings of the dissertation study will be shared with NULYP Southern Region Presidents through a brief report. Electronic newsletters, electronic distribution listservs, and the annual Whitney M. Young Leadership Conference are all ways to disseminate the research findings to the NULYP network. In addition, the researcher will provide an executive summary of the research methods and results to the NULYP President and Executive Board. A publication plan will include presentation of research Methodology and results in peer-reviewed publications to inform health education researchers, community health practitioners and clinicians. The aim is to enhance the scientific foundation of instruments with acceptable reliability and validity. The researcher plans to explore relationships between young adults, stroke, and health information seeking needs in future studies.
REFERENCES


doi:10.2105/AJPH.55.5.668


doi:10.1093/her/16.6.671


doi: 10.1111/j.1365-2354.2007.00782.x


Croft, J. B., Foster, T. A., Parker, F. C., Cresanta, J. L., Hunter, S. M., Webber,


Dunne, J. E. (2002). Information seeking and use by battered women: A person-in-

doi:10.1001/jama.280.15.1333


APPENDIX A

RECRUITMENT FLYER FOR THE NATIONAL URBAN LEAGUE SOUTHERN REGION YOUNG PROFESSIONAL NETWORK
Are you an African-American between the ages of 21-40?

To participate you must be:

- Between the ages of 21-40.

- An African American male or female.

- A member of one of the 21 chapters of the southern region of the National Urban League Young Professional Network.

- Someone who has never had a stroke.

If so, your participation in the *Health Values and Health Information-Seeking* Study is requested.

Participants will join a confidential group interview and may complete an on-line survey. This should last for one hour. This is not a treatment study and there is no cost to participate. No one will visit your home.

Responses will help to understand how African-Americans young adults seek health information.

Responses will help health educators to provide effective programs and services to prevent stroke in a young adult population.

If you have additional questions, please contact Shauntice Allen at (205) 975-5538 or sallen1@uab.edu.
APPENDIX B

PARTICIPANT CONTACT SHEET
PARTICIPANT CONTACT FORM

Please complete the following:

__________________________________________________ First Name
__________________________________________________ Middle
__________________________________________________ Last

__________________________________________________ Address

__________________________________________________ City/ State / ZIP

__________________________________________________ Business Phone

__________________________________________________ Cell Phone

__________________________________________________ Home Phone (if different from cell #)

__________________________________________________ Email Address

Gender:  □ Male  Date of birth (year): ____________
□ Female

Marital Status:
□ Never married  □ Divorced
□ Married       □ Widowed
□ Separated

Profession/Career:
□ Student
□ Education
□ Non-Profit
□ Corporate/Business
□ Entrepreneur
□ Technology/IT
□ Government
□ Law
□ Medical
□ Other: ______________________
□ Unemployed

JobTitle: ______________________

Company: ______________________
APPENDIX C

FOCUS GROUP GUIDE
FOCUS GROUP GUIDE

Moderator: ______________________
Date: ______________________
Attendee Total: ______________________

Introduction

Give an explanation

Good afternoon. My name is ______ and this is my colleague ______. Thank you for coming. This focus group is a relaxed discussion to explore a range of beliefs, attitudes, ideas, opinions, and behaviors about health issues (specifically stroke) in a African American young professional audience.

Present the purpose

Today we will talk about your stroke knowledge, beliefs and prevention practices. The purpose of our discussion to understand how African American young professionals view stroke. Further, we wish to know what health information is most helpful to you.

I am not here to share information, or to give you my opinions. Your perceptions are what matter. There are no right, wrong or best answers. You can disagree with each other, and you can change your mind. I would like you to feel comfortable saying what you really think and how you really feel.

Discuss procedure

______ (colleague) will be taking notes and tape recording the discussion so that I do not miss anything you have to say. As you know everything is confidential. No one will know who said what. I want this to be a group discussion, so feel free to respond to me and to other members in the group without waiting to be called on. However, I would appreciate it if only one person did talk at a time. The discussion will last approximately one and a half hours. There is a lot I want to discuss, so at times I may move us along a bit. You will receive a transcript or summary of group discussion afterward and have the opportunity to confirm accuracy of the record.
Participant introduction

Now, let's start by everyone sharing their name, what they do, and how long you’ve been a member of the NULYP organization.

(*Note taker will keep a running tally of the time each person says they’ve been a member, a composite number will be shared with the group).

From our running tally, there are over \( X \) years of NULYP participation at this meeting.

Rapport building

I want each of you to think of an adjective or phrase that best describes your view of your health. You can say things like “healthy”, not healthy, “in great shape”, “need to lose some weight” etc… We’re going to go around the room so you can share your choices. Please briefly explain why you selected the adjective(s) you did.

Interview

1. In your opinion, who is responsible for your overall health and wellness?

   Probes: If most felt they were responsible—What makes you feel that way?

   If you are not responsible for your health - Why not?

2. What actions do you take to prevent illness (in general)?

   Probes: Tell me more about that. How did that work?

3. What actions do you take to prevent stroke and cardiovascular disease? (Have group complete Activity to Rank Likelihood of Taking Preventive Actions.)

   Probes: Tell me more about why you used these particular actions. Tell me more about how you used these. Of those who feel they are at low risk for stroke for a person their age-- Has anyone that you’ve known under the age of 50 ever had a heart attack or stroke _______? If yes, Tell me what you think led to that.

4. The last time you searched for health information, where did you go, first?

   Probes: Tell me more about why you used that source first. Of the materials not mentioned - What features made _____less useful for health information?
Probe: What type of health information were you seeking?
Probe: Were you able to understand the health information once obtained?

Probes: Tell me about how you have used this strategy. Of the strategies not mentioned - Has anyone tried _____? Tell me why not.

5. Who do you most trust to provide information about your health?

Probes: Based on who you mentioned, why did you trust that individual?
What characteristics make that source trustworthy?

6. What are the best methods to provide health information about stroke to young adults in the southeast?

Probe: Of these strategies mentioned, which ones have been most effective?

Probe: Tell me why you think they have been effective. What have you found to be least effective?

Probes: Tell me why you think they have not been effective. It's interesting, _____ found that strategy to be effective and what do you think may account for the difference?

7. What else do you need to know about preventing stroke?

Probe: What would be the best avenue(s) for receiving that information?

Closure

Though there were many different opinions about _____, it appears unanimous that ______. Does anyone see it differently? It seems most of you agree _____, but some think that _____ Does anyone want to add or clarify an opinion on this?

Is there any other information regarding your experience with searching for health information that you think would be useful for me to know?

Thank you very much for coming this afternoon. Your time is very much appreciated and your comments have been very helpful.
APPENDIX D

REFLECTIVE NOTES
**Jackson Focus Group**  
**September 22, 2011**

*Facilitator worked through the Jackson YP President in order to convene group. Introduction to Jackson YP President was made through a mutual friend and former doctoral student in the Health Education/Health Promotion Program. It was unknown to the facilitator how many individuals the Jackson YP President reached out to.*

All six group members seemed reluctant at first to talk. I took that as us just not knowing each other. JAX005 was responsible for soliciting participation and we had not met one another until the day of the group. JAX006 was extremely talkative and made a lot of jokes. The group was difficult to hear during the transcription process due to a lot of background noise. The focus group setting was not very conducive to the discussion since we were in a local coffee shop. JAX001 sat in the corner next to the facilitator and seemed distant from the group initially. The majority of her comments centered on distrust of health care providers and the business aspect of health care. JAX001 is an attorney by training. JAX006 was late arriving and seemed focused on the consent form when she was presented with it. She was the least verbal of the participants.

**Birmingham Focus Group**  
**February 20, 2012**

*Facilitator initially worked through the Birmingham YP President beginning with asking for permission to approach the group in August of 2011. A focus group was scheduled for November 2011 with no one attending. Facilitator ended up going through her Facebook friend list and sent a message to 25 individuals in B’ham (both YP member and non-members inviting them to attend).*

Most of the group members were familiar with one another and with the facilitator through the Birmingham Urban League Young Professionals. Two of them attended the same church. BHM002 talked a lot about alternative medicine as his preferred preventive health strategy. BHM001 seemed a little distant and challenged many of the comments provided by other respondents. She also expressed a distrust of medical providers. BHM013 was very talkative and referenced her civic and church group affiliations often as sources of information for her. One participant (BHM007) was extremely quiet during the discussion. He recently lost his mother to pancreatic cancer and shared how that experience has really changed his view on preventive screening and knowing more about chronic illnesses that disproportionately impact minority groups. The group was held in the conference room of a private consulting firm after hours. However, it is located two blocks from the UAB Emergency Dept. and there were at least two times when loud sirens from emergency vehicles passed by and it was hard to hear.
Atlanta Focus Group
March 6, 2012
Facilitator attempted to work through e-mail and by phone to coordinate a focus group with the Atlanta YP President. After numerous unanswered e-mail and phone messages, facilitator went through her Facebook friend list and sent a message to 15 individuals in Atlanta inviting them to attend. Seven people responded they would attend, however on the day of the actual focus group on four showed.

All four group members were female and very enthused to be involved in the discussion. Three of the four were married and constantly referenced their husbands during the discussion. ATL002 was the only non-married participant in the group. Facilitator had to constantly bring the conversation back so that the questions remained focused on the individuals present and not their spouses. ATL002 at one point appeared disinterested and distant from the rest of the participants. ATL004 was quite talkative and dominated the conversation. ATL001 referenced not feeling as though she were in good health and not having had a physical examination by a health care provider in a while. The room was a conference room in the School of Social Work on Clark Atlanta’s campus. It was extremely nice, however we didn’t begin on time and had to end right at 7 pm and was not able to complete discussion of the last question on the focus group guide. It was also the week of Spring Break at Clark-Atlanta and the staff were insistent on ending at the scheduled time in order to vacate the building.

Nashville Focus Group
March 27, 2012
Facilitator attempted to work through e-mail and by phone to coordinate a focus group with the Nashville YP President. After numerous delayed responses to e-mail and phone messages, facilitator contacted a colleague at Vanderbilt University who shared the announcement with her network at Meharry. The facilitator was able to schedule a focus group and room reservation through the School of Graduate Studies at Meharry. Facilitator did have to speak with the Director of the MSPH Program prior to confirming the group. He expressed concerns about outside researchers coming to Meharry and doing work with their student population. He was assured that the study had approval from UAB’s IRB. He also checked to determine if IRB approval was needed from Meharry. That did not have to occur and the focus group was able to happen.

All five group members were energetic and eager to participate in the discussion. Most were familiar with one another as students at Meharry Medical College. In addition group members expressed an interest in going some type of medical profession. NAS004 presented herself as someone who was extremely healthy. She is involved in martial arts and a number of physical activities. She also has been accepted to medical school and would start in July. NAS002 was a little shy at first and mentioned that she was born premature. She stated she was easily prone to illness and oftentimes just worked her way through her bouts of illness. She appeared very resilient and shared that she doesn’t allow frequent illness stop her from going to class.
APPENDIX E

FOCUS GROUP TRANSCRIPTS
JACKSON FOCUS GROUP
SUMMARY REPORT

Prepared by Shauntice Allen, Ph.D. in Health Promotion and Health Education
University of Alabama at Birmingham
Introduction
Six individuals participated in an IRB approved focus group discussion to explore the ways African American young adults aged 21-40 seek and understand health information. Participants were also asked about their current preventive health practices and knowledge of cardiovascular disease with emphasis on stroke. The discussion was held on September 22nd 2011 at Kiononia Coffee House, a minority-owned establishment located near Jackson State University in Jackson, MS. The conversation was designed to explore participants’ opinions and views of what role health information plays in their own preventive health practices and discussed how to best disseminate information about stroke to a younger adult audience.

Purpose and Objectives
The conversation was intended to engage participants in a structured dialogue. The facilitator led the conversation and captured major points through written notes and audio recordings. Participants first introduced themselves and were guided through the following questions.

Participant Introductions:
Each participant was asked to state their name and tell how long they’ve lived in Jackson. ID numbers are used in place of names for reporting purposes. The average age of the group was 30.5 years with 58 ½ combined years of residence in Jackson. Professions ranged from law, entrepreneurs, students and those who worked in retail.

F: Again, thanks again for being here. I told you who I was; I told you who the note taker was. What we’re going to be doing is really trying to understand your attitudes and beliefs about how you seek health information as well as what you know and don’t know about stroke.....specifically about stroke in this African American young adult audience. So I’m here to ask you some questions about your knowledge, your beliefs and prevention practices that you may or may not use; and again to understand how stroke is viewed by African American young adults and what health information is most useful to you. I really want you to be very comfortable and honest and candid in what it is that you have to say. Again, the conversation is being recorded, but once I transcribe it, it’s deleted. So what we’re going to do...and there may be times when I have to move us along a little bit. Okay, so let’s start out by doing some quick introductions. A couple of things I’d like to know about you, if you’d tell me your name and how long you’ve lived in Jackson. And again when you’re speaking if you’d state your name before you speak that would be very helpful to me.

F: If whenever you respond, you could state your name just so I’ll know who said what...so let’s go back for a second. Who said 9 years?

- JX004: Nine years. I’ve been living here since...9 years
F: Alright

- JX003: 12 years
- JX005: Five and a half
- JX002: Uhh...kind of weird, lived here for 6 years, and I've been back for two...so that's eight.

F: 8 years, alright

- JX001: uhm...about 17 years
- JX006: I've been here for 7 years

F: Can someone do all that math real quick? What is this?

- JAX002: All together?

F: Hmm... mmm all together, what do we have combined in terms of our Jackson group?

Group begins to do math calculation to add up all total years in Jackson.

F: Well when we figure that out, we'll see...we've got 9 +12...

- JX004: 58.5 is the total number of years

F: 58.5 years in Jackson, MS

F: OK, this particular number really kinds of corresponds to the age where we see a lot of stroke, heart attack, diabetes, uhm...that kind of thing. So you all combined together represent a 58½ year old African-American woman/male...whatever the gender may be. And thinking about what a 58 year old almost 59 year old AA male or female...what types of health conditions may we be dealing with in Jackson, MS is something to consider at 25...at 30...at 31. So...there is a lot of history definitely here in the room in terms of being in Jackson. But let's kind of move forward and we'll think about that 58 ½ year old black male or female as we move through our conversation.

**Rapport Building**
Participants were asked to think of an adjective or phrase that best described their view of their health and that time.

F: Uhm...another thing I wanted to ask very quickly, if you would think of an adjective or word that best describes your view of your health at this point and time. So you can say things like “I feel healthy, not healthy, might need to lose some weight, may need to put on some weight...feel like”...and just...and just be honest. What do you...in terms of your own self-report, how do you feel about...what would be a word or phrase that best describes the way that you deem your health status today?

- JX005: I can do better.

F: [gives further instruction] So we're going to around the room cause I'm gonna come back to that cause I want you to elaborate a little bit more on why...why you said that. But let's get a couple of other folks
JAX003

- JAX003: Hmm... I would say... I could do better... however I'm probably healthier than I've been in a long time.

F: Okay, okay... that's exciting to hear, we're going to come back and elaborate on that.

- JAX004: Uhhh... (long pause and seems to be thinking about response). I need to improve.
- JAX006: Ummm... I'm healthy for the most part... uhh... but I could stand to lose a few pounds.
- JAX001: Working on it.
- JAX002: Inconsistent.

F: Now tell me why you said what you said. JAX006, why did you say your response?

- JAX006: Hmmm... my response was... cause it's something that I've been working on for a while... I mean I'm inconsistent, I fluctuate, and I'm just trying to get to a point where I eat healthier. I know I eat bad so... I need to work on that.
- JAX001: Hmm... because I started working out... uhh... and I (incoherent talking)
- JAX002: Well... my metabolism is in fast gear right now; I don't keep on a lot of weight. I feel fine and healthy most of the time. But sometimes it slows down and I don't feel as healthy. I do think I'm more active right now.
- JAX005: I'll say needs improvement because I do work out. I'll say on the regular at least 3-4 times a week. I guess my biggest problem is the eating part. I can't say that I eat healthy all the time. That... that needs improvement.

F: So you're physically active, yet need some improvement on the nutrition/eating side. Is that what I'm hearing you say?

- JAX005: Yes, do I want to improve there? Not really... (Laughter from group). I know as I get older those things become a lot more important.
- JAX003: Hmm... I say... hmm... this year, I need improvement because I still need to lose weight because I'm too heavy for my height (phone in shop rings) However this year... hmm... I've made a commitment to working out regularly, so I do work out 3-4 times a week since January and that has been the case. So I've been you know... really ahh... able to lose weight and then because of the kind of work outs I do, I try to watch what I eat. Because we work out so hard, I just don't want to... like this is my 3rd boot camp I've done this year and so... you know... we work out so hard, you know it's bad enough that you sweat out your head (Group laughs). You just don't want to... you know... “okay yeah... don't need to eat that.”

Q1. In your opinion, who is responsible for your overall health and wellness?

Overall, participants agreed that they were responsible for their own health. Responses ranged from identifying one's body as their responsibility to feeling as though taking care of one's health results in a decrease in financial spending on health care.
Q2. What actions do you take to prevent illness in general? What I mean by that is...it could be...an example could be frequent hand washing or taking vitamins or whatnot. What are things that you do do as an individual to prevent illness just in general?

Most participants mentioned proactive behaviors such as hand washing, taking vitamins, and regular exercise.

- (Unidentified speaker): I don’t take vitamins, I need to.
- JAX002: Nothing, I work out some time.
- (Unidentified speaker): Inconsistently take vitamins, some days I take them...some days I fall off. (Others agree).
- JAX003: I wash my hands a lot. (Others in the group agree)
- JAX002: Yeah, I’m a hand washer too.

F: So, when we’re talking about this individual, and I’m hearing some things now in this setting with young adults that hand washing and taking vitamins and exercising and watching what we eat are things that you do to prevent illness in general. Let me ask you a more specific questionand that ties into our topic around cardiovascular disease.

Q3: What do you know about stroke? Where does it occur, what happens, do you know any warning signs? Just give me some information of what you know about it.

Two participants’ knowledge of stroke stemmed from personal experience with risk factors or
having a family member who had a stroke. Recognition of stroke symptoms by way of national radio advertisements was another way that stroke information was obtained.

- JAX004: For personal experience, I’ve not had a stroke, but I have a history of hypertension. So it’s been to the point where I was at THAT level. So I know if I have a high level of hypertension I’m at a point where I can have a stroke. I was at that point at a younger age...I’m still young...at a younger age. (group laughs)

F: That’s interesting, other individual’s knowledge about stroke? Where does it occur in the body?

- JAX005: ...in the brain. My dad had a stroke in ’91, which left him...he was forced to retire from work. And so, I can remember vividly that night he had stroke. My dad was a...he drank a lot...well drank alcohol and he also smoked. But I’d probably say...I think...I know the one thing that probably led to his stroke...a lot of it was a lack of exercise and a lot of stress from his job.

F: And how old was your dad at the time?

- JAX005: My dad was 41 then.

F: Much younger than our 58 ½ year old here. Really right on the line with this age range of Urban League YPs.

- (Unidentified speaker): I’d have to say, just stress, I know that a lot of stress causes it.

F: Others individuals knowledge of what is a stroke or what do you know about it? I hear some personal experience with hypertension and a family member having had one, stress being connected....what are other things that you know?

- JAX001: Most mornings when I get dressed for work, I hear there’s a stroke commercial that says if you feel such and such way you may be having a stroke...so when I hear that commercial I think about whether or not I feel like that.

F: And what is that ‘such-and-such-way?’

- JAX001: I can’t remember. (Others within the group begin to name signs...numbness on your left side)

- JAX002: I’ve heard that commercial too.

F: And that’s an ad that running in the Jackson area? Who’s supporting that ad?

- JAX005: It sounds like a national ad, probably the American Heart Association.

- JAX004: It’s on 107.5 FM.

F: I’m going to pause our recording just for a second. We’ve been talking about preventive health actions. I want to take a minute for you guys to do a very quick ranking activity for me. I’ve asked you to think about preventive actions for yourself and you’ve had an opportunity to hear each other. I want you to take just a couple of minutes (facilitator passes out activity). What I want you to do rank this activity from 1 to 10 with #1 being the practice that you are most likely to do and # 10 being the one that you are least likely to do. Every item should have a different number.

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Let’s start with JAX001 that you’re most like to practice?

- JAX001: #1 Choose not to smoke or use other tobacco products. #2 Participate in 30 minutes of physical activity most days of the week. #3 Speak to my doctor or health care provider about my risk of stroke and heart disease. #10 Seek immediate medical attention for sudden trouble seeing, speaking, walking or feeling confused.

- JAX004: #1 Choose not to smoke or use other tobacco products. #2 Limit my use of alcohol to no more than two drinks daily. #3 Seek immediate medical attention for sudden trouble seeing, speaking, walking or feeling confused. #10 Care for diabetes and other chronic illness as directed by my physician.

- JAX006: #1 Choose not to smoke or use other tobacco products. #2 Participate in 30 minutes of physical activity most days of the week. #3 Limit my use of alcohol to no more than two drinks daily. #10 Check my blood pressure regularly.

- JAX003: #1 Seek immediate medical attention for sudden trouble seeing, speaking, walking or feeling confused. #2 Choose not to smoke or use other tobacco products. #3 Participate in 30 minutes of physical activity most days of the week. #10 Care for diabetes and other chronic illness as directed by my physician.

- JAX002: #1 Choose not to smoke or use other tobacco products. #2 Choose healthy foods daily including fresh fruits and vegetables and lean meats. #3 Participate in 30 minutes of physical activity most days of the week. #10 Limit my use of alcohol to no more than two drinks daily.

- JAX005: #1 Participate in 30 minutes of physical activity most days of the week. #2 Choose not to smoke or use other tobacco products. #3 Complete a physical examination by a doctor each year. #10 Check my blood pressure regularly.

F: Great, just kind of thinking about ranking, because we’ve had some time to discuss as a group and I wanted you to have a moment to take a look at this on your own. So let’s move on with our questions because we have a few more to complete. I’m interested in understanding what it is that young African Americans need in terms of information about health. If we look at our 58 ½ year old individual, they may have gotten tons of health information about various health issues but it may not have registered with that person to do anything.

Q4: So the last time you searched for any health information where did you go first?

On-line search engines such as Google along with phone applications were cited as health information sources. In addition, family and friends were also given as information sources.

Group in unison: GOOGLE!!! (laughter)

- JAX004: ...my eye is jumping, whatever it is going on...I’m like typing it in.

- JAX002: On our phones, computers...

F: Okay, so the internet on our phones, on our home computers, on our work computers. We know that we have consensus that the internet is a source of health information.
JAX004: Our doctor, or call one of our friends. They could be a dentist.

JAX002: My momma has this book of like all different kinds of illnesses and symptoms.

JAX001: There’s an app that you can get on your phone.

F: So I hear a lot of technology in terms of usage for health information.

JAX003: How accurate is that?

F: That’s great, let’s talk about that. Tell me why you’d use Google first.

JAX005: I check out the reviews of the website too. I look at the star rating...if they’re a safe website.

JAX002: I typically check five different websites. I would click on the first five and compare to see if the information is the same.

JAX001: And even when I go to the doctor and the doctor tells me something I go back and Google it.

F: Why, tell me why you do that?

JAX001: The particular doctor I was seeing, I didn’t think she knew what she was talking about. (group laughter). I just wanted to make sure.

JAX005: But too, I’d say for me, as I’ve gotten older I’ve come to realize that doctors only know so much. A lot of their knowledge is just research, what they’ve read or what they’ve seen in other common alleys or other patients. And then they try to diagnose you with the same thing and it may be something different. You know coughing is common amongst a whole bunch of illnesses. It may be a million things as to why you’re coughing.

JAX001: I mean...nothing against doctors, but I mean they’re in a business. Like when I had surgery and had to stay in the hospital; every five or ten minutes the nurses comes in telling me I needed some different types of medication and ringing it up like she was a cashier because they’re in the business of making money. I want to see if there is some alternative to whatever they’re telling me...whether it’s cheaper or less intrusive.

F: So internet is our first source, I’ve heard some things about asking friends and family...consulting with materials that was already in the home.

Q5: The last time you looked for health information, what were you looking for?

Participants’ responses spanned an array of health topics including sickle cell anemia, migraine headaches, breast cancer, and information on symptoms and possible diagnosis of those symptoms.

JAX002: Well I looked up...I have a sickle cell trait. We have a lot of different things we’re doing around sickle cell around this weekend. I just wanted to know...go into a little bit more depth of what are some of the risks of having the sickle cell trait, what does that mean? I was in the Air Force and when I got in the Air Force I had to sign a waiver that said if I stayed in the Air Force if I died it was not their fault. When they had me do that I thought in the back of my head ‘there could be something wrong with sickle cell trait’. I learned a long time ago that you’re fine nothing’s going to happen to you. I have cousins who have sickle cell and I’ve never gone through the crisis like they had. But as I’ve gotten older I realize that some of the little quirks about myself
could be related to the fact that I have the sickle cell trait.

F: What do mean when you say quirks?
JAX002: Sometimes my fingers tingle; you said tingling and different things like that. I get exhausted faster when I’m working out, and sometimes I get different cramps. So, I’m not saying they are related to sickle cell but I have read enough to say that some people who have sickle cell trait experience the same things.

F: I’m sure you know plenty about sickle cell but that’s basically where the red blood cell is not shaped the way that is should be. So if it’s not shaped the way that it should be, it’s going to have a hard time moving through a blood vessel. So basically something that’s supposed to be round and moving through a vessel that’s hollow if it’s shaped like a ‘sickle’ or a half moon; it’s gonna stick to the sides…or could stick to the vessel. That can cause the pain and cause the numbness in the extremities. Those things can mimic the symptoms of a stroke. There is a connection between sickle cell and increased risk of stroke. Now you being a carrier of the sickle cell trait if you were to marry someone who also was the carrier and you all had a child together; there definitely is a high risk of that child having sickle cell disease.

JAX002: That’s why I broke up with my ex-girlfriend. (group laughs)

F: Oh okay.

JAX005: The sickle cell foundation that this group (points to sign) is supporting, the couple that founded it, that’s them. The couple that founded it...they never knew until they had their first child. Actually his mom, come to find out they later found out, the results did come in, however it didn’t get to the right person. I never knew all these years that’s what happened. They had a second child; I don’t think their second child has sickle cell.

JAX002: I have two sets of cousins...my auntie has kids who have sickle cell and my uncle has kids that have sickle cell both. With my uncle, two of his daughters...he has three daughters; two of them have sickle cell. And then with my cousin, my other cousin...he has sickle cell and his two brothers and sisters they do not.

F: It can...it’s a genetic thing, so if you have four kids, there’s a 25% chance that any of the children will have the disease.

F: The last time you looked for health information where did you go first?

JAX006: I can honestly not remember...I’ve been sitting here for the longest. I don’t get sick often so it’s really not a need for me to look, so I don’t know. I can’t really say.

JAX003: ...Information breast cancer. My mother passed from breast cancer and my family has a long history of it. I found something and I wanted some more information just to make sure you know, just to find out what some of the symptoms may be.

JAX002: I also thought about when speaking about cardiovascular. I did look up conditions of the heart. Another condition I have I say I’m healthy and I feel fine, but I have a heart murmur as well. I looked that up as well. I hate going to the doctor. I will not go.

F: Let’s go here for a second, you hate going to the doctor, you do not like going to the doctor, why?

JAX002: My momma always gave me a Benadryl and told me to go to sleep. That was my solution for everything. I don’t care what was going on with me. I had vertigo and was in a room for like a week throwing up...I was given a Benadryl and went to sleep. So something that just tells me when I feel sick, I go to sleep. After I wake up I feel fine. Honestly what stopped me from kind of going to the doctor; I’ve had A-1 health insurance and stuff like that before. Not necessarily now I can go to the VA and I won’t want to go. Every time I go to the doctor I end up with a bill for something that I know I wasn’t supposed to pay for. I’m like...’you
know what I’m tired of ya’ll. And so I’ve learned that people that work in medical billing and coding
sometimes they don’t do their job, they rush and put something on paper and the next thing now you know
you have to go through all this to figure out something with the insurance company. I’m not the one to sit on
the phone and try to figure something out because you’re gonna frustrate me and I’m gonna be ready to hang
up.

▪ JAX005: So that’s why they don’t go, men fear they’re gonna be charged something that they’re not supposed
to be?

▪ JAX004: I looked for information like on migraines related to like brain tumors. Just trying to find out how
people feel when they have like brain tumors vs. having migraines. It’s painful but I know people who have
experienced like tumors as well. I was just looking for information on that.

F: So were you able to understand that information that you were looking at or looking for?

▪ JAX004: Kind of…I read like the information I saw, but then I had to consult other people…or experts I would
say to define exactly what mine were…what was causing…again, this is something that…my mom had
migraines and I started like when I was 18 having migraines. Its specific timing and I was looking at The Early
Morning Show…the lady…the president…what’s her name? Michelle Bachman. Yeah, you know that they were
taking about she has migraines and was she unhealthy and is she a good candidate? So I was reading a lot
about that and I was thinking ‘wow I guess…that made be start…I thought maybe I should look at this because
she has them. If anyone in this room has migraines, they aren’t fun at all.

F: That news piece kind of sparked you to look for more information on migraines?

▪ JAX004: Yes, again, at that point, let me just go and look just to make sure…

▪ JAX005: I was gonna say…I look for diagnosis. I be trying to diagnosis myself before I go to the doctor. (group
laughs) Well…you know I’ve heard that when you go talk to the doctor you should tell him everything. I want
to know that when I go and talk to him that he’s not just feeding me anything. Like JAX001 said, to get me to
come back.

▪ JAX003: But how do you really know the difference because you aren’t a trained physician!

▪ JAX001: But you know what questions to ask you have 30 minutes…well you wait for two hours, and you have
like 10 minutes to meet with them. So you want to get out all the questions that you have and you don’t want
to get home and be like ‘man I should have asked him this…or I forgot about that.’

F: So is a doctor’s office setting one where…do you feel as though…because I’m hearing diagnosing, I’m looking for
information and I’m going back to confirm what that person says. Do you feel like in that setting that there’s a
power differential where white coat knows what’s going on and you’re not supposed to ask questions? Or what,
why aren’t your questions being answered or asked during a visit?

▪ JAX001: When you’re there you know the major things that you’re having problems with. But you don’t
necessarily think about ‘okay this is also happening to me could this be something’ I don’t feel like intimidated
or anything because I’m paying them. But to me sometimes depending on the doctor, sometimes I get better
information from the nurses because they kind of sympathize a little bit more with how you’re feeling. The
doctor comes in and he reads all the stuff that she said, and he says ‘oh that’s such and such.’ But you don’t
remember all this other stuff that I’ve said.
Q6: Who do you most trust to provide information about your health?

Responses centered on trusting one’s health care provider. Personal, yet professional relationships with their doctor were important in establishing and maintaining trust. One participant mentioned a preference for a holistic practitioner as a trusted source of information.

- JAX002: Google!!

- JAX005: My doctor...and I have to say I don’t just go to a regular doctor. My doctor is a holistic medical doctor. His practices aren’t typical like what older people go to...go to doctors that are so quick to write you a prescription. He’s gonna want you to take some vitamins or supplements. He’s gonna stress how important it is to exercise. I think they all do but that’s goanna be his first thing before he writes a prescription...that’s gonna be later.

F: Why did you choose him as your physician of choice?

- JAX005: A friend of mine...her family goes to him. I did a little research on him and he’s done a whole lot. He’s all around the country speaking about the holistic approach to medicine. I was just impressed with his resume. He has a facility, well of course he sells the stuff he prescribes, I mean you know...suggests you take. He and his wife are pretty healthy looking people. I know you can’t just judge people on looking. He tells me what he does...when he feels a cold coming on he does this. I’ve tried that and those little things work.

F: That’s important, going to your point of a person “looking” healthy. You wouldn’t want to go to a hair stylist whose hair doesn’t look healthy because you don’t know what they’re gonna be doing to your hair, or a personal trainer who doesn’t look healthy.

- JAX005: But I wouldn’t want to go to an obese doctor because it’s gonna be hard for me to believe what you say and you don’t even work out. If you don’t take the time to take care of yourself, how could you really care about me?

F: So characteristics that would make that source trustworthy. I’m hearing you say this person is an expert, they have an impressive resume, and they look the part. What are some other characteristics of whomever you trust to provide health information?

- JAX004: For specialists it’s obviously a referral or maybe someone...for example a cardiologist. I’ve gone to a cardiologist, just...I don’t have anything wrong...but...at least I didn’t then. But just for examination...you know precautionary. (Very loud clanging of dishes in the background). But that was a referral from another expert and then I know several of his other clients personally.

F: So that would be a characteristic, a good referral. What else? What would be some characteristics that make that source of information for you trustworthy? So if it’s your physician, what makes that individual trustworthy? If it’s friend or family, what makes those individuals trustworthy?

- JAX001: When you ask that question, I think about my gynecologist. Because initially the one that I liked using, she was the wife of a friend. When I went in there and talked to her even though I see her outside I felt like what she was telling me was the truth because she was the wife of a friend. She moved away and referred me to her gynecologist. Even though the new one had been practicing longer she was telling me stuff I still had to go back and run it by the other one because I didn’t know her.
F: So that personal relationship that you had with that person BEFORE she became your gynecologist certainly had an impact on that person being your gynecologist and providing referrals for you to other people. Others and characteristics?

- JAX002: White coats!

F: White coats, why?

- JAX002: I don’t know... I don’t really care. (several group members at once express disagreement and advise against this) The honest part about it is I feel blessed. I don’t get sick, I don’t get colds. I think the military pumped me up with some kind of... like I remember every time we went to drill I’d get some shot in my arm and after that I never got a cold again. The most I get now is a sinus headache that lasts about an hour. Outside of that I don’t get sick. So me going to doctors is just like something really has to be wrong and if something’s really wrong and you come in and say you’re doctor... just help me out.

F: Do you think your military experience kind of lends itself to your purview? Where if you were in the military, you’re following orders... you’re falling in line. And that relationship with your physician would be the same way that person comes in and that’s the authoritative expert on whatever it is that you’re there for.

- JAX002: Now if they tell me something and I feel contrary after I leave, then possibly I’m gonna do due diligence as far as finding out more information and try to get a second opinion. My first initial instinct would be to trust the person that walked in the room.

Q7: I have a couple of more questions and then we’ll close. What are the best methods to provide stroke information to people like you sitting around this room? What do you think are the best methods to do that?

Participants expressed that social media outlets such as Facebook were an effective method to get health information on stroke out. Personal accounts and testimonies from individuals in the age bracket of the participants was another good method. Unsuitable methods included pamphlets and other written material.

- JAX003: I was gonna say certain media outlets like TV and radio. I wouldn’t even go as far as... you can use the internet and I think that’s effective, but if you send me an e-mail blast on stroke I’m probably not gonna read it.

- JAX005: But what if somebody did like... you know on Facebook they do that thing like what color your bra is? The chain kind of thing and they have the different numbers and people would send you a number and you’d tell that person how you feel about them.

- JAX002: What color your bra???

- JAX003: It was something going around for breast cancer.

- JAX005: I was gonna say I think one thing that would attract people our age to pay more attention to health risk or stroke risk is getting more people involved in the campaign material. Because if I know that JAX004 and I are the same age and she’s in this commercial talking about how she’s had a stroke that’s gonna kind of scare me. Because actually I’ve had conversations like this with people I know that’s taking blood pressure medicines and you’re in your late 20’s. I’m thinking ‘whoa, wait you shouldn’t be taking that!’
• JAX003: In my office building, there’s a young guy who owns a very successful web site design company. And he’s probably 33 years old and he’s had a stroke. And so what I’ve been trying to implement over in my office building is to get a health and wellness program together for the individuals in there because as an entrepreneur you’re very stressed out all—the—time. And I believe...he didn’t even know he had a stroke.

F: Really?

• JAX003: He didn’t know until he’d gotten to the doctor because he thought he was having a really bad headache that wouldn’t go away for several days. And he went to the doctor and he was like ‘you’ve had a stroke’. Lucky for him, he’s gonna be okay. He didn’t lose any memory or anything like that. Seeing people our age and showing how it affects people in your age group I think is very effective.

F: So I’m hearing personal stories, television, radio. What of those things mentioned do you feel have been most effective thus far?

• JAX005: I’d say to peer-to-peer.

• JAX002: For me it’s been TV. TV or hearing it, for me...if the TV’s on I don’t really watch TV per se myself. I watch more History Channel...they do put a lot of health ads on there. They are also more directed...because I guess more older people watch the History Channel so I tend to hear the stuff. It’s in the background and it’s like some of those things...it sticks in my brain, if I have this symptom this may be happening...different things like that.

F: What are some methods of communication or dissemination of this information that you’ve found to be least effective?

• JAX006: I’d probably say pamphlets in the doctor’s office; you see them all the time and you walk right past them.

• JAX004: I was thinking the same thing. Cause you see them like in the parking lot after you leave the office.

F: What else do you feel like you need to know about preventing a stroke since that’s our foundation of our conversation? I’m glad we had this discussion about sickle cell. That’s one of those areas that a lot of people don’t make that connection to stroke.

• JAX005: Let me ask this: Is there a relationship between diabetes and strokes? Because I think diabetes...although I know cardiovascular is the number one killer in Mississippi. Diabetes is HUGE in the black community and if there’s a connect to that then...I’m sorry “suga”

F: And there is...not being able to process sugar correctly in our bodies does impact our cardiovascular health. Our hearts have to work harder...anything that affects a blood vessel...and diabetes is one of those things that does that. It’s typically connected to being overweight and there being something going on with our pancreas. That is an organ that works to process (breakdown) sugar. But anything that impacts a blood vessel and diabetes is one of those conditions that does. It makes vessels smaller in diameter and anytime you make a vessel constrict it’s going to be harder for blood to flow through, which can put stress on your heart. It can put stress on vessels that are feeding the heart or one’s that are leaving from it. We also have vessels in our neck that connect to our brains and that’s a problem. Diabetes is one of those conditions that is certainly attributable to the number of strokes that we see in our communities because we do have a lot of diabetes right here in the south. Other things that you feel like you need to know about preventing stroke?

• JAX002: I would like to know more about heart murmurs. I’m fearful...like what if I have a stroke?What if this...
comes back? I know when I was younger and I played football the doctor said I was fine and could play
method or way to get the word out about this issue. Does anyone want to clarify that or have any other comments
on what I've re- capped.

F: Is there any other information regarding your experiences in searching for health information that you’d like me
to know? Has anyone had a bad experience with anything?

F: Okay, so what I’m going to do as we’re coming got a close is I’m going to be taking the information you shared
with me and creating a summary of our discussion. And if you did provide your e-mail address I will be more than
happy to share that summary with you and you can tell me whether I’ve captured what was said or that I’ve missed
the mark. This information has been very helpful for me to develop a survey that really measures what we do. We
take a lot of surveys and they’re not necessarily reflective of our lives. Before you leave, please take a few things
that I have here. Thank you all for your time and attention. This has really been helpful and most appreciated.

• JAX002: These are the best parting gifts I’ve ever seen! (laughter)
Introduction
Five young professionals participated in an UAB-IRB approved focus group discussion to explore the ways African American young adults aged 21-40 seek and understand health information. Participants were also asked about their current preventive health practices and knowledge of cardiovascular disease with emphasis on stroke. The discussion was held on February 20th at the offices of Clarus Consulting Group, a local firm located near the UAB campus. The conversation was designed to explore participants’ opinions and views of what role health information plays in their own preventive health practices and discussed how to best disseminate information about stroke to a younger audience.

Purpose and Objectives
The conversation was intended to engage participants in a structured dialogue. The facilitator lead the conversation and capture major points through written notes and through audio recordings. Participants introduced themselves and were guided through the following questions:

Participant Introductions:
Each participant was asked to state their name, what they did for a living, what their interests were and how long they’ve lived in Birmingham. ID numbers are used in place of names for reporting purposes. The average age of the group is 32.2 years with 51 combined years of residence in Birmingham. Each participant was professionally involved in science or research either as a student, public health practitioner, or academic professional.

F: Hmm...very quickly what I’d like to do is just go around the table and if you would introduce yourselves by stating your name, what you do, what you’re interest are and how long you’ve lived in Birmingham is ah a question I’d like to ask...and I’ll start here on my left with BHM007.

• BHM007: Good evening, my name is BHM007. I’m a graduate student at UAB and I’ve been in Birmingham for almost four years and whenever time permits I just like being a homebody.

• My name is BHM001. I work at UAB in Infectious Disease. I do HIV testing and education throughout the community. I’ve been in B’ham seven years. (BHM001 asks for clarification) Did I answer all of the questions?

(Facilitator chuckles) I think you did...you did thank you. Hmm...Michael is our note taker so we’re actually going to skip over him and we’ll start with BHM002.
Good evening, I’m BHM002. I am a Medical Laboratory Scientist with SolstasLab Partners and ah… I have… interests vary… I am a very big advocate for health care. And being the father of two kids, I take my health very seriously… and uh… as being that I have two parents who’ve had open heart surgery almost seven weeks apart. I really do take it very seriously. (Facilitator asks: and how long have you been in Birmingham?) I was born and raised in B’ham but I’ve been back in Birmingham for four years.

Hello my name is BHM013. Uhmm, I’ve been in Birmingham I think… 12 years? If I added correctly… I think. (laughter) Yeah, somewhere around that time. I am a two part employee here at UAB in campus maintenance as well as a student in the doctoral program in health education. Hmm…. and my interest uhmm… would be focused on diabetes in the African American community primarily… primary prevention… I guess you could say that. Ok…

Ummm My name is BHM012; uhmm… I’m a faculty member at UAB. Uh… I work at Lister Hill Library of the Health Sciences. And I actually have been in B’ham for… I think 20 years… 19 or 20 years. Ummm… my interests are uhmm… I’m very active in my church… uh… I like to shop on my down time… when I have some money.

(Facilitator chuckles: That’s always good to have money)

BHM012: Exactly!

F: Awesome. Ok, well thank you so I… I’m hearing uhmm… four years all the way up to 20 years of being here in Birmingham. And I just took a minute while you all were talking to kind of add up those years… uhmm… and it totals 51 years in Birmingham. And I want you to think about the number 51 because 51 is also a very prime age for an African American to experience a heart attack or a stroke. And we’re going to come back to that number as we talk through the remainder of the discussion. But that’s a long time uhmm… here in Birmingham and a lot has happened in 51 years in this city… we know. Ahmm… but that’s really interesting that we have this nice this wide range of individuals who’ve been in Birmingham from newbies to those who’ve been here for some time. Uh… but 51 is… is our running tally in terms of years in town… uh… really interesting.

Rapport Building
Participants were asked to think of an adjective or phrase that best described their view of their health and that time.

Another thing that I wanted to ask you just in terms of rapport building before we get into the meat of the discussion is that I want you think of an adjective or phrase that best describes your view of your health. So you can say things like “healthy” or “not healthy” or that “I’m in good shape” or “I need to lose some weight”… or “there are some things I need to work on”. And then I want us again to go around the room and give me what that adjective or phrase might be describing your health and then I want you to tell me why you said what you said… and we’ll start this way… so… back on BHM012. (group laughs)

BHM012: Ok… uhmm… I have some things I need to work on… and the reason why I say that is uh… weight has always been an… I like issue. Ahm… it has a tendency to go up and down… it just depends. Uh… so that’s what I would say.
BHM013: My adjective would probably be a work in progress…a continual work in progress because I think change actually occurs over time and baby steps to make that big step in health as far as losing weight and just becoming more health conscious of my numbers…ahh is something that’s important to me. So I guess my adjective would be a continual work in progress.

BHM002: I would say I’m relatively healthy. I’m an advocate for uh…I get up a 5:00 every morning to work out before I get my day started…well up until two weeks ago until my doctor told me to stop for a while because of dizzy spells. Ummm, but I’m an advocate for health and I’ve been like that for the past year.

BHM001: uhm…I want to say I’m healthy. I have fallen off the last year. I used to exercise daily and have not done so in a year…I’m pretty ashamed to say that. Uh…since I’ve started this new job I’ve stopped exercising…I don’t eat as much…well, I don’t eat well and I’m always eating on the road…so I can’t even remember the last time I’ve cooked.

BHM007: I would say the adjective would be improvement. Because the latter part…from the summer to the latter part of last year…my weight was fluctuating because I had a number of stressors to come at one time. So my weight went from healthy to a large number of pounds I lost…and now I’m trying to get back to a more healthy state. So right now the saying is improving.

Q1. In your opinion, who is responsible for your overall health and wellness?

Participants agreed that they were responsible for their own health. In addition to personal responsibility, comments ranged from health care providers playing a role in one’s health as well as environmental factors.

BHM013: “I think I am”

Facilitator: Okay, who else, who’s responsible for your overall health and wellness?

BHM002: Uhm…I am responsible for my own health.

BHM001: This is BHM001, uhmm, I think that overall I am responsible for my own health, but I do think my physician plays a part in that as well.

Probe: Okay, that’s fair…others…who’s responsible for your health and wellness?

BHM012: Overall, I think that we’re responsible for our own health. But I do think also that the physician does take a role in it because I think there are things that the physician knows that we wouldn’t know as a common lay person.

BHM007: I agree. I believe that we are responsible for our own health, but I also feel that environmental factors play a role too.
Q2. What actions do you all take to prevent illness in general? Not necessarily heart disease, but just illness in general…a common cold…or whatever… What actions do you take to prevent illness in general?

Most participants mentioned proactive behaviors such as taking vitamins, regular exercise, hand washing, and properly dressing for current weather conditions.

- **BHM002**: Uhmm...what I do is I try to be proactive as I can...before the cold and flu season comes in I try to get doped up on vitamin C and Vitamin D as much as I can and get that into my immune system so it can be functioning by the time November, December, January hits and uhmm...and like I said, regular exercise to keep everything functioning properly.

- **Probe**: Okay, that’s fair...others...actions do you take to prevent illness in general?

- **BHM013**: Proper dressing. Dress according to the weather. You know...dressing in layers if that’s the case. And also preventive measures if you feel like a cold for example is coming on, you know you try to take some medicine prior to, take some soup, you know...not go into the cold weather when you’ve just washed your hair...you know...things like that.

- **Facilitator**: Okay, anyone else in terms of actions you take to prevent illness in general?

- **BHM001**: This is BHM001, uhmm...I think one of the things that stood out to me recently, again having just started working in infectious diseases is washing your hands and washing your hands properly. Uhm, not necessarily just using hand sanitizer, but soap and warm water. Uhhmm, make a big difference.

Q3: So I’m gonna kind of take the conversation now to where I want be which is around this issue of...specifically looking at stroke. And I want you to tell me what you know about it. What do you know about it? Do you know where it occurs in the body?

Responses ranged from knowing certain risk factors for stroke to recognizing that a stroke can occur at any time.

- (seemed a little hesitant with his response) **BHM0002**: Uh yes...from what I understand about stroke. Uh...it’s...it actually can start from factors such as high blood pressure and high cholesterol. And uhmm, you know that can lead straight from your heart and cause issues with your uhm...brain.

  **Facilitator**: Others, what do you know about this issue of stroke?

- (confident with his response) **BHM012**: I know there are some contributing factors of things that make you more susceptible to uhmm stroke which are obesity, diabetes, hypertension, uhm...smoking...
BHM013: uhm...On those same lines, also a stroke can occur at any time. And you don’t have any warning...sometimes you don’t have any warning signs cause it can occur really really quick. And also you can have other warning signs. But it can occur in a healthy person and unhealthy person uhm...and race usually...I guess race will have a higher...most people that are African American may have a higher tendency to have stroke compared to others. But it can occur in healthy and unhealthy people as well too.

Q4: So I asked you a question about what actions you take to prevent illness in general, so what actions would you take to prevent a stroke? ...preventive actions would one take to prevent a stroke in your opinion?

Responses ranged from maintaining a healthy diet to participating in a cardio exercise regimen. Regular visits with one’s primary health care provider were also mentioned as an important preventive action.

BHM007: Uhmm...one of the important factors would be diet. You are what you eat and what you bring into your body will definitely affect what type of health outcome you have.

BHM001: I would like to add just exercise. Just making sure that..

Probes: Any...any particular type of exercise?

BHM001: Especially cardio...yeah...and...I’m not sure if I’m correct but that’s what I’m thinking off the top of my head.

Oh no...that’s fine...

BHM013: This is kind of general, but knowing your body. Uhm if there is a problem going on with your body, some kind of pain you’re not familiar with...you know you need to consult your physician as soon as possible. Don’t take everything lightly, just because it’s a headache it may go away but just knowing your body and knowing when something’s not right. And being able to have that open discussion with your physician whether it’s on the phone or having to uhm...schedule an appointment.

BHM002: Preventive measures. Uhm...go to your primary care physician BEFORE...BEFORE anything...don’t wait until something happens to go see him. Go find out, get the proper blood tests to find out what all is going on so that you can create a diet and exercise plan accordingly.

BHM007: I have something to add to it. Family history is also important too. If you have family members that are highly susceptible to certain illnesses you know...it makes you a higher risk.

F: Absolutely...that’s true...all great answers. Thank you.
F: Uhm...so I’ve asked you as a group what issues do you take to prevent stroke. Now I want to ask you individually what would you do...so very quickly...facilitator hands out short exercise. (Cars passing by and phone ringing in the background in the building).

If you’ll take a second to just look at these different self-care actions and what I’m asking you to do is rank them on a scale of 1 to 10 with number 1 being something that you MOST likely to engage in and number 10 being the thing that you are LEAST likely to engage in. So there should be a listing of numbers 1 thru 10...don’t use the number 2 twice. Okay, so every...every action gets a unique number itself. So if you’ll take a moment to look at those and rank them from 1 to 10 with one being the MOST likely thing you’d do and number 10 being the LEAST likely thing you’d do.

F: I’m going to pause our tape here. Time given for participants to work on ranking exercise. Okay, so let’s talk about your responses to the ranking exercise. Very quickly tell me what your number 1, 2, and 3 were.

- BHM012: The number one was seek immediate medical attention for sudden trouble seeing, speaking, walking or feeling confused. Uhm...#2 was chose not to smoke cigarettes # 3 limit my use or alcohol to no more than 2 drinks daily.

F: And what was your # 10?

- BHM012: Check my blood pressure regularly.

F: Okay, Interesting...ok, BHM013...1,2, 3 and 10

- BHM013: I hope this is the right ranking. #1 was supposed to be like what you always do or what you should do?

One is what you most likely participate in; 10 is what you least likely participate in.

- BHM013: Oh, I need to redo my rankings then...come back to me for a second.

F: Okay, do we’ll do that...BHM002...

- BHM002: Uhm...# 1 was participate in 30 minutes of physical activity most days of the week. My #2 is complete a physical examination by a doctor each year and my #3 is chose healthy foods daily including fresh fruits and vegetables and lean meats.

F: And tell me what your # 10 was?

- BHM002: My number 10 is interesting because this happened to me two weeks ago when I ended up in the hospital because of it. Seek immediate medical attention for sudden trouble seeing, speaking, walking or feeling confused.

F: Interesting....

- BHM002: It took my wife to MAKE me go.
F: Wow…that is…that’s very common to hear men say it took their wife to make them go to the doctor. BHM001, your 1, 2, and 3 and then # 10.

- BHM001: Alright, # 1 choose not to smoke cigarettes or use other tobacco products. # 2 limit my use of alcohol to no more than (2) drinks daily. # 3 Choose healthy foods daily including fresh fruits and vegetables and lean meats and #10 seek immediate medical attention for sudden trouble seeing, speaking, walking and feeling confused.

F: Okay, and BHM007...

- BHM007: #1 is choose not to smoke cigarettes or use other tobacco products. #2 Care for diabetes and other chronic illness as directed by my physician # 3 speak to my doctor or health care provider about my risk of stroke and heart disease. # 10 Check my blood pressure regularly.

This is interesting that 10 is check my blood pressure regularly. We’re gonna talk about that in terms as a risk factor for stroke…BHM013. (Emergency vehicle goes past office…loud siren at this point while BHM013 is responding.)

- BHM013: Okay, I’m ready now…sorry about that. My # 1 was chose not to smoke cigarettes or use other tobacco products, 2) chose healthy foods including fresh fruits (I love the grapes) and vegetables and lean meats and # 3 complete a physical examination by a doctor each year and that basically stems for another reason but that’s my # 3 and my # 10 is limit use of alcohol to no more than 2 drinks daily…I mean I don’t really drink that much so that was by default.

F: Okay…and did we get everyone? Okay, so let’s…let me…let me sit here a second on this high blood pressure thing. Remember we talked about the 51 year old…it can be a man or woman…whatever gender you want that person to be. Uh…but that 51 year old individual might be the 37 year old individual or 29 year old individual who’s not checking their blood pressure regularly. And at 44, they are now diagnosed as hypertensive and seven years later at 51 that have a stroke. So that that issue around not checking your blood pressure regularly particularly African Americans in our age bracket is so incredibly important. It’s interesting to hear that was a # 10 as a preventive health activity…INTERESTING

We certainly will be talking about that as we move through the discussion. Thank you all for doing that.

Q5: So my next few questions center on where do you go to look for health information and what do you do when you get that information. So think about the last time you’ve searched for health information; whatever it may be…it could be on any topic at all. Where did you go first?

On-line medical and health websites were often the first source of information. Searching for information based on key words through search engines such as Google were commonly used. Government-based sites such as CDC were deemed credible. Information that was captured by lay individuals and posted was not seen as credible.

- BHM012: I usually go to Medline Plus.

F: Medline Plus…okay, so the internet definitely? Okay…others?
- BHM002: Uh...I take a different approach. I believe in...holistic...a holistic approach. So...I uhh...follow...umm, actually I use the internet. I follow particular people like Stickman for dead Pres (?) he is a vegan and I follow his blog. And also, I went to chiropractic school for a second so I also go back to Light Univ.(?) website to see what’s going on with them as far as what’s on the health front from a holistic approach.

- BHM001: I just go to Google and whatever comes up whether it’s WebMD, CDC, I don’t know...Mayo Clinic. (chuckles)

Probe: Okay...that’s fine. You said whatever comes up first. Is whatever comes up first credible for you? Is that what you deem as being accurate because it comes up first?

- BHM002: As long as it’s not from something like eHOW or I don’t know...some magazine. I think WebMD and Mayo Clinic are semi-credible. As long as it’s consistent...

- BHM007: I do the same thing...do a Google search. Whatever comes up, I usually try to avoid Yahoo! Answers. That’s one that I try to avoid.

Probe: Tell me why?

- BHM007: Because it’s just random people giving pretty much pointless responses to the questions. That’s one I try to avoid. WebMD and Medline Plus...that’s pretty much it.

Probe: So, what features of Medline Plus make that information more useful than some other site? Like a random Yahoo! Answers?

- BHM012: Hmm...because of the field that I’m in which is Health Sciences Librarianship. I like that one because it’s really based on consumers. They make it really easy to understand. And I know that the information that they’re getting is coming from a credible source...like the National Library of Medicine.

Probe: Others? In terms of why...what makes the features of the blog that you follow or going back to your chiropractic schools’ page...what makes those sources useful?

- BHM007: Uh, first of all I believe...holistically the body itself is a self-healing mechanism. All the mechanisms are there to heal whatever is going on. It's what we put into our body...that uh...the right things we put into our body to make those things function properly. So uh...from a holistic view...that’s the way I see it as opposed to waiting for something to happen and we have to take medication to correct the action with more side effects.

- BHM013: ...just wanted...although I utilize the web a lot to search. But depending on the topic or what I’m interested in. I will go to someone in the health field as another source. A lot of my sorority sisters are nurses and doctors and depending upon what topic it is I will go to them for information because they are in the field and they have the medical degree to give me accurate information and ways that have and have not worked based on the patients that they’ve seen in the doctor’s office.
Probe: I want to take your comment BHM012 about Medline Plus providing information that’s easy for the average health consumer to understand. The last time you all looked for health information, whatever it was...were you able to understand what you were looking for?

ALL: Yes

F: So it was very clear. Do you shy away from sites or individuals that use lots of medical terms? Why?

(nods head in agreement to previous question) BHM001: Uhmm, especially if you don’t define it. I know that I can easily go out and look up the definition of a word if I don’t know it. But it’s just easier if I’m looking at webpage or fact sheet and it’s saying...you know such and such disease and some medical term and then in parentheses what it really is in laymen’s terms and then you know goes on to describe it a little more. Uhm... I’m able to follow that or I’m able to like that better.

F: Okay, has anyone ever tried...like you mentioned BHM013 talking to sorority sisters who had a healthcare background or talking to...or just individuals who are in a health related field? But has anyone sought information from another individual who may have had the same symptoms or experience that you have had and you wanted to know more about their own experience? Has anyone used that strategy?

- BHM002: Ummm, yes I have and that’s not always been good because by the time you talk to those people it’s too late and they’ve been down that path once and they’re probably headed back again.

- BHM013: On the reversal, I’ve had people talk to me about problems. For example, chiropractic problems cause I’ve always had back problems throughout the years. And people that have known that have come to me and said ‘what have you done’, who have you went to.’ You know some of the things that you’ve done to help alleviate your pain...so not necessarily me going to them because I don’t know all of their health issues, but I’ve people to come to me about that. And also another useful feature is the app that’s on my phone.

Group reacts to that...facilitator asks “what app is this?” BHM013 says “oh just a minute, let me get that”...

F: Does anyone else use their cell phone or any apps on their phone for health information? Or do you seek other individuals who’ve had a similar experience that you may be experiencing?

- BHM001: Uhm, I wanted to comment uh...about seeking somebody else as a source....Uhmm...I don’t do that...only because I kind of feel like my health is personal and I don’t want to...I don’t want to discuss that with anyone else. Whether it’s maybe mild to someone else, it’s very personal to me. So, uh unless you’re my significant other or my cousin, someone I can truly truly confide in, I won’t be discussing anything with you concerning my health.

F: Why significant other or cousin?

- BHM001: I say significant other because if you’re my significant other than I trust you and I’m able to talk to you about anything. My cousin is probably my best friend and she’s the only one that I
really talk to about anything. Uhm...other family members...no...friends...no...sorority sisters...no. It just kind of balances down to two people for me...that's just me personally...but...

Okay, anyone else in terms of a strategy you may have used to...magazine articles, I've heard the internet, I've heard individuals who have experience and background in healthcare...BHM012...

- BHM012: This is somewhat similar as far as like seeking information from others. But I have a tendency...depending on who it is...ummm...I have a tendency to go to other health sciences librarians because the work that I do is more administrative. I don’t do like searches that often, so if I can find one that I trust umm...I will get them to run a search for me and to find some information that way. ...make sure (inaudible)

Q6: So, BHM001 kind of hit on my next question around trust. Who do you most trust to provide information about your health?

Responses centered on trusting one's health care provider. Providers that showed compassion, took time and presented accurate information were deemed most trustworthy.

- BHM013: I would say my doctor, umm...because I think uhm...when I was choosing my doctor I was making sure that they met I guess the qualities that I'm looking for in my doctor....so ummm...

And what are those qualities?

(says as a disclaimer) and this is just BHM013, I prefer all female doctors, uh...basically because if there is a problem going on with me as a female I think that female would have more relatability to it. Uhmm...also, the number of years that they've worked in their practice for example ummm...for my OB, you know no one that completely just graduated from medical at least have some interest in women’s health...and ummm, I guess you could say...ummm...more prone to people that have uh...assess the risk (Emergency vehicle passing by with sirens blaring) factors like diabetes more concerned with cardiovascular diseases would be concerned about me as a black female. Uh...same thing with my dentist someone that I think that if I am to go into their office I can actually sit down and have a conversation with them verses the 5...the 8 minute spill that you're supposed to give when you go into the doctor’s office. So if I can’t have a general conversation with you about my health and I feel like I’m being rushed, most likely I’m going to choose another doctor. So, hmm if I’m able to talk to you and they can to talk to me on a level I can understand that...Allison Heaton is a great person at St. Vincent’s just in case you want a doctor...okay... (hits table and others laugh)

That’s a great comment and I’ve heard that actually before in other focus groups. BHM007 you’ve been a little quiet, what about...you know who do you most trust to provide information about your health?

- BHM002: Uh...I pretty much the follow the same idea...it’s about being with someone you can trust and someone who’s very passionate about your wellbeing and your health care. Because like BHM013 said, you know...we don’t need people who just rush us through. We need someone who takes us personally and make sure that we’re actually progressing and improving our health over time. So that’s one thing I look for too.

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Other thoughts on who you most trust?

- BHM001: I would like to add just one more character trait—someone who’s nonjudgmental umm... you know along with trust...trust is really big, but someone who is nonjudgmental and umm...

F: Kind of tell me a little bit more about what you mean when you say that...nonjudgmental?

Pauses, I don’t know how to describe it without giving a personal experience and I don’t want to do that. Uh...I don’t know...just

F: Is gonna be objective?...

- BHM001: ...yes, and not bias, I don’t know how to explain it, but they just don’t judge you...they don’t categorize you, they don’t lump you into one group. And guess I kind of say that because I was thinking about BHM013 comment about women’s doctors...knowing that women doctors relate to you a little bit better. Umm my experience has been the opposite, I prefer a man. Uh...I don’t know I guess the women doctors...the female doctors I have in the pass I have just not been satisfied with them. I’ve found that the men...the male doctors that I’ve had have have been nonjudgmental...have been...I’ve been able to talk to them and open up to them and trust them a little bit more. Umm, I don’t know how to describe it it’ll probably come to me later on when we finish this whole conversation.

F: Oh no...that’s fine. That’s an interesting comment that you made... to hear two opposite sides of...two different opinions around gender of your health care provider where there is more comfort with the same sex in BHM013’s case and BHM001 you’re saying that you’ve really had better experience with the opposite sex which is interesting.... I haven’t heard that with any other focus groups that I’ve done, so that’s...that is pretty interesting. Characteristics I’ve heard were things like being nonjudgmental. Uhmm...what are some other characteristics that make that source trustworthy?

- BHM013: ...knowledgeable of current trends...knowledgeable of current umm...medical advances in your particular uh...problem. I guess a personal one is when I had the surgery I was making sure that everyone knew whoever my doctor was what’s the current treatment for this particular surgery that I really did not want to have but needed to have. And I also got a second opinion from another medical person and well as even people that’s in pharmaceutical sales that’s actually selling the drug that was needed so that was like an extra step that I took on my own...so...

F: ...other thoughts?

- BHM007: Uh...before uh...trusting a primary...well first of all I trust my primary care physician and my chiropractor with my health...but uh...more than that I’m gonna trust somebody whose interest is ME. They’re first interest is me, it’s not you know... it’s what we’re gonna do to get you back to optimal health. You know they're gonna invest their time in me, and I’m not just another payoff for the insurance company.

Q7: Now that I have heard in other groups. Other characteristics that make a source trustworthy? So my next question is what are the best methods to provide information about stroke to individuals such as yourselves?
Participants expressed that information social media outlets, visual portrayals, oral accounts, and dissemination of information through faith-based institutions were the best ways to provide information to young adults aged 21-40 about stroke.

- BHM007: uh…being that I’m kind of a tech junkie…the best way for me are through apps, Facebook, Twitter…any social media...

- BHM001: I’m the opposite, I don’t do technology very well…ummm, and I don’t do apps or anything like that. I’m a visual person and I like stories. Ummm, I think…personally, when I think of stroke I always think of older people and I think if some of the health educators would try to relate that a little bit more to younger people, specifically African Americans, and both of our different stories uhm, that have affected young African Americans then I’d be more…more app to listen…and to pay more attention…otherwise I’m looking like “you know what? that won’t pertain to me for another 40 or 50 years so I’m not even gonna worry about it... let me kind of worry about reproductive health…something that’s coming on right now, you know?

Ok...others, what uhhm...what methods, what are the best methods to provide stroke information to individuals like yourself? And that’s a great comment because a lot of people do think stroke is a disease of the aged and that’s not necessarily true. The numbers are showing that those under the age of 45 and between 18-45...that age bracket is certainly increasing.

- BHM002: I’ve got one more comment...I’m glad you said stories. Dialogue in the African American community is important; we don’t do enough of...for instance this...like a round table discussion about it...we don’t do that. Uh and I know in particularly you know...starting with the family core...let’s backup a few years, you had Big Momma, grandmamma whatever you called her...you had Sunday dinner everybody came to one place, we don’t do that a lot these days so there really is no (inaudible) because we are young professionals and always on the go it really kind of not a forum for dialogue which is crucial.

- BHM007: ...and just to piggyback off of what everyone says hmm...another way...unfortunately I hate to say this but sometimes the only time people take stuff seriously is when it hits home. And you know..., for example, you know I lost my mom to cancer last year and you don’t take it seriously...I mean I’ve always known about cancer, but it doesn’t really hit home until it really hits home. So like BHM002 said it’s really good to have those family discussions so people can know the severity of the situation because they don’t. They sometimes at the end until you realize that you know how somebody else’s experiences how they make and how they show concern about it. So I mean I think like you said...those...round table discussions are pretty good to have so people can know the severity of these diseases that are affecting the African American community.

- BHM012: Another one that I think is important because the in African American community the faith based institutions...our churches have a tendency to be a staple of the community and the center of the community. Cause I know the one thing our church doing every month on the 3rd Sunday of every month my Pastor takes out some time to like talk about some type of health fact...and like yesterday we focused on heart attack. Umm...I think that’s important because you have a large group of people that are there that can hear the information all at one time and kind of get a little discussion or dialogue going that way.
BHM013: I definitely agree with his comment... BHM012 as far as using health...the church as an avenue to relay health messages because that’s what I plan on doing for my dissertation topic because we do have this opportunity, or have this venue that we can use that we’re not...we’re using it, but it hasn’t been researched or recorded or documented so much so that it can be used as a feasible opportunity for additional programs that can take place.

Any other thoughts on best methods to provide stroke information? I’ve heard the church, social media, stories and dialogue, ummm...really talking about this in terms of the severity of it...when it hits home...it hits home. Are there any other thoughts?

BHM013: I have one...it’s not the best method but one that not in my personal opinion the worst method to use is when you’re in the doctor’s office and they just give you a pamphlet to read. That’s not the best way to use, I don’t know if that was you next question or not...

No, no...but I mean we can certainly talk about things that are not as effective. And you’re right, a pamphlet in my hand is...not gonna get me to read it...uh, I don’t know if that’s other people’s opinion I’m really...I’m not a part of the discussion tonight, I’m asking the questions but if anyone has thoughts on methods that are NOT effective to bring this information to this audience and this particular issue of stroke.

BHM012: (pauses) One thing that I’ve experienced recently is having to try to talk to a physician and they didn’t really have a good bedside manner at all...they...they they weren’t...ummm...I guess when you’re telling somebody...if you have a question about your health and they’re asking the physician and you’re expecting that person to provide you with some type of information—not sit up there and look at you like you’re...crazy! So I think it means a lot because you have a tendency...I think in the African American community already especially in males already have a trust issue with physicians because of things that have gone on in the past. Umm...and they don’t want to go to the physician anyway and then when you have a bad experience by not getting your questions answered or hmmm the physician making you feel like...you know...you’re bothering them...or you know...asking a question that you should already know the answer to...it it really causes a lot of damage.

Absolutely...yeah...other thoughts on ways, things methods that are not effective?

BHM007: Uh...one biggest thing is pressing in the African American community. When you go to our primary physicians instead of waiting on them to provide us...we don’t ask questions. And that’s sometimes when we get the quietest.

F: ...we don’t ask questions, yeah...and why is that? Why is that we clam up when we go to our doctors?

BHM012: Frankly...and I agree with that professional...but frankly you really don’t know what to ask. I (loud car passing by) really think it depends on the situation and it’s something that’s caught you off guard or if you just...you know...really have no idea. You don’t know what questions to ask because you don’t really don’t know what’s going on.

F: That’s a fair assessment, do others agree with that? (head’s nod)
Q8: Tell me what else do you need to know about preventing stroke? I’ve heard a comment from BHM001 that this is typically seen as an issue that impacts those who are older. What do you all need to know more about this issue in terms of prevention? What would you like to know?

Responses included knowing and being aware of the signs and symptoms of a stroke. Personal accounts and testimonials from individuals in the age bracket who’d experienced a stroke would help with a better understanding of prevention. A clear definition of a stroke with simple terminology and background information would be appropriate for the age bracket.

- BHM013: I think I’m a little biased on this, but of course the signs and symptoms of a stroke. You need to be aware of that. If it’s happening to you and how can you relay that message to someone sort of that if you were a teacher, how can you get your kids to understand I’m having a stroke? Umm...if you see someone in your home...just around you if they’re having a stroke knowing those signs and symptoms of a stroke umm is always important because there is a window of opportunity that you can go and get that person to the doctor as soon as possible to get the best medical treatment. But I think knowing the signs and symptoms is the primary thing right now as far as like primary prevention.

- BHM013: Ok, umm...one of things that I think would be helpful...umm...just like she was saying it seems like it would be a condition for older people...if you could actually see somebody that you could relate to that’s closer to your age that has gone through that. Umm...sometimes testimonials, I think it does do a whole lot of good...because it’s one thing to see somebody that’s like 65 or something like that to that’s had a stroke verses see someone in their mid 20s or late 30s or something like that.

Ok...others...on what you’d like to know?

- BHM001: Umm...I would like to hear more information or more emphasis on exactly the definition (speaker emphasized the word definition) of a stroke. Umm...because I...we use the term stroke so loosely. But I think if you were to ask me or even people on the street “what is a stroke?” I couldn’t tell you...I’d say maybe it has something to do with the brain, but I couldn’t tell you what the definition is. But if you came to me and said “what is HIV” I could tell you that! You know...uh...but...I don’t know...more emphasis on the definition of a stroke and how it’s caused. We talk a lot about prevention...and you know...making sure you check your blood pressure and exercising regularly and not...you know...not smoking...not drinking...you know...lowering your cholesterol and things like that...but what is it and how it’s caused? So I think if we kind of know that background information then maybe we’d do a little bit better as far as prevention.

Great comment....

- BHM002: I highly agree with BHM001. I believe in going to the source. What is a stroke? Because uh...it’s so many there are many times it can be mistaken to a blood clot, aneurysm...stroke...all those things are kind of similar but you know...different roots of the cause. So uh...definitely going to find out what the definition of a stroke is. And another thing is how to get our age range engaged in finding out more what a stroke is and what measures we can actively take and not just
Q9: Well my last question for you tonight is what would be the best avenues for you to receive the information?
Repetition through radio announcements, incorporating stroke symptoms into mainstream television programs, posting of helpful tips and tools through social media, and sharing new information coming from original research were all avenues mentioned as ways that African American adults 21-40 would like to receive information on the topic of stroke.

- BHM001: Again, kind of going back to me as a visual person and someone who likes to hear it as far as stories. I’m kind of old fashioned when I’m like...okay...the radio stuff works...for example they’ve been talking a lot about FAST (face, arm, speech, time). I know that a whole lot now because I keep hearing it, but also kind of going back to visuals...movies...TV shows...sitcoms, whatever...you know...if they would incorporate that into the story line a little bit more do it creatively...umm...I don’t know...I think that would stick a little with some people...such as myself who’s not gonna get an app on her phone. (group laughs)

F: Anyone else...in terms of ways that you would receive information and I agree with BHM001 because of to...to see that happen and to see that it can happen anytime, you could be driving in your car, you could be at church...you could be in this room and have a stroke, but what does that look like? It looks very different for different people. Everyone...I...all of us around this table, if we were to...and I’m not saying this would happen, if we were to all have strokes if would look very different for every single one of us. Umm so that’s actually one of the...I’d say...scary things about a stroke is that it can mimic others things. It doesn’t necessarily mean that everybody in the room is gonna know that BHM007 is having a stroke because he has numbness and dizziness. That could be from a number of things and how do you pinpoint that is really the question here. So that makes this discussion and this issue even more interesting because it looks like so many other things. A severe headache doesn’t necessarily mean that you’re having a stroke----but it could be. You know...if it’s a headache that you’ve never had in your life and it literally feels like someone is taking this (hits table) table and pounding on your head----that’s not normal and you probably need to get to some medical attention if that’s the case. So I agree with BHM001 that a visual portrayal of it is important.

- BHM002: BHM001 brought up another good point...TV...umm...I was just thinking back as a kid growing up, I was an avid fan of the Cosby Show. I learned a lot about different issues from just watching that show because it was put out there...I guess for you to see. But you know...I think that it went off the air in ’92 and I was like 12? ...who’d think that stuff I saw on that show dealing with issues especially with African American and particularly that he was a doctor and it dealt with real healthcare issues on there and that stuff it stuck with me. The older I get...the kind of more...more...I don’t want to say one-track minded. But I kind of receive a lot the same way I put stuff out...you know umm...social media...like I said I’m a tech junkie and I’m always on the internet. I blog...as I blog I read other people’s blogs too. And it’s not like the same circle but it’s a circle that learns from each other. Any other thoughts?

- BHM013: I think just self-knowledge. Umm...basically with a lot of us being in the health field we have to read papers and publications on the regular that includes health; so that maybe something that well...not normal...well I won’t say they’re not normal... but everyday people don’t go and read
papers. But that’s something that we can do...that we have to do...well let me say...that I have to do for
my project. You know reading umm...just the prevention methods that they use...it maybe something
new...it may be like a new food that can treat it that you’ve never heard about. And also once you find
knowledge you know...to share that knowledge with someone else whether it be through a health fair or
passing it on through the social media or something like that. Umm...those are other tools in the pot
that we use as well.

CLOSING COMMENTS

With all that being said, I was noting while we were talking. It sounds like unanimously that everyone
feels like they are responsible for their own health. I hear that the internet is a good source of health
information. How you take the information is very much an individual decision. Is there anything that
anyone wants to clarify?

- BHM001: I want to make a comment. I know we were talking earlier and some comments going out
  about pamphlets not being the way to go. I kind of disagree. I think some of the old things that
  worked back then can still work we just have to approach it differently. So when I say I don’t think
  there’s anything wrong with giving someone a pamphlet. But I do think when you take extra time to
  actually go through it and say okay...and this right here is where they talk about this and they talk
  about this here and on the back when you get home if you want to look up more information you
  can check with these references. So instead of giving somebody a pamphlet and say here you can
  read this when you get home, but if you explain a little bit more about what’s inside the pamphlet
  where they can find the information. I think that may go a long way...just to take that extra minute.

- BHM007: This dialogue is interesting and a lot of ideas have been bounced around. I know I have
  learned a lot personally like wow I didn’t think about that that way. I hate to say this, but in the
  African American culture now a day you’ve got two paradigms going on. Let me explain that, young
  professionals we’re peers— in particular in Birmingham being a mid-size city so I lot of us know each
  other, we flow with each other we have this dialogue. But how do we approach that other
  paradigm...let’s say the brother or the sister who’s on low income who that...not only that they can’t
  get to appropriate health care when those avenues are provided. Yet, they really have no clue...you
  know...of what to do or even what to ask a doctor. Some of them are stuck in the old school
  mentality of ‘I’m not going to the doctor because this is way we’ve done it so many years.’ We’ve
  had to function on this particular income and we just do things this way. How do we break that
  barrier to each that other paradigm? You know...personally, that’s an issue in my family and it’s kind
  of created a divide in me reaching them and trying to help educate them and making these topics
  relatable to them so they can take it seriously. Not go and beat them down with it. I really think
  that’s crucial in the African American community right now.

Has anyone here had experience in their family or friends that have a stroke? Who? Do you mind me asking?

- BHM007: I lost my great-grandmother to a stroke. I lost my grandma on my dad’s side to a stroke
  and all of them involved the common factor of diabetes. My great-grandmother was 76 and my
  grandmother was around 66 when they died BHM002: My mom’s brother had a major stroke five
  years ago. It just happened out of the blue; he seemed very healthy; like you said it can just attack
anybody. And ever since then he’s been incapacitated he’s in a rehabilitation place. He hasn’t really made any progress and it’s just amazing how someone goes from normally walking around to having a stroke that takes them out like that.

- **BHM001:** My grandmother had Alzheimer’s, and she also had a stroke. She had a lot of heart problems...but she was in her 90s and she lived in another state so I didn’t see her a lot but I think some of my other families who lived in that state were really impacted by that.

_F:_ Very quickly just listen to these names, *Fred Shuttlesworth, Coretta Scott King, Nate Dogg, Patrice O’Neal and Clarence Clemons who was a musician that played with the E-street band have all been the victims of a stroke. These are iconic figures in our culture, particular Fred Shuttlesworth and Coretta Scott King, but Nate Dogg and Patrice O’Neal were 41 years old when they both succumbed to multiple strokes. Thank you all for being here; there are a few items you can take with you.

- **BHM012:** It’s not that I don’t think taking your blood pressure is important, the reason why I put it as number 10 is because you said that #10 is the one that you would least likely to do and I don’t do it because I don’t have a blood pressure cuff. Now when I go to my physician...or sometimes when I’m in the store or at Wal-Mart...even though I don’t think those are really good, I’ll have my blood pressure taken, so don’t think that I don’t think it’s important. I’ve had one of the ones that you put around your wrist because I have problems with cuffs fitting my arms. So I’ve had the one on the wrists although it doesn’t seem to be very accurate. When I have it taken at the physician’s office; the numbers are really different.

_Thank you all for your time, this has been very helpful. Please feel free to take some food and small items with you before you leave._
Introduction

Four young professionals participated in an IRB approved focus group discussion to explore the ways African American young adults aged 21-40 seek and understand health information. Participants were also asked about their current preventive health practices and knowledge of cardiovascular disease with emphasis on stroke. The discussion was held on March 6th at Clark Atlanta University, a historically black college located in Southwest Atlanta. The conversation was designed to explore participants’ opinions and views of what role health information plays in their own preventive health practices and discussed how to best disseminate information about stroke to a younger audience.

Purpose and Objectives

The conversation was intended to engage participants in a structured dialogue. The facilitator lead the conversation and capture major points through written notes and audio recordings. Participants first introduced themselves and were guided through the following questions:

Participant Introductions:

Each participant was asked to state their name, what they did for a living, what their interests were and how long they've lived in Atlanta. 1D numbers are used in place of names for reporting purposes. The average age of the group is 35.5 years with 37 combined years of residence in Atlanta. Professions ranged from engineering, law, and education.

F: Again, thank you all for being here. We're going to be talking this afternoon about a number of things in terms of your opinions and beliefs around the issue of cardiovascular disease and stroke and how you seek information about this particular issue. Again, I'm trying to understand this age range and the needs they may have dealing with an issue that's typically thought of occurring with an older population. I'm not here to give you my opinion. I'm here to listen to what you have to say. I'm going to be very quiet while you're talking, but don't take that as "she's not listening to me." This is your conversation. Feel free to disagree with one another, but I ask you to do that respectfully. Also feel free and comfortable to say what you honestly think and feel. I'm going to go around the table with some introductions. Please tell me your name, where you work, an interest you have and how long you've lived in Atlanta.

- ATL001: Hello, my name is ATL001 and I've been living here since December '05. I'm an attorney. My biggest interest is cooking, so I think that would be a good topic that we're talking about tonight. (lots of laughter). I'm happy to be here because my aunt actually passed away from a stroke in August. So hopefully I can offer some good information.

- ATL004: I'm ATL004. I've been in Atlanta for 10 years (time goes by so fast). It's been about 10 years. My biggest interest...my stress relief is cake decorating. I currently work at Georgia Tech.
ATL003: Hello, I’m ATL003 and I also work at Georgia Tech. I have been in the metro Atlanta area now for 9 years. My interests are sports and currently I’m back in graduate school so some of my interests get curbed so I have a little bit less time now. I also enjoy mentoring young people, particularly young men and students who are transitioning from high school to college. So I have several adopted sons.

ATL002: Hi everyone, I’m ATL002 and I’m an engineer with Parsons Brinckerhoff and I’ve been in Atlanta since January 2001. My primary interest is like ATL003’s—sports.

F: Well thank you all for that. It seems like everyone has been in town around the same amount of time. So I took a moment to add up that time and it totals 37 years. I want you to think about the number 37 as we’re talking through this issue of cardiovascular disease and stroke because this 37 year old AA male or female could be hypertensive and under a lot of stress; could not be sleeping well or eating well and that behavior could possible indicative of some other chronic illness down the line. We’re gonna come back to the number 37 as we move through this conversation.

Rapport Building
Participants were asked to think of an adjective or phrase that best described their view of their health and that time.

F: One other thing that I want to do in terms of rapport building is just ask you again; I’m gonna go around the table. I want you to think of an adjective or phrase that best describes your health at this particular time. You could say things like “I’m healthy, or I don’t think I’m very healthy.”

ATL004: I would consider myself to be in very good health. Moderately active, can be a little more active. I try to eat well and eat as healthy as possible. And I think knowing historically the type of diseases that we’re talking about today that run in African Americans and in my family as well. I would consider myself healthy.

ATL003: I consider myself pretty healthy in general, but definitely could use exercise and better sleep management. I have not done that well at all as of lately.

ATL002: Overall, I consider myself healthy. Considering I sit at my desk eight plus hours a day, I definitely try and be a little more active in the evenings and on the weekends and even sometimes during the day. I definitely have, as I’m sure probably most of us do, family members who have different types of diseases or things to watch for. So I definitely have certain risk factors that I’m keeping my eye on. So, but overall I have a good bill of health...but there’s definitely some things that the exercising and the healthy eating will definitely try and keep me on the right path so I won’t go down that same path.

ATL001: I don’t know...I would probably say my health is probably not that good, hm...because I don’t exercise and I hate to exercise. I love to eat; I love to cook good food. I love my butter. So I’ve been meaning to schedule a physical just to see where I am with everything because hypertension does run in my family, heart disease and diabetes runs in my family. You’d think that with all those things I’d be very active...but I’m not. So that’s something that I’m working on. I would be very surprised if my doctor gives me a clean bill of health once I have my physical.
F: Well thank you for being honest about your view of your health. It is hard/difficult as a working professional to build in that 30 minutes a day of physical activity. Or you may be grabbing something through a window. I do understand some of those responses.

Q1. In your opinion, who is responsible for your overall health and wellness?

Participants agreed that they were responsible for their own health. However, due to the majority of participants being married; they felt some responsibility for their spouse's health as well. Comments ranged from meal preparation for their spouses to scheduling doctor's appointments for their spouse.

- ATL001: I think you yourself are very responsible for your health. For example with the foods that I cook, my husband doesn’t have to eat it. He can tell me “no I want this” or he can cook it himself. I think we as individuals are responsible for taking charge of our own health.

F: Other thoughts? Are we in agreement?

- ATL004: I agree, but the same time when you said your husband that was interesting...because sometimes I feel responsible for my husband’s health because I cook most in the family. And I think about...and the reason I thought about this was because more of his family are rampart with diabetes. There are 14 children and over half of them have it...and thank goodness he does not have it. One of his younger brothers has diabetes and his wife didn’t change the way she cooked. And I just felt like...I would feel so responsible for him...I would feel like...you know...it’s hard because I always say you have this sweet tooth when you have diabetes...you’re attracted to sweets. And I guess I just feel like it’s somewhat...it’s your responsibility primarily; but as a spouse I also think we should be responsible for each other. So in that case I feel responsible. I can’t control what he does outside so I always try to find the balance of “I don’t want to control what you eat, but at the same I want to look out for your health.” I try to be careful and balance what I fix in the home so that if you want to mess up outside, that’s only a small percentage. I feel like I’m responsible for my own health, but I also feel I’m responsible for his in a way.

- ATL001: I agree with that as well...especially with children. I don’t have any children, but if I did I would definitely take that extra time and care to make sure that what I’m putting in the food is appropriate for my children. And then like you said with our spouses...I just know my husband and he may say, “I want rice and I want it every day of the week.” No...because I’m gonna get tired of rice.

- ATL003: I agree with ATL004 that I feel some responsibility for my husband’s health as well...especially as of late, just early this year. He has not felt very well after eating certain foods. Anything that was fried at all---which actually he shouldn’t be eating a lot of, but that kind of worked out well that he kind of laid off of that. He had not been feeling well and actually it was at my insistence that he went to the doctor...finally. I made the appointment and everything. I’m just gonna make---show up over here on this time---this day...non-negotiable; you know...so he has been feeling much better but in fact we’ve have had to switch up his entire diet and I’ve done that too because I didn’t want to be the one saying well you need to eat like this and I wasn’t doing it. So we are totally off of any fried foods. In addition, his family does have a very rough history of hypertension. Both his mother and sister are on medication now for high blood pressure. And just particular
diseases like colon cancer just sets...people very close to him have died from. I do feel responsible and I do
fuss a lot about him eating...going out to lunch with people behind my back or whatever and eating whatever.
So to his credit he has a lot done better, but I do feel like I kind of have to assert and be like “look...let’s stick
to this” because even though we’re younger now...we don’t want to contribute to problems later.

- ATL001: What do you do when you cook it and make it available and he doesn’t eat it? For example, my
husband he needs to eat more vegetables. So I’ll cook the broccoli and the green beans, but he’ll eat just a
little spoonful of it. So I’m fixing the food that he needs to eat, but he’s not eating it. How do you handle that?

- ATL003: In response to ATL001 I find the two vegetables that I know he does eat a lot and I just fix those all
the time. So you know... I have hit the jackpot with like broccoli and potatoes or whatever. So the short
answer is that I just kind of repetitively fix and mix them up or whatever. I just gave up the one’s I like to
eat...unless we go someplace and they’re prepared there. I just prepare more of the one’s he likes often.

- Probe: These are such interesting comments. I have not heard this in any other focus group where married
women have said anything about feeling like they’re responsible for their spouse’s health. Do you feel that your
spouse feels the same way about you?

- ATL003: I do...now...I would just have to say overall, maybe generally speaking...this may too broad a
generalization but at least the black men in my family...you know...they’re just not really not very cognizant
about health issues period until there’s a problem. Now my father routinely exercises and in general his health
is very good. He’s in extremely good health. But then when there is a problem, he is very reluctant to go to the
doctor...just not wanting...just belittling the issue and not wanting to go to the doctor and the same with my
husband. So I think overall they would agree that good health and preventive measures and good health
habits are important. I do think they probably take for granted that we as the spouses are concerned about
those things and that we are taking those measures. I think they feel responsible for us in a totally different
way. I think they feel responsibility for us in a provisional and protective way. I don’t think they pay close
attention to health in the overarching scheme of things because I think they take for granted that if you’re not
sick or chronically ill with something then your health is pretty good. I don’t think it’s the same concept for
them. I think they feel responsible for us as their spouses, but salient of health in that feeling.

- ATL001: I agree with that statement. My husband, opposite of me, is a fitness trainer. He works out and when
he’s around me he eats healthy. But like...take for instance today we went to Cracker Barrel. He had four
chicken tender loins and some grits. I had the Mama’s Pancake breakfast with the pecans and blueberries,
bacon and eggs. Now if it was the other way around and I’m the one eating the chicken tender loins I’m gonna
say ‘baby don’t you think you should have chicken or turkey sausage? He on the other hand...I just ordered my
food and I tore it up. He didn’t step in...he got his stuff to go work out and it’s not “hey...come on with me
baby.” But we on the other hand would say hey babe let’s go for a walk or something, so I agree with your
statement.

- ATL004: I agree as well. Even if I say I’m watching me weight or whatever. If I want to have a cheat night and
send my husband to buy a burger he’s not gonna be like “aren’t you watching your weight?” He’s gonna say,”
Okay I’m gonna get you whatever you want.” He gonna do whatever makes me happy.
Q2. What actions do you all take to prevent illness in general? Not necessarily heart disease, but just illness in general...a common cold...or whatever... What actions do you take to prevent illness in general?

Most participants mentioned proactive behaviors such as taking vitamins, regular exercise and water consumption. Fruit and vegetable consumption with limited salt intake was another expressed behavior for preventing illness.

- **ATL003**: I try to hydrate a lot and drink lots of water. I do a multivitamin and maintain that. I have allergies now, some kind of way as in the last three years I have severe allergies. And so I try to maintain the medication I’m prescribed for that and you know...not skip it and keep up with it...things like that. I am a lot more conscious about not taking in fried foods...or not excessively. I try to kind of eat a lot better.

- **ATL002**: I pretty much follow the same thing as ATL003. I try and drink plenty of water, I do take a multivitamin. I try to watch what I eat; I count my calories. Not only am I watching for the calories, I’m watching for the fat....protein, sodium especially. I try and work very closely with mainly my primary care physician and my OB-GYN because they’re both black females. They’ve been very helpful in my past few visits in giving me good tips and good information...like my OB-GYN was the one who told me about all natural multivitamins that I should be taking. My primary care physician has tried to give me...put me on the right diet where I’m reducing my sodium intake and whatnot...so I try and do all those things. ...working out...because I do find when I don’t exercise for a long period of time, I do start to feel a little sluggish and I get really tired quickly so it does give me a lot more energy. So those are probably the main things I do.

- **ATL004**: I am very careful of just washing my hands because I know you can pick up a lot of things with that. I exercise at least three days a week...I try...it’s been cut down to two...recently. I am the worst at taking vitamins. I want to and I have them, but I am not a person who takes a vitamin everyday like I’m supposed to. I’m supposed to take vitamins and an iron pill and I just don’t know why. I think it’s been something since I was young. It’s so hard to swallow vitamins so that’s one of things I don’t do.

**F: Is it because of the size?**

- **ATL004**: Yes, I don’t do well with taking large (horse) pills. That’s one thing I’d like to do better at but I don’t.

- **ATL003**: One thing that I forgot was laying off the salt too...just trying...I have broken up my husband from shaking salt on top of everything without even....you don’t even know how it tastes and then you just automatically...you know...so like I have, I’ve won on that battle...with the white salt on top of stuff.

- **ATL004**: This is so true. When I met my husband and the first meal I fixed and he grabbed that salt shaker...I was so offended...I said...”you didn’t even!!!”...I ripped into him and that was the last time. It’s funny because growing up we didn’t cook with a lot of salt...my mother never cooked with a lot of salt, we never cooked with a lot of sugar. You can’t even find salt and sugar in my brother’s home and so that was never just really a habit anyway. So to me what would be well-seasoned food actually taste salty to me. So over the years I’ve actually broken my husband from that and knowing he’s gonna want a little more seasoning than I would like; I buy the no salt seasoning cause it’s a give and take. Because for me what would taste great to me would taste bland to most. And also to make up for the multivitamins that I have a hard time taking is I try to eat a lot of...
vegetables…fruits and vegetables to kind of make up for what I’m losing there. With the iron pills, I tell the doctor straight up “what else can I take to make up for the iron” because I know I’m not gonna take that as I should.

- ATL001: Just hearing you guys…you ladies speak I feel like I’m probably gonna drop dead right now. (major laughter). I am terrible at just liquids, just drinking period. I can have one bottle and drink on that all—day—long. I don’t know what it is, but I am just intimidated about drinking. Hmmmm…so I was like, I have nothing to say. But thank goodness, I do wash my hands all the time. …and the salt I have gotten to where…at least with my eggs and so forth, I do not add salt to that. I try not to add seasoned salt and so forth to my other food because I figure salt is in some of the other seasonings that I’m using, garlic powder and so forth so I try not to add salt to those items, but I still use it for my grits and my rice, but that’s about it.

F: So I’m hearing things like in terms of preventing illness in general…hmm…staying hydrated and hand washing and exercising. I’ve heard a couple of people say things like limiting their salt intake. All of those things are fantastic when we start talking about the whole reason why you’re here which is around cardiovascular disease…specifically looking at stroke.

Q3: So my next question for you is what do you know about stroke? Tell me what you know, or what you’ve heard or what you think you know about it.

Responses ranged from knowing certain risk factors for stroke to recognizing that a stroke can cause major disability. There was also recognition of TIs or mini-strokes as a risk factor for a more significant stroke.

- ATL001: Stroke…hmm…I know it can be caused from blood clots. It happens with uhh… “what did my aunt have?…congestive heart failure so then she was put on blood thinners. What else? It can…what else have I noticed? It slurs your speech, it can kill you…it can end the way you know life in normalcy. People actually do recover from it…it does not discriminate on age and umm…that’s about it for now.

- ALT004: I must say that I honestly don’t know much. I’ve known people who have strokes…uhmm…people close, most recently a sister-in-law. And I’ve seen how she’s recovered and not fully. I know that it can cause some paralysis; again that you can recover fully, but honestly not as much as I know I should.

- ALT003: I think I thought that maybe the definition of stroke was a type of blood clot in the brain. I guess I think that was my assumption with that was. And I have had a couple of things passed along to me by e-mail on several occasions where I’ve gotten some instructions on maybe how you can try to detect or you can tell if someone is having a stroke at the time. Or maybe I seem to remember something like smile or have the person stick out of your tongue or have them speak a sentence to you or what have you. And so I always think in the back of my mind that those are some very good things, but over time I kind of forget what the acronyms were to remember. But I do just…as ATL004 said, there can be…that people can struggle with the recovery...
from stroke. The thing that first comes to my mind is people having paralysis of their facial muscles maybe. There are a few people that I’ve known or seen that have one side of their mouth or face...they can’t move it. My grandmother did suffer stroke right before her death; I mean it was at the very end when she had already gone downhill and was ill with so many other things. And literally I think it was the probably day that she passed they indicated to us that she had had a stroke. So I always connected it with...I guess the word is not always, I most readily connected it with people passing right away. I don’t know if that’s just more of my personal experience, I most often think of it as “oh this person is passing”. I don’t have a lot of other close connections really other than that with people who might have suffered a stroke.

- ATL001: You can also have mini strokes. You might think of the headaches and you’re having a stroke. It can alter your brain pattern...your thinking. Because again with my aunt; I could notice even before she had her big stroke that she just started acting different, you know. I noticed that occasionally she would accuse me of things that she would never do that before. And it was so off base like “oh you left my house a mess”...but I left it the way she left it. And so, after she had her big stroke the doctor did the MRI and said she had mini strokes. And then it was like “okay...that’s why she was acting”...it changes your behavior. And also, I think within like the first three hours is very critical because there’s a shot or something that you can get that can reverse it. So it’s always critical within those first immediate hours to get help for that individual so they can hopefully get that medicine that will reverse the stroke.

Q4: So based on what you told me about stroke, what actions would you take to prevent a stroke? It can be some of the same things that you mentioned before. Hearing what you’ve heard about it being a blood clot in the brain, which is correct...and an individual can have mini strokes. Knowing that, what are some things that you can do to prevent that from occurring?

Responses focused on small lifestyle changes such as moving throughout the day in an office setting and taking the stairs vs. the elevator.

- ATL003: I think that probably the most important thing for me is to actually stop talking about getting exercise and then really do it. Instead of just “oh I know it’s important and I know I need to be doing it...I should be doing it...and then a month later, ‘oh I didn’t get started’...you know. So it’s just actually as you mentioned, changing the lifestyle and making sure that it gets in. You know because I would imagine that doing all you can do physically as far as getting some physical activity in is probably really key to prevention of stroke specifically.

F: Other thoughts?

- ATL001: I would think just not staying stationary too long ...get up and move around. Hmm...You know having an office job/desk job you have to be very mindful to get up, get up for a little while and stretch your legs. I try to take the stairs wherever I go and not the elevator. That I’m very good about...in fact the days I take the elevator because my briefcase is too heavy, I feel bad...so that is one thing that I do try to do is always take the stairs everywhere I go.
F: I’m going to pause us for a moment. I have a very quick activity that I want you to do individually. You’ve had some discussion around preventive health actions and you’ve had an opportunity to hear each other. I want you to take just a couple of minutes (facilitator passes out activity). What I want you to do rank this activity from 1 to 10 with #1 being the practice that you are most likely to do and # 10 being the one that you are least likely to do. And every one of these should have a unique number, so don’t use the # 2 twice. Every one of these should have its own unique number. If you’d take a moment to do that for me...

What I’d like for us to do is for you to tell me your # 1, 2, 3 and # 10. ATL002, we’ll start with you…tell me what your number one.

- ATL002: Okay, my number one is choose not to smoke cigarettes or use tobacco products. My number two is limit my use of alcohol to no more than 2 drinks daily, # 3 is take medications as prescribed by my doctor.

F: And what was your number 10?

- ATL002: Check my blood pressure regularly.

- ATL004: Choose not to smoke cigarettes or use other tobacco products. # 2 was limit my use of alcohol to no more than 2 drinks daily. # 3 complete a physical examination by a doctor each year. # 10 check my blood pressure regularly.

- ATL001: (laughter from group). My first one because I’m like… that’s an emergency…seek immediate medical attention for sudden trouble seeing speaking, walking or feeling confused. #2 I don’t smoke but I felt like the other was more of an emergency, choose not to smoke cigarettes or use other tobacco products.# 3 speak to my doctor or health care provider about my risk of stroke and heart disease. And # 10 participate in in 30 minutes of physical activity most days of the week.

F: Okay, and lastly, ATL003.

ATL003: My number one was choose not to smoke cigarettes or use other tobacco products. # 2 take medications as prescribed by my doctor, # 3 care for diabetes and other chronic illness as directed by my physician. # 10 was check my blood pressure regularly (laughter). And I don’t drink so the one about limiting alcohol…I kind of lost that in my numbers but hmm...the only reason I was kind of back and forth on the last option on here was to seek immediate medical attention. Because there...to be quite honest if I had some symptoms it would take me a while to be thinking “okay, I’m just crazy”…you know...do I really need to go to the doctor or am I just feeling weird today?

F: So let me ask the question to those who gave # 10 as check my blood pressure regularly…why’d you chose that as number 10?

ATL002: I can tell you when I go to the doctor she asks me every single time have I checked it and every single time I tell her no. She asks me…I mean you know…the CVS, anywhere...Kroger over by the pharmacy…the cuff…I may start off…you know…when you go to the doctor and you start off…just like the dentist you start off flossing. A month or two and then it just kind of trails off…that’s why...I know...it’s the least likely to happen...for whatever reason.
ATL004: I don’t check it because my blood pressure is really good. Whenever I go to the doctor it’s great. And so it might not be the best excuse but I don’t feel the need to monitor. When I see one of those things when I go to CVS just out of curiosity I will stick my hand in because I just want to check. But whenever I go…it’s good.

ATL003: I will say the exact same thing...ditto...my blood pressure is always...they’re like ‘oh this is great!’ And so I never feel like that’s gonna be an issue that I’ll have...which is probably terrible. But now...at this point, my husband probably...if we’re in the store I’m like you need to stick YOUR hand in there. I just generally don’t think of...I think of my issues are elsewhere, blood pressure is not one of the ones. I have allergies and etc...but...so I just don’t think of it as being...a concern.

F: I understand...so back to our 37 year old that’s lived in Atlanta all their lives and it can be a male or female...whomever you want that person to be. Let’s say they work for some corporation and they’re in IT. Their job is to manage or be responsible for IT concerns, fixes and solutions for a very large number of people. And this 37 year old never checks their blood pressure because they also don’t think it’s an issue. They get to the doctor and it’s off the charts. Blood pressure as far it being a risk factor for stroke is one of the KEY risk factors for this issue. And because...I think you may have heard of this term before...it’s the silent killer...you don’t feel it...you don’t see it until it’s there. There have been others in focus groups who’ve talked about issues not hitting home until they really hit home. Blood pressure is one of those things that doesn’t hit home until it hits home and I’ve very glad to hear that people have good blood pressure levels here. But a lot of African American female and males in our age bracket don’t. So that definitely that is something...just as we continue in our lives it’s something that we’d want to pay attention to. Because it can begin to creep up and you have no knowledge or symptoms of that. It’s just one day you have a little slight headache and feeling super sluggish and not quite know why. That would be a prime time to take the pressure...to see what’s going on...so blood pressure as a risk factor for stroke is a real important one. We’re gonna work on that be a little bit higher in ranking there.

Q5: So my next few questions center on where do you go to look for health information and what do you do when you get that information. So think about the last time you’ve searched for health information; whatever it may be...it could be on any topic at all. Where did you go first?

On-line medical and health websites such as WebMD were often the first source of information. Information that posted by lay individuals was not seen as credible. Family and friends were another source of health information.

ATL003: ...went to Web MD (laughter)

F: Others, where did you go first?

ATL004: The last time I searched it was for something very specific...it was on cancer so I went to www.cancer.org ...I think that’s what it is.

F: Anyone else? The last time you were looking for some information. It could have been on anything and it didn’t necessarily have to be for yourself, but when you did that...where did you go? I’m hearing a lot of internet use... and do you find that to be kind of the easiest way, method or strategy to use?
ATL004: I have no problems calling the doctor either you know...especially if an issue for me...if it’s something that’s just really happening that I’m concerned about or like ATL003 said wondering if you’re crazy. I will pick up the phone and call and speak to a nurse. Sometimes I’ll do that if it’s an immediate concern that I have for me. I will do that first...because I don’t want to be overwhelmed by searching on the web and not knowing what’s a reputable site and seeing all kinds of information...that’s why I have a doctor, that’s why I pay my copay, that’s why I have insurance. And so I will actually do that first before going on other sites.

ATL002: I am definitely guilty of the internet and the Web MD self-diagnosis. (hysterical laughter). Once I have read all the blogs and think that everything is going to kill me, depending on what it is...or what I think it is I may call a friend(s) who are physicians. I’ve never called my doctor for whatever reason, I will just go... I’ll just make an appointment and even it’s just minor. I’ll just go. I definitely start with the internet...Google is my friend and my enemy.

ATL001: ...same for me...Google...love it. WebMD, ask friends, ask doctor.

ATL003: I want to say one thing too, this is just me, after I’ve discussed it with everyone of my family and gotten their take on it...you know...so you’re like “have you ever felt like this?”...or do know somebody that has x, y, z? I guess that all the informal like you know...surveying of people first.

Probe: So why do you do that? Tell me why you do that.

ATL003: Just because I want to...many times... and this if it’s specifically for me. I guess if it’s for somebody else I immediately somebody else I immediately tell them they ought to go to the doctor (group laughs). But then if it’s like for me, I’m like “well...let me see if I’m overreacting or if I don’t really need to go to the doctor for this.” If my mom has a remedy for this or whatever...I’m speaking in broad terms if it’s something pretty minor that I don’t feel is really serious. But, but no...you know...I have no idea...and this is just an example. I was...I ended up finally going to the doctor for neck spasms for muscle spasms. So I was just having a chronic headache over just a period of time. And you know...I might take enough Tylenol for it to go away and then it would just return...you know. And so I do remember discussing that with family first and then like okay “now I’m going to go the doctor it’s not going...it’s not dissipating.” So you know...I don’t know...I guess just maybe not wanting to be...because I have been accused of “oh, you’re going to the doctor again (group laughs)...are you coughing...you’re going to the doctor?” So then just as I’ve gotten older I feel like...well maybe I really need to be discerning of when I go to the doctor. But then to an extent, I feel like ATL004, what I pay insurance for? If they tell me you’re fine you know...you don’t need anything right now then at least I will have the satisfaction that I did go and get checked out. But I just do think twice now because I’ve been so accused. And so...I do...now I do think twice before I go for a visit. I make sure...hey this is really an issue I feel like I need to be seen.

F: What features of internet sites that you all have used make them more or less credible to you? What are some of those things that would make you go "I’d never believe anything that is said on that site vs. this really seems like this is very solid information?"

ATL001: Anything where it’s mostly us common folk giving our opinions (laughter)...Yahoo! Answers...any of those types of sites...I’m like “oh no, ya’ll are trying to kill me” and I’ll move on. It has to be a site that’s attached to a doctor of some sort, who’s giving information. Then I’m looking at that doctor’s information and like “okay...is this a credible person as well?”
F: So you take it up a notch, just not for face value but also wanting to know the source of that information whether or not that’s a credible as well? Others on what makes information on the internet more or less credible for you?

ATL003: If it’s posted for example...by maybe my doctor’s office. Like the office itself may have some general health type references. The other thing that I would say really turns me off and makes kind of discount...is if I go to a site and I’m overcome by ads. And I’m like I can’t even find the article in here, like what...?you know...because there’s... I start reading something and like “oh that’s not the article this is some advertisement. If I see something that look like it’s got too much selling of products going on that overcomes the site. And sometimes I think that WebMD somewhat to an extent is a little bit guilty of that. But generally in WebMD they will actually sit a physician you know usually and say that this was doctor so-and-so who gave this information.

ATL004: I agree with ATL001 and ATL003 as well. I would have to be associated with like someone...I’m just too like suspicious. I’m just afraid to get the wrong information and for instance when I went to the American Cancer Society even that was referred by a friend who was an oncologist. I mean that’s like the only reason and I was like...okay that’s great. I don’t trust anything I read off the internet when it comes to medical advice. Again, that’s why I have a doctor and their nurses and I just...because I would get too paranoid and think I’m gonna die. And like ATL003 said...sometimes...for a while there everything was going on with me. And I think it was a result of stress you know when you have major life events. And all of a sudden all these things were happening but I didn’t want to go with the benefit of the doubt. I mean suppose I just thought it was just stress? And so I called the doctor and I’m like you know what ‘this is your job, check me out’ let me know if it was okay...some things were okay and some things needed attending to. I think it would really have to be associated with a doctor or some other entity for me.

Q6: Who do you most trust to provide information about your health?

Responses centered on trusting one’s health care provider. Providers that respondents have established relationships with were trusted. Those that took time to listen and presented accurate information were also deemed trustworthy.

ATL004: It’s not most of us in the past....most African Americans...I mean I think about some of my older family members, we don’t trust doctors! (group agrees) You know...I think that’s how...we’re not bred to trust doctors. I mean for me...you know...I do some of the old remedies too...you know the garlic does help for some things or ginger...that works...that’s for sure. I do, I think I have to have trust in someone otherwise I’d go crazy.

ATL003: I do have...there have been...there are doctors that I’ve established relationships with here, like I first started seeing them after first moving here. I do trust them 100% because I have hmm....I’ve had them...you know...key in on diagnosis that turned out to be just what they thought. They went right to the solution and solved the problem and everything. So I have some long standing relationships for instance with my OB/GYN ...ahmm...the family practice office that we go to...the general medicine office. And even for instance the dentist...dental care even, if I have a provider that I have confided in and trusted our care with them; then I insist on seeing those individuals even though there are others in the practice. I insist on seeing those individuals. I don’t like seeing anyone other than those individuals. And I do tend...I do take their word for gospel because in the past I’ve had history with them actually uncovering things and going the extra mile to find something that maybe...could have been easily...in some case WAS overlooked by someone else. And I have dropped providers
before for being what I’ve felt like was a little bit insensitive to me. You know... even when I’ve brought a complaint to them that... that you know... I say no... well I’ve changed and dropped those practices all together and just have found... until I’ve found people that I really trusted and I thought were doing a great job and then I just kind of stay with those same individuals.

ATL004: I think someone who listens... I think with HMO these days you go in it’s boom... boom... boom... boom and I’m like ATL003 where sometimes you tell the difference where it’s a physical and it’s just boom.... boom.... boom.... boom... 10 minutes... and I’m like ‘okay we’re gonna ask for a new doctor.’ Someone who actually kind of listens and you’re not just another name on the chart. Because how can you know if something is really going on with me if you’re not listening to me, listening to my complaint... my history? I think someone who’s kind of a good listener and actually doesn’t just kind of blow off issues. I mean, you don’t want someone who’s gonna send you for tests for every little issue you have; but you can see the balance where okay “you’re gonna be okay”. Someone who actually listens, sometimes that just a feeling.

F: Other thoughts on characteristics that makes that individual who’s providing you health information trustworthy?

ATL001: I think for me it’s the same as what ATL004 said. You... taking your time and not making me feel like you need to hurry up and get to the next patient. Being accurate... being accurate. I know with my OB/GYN she’d come in... speak to me, but then it was like the whole process was quick and (claps hands) gone. My first time going to her I really didn’t care for that but I said I was gonna give her another try. A year later; I come back she knew everything about me (snaps fingers)... she remembered everything. I said “okay, well she was paying attention” and you know... that was a year ago. I felt like she remembers you by face, she remembered everything about me... so I said okay I’m gonna stick around.” And then I kind of started saying “uhh, I’m gonna leave again.” And she walked in and was like “oh my God you’re anemic!” She just looked at me... I said, you can’t do that just by looking at me. She tested my blood and it very low... it was like an eight (8). I said “okay... you know what you’re talking about!” (group laughs and agrees)

F: It sounds like she had to prove herself though? Is that right?

ATL001: A little bit... but I guess my concern was that she was so quick about the whole process. But then I had to tell myself that this is a very private... and she wants to get it over for the patient as soon as possible so that the patient isn’t feeling uncomfortable because you know that’s a pretty uncomfortable position to be in. (group laughs and agrees). So I started looking at it like that. She’s only quick at that moment. Before... she takes her time... and then afterwards she takes her time; so I’m not gonna doubt her.

F: You had to learn her practice’s rhythm?

ATL004: I did... I did...

ATL003: I want to say too... for me... also knowing how long that person has been practicing; and knowing other people that see him or her in addition to me. Either those people have referred that person to me also, or then I’ll also feel comfortable referring other people to them. Another mark for me is knowing that there are other people in my circle that also trusts this person. And taking an extremely long time to get an appointment with them; to me that’s an indication... like they have a gazillion patients because they’re good. You have to wait to get in to see them... because they... you know... they always have people that are like saying ‘no I need to see her/him only.’ They are saying the same thing as me. No, I only want to see her I don’t want to see anyone else in the practice.
ATL001: That’s kind of a turn off for me. Because I feel like then the only way I can get in to see you is to just probably lie and say it’s an emergency so that I can get in. I want a doctor who’s accessible that I can get to that doctor. I do want you to be popular and have a lot of clientele; but I don’t want it to be hard to get in either. The wait time... (claps hands) I’ll leave. If I have to sit up there and waste my life away in your waiting room, I don’t care how good you are that tells me that you don’t care about my time either. Those are also things I also take into consideration.

ATL002: In addition to just the listening...cause I do like that too. I had the same issue you had where just not knowing... “she doesn’t know anything that I just said” I like if you have a procedure...or start taking a new medication...anything like that...I like the personal touch of the follow-up phone call or a note or something like that. So that kind of lends into my trust and I say ‘oh they really do care about me’. You know...if I’m having dental work, I’m okay later in the day and I’m not in pain...anything like that...so I think that’s an extra little bonus for me too.

ATL004: It’s interesting a balance between what ATL003 and ATL001 said with a doctor being accessible and you have to wait a long period of time. I know to make my physical...it’s like a LONG wait and I kind of got concerned. But then as soon as I had like some other issues and wanted to see my doctor I realized that they okay they must have time kind of put aside for if someone needs to see you immediately. So I was pleasantly surprised that—okay--it takes about a month to get on the chart for the physical; but I had an issue and I can see her in two days. So that was a nice balance. It was nice to find that out too.

Q7: So my last question is what are the best methods to provide information about stroke to individuals such as yourselves?

Participants expressed that information social media outlets, repetitive radio messaging, and connecting stroke information with other signature events and groups in Atlanta were all good methods to provide information.

ATL004: The doctor, but I also think at work because we spend so much time at work I think that a great...most of us have the medical fairs and stuff and the time that we renew our benefits, for me that’s a good place to get information and of course the doctor’s office.

ATL003: Internet or e-mail...primarily e-mail. Hmm...and maybe even social media now. I wasn’t as huge into it, but since everybody that I know is huge into it...maybe that probably is a good vehicle.

ATL001: I would probably say the radio because we spend most of our lives in the car. So if it’s constantly playing through repetition always hearing it...5 o’clock every time I get in the car I’m hearing this piece on the...commercial piece...it kind of get hammered in.

ATL002: I think I’ve seen a lot of times around Atlanta when we have different events targeted for different groups a lot of time they try to incorporate some type of health aspects that may attract or target certain age groups.

Thank you all so much for being here and doing this. This was an amazing discussion. I will take the recording
back and transcribe the conversation. I will also share a summary report with you all so that you can see if I got it right
and will share via e-mail. Please feel free to take some food and small items with you before you leave.
NASHVILLE FOCUS GROUP SUMMARY REPORT

Prepared by Shauntice Allen, PhD candidate in Health Education and Health Promotion @ the University of Alabama at Birmingham
Introduction
Five individuals participated in an IRB approved focus group discussion to explore the ways African American young adults aged 21-40 seek and understand health information. Participants were also asked about their current preventive health practices and knowledge of cardiovascular disease with emphasis on stroke. The discussion was held on March 27th at Meharry Medical College, the largest independent historically black medical college in the nation located in Nashville, TN. The conversation was designed to explore participants’ opinions and views of what role health information plays in their own preventive health practices and discussed how to best disseminate information about stroke to a younger adult audience.

Purpose and Objectives
The conversation was intended to engage participants in a structured dialogue. The facilitator lead the conversation and captured major points through written notes and audio recordings. Participants first introduced themselves and were guided through the following questions:

Participant Introductions:
Each participant was asked to state their name, what they did for a living, what their interests were and how long they’ve lived in Atlanta. ID numbers are used in place of names for reporting purposes. The average age of the group is 26.2 years with 10 combined years of residence in Nashville. All five participants were graduate students in Public Health at Meharry.

F: Again, thanks again for being here. I told you who I was; I told you who our note taker was. What we’re going to be doing is really trying to understand your attitudes and beliefs about how you seek health information as well as what you know and don’t know about stroke....specifically about stroke in an American Adults young adult audience. So I’m here to ask you some questions about your knowledge, your beliefs and prevention practices that you may or may not use; and again to understand how stroke is viewed by African American young adults and what health information is most useful to you. So I’m not here to give you my opinion, I’m not here to share information; I’m here to hear what you have to say about that. I may be very quiet while you’re talking. I really want you to be very comfortable and honest and candid in what it is that you have to say. Again, the conversation is being recorded, but once I transcribe it, it’s deleted. So what we’re going to do...and there may be times when I have to move us along a little bit...you know...don’t think I’m just kind of trying to make you be quiet but I want to make sure we get through all of the questions and everyone has an opportunity to comment. Okay, so let’s start out by doing some quick introductions. A couple of things I’d like to know about you, if you’d tell me your name, if you will tell me what you do, I think most of you are students here, but if you have other jobs...that’s fine. Tell me an interest you have and how long you’ve lived in Nashville. We’ll start with NAS001...and again once you’re speaking if you’d state your name before you speak that would be very helpful to me.
NAS001: NAS001. I am a student here in public Health. An interest that I have is volleyball. I’ve been in Nashville about eight (8) months. So you’re a newbie! Where are you from? I’m originally from Iowa.

NAS002: My name is NAS002. I am a MSPH student here at Meharry. An interest that I have is music; I prefer to listen to music over watching TV. I’m from Jackson, MS and I’ve been in Nashville six years.

NAS005: Hello, I’m NAS005. I am a student here at Meharry. My interest is writing and reading and I’ve been here for eight months. I’m from Texas. What part of Texas? Brenham. F: Brenham, and that’s near...? It’s about 60 miles outside of Houston.

NAS003: NAS003. I am also a MSPH student at Meharry. My interest is cooking. I’ve been in Nashville for eight months as well. If you ask me where I’m from...I’ll say everywhere USA, but I moved here from Ohio.

NAS004: My name is NAS004. My interest is Capoeira, an Afro-Brazilian martial arts. I’ve been in Nashville...it’ll be two years in June. I’m also a Master of Science in Public Health student here at Meharry and I’m from New Jersey.

F: So it sounds like most people are fairly new to Nashville and are from various parts of the country. Just taking a moment to tally your time, its 10 years total that you all have been in Nashville. That’s interesting when I ask that question of other groups; it ranged from 58 years combined to 37 years of the group in Atlanta. You all have been here a very short period of time...which is fine. I’m sure that only having been here a year requires a lot of adjusting that goes along with being from all these different parts of the country, but really pretty cool that all of you are implants and obviously because of school. Do you have intentions of staying? (Possibly). Are you all looking to go to medical school or do some type of PhD program? (most nod yes).

**Rapport Building**
Participants were asked to think of an adjective or phrase that best described their view of their health and that time.

F: Another thing that I’d like to do in terms of rapport building is to think of an adjective or phrase that best describes your health...your view of your health at this particular time. You could say things like “I’m healthy”, or “I don’t think I’m very healthy” or “there are some things I need to work on.” So I want you to think of a word or phrase to describe your health at this instance and I want you to tell me why you said what you said...and we’ll start with NAS004.

NAS004: Uhmmm...I think that I’m extremely healthy and the reason that I say that is because I’m conscious of what I eat. I monitor my intake, I exercise. I visit the doctor regularly and I think I’m in tune with my body. So in others words if something is wrong or I don’t feel right I can usually pinpoint whether it’s the result of like you know eating something I wouldn’t normally eat, or just being overly tired or overly stressed. I try to keep track of my health at all times from all different aspects.

NAS003: I would say my health is a work in progress right now. I say that because I have been conscious of what I eat as of late...but I’m overweight by BMI standards so I’m trying to lose weight and just feel more healthy...so that’s why I say a work in progress.
F: Okay, that’s fair.

- NAS005: I would say I am kind of with NAS003. I think I’m pretty healthy no like...medical issues per se. But as far as weight being where I’d like it to be...I’m not there. But other than that you know...just nutrition things I want to work on and do a little better...but other than that I feel pretty good.

- NAS002: I am more healthy than I used to be. I visit the doctor regularly. I have been doing more exercise and I’ve been trying to work this whole diet thing. I’ve been trying to monitor my calorie intake with the whole My Fitness Pal app...sometimes I forget and I lose track...I’m lazy. I was very heavy on fried foods and being raised in the south like soul food and everything which is why I’m glad I got this recipe book. I’ve been doing pretty good like monitoring what I eat; right now it’s no red meat...only fish and chicken...so I’m doing better.

- NAS001: I would say that I’m pretty healthy. As like everyone else, I am working to improve where I want to be like weight-wise. Overall I’m pretty healthy...like NAS002 said I’ve been doing the My Fitness Pal...I’ve been kind of lazy with that in the last week. Uhhm, but I’m doing that...so trying to monitor more what I eat...no red meat. I usually don’t do red meat. Recently I’ve kind of given up bread. (softly says) It’s been hard. (group chuckles)

F: What is My Fitness Pal?

- NAS001: It’s a phone app. You can get it on your iPhone or Android. It keeps track of your caloric intake, your water intake, your exercise daily...it sets goals for you...so, it’s an app.

F: Oh okay, thank you all for sharing that with me.

**Q1. In your opinion, who is responsible for your overall health and wellness?**

Participants agreed that they were responsible for their own health. One participant referenced her body as a “loaner” and that the responsibility for taking care of it rest with her. Controlling both healthy and unhealthy behaviors that impact the body were considered the individuals responsibility.

- NAS005: I am responsible for my overall health. I am the one putting the food in my mouth doing different things. I’m the one who’s supposed to be you know...out doing exercise and stuff. So...I know I am the one responsible for...like when she said her body is feeling weird I’m the one responsible...supposed to know what my body is like in order to tell that my body is not right and that maybe I need to check into some other situations...

F: Okay...others, who’s responsible for your overall health and wellness?

- NA002: I think you are...you are primarily responsible for your overall health. If something goes wrong like you’re the first person that would know about it before anyone else would. I also feel like your body is a temple...it’s a loaner; you’re supposed to take care of it. And so like...I just feel like you’re primary responsible for what you put in...what comes out...you know...it’s all on me basically.
F: Anyone else?

- NAS003: I would say the same thing. I feel that I personally am responsible for my own body and what I feel and what I take in and how well I take care of it...whether it is by exercise or controlling my behaviors or whatever.

- NAS001: I would have to agree.

- NAS004: I agree also.

Q2. What actions do you take to prevent illness in general? What I mean by that is...it could be...an example could be frequent hand washing or taking vitamins or whatnot. What are things that you do as an individual to prevent illness just in general?

Most participants mentioned proactive behaviors such as hand washing, taking vitamins, regular exercise and water consumption. One participant expressed that she was prone to illness; however she is able to manage.

- NAS004: I wash my hands very frequently. That might be attributable to my OCD (group laughs). I definitely wash my hands often. I’m also a habitual vitamin consumer. I hydrate often especially with the heat wave coming so I make sure to drink a lot of water. But I’m also a skeptic kind of sort of when it comes to medicine per se. So when I get a cold I know I’m due for one good cold a year. So when that cold comes, I almost like let it run its course because I almost feel like it cleanses my body and helps my immunity. It’s just one thing like...for me I don’t run for Tylenol, Robitussin or Benedryl. I kind of let that one good cold run its course and then I’m good to go.

- NAS001: I’d have to say I definitely try to wash my hands as much as possible. If not available, hand sanitizer is also a very good friend. I try to do multi-vitamins. I think those are a good way to encompass all of them. You don’t want necessarily too much of everything, but a good composition if you will. Basically uhh...colds...I do, when colds come in, go to Robitussin or something like that. F: You run to the medicine? I run to the medicine...but in general multi-vitamins. I don’t get as much sleep as I should...but that’s also a good thing to try to get sleep.

F: Anyone else on things they do to prevent illness...actions in general?

- NAS003: I generally do not get sick. I’m just not prone to illness. I got swine flu and that was a serious strain of flu...I did get that. But the only time I really get sick is allergy season, I do have allergies. So if I don’t take my allergy medications as soon as the symptoms start, I will get bronchitis. I guess to prevent bronchitis...I take my allergy medicine.

F: Very good... anyone else?

- NAS002: For some reason, I’m prone to illness. If it’s something going around I’m prone to getting it...the cold, the flu...something. I don’t know why. I say it’s because I was born prematurely and my immune system didn’t have the time to do what it was supposed to do while I was in the wound and maybe that’s why I’m sick so much. But I’ve always been the sick kid in my family...like something’s always wrong with me. If I eat
something wrong, I’m sick. Or like I haven’t been eating red meat lately. If I eat a burger right now I’ll probably feel like the world is crashing down on me. I feel like there’s nothing I can do to prevent getting sick cause I always get…something’s wrong with me…you know…a headache…it’s always something.

F: How does that impact your student life?

- NAS002: I just roll with the punches. I’m sick, but it doesn’t keep me from doing what I need to do. I know it’s gonna happen.
- NAS005: For me it was sleep...if anything goes wrong, I will go to sleep in a minute. That cures so many things in my life. That is a major one for me.

F: Do you feel like you get too much sleep?

NAS002: No. (group laughs) I never really feel like I do…I probably could use a little more now a days, but uh...I am doing good. It heals the soul.

F: So maybe we need to give some of that to NAS001 since she’s not getting enough here. So I’m gonna take the conversation in a slightly different direction here. I asked you what you do in general to prevent illness in general and who is responsible for your overall health. But the reason why we’re having this conversation tonight is because I’m really interested in knowing what it is that you know about a specific cardiovascular disease which is stroke.

Q3: What do you know about stroke? Where does it occur, what happens, do you know any warning signs? Just give me some information of what you know about it.

Responses ranged from recognition that strokes were caused by an interruption of blood flow in the brain, to it causing paralysis on typically one side of the body. Participants also understood the disparity of stroke incidences in African Americans.

- NAS002: Basically like the blood flow to your brain stops and it can cause like paralysis on one side, speech impairment...
- NAS005: Not to sound completely ignorant but I was watching House and you know...a lady did have a stroke. I want to say it’s like four or five things you should look out...you know the warning signs. I know one of them was like blurred...I could be making this up...blurred vision, mixing up some letters or something...she named like four or five and then she had a stroke. (group bursts out laughing based on how statement was made).

F: Others...thoughts on what you know about it?

- NAS03: I know it’s a leading killer in women...and men, but you’ll be surprised in women. Especially in African American and some statistics on rates.

F: Well you’re gonna learn more real soon...but you’re right. The things I’ve heard you all say in terms of there being a high prevalence in the African American community is correct. There actually are more men that have strokes than women, but more women die from them more often than men. Some of the things that you mentioned from
the television show the blurred vision, the slurred speech, the paralysis and it’s typically on one side of the body or the other is also correct. One of the telltale signs that an individual has had a stroke and it can be a very visible thing that’s seen is the drooping of one side of the mouth. It’s pretty significant in terms of the visual portrayal of it. Another sign is a very severe headache. I don’t mean the headache where you run to the medicine cabinet and take Alleve and go lay down and go to sleep. It’s the headache that you’ve never had in your life…it feels like someone is stepping on your head or putting it on top of your head…it’s pretty severe. People who have had strokes talk about not having any warning at all that that was going to happen. There’s actually some literature I have here and we’re gonna talk about some significant AA who’ve had stroke later in our conversation, hmmm…but not knowing. Just as an example as we move forward…does everyone know who Ben Vereen is? He’s an actor, dancer, performer…he had a stroke at 45. He’s a dancer and his livelihood was performance. So if you’re way of making income is moving your body around and you’re no longer able to do that…that changes how you live…that changes who you are and that’s a significant change. And stroke is nothing like cancer where you get a diagnosis of a type of cancer…that doesn’t happen with a stroke. There is no screening for that either…There are risk factors obviously, high blood pressure, cholesterol, diabetes, obesity. However, you can’t go to the doctor and they say okay you have these six things and you’re gonna have a stroke in six months. That’s not how it works…there’s no staging of a stroke like there is in cancer. So it is really one of those things that happens. In terms of it being a life changing moment…it really is. Every one of your responses was correct.

**Q4: My next question is what actions do you take to prevent a stroke? I just shared with you some of the risk factors: obesity, diabetes, and hypertension. What are some things that you do as a student here at Meharry to prevent your risk of having a stroke?**

Responses ranged from understanding one’s family history to self-accountability. One participant expressed the importance of having a support system in place to help her stay on track with healthier eating habits. Overall, participants agreed that managing their stress level and maintaining good emotional health were important in preventing their risk of stroke.

- **NAS002:** Particularly like high blood pressure, high cholesterol and diabetes all run in my family. So knowing that and seeing like my parents and grandparents having to take numerous medications; having family members that are obese and don’t really care that they are obese, like they think it’s just a new way of life and they’ll be okay. Like I said, I’ve started exercising more and getting rid of the lazy attitude that I had…because I realize that if I’m lazy now…then 10 or 15 years later, lazy doesn’t look as good. So I wanted to…you know, exercise and eat right and eat healthier because with high blood pressure and high cholesterol running in my family; I don’t want to get it myself. I do know that when I would go to the doctor in the past my cholesterol would be a bit high but it wasn’t high enough for him to diagnosis me with high cholesterol. So I said ‘well I don’t want it to get that high’ so I would eat the right food and shy away from those foods that would make my cholesterol go up.

  *F: I heard some people say that they don’t eat red meat. That’s one way to keep pressure and cholesterol lowered. Other thoughts?*

- **NAS004:** I was just gonna say…just in all the questions that you’ve asked leading up to this. I think I try to emulate all of those things. One, just using myself to be accountable for my own health because if I’m not
accountable; no one else can be. Making sure that my view and my perspective and my practice of staying
healthy is on target and you know...is on track. So exercising, eating healthy...resting enough....but also your attitude and your stress level contribute to that. So if you think negatively about how you feel or what you’re capable of doing, your body is not going to give you much more energy than you’re allowing it to think that it has. So your attitude and your stress level I think sort of manifests itself negatively when you don’t kind of do what you’re supposed to do. So I try to make myself accountable...you know...exercise, eat well, rest, take vitamins. I also use other members of my family who are not as healthy as examples and motivators of what I constantly need to do to avoid those pitfalls of high blood pressure, cholesterol issues and all that. And you know...eat your Cheerios (group laughs)...it reduces your risk of atherosclerosis; so I mean why not?...

F: Other comments on actions you may take to prevent stroke?

- NAS003: I would say the same. I try to exercise and eat right. I don’t really eat a lot of fried foods. I don’t make fried foods. The only time I ever really eat them is if I eat out somewhere I might eat fried food. I don’t like making fried foods. And also I’d like to add to what NAS004 was saying...to be like emotionally sound and spiritually sound I think the way you feel has a direct correlation to physical aspects of your health. So staying in whatever way spiritually or emotionally sound whichever way that is for you, for me it would be through prayer and my relationship with God and Jesus. Just having that peace to hold on to...that really does help your health. Like I know my dad stresses out SO much. If he’d say a little prayer sometimes, his blood pressure may go down just a tad.

F: That’s true...anyone else?

- NAS001: I think I would definitely agree with everything that has already been said. I guess it’s more easier said than done, but really trying to live more....I guess not carefree but not letting your stress level just completely build up when you get to the point where you can’t sleep or you can oversleep like you can have the sleep on both extremes. So really just trying to have that happy medium and that balance and not letting everything stress you out in life. Some stress is good, a little bit of stress is good. The only way you’re not stressed is if you’re no longer living. Just...I guess trying to maintain different stress levels. Trying to eat better...there’s always room for improvement. I do eat a little bit more fried food than I should, but not a lot. Whenever I do cook I don’t cook fried food. I love water, water is my best friend, we’re like this (crosses fingers and chuckles). Water and I are good friends and I think that’s a great way to be...staying hydrated. A lot of people don’t like water, but that’s one of things you can do...that’s what I do.

- NAS005: I’d say one thing I do here on campus is go to different educational things. Hmm, for me...yes, I know what I’m supposed to be doing but I guess it also helps to hear it over and over again. And even having peers that are telling me ‘hey let’s go to the gym and put that whatever I’m eating on down.’ That really helps to have a little support group that I’m proud to be a part of helping me live healthier.

F: I’m going to pause our recording just for a second. I want to take a minute for you guys to do a very quick ranking activity for me. I’ve asked you to think about preventive actions for yourself and you’ve had an opportunity to hear each other. I want you to take just a couple of minutes (facilitator passes out activity). What I want you to do rank this activity from 1 to 10 with #1 being the practice that you are most likely to do and # 10 being the one that you are least likely to do. And every one of these should have a unique number, so don’t use the #4 twice. Every one of these should have its own unique number. And then we’re gonna talk about those in a second. What I’d like for us to do is I want to hear what your # 1, 2, 3 and # 10 were. NAS003 we’ll start with you...tell me
what your number one. NAS003: Okay, my number one was choose not to smoke cigarettes or use tobacco products. Two is limit my use of alcohol to no more than 2 drinks daily, # 3 is take medications as prescribed by my doctor. My number 10, check my blood pressure regularly.

F: Thank you; let’s just flip around the table here.

- NAS002: #1 choose not to smoke cigarettes or use other tobacco products. My #2 complete a physical examination by a doctor each year. # 3 was choose healthy foods daily including fresh fruits and lean meats. # 10 Care for diabetes and other chronic illnesses as directed by my physician. I said that was # 10 because I was hoping I wouldn’t have any of those.

- NAS001: My #1 was choose healthy foods daily including fresh fruits and vegetables lean meats. I don’t smoke but # 2 was choose not to smoke cigarettes or use other tobacco products. # 3 participate in 30 minutes of physical activity most days of the week. And # 10 was also care for diabetes and other chronic illnesses as directed by my physician in hopes of not having to deal with that.

- NAS004: My # 1 was participate in 30 minutes of physical activity most days of the week. My #2 was choose healthy foods daily including fresh fruits and vegetables lean meats. My # 3 was complete a physical examination by a doctor annually. My # 10 was speaking to my doctor about my risk for stroke and heart disease in hopes that mine is significantly less than the normal patient.

F: And lastly, NAS005....

- NAS005: My # 1 was choose not to smoke cigarettes or use tobacco products. # 2 was limit my use of alcohol to no more than two drinks daily. # 3 was take medications as prescribed by my doctor and 10 was check my blood pressure regularly.

F: Okay, so let’s talk about that...number 10 ...why’d you guys say check my blood pressure as number 10?

- NAS003: I said check my blood pressure regularly because I probably wouldn’t do that myself on my own time. I mean whenever I went to the doctor that would probably be the only time I got my blood pressure checked.

- NAS005: Kind of the same thing, I would only...I mean even now I only check it when I go to the doctor. I guess I’m thinking like if I have to take medication it’s hard enough for me to remember to take the medication cause I’m just so used to not doing it that blood pressure would kind of be the same thing.

F: So I’m sure you all have heard the term the “silent killer?” It’s one of those things that you don’t feel it...you can’t taste it or touch it or know that it’s actually occurring until it happens. It’s also one of those things that we kind of take for granted. We go to the doctor and we get it checked and we go back in a year and we get it checked again. That’s great to have some sense of what it is annually, but throughout that year it can “silently” start creeping its way up, and you don’t know because you don’t feel it. It’s not like an allergy or not getting enough sleep where your body can sense that. Blood pressure doesn’t behave in that way and over time particularly the age bracket that we’re in...we don’t know until it’s significantly high. I want to encourage you to...if you can, if you’re at the CVS or a Wal-Mart or something....stick your arm in that machine and just get a sense of what your blood pressure is. And normal blood pressure for me may be a little different for you. But
not having a sense of what that is a little hard. An annual reading or check is just that…an annual number. However it doesn’t give you a sense of what your pressure may be during high stressful times. And particularly if you know you have a family history of hypertension in your family just start asking some questions about when people started taking blood pressure medicine…if they’re on it now. Hmm, it may not have been that long ago for them, or it could have been that they’ve been on their meds for some time. I know people who are in their 20s who are on two and three blood pressure medications and probably will be for quite some time. So I just want to encourage you to just make that be a little bit higher on their rankings. But thank you for doing that. I heard someone say that the diabetes piece was one of their 10th. Obviously you know with the expectation that you won’t be diabetic and you won’t have to worry about that. But I also heard you say that you have a family history. Hmmm, so that’s something...not to alarm anyone, but you just want to know these things. Family history is important when we’re talking about these issues. Again, thank you for doing this.

Q5: So let me shift the conversation again because I also want to know some things about how you seek health information and where do you go. The last time you searched for any health information at all, it doesn’t necessarily have to be about stroke…it could have been about anything....aww man, a bump on my hand, why do I have gray hair...anything...where did go first?

On-line medical and health websites such as WebMD were often the first source of information. Because participants are students at an academic health institution, school resources and educational events were additional sources of information. Family and friends were also given as information sources.

- NAS002: I love WebMD. If I have a question, I can search the symptoms. It’s easy and on my iPad and I can just type in what I think I might have and it gives me a list of symptoms or whatever. I just feel like that’s my doctor before I actually decide to go to the doctor. If I really need to go to the doctor, WebMD will let me know.

F: Others, the last time that you searched for health information where did you go first?

- NAS004: I often tend to utilize the resources here. We have two residents in our program and I find myself asking them questions and I have them look at something on my foot. And in my mind it’s a learning opportunity and they need to learn also. But I also feel comfortable that they’re highly trained competent individuals because they’re recent graduates of medical institutions. So for the latest cutting edge information, in my opinion, those that are more recent graduates may have a little bit more exposure and may readily remember those types of things. So I find it interesting and maybe not always, you know, I won’t say completely adequate, and it’s not the only thing I rely on. I don’t mind asking a resident or intern or someone here in the medical school a question. And then my brother-in-law is a physician; so I may you know…. follow-up with him. If it’s something quick, you know look on WebMD or something like that.

F: Others, where have you gone first the last time you were looking for some information. I’m hearing some internet, I’m hearing some access to new residents here.... others?

- NAS003: Like NAS002...WebMD. It’s interactive. If I have any questions, I can put in what part of my body I’m having some issue with...what are the symptoms. I like WebMD.
NAS001: I’d also agree with NAS002 and NAS003. WebMD, Google...also sometimes if I just have a general health questions I might ask my mom. (group agrees). She’s pretty wise on a lot of different things. Mom and family members...so those are my go-to’s.

NAS005: I was gonna say my mom is a nurse and so I usually say ‘mom what’s up with this?’ I might ask her first and then verify and she’s like ‘I don’t know you go to a medical school.’ You know...she’s says it and she’s usually right but she always has me verify.

F: So I’m hearing things like Google, WebMD and whatnot...some of these internet-based portals. What features about them made them useful for you? I’m hearing ease, it’s easy to navigate. What about the language that the information is presented to you in. Do you find that you understand it or not?

NAS002: I think it’s hmm...like sometimes when you go to the doctor they use this lingo like ‘this-is what-I-rehearsed-when-I-went-in-the-back-and-got-your-results-so-let-me-come-back-and-say-that-the recent-findings of so-and-so…’ Why don’t you just say what it is? So with WebMD it kind of like well...this is what you might have. This is the symptoms that you’ve described or the body part that you described and this is what it might be. Like just say what it is...I don’t need the fancy terminology. Break it down to my level cause I’m not there yet.

NAS003: Also with WebMD even if they give you the technical term for it...they’ll explain it. They’ll be like ‘it’s called this, but it just means this’ you know so the laymen’s terms like that...

F: So NAS005 you’d mentioned that you had gone to talk with someone about something with your foot. What were some other things that people were seeking information for? Either on-line or from mom or whatever if you don’t mind me asking? What were you looking for or wanted to know more about? (Long pause, participants seem to be thinking and hesitant to respond)

NAS003: This was not the most recent thing I know but one of the things that really bothered me was that I had like this rash breakout all over my body. I’m like ‘Oh my gosh! I’m dying...I have some sort terminal disease. I don’t know what this is, like it was really bad and all over my arms. Turns out it was an allergy to a soap. But yeah...(that could be scary). It kind of scared me cause it was like it could be an allergy BUT it could be this disease. I don’t know...I was like “oh my god!!!” so but it was just an allergy.

NAS001: The last time I used WebMD was I was wearing heels sometime last semester and my ankle kind of twisted while I was wearing heels and so I basically was not able to walk for about two or three days. And so I was panicking wondering like if I’d sprained it. Basically I was trying to see if it was a sprain or a strain because there’s a difference between the two and I was looking on WebMD for it making sure I hadn’t broken my ankle.

F: Were you trying to be cute? (chuckles and group laughs)

NAS001: I was...I was...that’s a bad idea, a bad idea...

NAS002: I’m particularly sensitive to deodorants and so like I had like a lump underneath my underarm and I was like I don’t know what this is. This may be very graphic but I kind of liked squeezed it and like what came out looked like deodorant. I was like is there a such thing as a deodorant cyst or you know?...that basically
what it was and what it was called. It wasn’t like a lump that led to my breast or anything...so it was just kind of weird.

Q6: Who do you most trust to provide information about your health?

Responses centered on trusting one’s health care provider. Providers that respondents had established relationships with were trusted. Trustworthiness was not solely built on the office visit, but the entire experience: from the appointment process, to the actual wait time in the office, to any follow up. One participant mentioned a physician family member as an additional trustworthy source of information.

- NAS002: I trust doctors. I mean I feel like they didn’t go to med school for nothing. I mean, I may not understand them completely but they can at least give me a sense of what’s going on with me versus asking a friend or asking my mom or dad. My dad thinks all you have to do is put peroxide on something and it goes away. So I’m like...I’m not asking him. He’s like ‘put some alcohol on it, put peroxide on it.’ I’m like I have a headache what is alcohol gonna do? Rub it on your forehead! NO!!

F: Others, in terms of who do you most trust to provide health information?

- NAS003: I also trust doctors. My dad is the same except for his go-to is Vicks Vapor Rub. Like you don’t put Vicks Vapor Rub in an open wound...but for my dad...it’s what you do. I’m like ‘no’, I trust the doctor.

- NAS004: I also trust the doctor and in the event where I feel uncomfortable or I feel like they kind of gave me a blanket diagnosis or even something I...it’s also...it goes back to knowing your body. If you know that you don’t have x,y,z but you know...just think it’s something else, I’ll get a second opinion, go to someone else. Or like I said I’ll ask my brother-in-law who also is a physician. So I trust medical professionals, so be it a PA or you know...whomever it is...I’ll give them that, but also at the same time I’ll measure that against how I’m really feeling and if I don’t feel like...nah, I really don’t think it’s that because you know your body better than anyone else. You can tell health professionals your symptoms but they don’t really know how your feel. So you have to weigh that with what they’re telling you.

F: Anyone else?

- NAS001: I’d have to say like everyone else...doctors. My dad’s go to’s are cod liver oil and Tylenol Sinus. So... (NAS002 asks “is your dad from MS?”). NAS001 responds “yeah, he’s from Mississippi.” So definitely doctors and your own ability to see what’s going on with your body.

F: So why do you trust these doctors? What characteristics about these individuals, your brother-in law or others that make them trustworthy?

- NAS005: Just the fact like NAS002 said...they went to medical school. I think for one thing, we’ve probably all had really good experience with doctors. That probably plays a good...a major factor...I know a lot of my family like will NOT go to...because so many bad experiences in the past. But I know me specifically I do look for somebody who can maybe like hmmm...relate to me. I know one of my best doctors was a lady who was a little bit older than me and she’s black and you know...we talked. That always made me feel a little bit more
comfortable because it’s like “oh she gets me or whatever...so it was cool.

- **NAS003**: I would say like for my doctor she’s like...I prefer female doctors over males that’s just my thing. For other people that may not really matter. But for my doctor, she’s just very personable. Like she’ll talk to you about everything else you know... how’s your family? how are you doing in school? I just think she’s really nice.

- **NAS004**: It’s funny moving to Nashville you know you have to find a PCP and an OB and all this other stuff and then you’re like yeah...I’m trying to do this health thing and I should get my eyes routinely checked especially if you feel like ‘I’m getting old and that print doesn’t look quite like...’ (**group laughs**) You know all those types of things. I’ve found that in the last year and a half that I’ve had to go on-line more than once and find a physician and a dentist. And so I read other folks recommendations, hmm...I look for pictures of these people; I read about their education, (**group laughs**), I see where they did their residency. And the only reason why I do this is because I am an inspiring physician myself and the things that I value or the things that I look for are the same things that I try to embody and I would want my patients to hold me accountable for the same thing. So I do a little bit of research on the person and even in calling the office...this is a perfect example. I called two different doctor’s offices yesterday one of whom I didn’t know and one who was my old doctor back in New Jersey. Doctor in New Jersey, the woman who answered the phone said “**Doctor’s office**” that’s exactly how she answered the phone. The doctor that I didn’t know said “**Good afternoon, thank you for calling Dr’s office, how may I help you?**” And just that there is decision enough and the lady who said “**Dr’s office**” that’s my former podiatrist. So I mean I know the people there, maybe she was busy, maybe she had a bad day; but those things are detractors and attractors for people you know...wanting to come into your office. ...wait time, how nice you are to people, if they offer you water. If it’s busy in there, if there are snotty nose kids are in there and wiping their stuff on you. (**laughter**) All of those things contribute to people’s level of comfortability. So as a result, I try to do research on the person and I want to feel comfortable. A lot of people don’t go to the doctor because they say I’m nervous I don’t want to tell the doctor that I did x,y,z or that I might have x,y,z. When that’s the person who you should be **running** to say listen, I did this...and I’m so scared please help me. And that’s why we have high incidence and prevalence of all types of things because people don’t want to tell their physician...you know...the unthinkable when they’ve seen and heard it all.

**F**: Do other people do what NAS004 mentioned...kind of this heavy research around where a physician went to school, what their interests are or where they are?

- **NAS003**: I probably don’t go as in-depth as NAS004 does. (**laughter**) But I do...because I haven’t found any health care professionals for me here which I need to be on...except for my eye doctor. I did find him. I do need to find a family physician and all that. I do go on, oh my gosh what’s that web site called? I think it’s called Dr. Oogle for dentists or something like that. It has reviews and locations and different things. So yes, I do go on sites like that. Actually the best dentist I’ve ever had was in Columbus, Ohio and I found him through that Dr. Oogle site and he was like awesome.

**F**: Okay, anyone else?

- **NAS001**: I think also when looking for like health care professionals one of the best ways to kind of find someone is kind of like a word of mouth type deal. Like who do you go to? ...I mean...you know...not like asking people whose your podiatrist or something. Just kind of like asking...cause I know like when looking for an optometrist here I asked one of my classmates ‘who do you go to’ and then they kind of like say...you know ‘I
go to this person’ it works…then you go and see if it works, if it doesn’t then you go find someone else. I think that’s kind of one of the best ways to go about finding a new person especially when moving to a new location.

- NAS002: I’m a trial and error person. I just go and see if I like a person then I say ‘hey are you open to being the PCP and they’re like ‘yeah’. Then if I really like them I may go back once or twice...as far as finding like a really good one though, I really haven’t found one. I did go to this place called________in Brentwood and they do like the complete physical, hearing test, EKG...like they check everything. And the lady there was really, really nice. She was an older white lady and she graduated from Vanderbilt. She just had like this ‘mom’ kind of mood to her and I was like ‘I like you’. So...I don’t know I may go back to her.

**F: First impressions are important.**

- NAS002: ...and she was really nice when doing the (points and gestures downward). ...below this area like that stuff. I need someone that’s nice when they do that stuff because it’s not a nice thing.

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**Q7:** Regarding methods or ways that information should be presented to individuals like yourself here in Nashville, who are in school and inspiring to be health care professionals or research scientists. What are the best methods to provide information about stroke to individuals like you? You told me some things that are interesting...I heard you say I saw this on “House” and this is what I remember seeing. **What are the best methods to provide information about this issue to individuals like yourself?** Which again stroke is typically thought of something that is only seen in individuals that are older and actually that’s not true. Between 18-45 the numbers are increasing of those individuals who are having strokes, not TIAs but strokes...hospital...in bed...stroke. **What are the best methods to provide information to individuals such as yourself?**

Participants expressed that social media outlets such as Facebook and Twitter were good tools to use to get health information on stroke out. Personal accounts and testimonies from individuals were other ways to bring the issue of stroke to importance in the 18-45 age bracket. One participant thought that using information such as statistics and data to compare one’s risk factors with a similar population was also a suitable method. Unsuitable methods included brochures, pamphlets and e-mail.

- NAS002: This day and age the biggest way to me would be social media. Like social media is like the news now...people wake up in the morning and check Facebook and Twitter. It’s like something that you have to do before going about your day. It’s kind of like watching the news. So I feel like ad campaigns, or like advertising through social media via FB, via Twitter and kind of like getting the word out there. Some signs about it...people that have had strokes that are our ages kind of tell their stories. Like knowing someone...like you can say all day long like that people between the ages of 18-40 have strokes all the time or everyday someone between the ages of 18-40 has strokes, but to actually see a person or to hear a person’s story or to come in contact with that person is some kind of way makes you kind of be more cautious about your own lifestyle. Cause you’re like “I don’t want to be like this lady that I saw on the news” or you know...something like that.

- NAS001: I would agree with NAS002. I can say what you shouldn’t do...brochures and pamphlets...no...negative.
Basically, you know...you give someone a handout they’re just probably gonna throw it away when you walk out the door, so that’s not the best way or the most effective way to get the message out there. I’d say generally speaking people are more interactive, so if like if you can take part in something like she said, you have someone come and speak to you whose actually living with the...or you know a survivor of a stroke or something like that; that’s what will register with us. Something that’s visual that you can remember...kind of have a reference to it. But social media, pretty much all of those methods would work. E-mail...also not a good idea. Some people do not check their e-mail. I check my e-mail all the time...but sometimes that not an effective way.

- NAS003: I guess this would be more of a one-on-one type intervention. But like if you go to the doctor and the doctor like takes I don’t know...maybe some signs that you might have...if you have high blood pressure, high cholesterol or things like that. If they could compare your vitals to someone else who may have had a stroke and they might be near your age group or something like that. For us that are in school and we understand a few things, they may be able to speak to us in a manner that we understand such terms and stuff like that better. Because when I went to my optometrist he found out ‘oh, you’re a biochemistry major so you understand what I’m talking about.’ So he explained to me what exactly was happening in my eye. You know like all the scientific terms because he’s like ‘And I’m only telling you this because I know you know what I mean.’ So for somebody that’s a bit more educated...even seeing that type thing it was interesting to me. He showed me the inside of my eyeball and like magnified it so I could see the exact nerve and everything. It was really cool to see stuff like that. So, I know that’s more of a one-on-one type intervention, hmmm, I don’t know what other test they could do...they could even look at your BMI or something like that and say hey you’re here and that puts you at greater risk vs. this person. That one-on-one intervention might hit closer to home.

F: That’s a great suggestion. Anyone else in terms of best methods to provide stroke information to individuals like yourself? So I’m hearing things like visual portrayals, stories of people who’ve had this happen to them, the use of social media as an outlet to get the word out. Pamphlets and brochures not a good idea, e-mail...not a good idea. I agree with all of that. I admit I’m guilty of taking a pamphlet and shoving it in the trash can...I just don’t read them.

Q8: So what else do you need to know about stroke, what else would you like to know about it? (Long pause before anyone speaks).

One participant expressed wanting to know more about how individuals function after a stroke, what are things one whose had a stroke can do going forward.

- NAS004: I guess one of the things we’ve learned since we’ve been here in public health is about different levels of prevention. Tertiary being like rehabilitation and you know...after the disease or outcome has already occurred what are other things that you can kind of do going forward? So oftentimes, I think at NAS002 mentioned, people suffer from paralysis after a stroke. So just maybe methods or effective ways of living after a stroke or how people can reduce their chances after they’ve already had a stroke once from happening again and just ways to help rehabilitate them. Oftentimes you’ll hear oh yeah they’ve had a stroke and that’s why they’re unable to move their arm or that’s why their leg kind of droops to the side...what can one do after that. F: Does anyone know individuals who’ve had a stroke?
NAS002: My step-grandfather. I’m not sure of his age; he has to be between 60 or 70. He had it maybe three or four years ago. He’s still not himself. He just kind of lays in the bed all day. But also I think that comes from having family members that...like...this is my dad’s mom’s husband...my dad’s stepfather. She has diabetes and she lost her leg...but she’s at the point where ...she has a prosthetic leg but she won’t wear it...she’s comfortable with rolling around in her wheelchair. And it’s like she’s complacent. You know there’re ways for you to help yourself to be more mobile and you don’t have to rely on a wheelchair. Advanced technology...people lose legs all the time and they’re fine. And so with her husband having a stroke...I feel like if I were a wife and my husband has had a stroke and my only ailment was the fact that I’ve lost part of my leg; I would have more get up and go to put my leg on and do what I need to do to help my husband. He’s paralyzed. He can’t move anything; you can move ¾ of your body. So I think the reason why he’s like...because for some reason isn’t there a way that you can be paralyzed and it not be permanent when you have a stroke?

F: There’s a lot of rehab that can happen, but the mobility may not be the same as it was pre-stroke.

NAS002: He just lays there in the bed...nobody is getting him up.

F: Is anyone here interested in OT or PT? (No one expressed interest in those areas).

NAS002: I just feel like he could be a little bit better than what he is I now. He can’t help what happened to him, but when you don’t have a support system around to help you see other alternatives, it’s hard.

F: Anyone else know someone who’s had a stroke?

NAS005: My grandfather had a stroke. It led to several different things like going downhill kind of thing.

F: Is your grandfather deceased?

NAS005: No.

F: So a couple of names I just want you to think about as we’re wrapping up: Fred Shuttlesworth, Coretta Scott King, Patrice O’Neal, who’s a comedian, Nate Dogg, Ben Vereen. All of these individuals have had a stroke and some of them are no longer with us. Now, some of our iconic figures in our civil rights history are no longer here. Ben Vereen is still alive. I don’t know if there may be some video of him on YouTube or not but you can see little bit of the delay in his movement because of the stroke. Patrice O’Neal and Nate Dogg are no longer with us and they were 41 years old when they had multiple strokes. And when you talk about some of these things around lifestyle, how we eat, and how we sleep, and what we drink and what we put in our bodies or whatever; that stuff adds up to bigger things. And so just being mindful of what you’re putting inside of your body...you’re right, it is a loaner we don’t get to keep it forever, so how we take care of it now is important. The support systems that we surround ourselves with are also important in this issue, particularly when we talk about stroke because it’s a life changing thing. So if you can’t move anymore SOMEBODY has to help you do that and if there isn’t support around for that in terms of rehab or family members, that’s pretty devastating. This has been a really interesting conversation.

NAS005: Excuse me facilitator, I had a friend right before I moved to Tennessee and worked with her, she was 34, she had four kids and right before I left, she had a stroke. I happened to be at the hospital when they brought her in and that...it was just so crazy...like what 34?!!!
NAS001: One of my good friend back at home, she had a stroke at 19. And so, she deals with the aftermath of that. She’s on several medications. She wasn’t affected in negative way, per se. Just hearing that was just like... 19 and a stroke???

F: And we just don’t think about that. We don’t think about it being something that can happen to individuals that are young, because we see it happening to those that are old, and that’s not true. It can happen at any time in the life spectrum. Typically, we see a lot of incidence of stroke in the old. However, the behavior we exhibit in our younger years impacts our older ones. You don’t get a warning, so it’s so imperative that we know the signs and understand the risk factors. Are there any other comments or clarifications that anyone wants to share? Well, thank you for doing this; I do appreciate your time. Please feel free to take a cookbook, bag, and t-shirt for your time.
APPENDIX F

CODE BOOK
Profile:
- N = 20 participants
- 16 females
- 4 males
- Avg. age 30.9
- Age range 26-42
- Four focus groups held in four different cities/states
  - Atlanta, Georgia (ATL) n = 4
  - Birmingham, Alabama (BHM) n = 5
  - Jackson, Mississippi (JAX) n = 6
  - Nashville, Tennessee (NAS) n = 5
- Occupations represented:
  - Attorneys n = 2
  - Students
    - Full-time n = 6
    - Part-time n = 3
  - Business Owners n = 3
  - Higher Education staff/faculty n = 3
  - Engineer n = 1
  - Research staff/lab technician n = 2
  - Retail n = 1

Q1. Please describe your personal view of your health at this time.

Codes:
- Overall healthy with need for weight loss n = 8
- Overall healthy with need for more sleep n = 2
- Overall healthy with need for more exercise n = 8
- 10% (n=2) of participants stated they were unhealthy and prone to illness

Q2. In your opinion, who is responsible for your overall health and wellness?

- **Code: Responsible for own health**
  - JAX005: Surely, self. I would say self...I am responsible for my own health.
  - JAX003: Because it’s my body. And umm...no one can make you do anything, so it’s my body. Nobody else is responsible for me but me.
  - BHM002: Uhm...I am responsible for my own health.
  - NAS005: I am responsible for my overall health. I am the one putting the food in my mouth doing different things. I’m the one who’s supposed to be you know...out doing exercise and stuff. So...I know I am the one responsible
  - I think you are...you are primarily responsible for your overall health. If something goes wrong like you’re the first person that would know about it before anyone else would.

- **Code: Personal responsibility with physician input**
  - BHM001: I think that overall I am responsible for my own health, but I do think my physician plays a part in that as well.
  - BHM012: Overall, I think that we’re responsible for our own health. But I do think also that the physician does take a role in it because I think there are things that the physician knows that we wouldn’t know as a common lay person.
Q3. What actions do you all take to prevent illness in general? Not necessarily heart disease, but just illness in general...a common cold...or whatever... What actions do you take to prevent illness in general?

\[ n = \text{# of respondents who mentioned particular behavior} \]

**Theme: Preventive Actions**

**Codes:**
- Hand washing \[ n = 6 \]
- Taking multi-vitamins \[ n = 5 \]
- Drinking water \[ n = 3 \]
- Reducing salt intake \[ n = 2 \]
- Maintaining medication regime \[ n = 2 \]
  (allergy medicines)
- Counting calories \[ n = 1 \]

**Theme: Preventive Awareness**

**Code: Controlling food consumption**
- Attempting to reduce red meat and fried food intake
  - NAS002: I hadn’t been eating red meat lately.
  - NAS001: I usually don’t do red meat
  - ATL003: I am a lot more conscious about not taking in fried foods...or not excessively.
- Attempting to reduce carbohydrate/sugar intake
  - NAS001: Recently I’ve kind of given up bread...it’s been hard.

**Code: Awareness of Physical activity**
- Lack of physical activity
  - ATL001: I don’t exercise and I hate to exercise.
  - Lack of a regular exercise regimen
  - ATL003: I consider myself pretty healthy in general, but definitely could use more exercise...
  - Inconsistent work outs
  - JAX006: Something that I’ve been working on for a while... I mean I’m inconsistent, I fluctuate...

Q4: What do you know about stroke? Tell me what you know, or what you’ve heard or what you think you know about it.

**Theme: Stroke Knowledge**

**Code: Risk factor recognition**
SALLEN: Development and Content Validity of a Survey Instrument to Assess Health Information-Seeking Behaviors Among African American Young Professionals

INITIAL CODE BOOK

- Hypertension n = 3
- High cholesterol n = 2
- Smoking n = 1
- Drinking n = 1
- Stress n = 1
- Seen more often in African Americans n = 2
- Does not discriminate based on age n = 1
- Obesity n = 1
- Congestive heart failure n = 1
- Diabetes n = 1

Code: Stroke Physiology

- Blood clots in the brain n = 2
- Unspecified brain problems n = 2
  - BHM002: It can cause issues with your brain.
  - NAS002: Basically like the blood flow to your brain stops
- Mini-strokes n = 1
  - ATL001: You can also have mini strokes.

Code: Stroke symptoms

Blurred vision n = 1
Trouble speaking/speech impairment n = 3
NAS002: mixing up letters or something
Headaches n = 1
Paralysis n = 2
(i.e. facial muscles, one side of entire body) n = 2
Stroke outcomes /consequences
Permanent Paralysis n = 1
Behavior change n = 1

Code: Personal experience with stroke n = 11 (55% knew someone who had suffered a stroke)
1. ATL001: Aunt experienced mini-strokes and had a big stroke
2. ATL003: Grandmother suffered a stroke
3. ATL004: Sister-in-law recently had a stroke
4. BHM001: Grandmother had a stroke (lived to be in her 90s)
5. BHM002: Uncle had a stroke
6. BHM007: Great grandmother and grandmother on father’s side both died of stroke complications
7. JAX003: Person in her office building who had a stroke at age 33
8. JAX005: Father had stroke at 41
9. NAS001: hometown friend had a stroke at age 19
10. NAS002: Step-grandfather had a stroke between 60-70 years of age
11. NAS005: Grandfather had a stroke; friend at age of 34 with four children had a stroke
Q5: What are some things that can you do to prevent your risk of having a stroke?

**Code: Lifestyle Changes**
- Regular exercise  \( n = 8 \)
- Balanced diet  \( n = 4 \)
- Emotional and spiritual health  \( n = 1 \)
- Supportive friends and family  \( n = 1 \)

**Other:**
- Knowing family history  \( n = 3 \)

Q6: The last time you looked for any health information at all, where did you go first?

**Code: Internet-based Portals**
- Google  \( n = 9 \)
- Web MD  \( n = 8 \)
- Cancer.org  \( n = 1 \)
- Medline Plus  \( n = 2 \)
- CDC.gov  \( n = 1 \)
- Mayo Clinic  \( n = 1 \)
- Blogs on holistic medicine  \( n = 2 \)
- Smart phone apps (i.e. My Fitness Pal)  \( n = 2 \)

**Code: Personal contacts**
- Residents at local medical school  \( n = 1 \)
- Brother-in-law who is a physician  \( n = 1 \)
- Mother who is a nurse  \( n = 1 \)
- Family members (mother, aunts, cousins)  \( n = 1 \)
- Friends and sorority sisters who are physicians  \( n = 2 \)

**Code: Useful features of first mode/method search**

*Easy to understand*

*BHM007:* I like Medline Plus because that one is really based on consumers. They make it really easy to understand.

*BHM012:* They make it really easy to understand.

*NAS003:* Also with WebMD even if they give you the technical term for it...they'll explain it. They'll be like 'it's called this, but it just means this' you know so the laymen's terms like that...

*NAS002:* I don't need the fancy terminology. Break it down to my level cause I'm not there yet.

*BHM001:* But it's just easier if I'm looking at webpage or fact sheet and it's saying...you know such and such disease and some medical term and then in parentheses what it really is in laymen's terms and then you know goes on to describe it a little more. Uhmm.. I'm able to follow that or I'm able to like that better.

*Credibility of the host/website/informant*
JAX005: “I check out the reviews of the website too. I look at the star rating to see if they are a safe website.”

JAX002: “I would click on the first five and compare to see if the information is the same.”

NAS002: “I think it’s hmm…like sometimes when you go to the doctor they use this lingo like ‘this-is what-I-rehearsed-when-I-went-in-the-back-and-got-your-results-so-let-me-come-back-and-say-that-the-recent-findings-of-so-and-so...’”

NAS001: “I used WebMD was I was wearing heels sometime last semester and my ankle kind of twisted while I was wearing heels and so I basically was not able to walk for about two or three days. And so I was panicking wondering like if I’d sprained it. Basically I was trying to see if it was a sprain or a strain because there’s a difference between the two and I was looking on WebMD for it making sure I hadn’t broken my ankle.”

ATL001: “It has to be a site that’s attached to a doctor of some sort, who’s giving information. Then I’m looking at that doctor’s information and like “okay...is this a credible person as well?”

ATL003: “If it’s posted for example...by maybe my doctor’s office. But generally in WebMD they will actually site a physician you know usually and say that this was doctor so-and-so who gave this information.”

ATL004: “I think it would really have to be associated with a doctor or some other entity for me.”

BHM002: “I think WebMD and Mayo Clinic are semi-credible. As long as it’s consistent...”

BHM012: “...as long as it’s not from something like eHOW or I don’t know...some magazine.”

BHM012: “I like MedLine Plus because I know that the information that they’re getting is coming from a credible source...like the National Library of Medicine.”

Q7: Who do you most trust to provide information about your health?

**Code: Trusted sources of information**
- Health care providers n = 8
- Provider specialists n = 2

**Code: MD traits**
- *Gender preference* n = 3
- *Age* n = 1
- *Race* n =
- *Specialty area*
- Chiropractor, n = 2
- Cardiologist, n = 1
- Dentist, n = 3
- Optometrist, n = 1
- Pharmacist, n = 1
- Holistic medicine, n = 2
- Podiatry, n = 1
Mutable factors that can be changed by training and practice

- **Skills/experience/accuracy**
  - BHM013: Knowledgeable of current trends, well not trends, knowledgeable of current umm... medical advances in your particular uh... problem.
  - ATL003: I do take their word for gospel because in the past I've had history with them actually uncovering things and going the extra mile to find something that maybe could have been easily in some case was overlooked by someone else.
  - ATL001: You... taking your time and not making me feel like you need to hurry up and get to the next patient. Being accurate... being accurate.

- **Communication**
  - **Quality of Communication**
    - BHM013: I think that if I am to go into their office I can actually sit down and have a conversation with them verses the 5... the 8 minute spill that you're supposed to give when you go into the doctor's office. So if I can't have a general conversation with you about my health and I feel like I'm being rushed, most likely I'm going to choose another doctor.
    
    - ATL004: I think someone who listens... I think with HMO these days you go in it's boom... boom... boom... boom and I'm like ATL003 where sometimes you tell the difference where it's a physical and it's just boom... boom... 10 minutes... and I'm like 'okay we're gonna ask for a new doctor.' Someone who actually kind of listens and you're not just another name on the chart. Because how can you know if something is really going on with me if you're not listening to me, listening to my complaint... my history? I think someone who's kind of a good listener and actually doesn't just kind of blow off issues. I mean, you don't want someone who's gonna send you for tests for every little issue you have; but you can see the balance where okay 'you're gonna be okay'. Someone who actually listens, sometimes that just a feeling.
    
    - NAS003: But for my doctor, she's just very personable. Like she'll talk to you about everything else you know... how's your family? how are you doing in school? I just think she's really nice.

- **Code: Trust**
  - BHM007: well first of all I trust my primary care physician and my chiropractor with my health... but uh... more than that I'm gonna trust somebody whose interest is ME. They're first interest is me, it's not you know... it's what we're gonna do to get you back to optimal health. You know they're gonna invest their time in me.
  - BHM002: It's about being with someone you can trust and someone who's very passionate about your wellbeing and your health care.
  - JAX002: My first initial instinct would be to trust the person that walked in the room.
  - NAS002: I trust doctors. I mean I feel like they didn't go to med school for nothing.
  - NAS003: I also trust doctors.
  - NAS004: I also trust the doctor.

- **Code: Seen as proficient by others**
  - **Referrals**
    - JAX004: For specialists it's obviously a referral or maybe someone... for example a cardiologist. I've gone to a cardiologist, just... I don't have anything wrong... but... at least I didn't then. But just for examination... you know precautionary. But that was a referral from another expert and then I know several of his other clients personally.

*Others in peer group (i.e. friends, family) see same provider*
SALLEN: Development and Content Validity of a Survey Instrument to Assess Health Information-Seeking Behaviors Among African American Young Professionals

INITIAL CODE BOOK

- ATL003: ...knowing other people that see him or her in addition to me. Another mark for me is knowing that there are other people in my circle that also trusts this person.
- JAX005: A friend of mine...her family goes to him.

- **Code: Acknowledging Historical Mistakes**
  - ATL004: “It’s not most of us in the past....most African Americans...I mean I think about some of my older family members, we don’t trust doctors! (group agrees) You know...I think that’s how...we’re not bred to trust doctors.”
  - NAS005: “I know a lot of my family like will NOT go to...because so many bad experiences in the past.”
  - BHM012: “I think in the African American community already especially in males already have a trust issue with physicians because of things that have gone on in the past. Umm...and they don’t want to go to the physician anyway and then when you have a bad experience by not getting your questions answered or hmmm the physician making you feel like...you know...you’re bothering them...or you know...asking a question that you should already know the answer to...it it really causes a lot of damage.”

- **Code: Technology**
  - **Passive communication**
    - Television n = 2
    - Radio n = 2
    - E-mail blasts n = 1
    - Work health fairs/screenings n = 1
    - Stuffer in work benefit package materials n = 1
  - **Dynamic Communication**
    - Social media n = 4
      - Facebook
      - Texting
      - Twitter
      - Phone applications
  - **Targeted messaging at live events focused on group (i.e. sorority events, entertainment events, Young professional conferences, etc...)** n = 1

- **Code: First person accounts**
  - **Stories**
    - BHM001: “I’m a visual person and I like stories. Ummm, I think...personally, when I think of stroke I always think of older people and I think if some of the health educators would try to relate that a little bit more to younger people, specifically African Americans, and both of our different stories uhm, that have affected young African Americans then I’d be more...more app to listen...and to pay more attention...”
    - BHM002: “I was an avid fan of the Cosby Show. I learned a lot about different issues from just watching that show because it was put out there...I guess for you to see. But you know...I think that it went off the air in ‘92 and I was like 12? ...who’d think that stuff I saw on that show dealing with issues especially with African American and particularly that he was a doctor and it dealt with real healthcare issues on there and that stuff it stuck with me.”

- **Testimonies & Personal Accounts**
Age Recognition

- JAX005: “Because if I know that JAX004 and I are the same age and she’s in this commercial talking about how she’s had a stroke that’s gonna kind of scare me. Because actually I’ve had conversations like this with people I know that’s taking blood pressure medicines and you’re in your late 20’s. I’m thinking ‘whoa, wait you shouldn’t be taking that!’”
- JAX003: “In my office building, there’s a young guy who owns a very successful website design company. And he’s probably 33 years old and he’s had a stroke.”
- BHM012: “Umm...sometimes testimonials, I think it does do a whole lot of good.”
- BHM012: “It’s one thing to see somebody that’s like 65 or something like that to that’s had a stroke versus see someone in their mid-20s or late 30s or something like that.”

Round table discussions

- BHM002: “Dialogue in the African American community is important; we don’t do enough of...for instance this...like a round table discussion about it...we don’t do that.”

Family discussions

- BHM007: “I hate to say this but sometimes the only time people take stuff seriously is when it hits home. And you know...for example, you know I lost my mom to cancer last year and you don’t take it seriously...I mean I’ve always known about cancer, but it doesn’t really hit home until it really hits home. So like BHM002 said it’s really good to have those family discussions so people can know the severity of the situation because they don’t.”
- BHM002: “Uh and I know in particularly you know...starting with the family core...let’s backup a few years, you had Big Momma, grandmamma whatever you called her...you had Sunday dinner everybody came to one place.”

Code: Churches and faith-based outlets

Pastors  n = 2

- BHM012: “Another one that I think is important because in the African American community the faith based institutions...our churches have a tendency to be a staple of the community and the center of the community. Cause I know the one thing our church doing every month on the 3rd Sunday of every month my Pastor takes out some time to like talk about some type of health fact...and like yesterday we focused on heart attack. Umm...I think that’s important because you have a large group of people that are there that can hear the information all at one time and kind of get a little discussion or dialogue going that way.”

Q8: What would you like to know about stroke?

- Relationship between diabetes and stroke
  - JAX005: “Let me ask this: Is there a relationship between diabetes and strokes? Because I think diabetes...although I know cardiovascular is the number one killer in Mississippi. Diabetes is HUGE in the black community and if there’s a connect to that then...I’m sorry “suga”

- Clear definition of a stroke
  - BHM001: “Umm...I would like to hear more information or more emphasis on exactly the definition (speaker emphasized the word definition) of a stroke. Umm...because I...we use the term stroke so loosely. But I think if you were to ask me or even people on the street “what is a stroke?” I couldn’t tell you...I’d say maybe it has something to do with the brain, but I couldn’t tell you what the definition is.”

- Heart murmurs and relationship to stroke
  - JAX002: “I would like to know more about heart murmurs. I’m fearful...like what if I have a stroke? What if this comes back? I know when I was younger and I played football the doctor said I was fine and could play football. They said it was fine, but I’m like ‘when is this condition that I have going to do something or will it...”
ever do something?’ And what should I know about that doing something and does that mean I’ll have a stroke?”
APPENDIX G

SURVEY
Greetings! You are invited to participate in a research study. You will complete a survey about how African American young adults use health information about heart disease and stroke. The survey should take about 15 minutes to complete. The risks from participating in this survey are not estimated to be greater than those encountered in daily life.

Results from the study will be used to plan educational programs to increase knowledge about stroke. Your responses are confidential. You will not be asked your name, address or telephone number. You will not be contacted by the researcher.

You are not waiving any of your legal rights by choosing to participate. You do not have to participate. Everyone will receive links to reliable online information about reducing stroke risk.

If you have questions or concerns about participating in the study, you may contact Ms. Shauntice Allen, phone 205 413 4507. If you have questions about your rights as a research participant, or concerns or complaints about the research, you may contact the Office of the IRB (OIRB) at (205) 934-3789 or 1-800-822-8816. If calling the toll-free number, press the option for “all other calls” or for an operator/attendant and ask for extension 4-3789. Regular hours for the OIRB are 8:00 a.m. to 5:00 p.m. CT, Monday through Friday. You may also call this number in the event the research staff cannot be reached or you wish to talk to someone else.

*1. Would you like to participate and complete the survey?
   - Yes, I will participate
   - No, thanks, I will not participate.

2. What is your gender?
   - Female
   - Male

3. What is your age? (Please type the number, e.g. 29)

4. Which racial / ethnic group do you identify with? (Select all that apply.)
   - White
   - Black / African American
   - American Indian
   - Asian or Pacific Islander
   - Other
     Please specify

5. Do you consider yourself to be Hispanic or Latino?
   - Yes
   - No.

*6. In what state do you currently reside?
   State: 6
7. To what National Urban League of Young Professionals (NULYP) Chapter do you belong?

- Atlanta
- Austin
- Birmingham
- Broward County
- Central Carolinas
- Central Florida
- Charleston Trident
- Chattanooga
- Columbia
- Dallas
- Houston
- Jackson
- Jacksonville
- Knoxville
- Lexington
- Louisville
- Memphis
- Middle Tennessee
- New Orleans
- Oklahoma City
- Palm Beach
- Pinellas County
- Tulsa
- Urban League of Upstate
- Winston-Salem
- Other

Other (please specify)
Health Information Seeking among African American Young Professionals

8. What is the highest level of education you have completed?
- Some high school
- High school graduate or GED
- Completed career or technical school
- Some college but did not graduate
- First college degree (Associate, Bachelor)
- Graduate or professional degree

9. What is your current occupational status? (Select all that apply.)
- Employed
- Unemployed
- Student
- Homemaker
- Retired
- Disabled
- Other
Please specify

10. What is your annual household income before taxes?
- $24,999 or less
- $25,000 to $49,999
- $50,000 to $74,999
- $75,000 to $99,999
- $100,000 or more
- Prefer not to say

The next set of questions asks how you feel about certain behaviors and whether these will reduce your risk of stroke.
### 11. Choose one response to each statement indicating your level of disagreement or agreement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I locate credible health information in print (brochure, pamphlet, article).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I locate credible health information in broadcast media (TV, radio).</td>
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</tr>
<tr>
<td>I locate credible health information online.</td>
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<tr>
<td>I ask my doctor or provider for health information.</td>
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<tr>
<td>I ask people who are close to me for health information.</td>
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<tr>
<td>I use smart phone apps to find health information.</td>
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</tbody>
</table>

### 12. Choose one response to each item indicating your level of confidence.

<table>
<thead>
<tr>
<th>Item</th>
<th>Not Confident</th>
<th>Somewhat Confident</th>
<th>Very Confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find a doctor or provider who listens to my health concerns.</td>
<td></td>
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</tr>
<tr>
<td>Rely on the doctor or provider's training and experiences.</td>
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<tr>
<td>Find a doctor or provider who helps me practice healthy behaviors.</td>
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<td></td>
</tr>
<tr>
<td>Trust a doctor or provider to address my health needs.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Ask my doctor for credible health information.</td>
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</tr>
</tbody>
</table>

### 13. Choose one response to each statement indicating your level of disagreement or agreement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating credible stroke information in print (brochure, pamphlet, article).</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Locating credible stroke information in broadcast media (TV, radio).</td>
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<tr>
<td>Locating credible stroke information online.</td>
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<tr>
<td>Asking my doctor or provider for stroke information.</td>
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<tr>
<td>Asking people who are close to me for stroke information.</td>
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<tr>
<td>Using smart phone apps to find stroke information.</td>
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</tbody>
</table>

Other (please specify)
Health Information Seeking among African American Young Professionals

14. Indicate the level of importance of each health behavior to reduce your stroke risk.

<table>
<thead>
<tr>
<th>Health Behavior</th>
<th>Unimportant</th>
<th>Neutral</th>
<th>Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking to a doctor or provider about your risk of stroke.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choosing healthy foods daily.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintaining a normal blood pressure.</td>
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<td></td>
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<tr>
<td>Choosing not to smoke.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Choosing to exercise for at least 30 minutes on most days.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Limiting my use of alcohol to no more than 2 drinks daily.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Completing a physical examination each year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking medicine as prescribed by a doctor or provider.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caring for diabetes as directed by a doctor or provider.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Seeking immediate medical attention for confusion or sudden difficulties seeing, speaking or walking.</td>
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</tbody>
</table>

15. Do you smoke tobacco?
- No
- Yes

16. Mark one response showing your level of confidence for choosing not to smoke tobacco.
- Not Confident
- Somewhat Confident
- Very Confident

17. Do you drink alcoholic beverages (beer, wine, liquor)?
- No
- Yes

18. Mark one response showing your level of confidence for limiting use of alcohol to no more than 2 drinks daily.
- Not Confident
- Somewhat Confident
- Very Confident
19. Mark one response to each item showing your level of confidence for the behavior.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Not Confident</th>
<th>Somewhat Confident</th>
<th>Very Confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking to a doctor or provider about your risk of stroke.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choosing healthy foods daily.</td>
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<td></td>
</tr>
<tr>
<td>Checking my blood pressure regularly.</td>
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<tr>
<td>Choosing to exercise for at least 30 minutes on most days.</td>
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<tr>
<td>Completing a physical examination each year.</td>
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</tr>
<tr>
<td>Taking medicine as prescribed by a doctor or provider.</td>
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<tr>
<td>Caring for a chronic medical condition as directed by a doctor or provider.</td>
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<tr>
<td>Seeking immediate medical attention for confusion or sudden difficulties seeing, speaking or walking.</td>
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</tbody>
</table>

20. Indicate how likely you are to choose stroke information that . . .

<table>
<thead>
<tr>
<th>Feature</th>
<th>Very Unlikely</th>
<th>Unlikely</th>
<th>Neutral</th>
<th>Likely</th>
<th>Very Likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>features personal stories or testimonies from young adults</td>
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<tr>
<td>clearly defines and describes the condition</td>
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<tr>
<td>presents specific causes and consequences</td>
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<tr>
<td>is shared through social media (Facebook, Twitter, blog)</td>
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<tr>
<td>is given by a trusted health professional</td>
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<tr>
<td>is confirmed by a family member or friend</td>
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<tr>
<td>is found on the web site of a known authority (e.g. state or federal health agency)</td>
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<tr>
<td>is consistent with messages from other sources</td>
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<td></td>
</tr>
<tr>
<td>is printed (brochure, pamphlet, poster)</td>
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<tr>
<td>is broadcast on TV or radio</td>
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<tr>
<td>is sent through email or a listserv</td>
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<tr>
<td>is unsupported by research evidence</td>
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<tr>
<td>is current and up-to-date</td>
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</tr>
<tr>
<td>is commercial, promoting a product or service</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Thank-you for participating by completing the survey!
Your responses are helpful and will be combined with those from others to plan stroke education for young African American adults.
Health Information-Seeking Behaviors among African American Young Professionals

Expert Panel Review Form

Directions to Panelist

Thank-you for reviewing the data obtained from a series of focus group discussions with African-American young professionals and the draft instrument, “Health Information-Seeking among African-American Young Professionals” The UAB Institutional Review Board approved the study protocol.

Your opinion is important to improve the content of the survey before administration to a random sample of 50 African-American adults aged 21-40 years old who are a part of a network of young professionals through the National Urban League Young Professionals. Your estimated time to complete this task is 30 minutes. You may be contacted to discuss your responses in more detail.

Background to the Study

Progress in stroke prevention and effective behavior will depend, at least in part, on understanding the process of Health Information-Seeking Behavior (HISB). It is necessary to examine HISB as a precursor to healthy actions. One of the areas of health communication needing empirical research involves the sources consumers use to obtain health information. Personal and contextual influences are important to consider when planning intervention activities to reduce stroke risk among adults in the south east, including community education to increase awareness about stroke risk factors, warning signs, and emergency response. The researcher is particularly interested in determinants of HISB among African Americans, who are disproportionately affected by CVD health disparities.

Your task
1) Copy the link to the online survey, below, and paste into your Web browser.

2) Second, mark one response on this review form as you preview each survey item. Indicate whether each item is: Essential; Useful, but not essential; or Not necessary to assess determinants of HISB among adults.

3) Third, write your suggestions for improvement beneath the item number.

4) Please return your completed responses to Ms. Shauntice Allen via e-mail at sallen1@uab.edu, or fax (205) 254-0957 by Friday, July 27th.
### INSTRUCTIONS

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Consent Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Would you like to participate and complete the survey?</td>
</tr>
<tr>
<td></td>
<td>Yes, I will participate</td>
</tr>
<tr>
<td></td>
<td>No thanks, I will not participate</td>
</tr>
</tbody>
</table>

### Gender

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>What is your gender?</td>
</tr>
<tr>
<td></td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>Male</td>
</tr>
</tbody>
</table>

### Birth Year

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Birth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>What is your birth year? (Answer in four digits, for example, 1969)</td>
</tr>
</tbody>
</table>

### Racial Group

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Racial Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>With which racial/ethnic group do you identify?</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Black/African American</td>
</tr>
<tr>
<td></td>
<td>American Indian</td>
</tr>
<tr>
<td></td>
<td>Asian or Pacific Islander</td>
</tr>
<tr>
<td></td>
<td>Other (please specify)</td>
</tr>
</tbody>
</table>

### Suggestions for improvement:

---

**Essential** | **Useful, but not essential** | **Not necessary**
---|---|---

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Ethnicity</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Do you consider yourself to be Hispanic or Latino?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
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Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Zip Code</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>What is the zip code of your primary residence?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Marital Status</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>What is your marital status?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Separated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Never married</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Living with a partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refused</td>
<td></td>
<td></td>
<td></td>
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Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Annual Income</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>What is your annual income from all sources?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Description</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Choose one response to each item indicating level of agreement about using information and acting to improve your health.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I feel confident looking for health information online</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I understand how to use information to improve my health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am able to locate trustworthy health information</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I know recommended behaviors to reduce health risks
I practice recommended behaviors to reduce health risks
I would use a smart phone app to find health information

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Choose one response to each item indicating level of agreement about using information and acting to <strong>reduce your stroke risk</strong>.</td>
<td>I feel confident looking for health information online</td>
<td>I understand how to use information to improve my health</td>
</tr>
<tr>
<td></td>
<td>I am able to locate trustworthy health information</td>
<td>I know recommended behaviors to reduce health risks</td>
<td>I practice recommended behaviors to reduce health risks</td>
</tr>
<tr>
<td></td>
<td>I would use a smart phone app to find health information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Choose one response to each item indicating level of agreement.</td>
<td>I feel comfortable talking with my doctor about preventive health behaviors</td>
<td>My doctor listens to my concerns</td>
</tr>
<tr>
<td></td>
<td>It is important to me how others view my doctor</td>
<td>I feel most comfortable with a doctors how is the same gender</td>
<td>I verify my doctor’s credentials and experience</td>
</tr>
<tr>
<td></td>
<td>I feel most comfortable with a doctor who is my same race</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>What are the major causes of stroke? Select one response to each item.</td>
<td>Being overweight</td>
<td>High blood pressure</td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td>High cholesterol</td>
<td>Diabetes</td>
</tr>
<tr>
<td></td>
<td>Smoking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Suggests to eat vegetables and lean meats, I am decreasing my stroke risk.

Suggests for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Select one response for each item indicating whether it reduces your risk of stroke.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Speak to my doctor or provider about my risk of stroke and heart disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Choose not to smoke cigarettes or use tobacco</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Avoid physical activity that increases my heart rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limit my use of alcohol to no more than two (2) drinks daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Take medications as prescribed by my doctor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participate in 30 minutes of physical activity most days of the week</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete a physical examination each year</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Choose healthy foods daily including fresh fruits, vegetables and lean meats</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Check my blood pressure regularly</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Care for diabetes and other chronic illness as directed by my physician</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seek immediate medical attention for sudden trouble seeing, speaking, walking or feeling confused</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>I am at low risk for stroke for an individual my age.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>By choosing healthy foods daily including fresh fruits, vegetables and lean meats, I am decreasing my stroke risk.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item No.</td>
<td>Essential</td>
<td>Useful, but not essential</td>
<td>Not necessary</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
<td>---------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>16</td>
<td>It is important to me to choose healthy foods daily including fresh fruits, vegetables and lean meats.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Checking my blood pressure regularly decreases my stroke risk.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>It is important to me to check my blood pressure regularly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>By not smoking or using tobacco, I can help to reduce my risk for stroke.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>It is important to me to choose not to smoke or use tobacco.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item No.</td>
<td>Essential</td>
<td>Useful, but not essential</td>
<td>Not necessary</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
<td>---------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>21</td>
<td>By being physically active at least 30 minutes most days of the week, I am decreasing my stroke risk.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>It is important to me to be physically active at least 30 minutes most days of the week.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Select the best answer indicating your confidence for each behavior.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participate in 30 minutes of physical activity most days of the week.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Find support from others to practice healthy behaviors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trust health care providers to address my needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access health care without a long wait</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepare meals regularly</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eat a variety of fresh fruits, vegetables, and lean meats</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Make healthy choices to manage my weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Get restful sleep each night</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Essential</th>
<th>Useful, but not essential</th>
<th>Not necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>People like me are MOST LIKELY to respond to stroke information that (Select one response to indicate your agreement with each item)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Features personal stories or testimonies from young adults</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clearly defines and describes the condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presents specific causes and consequences</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is shared through social media (Facebook, Twitter, blogs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is given by a trusted health professional</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is confirmed by a family member or friend</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is found on the web site of a known authority</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is consistent with messages from other sources</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestions for improvement:
<table>
<thead>
<tr>
<th>Item No.</th>
<th>People like me are LEAST LIKELY to respond to stroke information that (Select one response to indicate your agreement with each item)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Is too general without definitions and descriptions</td>
</tr>
<tr>
<td></td>
<td>Is printed (brochure, pamphlet, poster)</td>
</tr>
<tr>
<td></td>
<td>Cannot be verified</td>
</tr>
<tr>
<td></td>
<td>Is sent through email or a listserv</td>
</tr>
<tr>
<td></td>
<td>Sounds like personal opinion</td>
</tr>
<tr>
<td></td>
<td>Is current and up-to-date</td>
</tr>
<tr>
<td></td>
<td>Is commercial, promoting a product or service</td>
</tr>
</tbody>
</table>

Suggestions for improvement:
APPENDIX I

SUMMARY RESPONSES FROM PRE-TEST
Suggested Survey Changes:

- Change estimated time commitment in the Intro. from 20 to 10 minutes.
- Retain demographic items in first position on the survey.
- Consider changing response option for item #3 from entering a whole number to selecting an age range presented in increments of 5 years. (NOTE: you will not be able to calculate descriptives without whole numbers.)
- Reword item #4 as "Which racial/ethnic group do you identify with?" Also use BOLD text to add emphasis to "Select all that apply."
- Item #7 - spell out NUYLP before acronym.
- Item #8 - clarify response options, perhaps changing to: "high school graduate or equivalent" and "first college degree (Associate, Bachelor)"
- Items #4 & #9 - Ibid. BOLD text to emphasize "Select all that apply."
- Item #10 - consider revising options with precise numbers as in, "Under $24,999" and "$25,000 to $49,999"
- Item #10 - discussion about the wording of item, "annual household income before taxes," "versus annual gross income". There was no clear preference among group.
- Items #11 & #12 - provide examples within options as in, "I locate credible health information in print (pamphlet, poster, article)" and "...in broadcast media (TV, radio)"
- Items #12 & #13 - consider moving item order within survey, separating similar items to avoid confusion.
- Some discussion about intended meaning of word "confident" in Item #13 and how this differs from "comfortable."
  - Replace “encourages” with helps me to adopt”, “adopting or practicing healthy behaviors”, perhaps combo option for items 1 & 4 in this question #. (appears to be similar).
  - Retain progress bar!!! Respondents liked the status of their progress and how close they were to completion.
- Item # 14 & 15: What if individual doesn’t ever practice the behavior? Consider adding an N/A option.
- Item # 15: Suggestion was to re-phrase stem (fewer words)? Is “for the behavior necessary”?
- Item # 16: Language –“cited as known authority” (e.g state or federal health agency)
- Change language on end screen to young African-American adults vs. African-American young adults.
APPENDIX J

CORRELATION TABLES
## Item correlations for 10 perceived severity items

Pearson Correlation Coefficients, N = 88
Prob > |r| under H0: Rho=0

<table>
<thead>
<tr>
<th></th>
<th>ID2</th>
<th>ID3</th>
<th>ID4</th>
<th>ID5</th>
<th>ID6</th>
<th>ID7</th>
<th>ID8</th>
<th>ID9</th>
<th>ID10</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID1</td>
<td>0.45076</td>
<td>-0.03595</td>
<td>0.27345</td>
<td>-0.02512</td>
<td>0.35595</td>
<td>0.22733</td>
<td>0.31774</td>
<td>0.16855</td>
<td>0.42216</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>0.7395</td>
<td>0.0099</td>
<td>0.8163</td>
<td>0.0007</td>
<td>0.0332</td>
<td>0.0026</td>
<td>0.1165</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>ID2</td>
<td>-0.01149</td>
<td>0.34015</td>
<td>-0.03240</td>
<td>-0.03595</td>
<td>-0.03619</td>
<td>0.26981</td>
<td>0.25810</td>
<td>-0.02340</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.9154</td>
<td>0.0012</td>
<td>0.7644</td>
<td>0.7395</td>
<td>0.7378</td>
<td>0.0110</td>
<td>0.0152</td>
<td>0.8287</td>
<td></td>
</tr>
<tr>
<td>ID3</td>
<td>-0.02489</td>
<td>0.28438</td>
<td>-0.03595</td>
<td>0.31764</td>
<td>-0.04260</td>
<td>-0.03687</td>
<td>-0.02340</td>
<td></td>
<td></td>
</tr>
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**Pearson Correlation Coefficients, N = 87**

*Prob > |r| under H0: Rho=0*

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APPENDIX K

IRB APPROVAL FORM
The IRB reviewed and approved the above named project on 5-7-13. The review was conducted in accordance with UAB’s Assurance of Compliance approved by the Department of Health and Human Services. This Project will be subject to Annual continuing review as provided in that Assurance.

This project received EXPEDITED review.

IRB Approval Date: 5-7-13

Date IRB Approval Issued: 5-7-13

Marilyn Doss, M.A.
Vice Chair of the Institutional Review Board for Human Use (IRB)

Investigators please note:

The IRB approved consent form used in the study must contain the IRB approval date and expiration date.

IRB approval is given for one year unless otherwise noted. For projects subject to annual review research activities may not continue past the one year anniversary of the IRB approval date.

Any modifications in the study methodology, protocol and/or consent form must be submitted for review and approval to the IRB prior to implementation.

Adverse Events and/or unanticipated risks to subjects or others at UAB or other participating institutions must be reported promptly to the IRB.