THE ROLE OF SOCIAL SUPPORT AND SPIRITUAL CARE IN NUMBERS OF ED VISITS

BY

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THESIS

Submitted in partial fulfillment of the requirements for the degree of Master of Science in Public Health in Community Health in the Graduate College of the University of Illinois at Urbana-Champaign, 2012

Urbana, Illinois

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ABSTRACT

According to the U.S. Census Bureau in 2010, there are almost 50 million uninsured Americans. As the experience of being uninsured or underinsured becomes increasingly common, there is also an increased financial burden on hospitals across the country as their emergency departments (EDs) serve as a health care safety net. While there are a number of medical crises that bring people to ERs, up to more than half of visits to the emergency room may be considered non-urgent. As such, there is a pressing need for exploration of non-traditional forms of care.

This study seeks to perform an analysis of a secondary dataset on a segment of the uninsured and privately insured populations, as well as those with public aid. Different types of social support (family, friends, church, co-workers, clubs/organizations) as well as prayer will be examined to see their impact on ER visits in the three months prior to survey administration. This serves not only as implications in short term assistance for those with health issues, but for, perhaps, a more holistic approach to care for patients across the board that may help alleviate the current economic strain in healthcare.
ACKNOWLEDGEMENTS

I would like to express deep gratitude to my adviser, Dr. Stephen Notaro, for all of his help in this entire process. Without his accessibility, consistent encouragement and reality checks, this project would never have been possible. I would also like to thank my husband, David Shin, for his love and support in every aspect of my life.
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CHAPTER 1: INTRODUCTION

1.1 THE PROBLEM

On March 23, 2010, President Obama signed the Patient Protection and Affordable Care Act into law (Kaiser Family Foundation [KFF], 2011b). While there are many provisions in the reform, the main components include the creation of American Health Benefit Exchanges, the expansion of Medicaid, and most significantly, the requirement of most United States citizens and legal residents to have health insurance (KFF, 2011b). Though there are numerous supporters of the reform, there is also much controversy surrounding the notion of comprehensive health care. Whether the reform passes or not, federal budget deficits, the suffering economy (which has resulted in many unemployed and, therefore, uninsured people), and overwhelming health care expenditures are some examples of the issues that the United States must confront as leaders discuss the most appropriate course of action.

At the forefront of this battle is the uninsured population of the U.S., which was at 49.9 million individuals in 2010 (DeNavas-Walt, Proctor, & Smith, 2011). With the rising cost of insurance premiums, a good number of people opt out of their employers’ health plans (Fronstin, 2011). Many others are left with no choice and are involuntarily left without insurance due to unemployment. Most of this population are employed but simply cannot afford to pay for health care (The Kaiser Commission on Medicaid and the Uninsured, 2011). Unfortunately, studies show that there are numerous negative consequences to one’s health when someone is uninsured. Not only has lack of insurance been shown to increase morbidity (American Diabetes Association [ADA], 1998), but also it is reported that upwards of 45,000 deaths per year can be attributed to lack of health insurance (Wilper et al., 2009).
There are negative personal financial repercussions that are a result of being uninsured. Medical debt is a common experience – 29 million Americans have had some medical debt in their lifetime (Seifert & Rukavina, 2006). Oftentimes, care will cost more for the uninsured than for those with insurance (Kirby & Kaneda, 2010). There are macroscopic financial repercussions as well. While policy makers may disagree on the solution, the problem of very sick people without insurance or regular health care is real and furthers national health care expenditures.

Total health care expenditures have multiplied over ten times from 1980 to 2010 (Center for Medicare & Medicaid Services [CMS], 2012), and this number is still rising. In addition, uncompensated care cost (UCC) also continues to grow, as many are unable to provide payment for the medical care they receive.

The uninsured, with few care options, often rely on the health care safety net in order to resolve health concerns. Though not a proper replacement for health insurance, this population is infamous for being dependent upon the emergency departments (EDs) of hospitals for their care. As a result of the Emergency Medical Treatment and Active Labor Act (EMTALA), hospitals are legally obligated to treat patients who walk into the emergency room (ER) until stabilized (American College of Emergency Physicians [ACEP], 2011a). While EMTALA was put into effect to assist those who were in need, the number of ER visits reached all-time high of 124 million in 2008, a 37% increase from 1997 (Centers for Disease Control & Prevention [CDC], 2011). As such, overcrowding in the ED is currently a common insurance (Grumbach, Keane, & Bindman, 1993; Pitts, Niska, Xu, & Burt, 2008).

Some view the unavailability of primary care, especially for the uninsured, as the reason why there is such snowballing in the nation’s emergency departments. Various studies have found that many patients come to the ED for health complaints that are non-urgent (Billings,
Uncompensated care cost has increased annually, particularly in the ED. Although UCC is not the sole culprit, there are a number of hospitals that are in the red (ACEP, 2011b) and, therefore, the cost for procedures are rising along with insurance premiums as a result of uncompensated care costs (ACEP, 2011c). There are numerous hospitals throughout the country that have had to shut their doors due to financial issues such as these (Derlet, Richards, & Kravitz, 2001).

1.2 THE POTENTIAL

Despite the overwhelming nature of these problems, there exists some practical ways to assist and improve the health conditions of those without insurance or regular sources of care. Social support has been shown to have beneficial effects for a range of health conditions (Gallant, 2003). The perception of support may prompt a decrease in risk for mortality while more isolated individuals have a greater probability of poorer health (Berkman & Glass, 2000). Studies also show a positive relationship between self-management behaviors and social support (Gallant, 2003). Family, closer friendships, and one’s community at large have great potential to impact an individual’s health, as social interactions shape human behavior throughout the lifetime (Karolina & DeVries, 2011).

Though it was an area that was previously disregarded, recent years have found great interest in religion and spirituality when thinking about a person’s health. Spirituality, in the most inclusive sense of the word, is a sphere that has considerable significance in people’s wellbeing. There are a multitude of methodological and operational difficulties as one attempts to study the relationship between health and spirituality. However, there is evidence that spirituality, religious involvement, prayer and meditation have positive effects on a myriad of health conditions as well as overall mortality (Alves, Alves, Barboza, & Souto, 2010; Chatters,
The effects of stress and mental health illness may also be reduced as religion can help individuals cope with their conditions (Koenig, 1999; Levin & Chatters, 1998).

1.3 RESEARCH QUESTIONS

The purpose of this study is to examine the effect of spiritual care and social support on ER visits. The hope is that fewer visits to the ED will signify that more emergencies are being prevented, more non-urgent cases are being taken care of outside of the emergency room, and that a decrease in the UCC financial burden on hospitals can be observed.

Research Questions

I. What is the demographic composition of the study participants?

II. Is there a significant difference in means of ED visits between groups receiving varied amounts of social support?

III. Is there a significant difference in means of ED visits between those who receive spiritual care in the form prayer and those who do not receiving spiritual care?

IV. Is there a significant difference in means of ED visits between the genders? And between those who have insurance and those that are uninsured?

V. Are there differences in the means of ED visits between combinations of these variables?

VI. Are there any associations between any of the independent variables?

While changes are being implemented via health care reform, the time it may take to trickle down to the general population is precious. With costs on the rise and the increasing inaccessibility of health care for the uninsured, it is becoming more important than ever to discover affordable methods of supporting whatever care individuals are able to receive.
Community members from Champaign County in Illinois were previously surveyed (see Appendix), and the resulting secondary data was vetted in order to find if social support as well as spiritual care were effective in mitigating trips to the ED in Champaign, IL.
CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The following review of literature will serve to give a general overview of current knowledge on the uninsured population, emergency departments, and cost of health care. The effects of social support and spiritual care on health will also be explored by examining preceding research in these areas.

2.2 THE UNINSURED

Health insurance coverage exists in a complex variety of processes in the United States – public and private. According to the United States Census Bureau, most Americans, 55.3 percent, are covered by private employer-sponsored insurance (DeNavas-Walt et al., 2011). This number has declined from 60.7 percent in 2005, and further from 65.1 percent in 2000 (DeNavas-Walt et al., 2011). This decrease is due to the rising cost of health insurance premiums (Fronstin, 2011). There is also an amalgam of public programs that are available for those who cannot obtain private coverage through their employers or direct purchase as non-group. These programs seek to provide coverage for the elderly, the disabled, the poor, and low-income individuals with dependent children. Medicare and Medicaid, the major players in public insurance, were created to provide health coverage for the multitude left uncovered with the advent of employer-sponsored coverage expansion (Starr, 1982).

The span of time between graduation and employment, the loss of a job due to injury, working in a small business, past health care debt, and pre-existing medical conditions are just a few of the problems that can affect one’s ability to procure private health insurance. Although the public programs exist, there are a number of requirements that an individual may not always be able to fulfill. Individually purchased non-group insurance can be even more difficult to
procure due to its cost and customization (Pauly & Percy, 2000). Because the sources of health coverage in this country are so varied, fragmented, and complicated, it is not uncommon for people to fall through the cracks for a wide variety of reasons and circumstances. Consequently, there are millions in the United States that are uninsured (DeNavas-Walt et al., 2011).

According to the United States Census Bureau, there were 49.9 million people that were uninsured in 2010 (DeNavas-Walt et al., 2011). Of this number, 49.1 million are non-elderly (Kaiser Commission on Medicaid & the Uninsured, 2011). The state of Illinois had almost 1.9 million people that were uninsured in 2010, which is 15 percent of the state population (Kaiser Commission on Medicaid & the Uninsured, 2012). This collection of people did not have group insurance through an employer, did not belong to a non-group private insurance plan, nor did they have public insurance to cover medical expenses. The uninsured population is a diverse body of people with different ethnic, socioeconomic, educational and occupational backgrounds. However, there are some generalities that exist in this community. More than three-quarters of the non-elderly uninsured are from a working family (Kaiser Commission on Medicaid & the Uninsured, 2011). The uninsured typically work for small businesses or places that cannot afford the annual cost of employer-sponsored family coverage. Most of this 49.1 million come from low- or moderate-income families. Nationally, nine in ten of the uninsured are from low- or moderate-income families, which is below 400% of poverty. Individuals that live below the poverty level comprise 41 percent (Kaiser Commission on Medicaid & the Uninsured, 2011), while 37 percent of all uninsured Americans had household incomes above $55,000 (Assistant Secretary for Planning & Evaluation, 2011). During a typical lifetime of an uninsured American, one can expect to be uninsured for over a decade on average (12.0 years) and that these years can be described as less-healthy (Kirby & Kaneda, 2010).
There is a wealth of research studies that report the negative consequences of being uninsured. Uninsured adults are more likely to report poor health status and have less access to preventative services than insured adults (Ayanian, Weissman, Schneider, Ginsburg, & Zaslavsky, 2000; CDC, 1998; Kaiser Commission on Medicaid & the Uninsured, 2011). They receive fewer screening services, are diagnosed later in disease stages, and once diagnosed, are inclined to receive less restorative care (Hadley, 2003; Kaiser Commission on Medicaid & the Uninsured, 2011). The Kaiser Commission on Medicaid and the Uninsured (2003) found that the uninsured have higher mortality rates from different types of cancer than the insured, rates of 1.2 to 2.1 times greater. Uninsured individuals are more likely to forgo routine care that is important to treat chronic conditions (Ayanian et al., 2000) and as a result, they experience more hospitalizations for conditions that are potentially avoidable (Weissman, Gatsonis, & Epstein, 1992). For example, Ayanian et al. (2000) found that long-term uninsured adults with diabetes mellitus were less likely to receive basic services (eye and foot exams, cholesterol screenings, flu vaccines), which is of particular concern because diabetes patients have increased risk of a number of different complications (serious infections, cardiovascular disease, renal failure, retinopathy, etc.) that can be prevented or delayed with appropriate care (ADA, 1998). Routine checkups allow for health risks to be addressed before they occur.

High proportions of adults who were uninsured long-term opted not to seek health care, despite poor or fair health status – two thirds of those in poor health and half of those in fair health (Ayanian et al., 2000). The uninsured population is less likely to receive the necessary care for potentially serious symptoms that require an examination from a physician (Baker, Shapiro, & Shur, 2000; Becker, 2004). Based on a range of studies, a conservative estimate of 5 to 15 percent reduction in mortality could be expected if the uninsured population were to
receive continuous health coverage (Hadley, 2003; Kaiser Commission on Medicaid & the Uninsured, 2003). A multitude of longitudinal studies have found that those who were uninsured from the onset of the study have higher rates of mortality over time (Kaiser Commission on Medicaid & the Uninsured, 2003). In addition, though public programs attempt to diminish the risks associated with not obtaining private insurance coverage, some studies found that the non-elderly uninsured are still at a disadvantage than those with private coverage (Roetzheim et al., 1999).

The uninsured receive, on average, half as much care compared to those who are insured all year. In 2006, DuBard found that 40 percent of the uninsured did not have a regular source of health care and 20 percent considered the emergency room as their regular source of health care. The Kaiser Commission on Medicaid and the Uninsured (2003) found that not only does having health insurance positively affect the use of health services, but also discovered a compelling case for improved and health and longer lives by means of health insurance, or, better access to health care. Hadley also reported that there is a considerable amount of evidence that supports that having health insurance improves health, especially for the average uninsured person who may be sicker than the average insured person (2003).

Individuals without health insurance are also at substantial financial risk. “[They] go without the benefits of risk-pooling against expenses associated with rare or unexpected medical events” (Kirby & Kaneda, 2010, p. 1037). If the uninsured do require care, they are usually charged more than insured individuals (Kirby & Kaneda, 2010). Seifert and Rukavina reported that there were 29 million Americans that had some medical debt (2006). According to a study by Himmelstein, Warren, Thorne, & Woolhandler in 2005, bankruptcies due to medical debt were estimated to be as high as 50 percent. All of these concerns greatly increase the financial
disadvantage of not having any form of health insurance. It become a vicious cycle for the uninsured, as they delay seeking care and go under- or unmedicated because of cost which causes further injury to their health (Becker, 2004). A qualitative study done by Becker (2004) found that many uninsured people go from one health crisis to the next in order to spare their wallets. The effect of this accumulation of harm to their health is even more expensive and costly to those without insurance.

While the uninsured population receives the brunt of the fallout from a lack of health insurance, the repercussions can be felt on a much larger scale. When chronic conditions of the uninsured go unchecked, it can result in significant morbidity (ADA, 1998). These patients without health insurance inevitably are unable to provide payment, thus increasing the nation’s health care costs. “These costs are absorbed by clinicians and facilities as free care, passed on to private insurers through cost shifting and higher fees, or paid by taxpayers through higher taxes to finance public hospitals and public insurance programs” (Ayanian et al., 2000). It is estimated that up to 85 percent of uncompensated care is paid for with public funds (Hadley & Holahan, 2003). Hospital emergency rooms and community clinics can become overburdened in places with inflated numbers of uninsured and publicly insured individuals. This can negatively affect the quality of care for all individuals in a community (Derlet et al., 2001).

Insurance status can also affect the economy in other ways. The Kaiser Commission on Medicaid and the Uninsured found that better health status could improve annual incomes by 10 to 30 percent (2003). It would also increase educational achievements. However, as it stands, adults in poor health report lower participation in the workforce, lower work effort in the workforce, less productivity, and lower incomes. This means there are decreases in tax revenues and increases in government spending on health-related programs (Hadley, 2003). Poor health
among children means lower school attendance as well as both lower school achievement and cognitive development (Kaiser Commission on Medicaid & the Uninsured, 2003).

2.3 EMERGENCY DEPARTMENTS

Emergency departments (EDs) provide an essential service to individuals in need of immediate, emergency treatment and are an important part of the health care system (ACEP, 2011d; Garcia, Bernstein, & Bush, 2010). At an ED, there is always a physician on the premises available to attend patients for immediate, expedient care (Derlet et al. 2001). EDs work very differently from a traditional clinician’s office – instead of planned appointments, patients have access to medical attention twenty-four hours a day and are seen in order of medical acuity. The less urgent the diagnosis, the more a patient will need to wait to be seen. EDs have the resources of an entire hospital at their disposal, accomplishing in hours what might otherwise take days and weeks if a patient were to travel from one office to the next and from one specialty to another (ACEP, 2011c). Emergency departments are a part of the health care “safety net”. The safety net is a collection of publicly subsidized hospitals, local health departments, community clinics and individual providers (Cunningham & Kemper, 1998) that provide charity care (Schroeder, 1996). These health care providers have a mission or legal mandate to offer medical care without the obstacles patients would often encounter elsewhere (ACEP, 2011a).

In 1986, the Emergency Medical Treatment and Active Labor Act (EMTALA) was passed by United States Congress (Coustasse, Lorden, Nemarugommula, & Singh, 2009). This piece of legislature required Medicare- or Medicaid-participating hospitals to provide care for anyone requesting an examination for an emergency medical condition, regardless of an individual’s ability to pay, background, race, or naturalization status (CMS, 2012), thus protecting patients from discrimination in treatment (ACEP, 2011a).
Also known as the “anti-dumping” law, EMTALA was originally created to prevent hospitals from continually transferring Medicaid or uninsured patients to public hospitals without some sort of medical screening to ensure that they were medically stable (ACEP, 2011a). There are three main provisions for hospitals under EMTALA: 1) Any person who comes in to the ED must receive a medical screening exam in order to determine whether a true emergency medical condition exists. An examination nor any sort of treatment cannot be delayed to ask about insurance coverage or methods of payment. EDs must post signs that inform patients of their rights to a medical screening examination and treatment; 2) If a true emergency medical condition does exist, treatment must be given until the condition is stabilized, if not resolved. If the hospital does not have the capability to treat the condition, an “appropriate” transfer to another hospital must be made in line with the terms that EMTALA outlines; 3) Hospitals with areas of specialization must accept transfers from hospitals without the capabilities to treat unstable emergency medical conditions (ACEP, 2011a).

The impact of EMTALA on emergency departments of hospitals all over the nation has been extensive. Hospital EDs became legally charged to be an “open door” for the uninsured community (Begley, Vojvodic, Seo, & Burau, 2006). This allowed the responsibility of charity care to be shared among public and private hospitals alike. As a result, EDs have unintentionally become primary care facilities for patients without any form of health care (Billings et al, 2000; Zahradnik, 2008). Shortliffe, Hamilton, and Nororian found that from as early as the 1950s, the number of ED visits was rising dramatically, oftentimes for visits that were non-urgent (as cited in Grumbach et al. 1993, p. 372). Part primary care physician and part social worker, emergency departments across the country report rampant overcrowding in their waiting rooms as the number of EDs decrease (Grumbach et al., 1993; Pitts et al., 2008). The majority of the nation’s
EDs report that they are operating “at or over” capacity (ACEP, 2011b). The American College of Emergency Physicians found that ED visit rates have increased at twice the rate of growth of the U.S. population from 1997 to 2007 (ACEP, 2011b). In 2008, the number of ER visits in the United States reached all-time high of 124 million (CDC, 2011).

There seem to be a number of factors that are contributing to the overcrowding problem in emergency departments. Due to budgetary concerns, some hospitals end up closing their doors permanently, and many other hospitals have had to decrease their patient capacity, resulting in fewer inpatient beds (ACEP, 2011b; Derlet et al., 2001). Fewer inpatient beds means fewer beds available for ED patients, which reduces the ability for hospitals to take emergency room admissions. This has been instrumental to another phenomenon of overcrowding, called “boarding”. Boarding occurs when hospitals keep patients who have been stabilized in the emergency department for an extended period of time, preventing physicians from seeing new patients that come into the ED (ACEP, 2010; ACEP 2011b). It is a controversial procedure, as emergency staff must continually monitor the patient, making clinicians unable to attend to new urgent cases. It also keeps inpatient beds in the hospital open for scheduled admissions, usually elective surgical patients, which generally bring in more revenue for hospitals (ACEP, 2010; ACEP 2011b).

A study done by Derlet et al. (2001) found that of the 575 emergency departments surveyed from all 50 states, 91 percent reported overcrowding as a problem. This was characterized by beds in the ED being occupied >6 hours per day, admitted patients being placed in ED hallways because there were no inpatient beds available >6 hours per day, or the number of hours the ED was closed due to saturation. Studies also cite overall patient population growth as a contributor, especially due to the increases in the number of seniors with chronic conditions.
(ACEP, 2011b; Derlet et al., 2001). This results in longer waiting times (ACEP, 2011b; Becker, 2004; Bindman, Grumbach, Keane, Rauch, & Luce, 1991; Derlet et al., 2001), upwards to 17 hours with 15 percent of patients leaving without having seen a physician (Grumbach et al., 1993). Overcrowding and longer waits can compromise the ability for a hospital to appropriately tend to patients with urgent medical cases (Derlet et al., 2001).

Research has unearthed contradictory findings with regard to use of the emergency department by the uninsured and publicly insured. Because of the lack of a primary care physician, patients without a usual source of care are infamously credited with the rise in ED usage. Many studies have found that the uninsured and publicly insured are major contributors to use of the ED (Begley et al., 2006; Begley, Behan, & Seo, 2010; Billings et al., 2000; Coutassee et al., 2009; Grumbach et al., 1993; O’Brien et al., 1997), which in turn contributes to uncompensated care costs (UCC) (ACEP, 2010, ACEP, 2011b, ACEP, 2011c; Coutassee et al., 2009). A study completed by Grumbach et al. (1993) revealed that only 13 percent of patients surveyed in the waiting room of an ED that were clinically appropriate for emergency services, as confirmed by a nurse-assigned acuity score. One-third of the patients had non-urgent problems that were clinically inappropriate for emergency services (Grumbach et al., 1993). The patients themselves acknowledged that they were seeking help from the ED for relatively routine or chronic issues (Grumbach et al., 1993). Billings et al. (2000) reported that four out of five visits to the ED in New York City are for non-urgent conditions, for attention that could be provided in a primary care setting, or for potentially preventable situations.

Despite these implications, investigations have also found that the uninsured population is not solely responsible for the overcrowding in emergency departments nationwide, suggesting that the overcrowding and increase in patient volume is a reflection of greater ED use overall
Weber et al. (2005) argues that studies of ED utilization are limited because they are conducted at an individual department with only ED visitors, as opposed to the general population and are therefore unable to conclude whether people with certain characteristics are more or less likely to use the ED. Weber et al. found that most ED visits were by people with health insurance and a usual source of care (2005). Garcia et al. (2010) found that people with Medicaid coverage were more likely to report one or more ED visits in a year than the uninsured or those with private insurance. The uninsured that do eventually end up in the emergency departments are in bad shape and their condition warrants immediate medical attention (ACEP, 2011d). The ACEP reports that 83 percent of emergency patients are insured privately or publicly (ACEP, 2011c).

Some view the safety net as a replacement for health insurance (Lewin & Altman, 2003). However, this “substitute” has been found to widely vary in its depth and quality of care (Cunningham & Kemper, 1998). Based on interviews of those that utilize the health care safety net, a study done by Becker (2004) suggests that safety net health care facilities are inadequate to meet the needs of the uninsured population and develop unhealthy practices as a result. Many of those interviewed had negative experiences of safety net health care compared to private health care (Becker, 2004). Yet despite the critical reviews, there are still patients who cite the ED as their usual source of health care (O’Brien et al., 1997; Weber et al., 2005). This population has an abundance of barriers that prevent them from seeking other sources of medical attention. One obvious factor is the cost of going to see a physician at a private clinic (O’Brien et al., 1997; Zahradnik, 2008). Despite awareness of other sources of care, patients would rather go to the ED where there is no copayment (O’Brien et al., 1997).
Another reason why individuals would choose the emergency department as opposed to a clinic or primary care facility is the wait time (Grumbach et al., 1993; O’Brien et al., 1997). Although EDs are notorious for making patients wait for hours, it may take even longer to receive an appointment at a community clinic. Grumbach et al. found that in San Francisco, new patients were expected to wait an average of two months before being seen (1993). In Champaign, IL, according to Andrea Goldberg, the executive director of a local Federally Qualified Health Center, the waiting list for new patients was 1,000 names long, with an estimated yearlong waiting period (Trask, 2011). EDs are open 24 hours a day and care is given regardless of one’s ability to pay, which can appear much more attractive to a person without insurance (O’Brien et al., 1997). Patients often cite access barriers to other sources of health care as the reason why they come into the ED (Grumbach et al., 1993).

Many studies have thought of increased accessibility to primary care facilities as the solution to the strain placed on EDs across the country. Begley et al. (2006) suggest that primary-care-related visits to EDs reflect the ability of the local safety net providers to fulfill the needs of the community. If lacking a usual source of care is a predominant reason for emergency department use, then perhaps providing more access to more people can help alleviate the problem. As such, hospitals nationwide are attempting to divert patients from the ED to physician access programs and other forms of primary care, not only to provide appropriate medical treatment but also to help in prevention and education for future health management (Zahradnik, 2008). A study done by R.A. Davidson, Giancola, Gast, Ho, and Waddell (2003) looked at the impact of a free primary care program on ED utilization as well as inpatient admissions. They found that though inpatient admissions rates remained the same, there was a significant decrease in ED utilization. Grumbach et al. (1993) found that, if given the
opportunity, some patients would be willing to trade a visit to the ED for an appointment with a clinic within 3 days.

However, there are mixed reviews regarding access to a usual source of care as a way to lessen UCC as well as decrease non-urgent ED usage. Weber et al. (2005) argue that despite the fact that many insurance programs require patients to have a primary care physician, it appears that access to such has not reduced ED visits and instead, ED usage continues to grow. There are also those who, despite access to other sources of health care, choose to use the emergency department are their primary facility for a variety of reasons (O’Brien et al., 1997). The ACEP reported that in 2007, less than 8 percent of people seeking emergency care presented non-urgent conditions (ACEP, 2011b). It asserts that those in the ED are justifiably receiving medical attention and that placing restrictions on non-urgent, primary-care related conditions will do little to compensate for UCC (ACEP, 2010).

2.4 HEALTH CARE COSTS

The total for health care expenditures in 2010 was almost $2.6 trillion, over ten times the amount spent in 1980 of $256 billion (CMS, 2012). This accounted for 17.8% of the US GDP (World Bank, 2011) and $8,421 per person (Mackun & Wilson, 2011). The United States spends more money on health care than any other country and the costs are continually growing (Bodenheimer, 2005a; KFF, 2011a). Some reasons for the immense costs are due to the overall state of the economy, growing elderly population, end-of-life treatment, excessive administrative costs, rises in specialties and their physicians’ incomes, and expensive technology such as medical equipment and medication (Bodenheimer, 2005a; Trask, 2011).

One general reason why health care costs are high is the overall state of the economy (Bodenheimer, 2005a). By and large, a country that produces more will spend more per capita on
health care (Organisation for Economic Co-operation and Development [OECD], 2003).

Additionally, in most industrialized countries, quality health care and health care access have resulted in longer life expectancies for its citizens. Rising costs in health care is partly due to this increase in elderly populations (Bodenheimer, 2005a; Trask, 2011). In turn, end-of-life care has also become a component in growing costs (Trask, 2011). Reinhardt (2003) found that people over 75 years of age generate per capita health expenditures five times higher than people 25 to 34 years of age, and as such, health care costs are certain to grow as this group of people continue to live longer lives.

Administrative costs are another avenue for excessive health care spending. According to Woolhandler, Campbell, and Himmelstein (2003), in 1999, 24 percent of total U.S. expenditures on health care were from administration costs. While public insurers spent a relatively small percentage of their budget on administrative costs, private insurers can spend double or triple that number of their total revenue due to marketing and advertising expenses (Bodenheimer, 2005b). Hospitals also incur huge administrative costs from maneuvering through the complicated network of public and private insurance providers for each of their patients. This becomes especially true when handling billing (Woolhandler et al., 2003).

There is also a history of preserving the financial interests of the provider in the structure of public and private health insurance (Bodenheimer, 2005c). The American Medical Association’s Political Action Committee (AMPAC) is an example of an organization that promotes the concerns of the provider in elections despite potential negative consequences to Americans trying to access affordable care (Trask, 2011). With a fewer number of primary care physicians and specialty-area doctors on the rise, services per unit of care are more expensive in the United States (OECD, 2003). Physician income in America is three times higher than in the
average nation that belongs to the Organisation for Economic Co-operation and Development (OECD, 2003). The United States has fewer physicians, hospital beds, and acute care hospital bed days per capita than the median country in the OECD, yet spends more because of more specialists and more expensive technology (Bodenheimer, 2005c; OECD, 2003).

One of the biggest contributors to health care expenditures is innovation in the forms of medical technology and equipment, as well as medication (Bodenheimer, 2005b, 2005c). Pharmaceutical products provide a greater quality of life as well as keep chronic conditions under control. However, drugs have increased in cost 15 percent each year from 1998 to 2002 (Levit et al., 2004). Technological development is actually associated with increased cost, surprising as it may seem. Once a new, far superior procedure is developed, overall costs may still increase dramatically as physicians will likely want to take advantage of the new methods on more patients (Bodenheimer, 2005b). In the United States, physicians deem more patients eligible for new procedures more quickly, and innovation is more widely spread and is higher in price per unit of service (Gelijns & Rosenberg, 1994; OECD, 2003). Also, a greater availability of high level facilities is associated with greater per capita use as well as higher spending on these services (Bodenheimer, 2005b). These factors help to explain how the use of technology has spread rapidly and thus increased costs further than other developed countries.

While cost of medical care is continuing to rise, the poverty rate is continuing to increase and household income is declining (DeNavas-Walt et al., 2011). The number of people of without health insurance, though not statistically different, rose from 2009 to 2010 (DeNavas-Walt et al., 2011). With a growing number of people who are uninsured or rely on public aid, hospitals are finding that some of their costly care goes uncompensated. While the definition of uncompensated care cost (UCC) is varied from institution to institution, the American Hospital
Association (AHA) describes it as “an overall measure of hospital care provided for which no payment was received from the patient or insurer” (2012). UCC is the total of a hospital’s charity care and “bad debt” (American Hospital Association [AHA], 2010). This does not include underpayment or lack of reimbursement from Medicaid or Medicare. From a national survey of hospitals, AHA found that there was a total of $39.3 billion in UCC from 2010 (2012). This is a $17.7 billion increase of UCC from 2000 (AHA, 2012). Underpayment by Medicaid and Medicare are also rising yearly. Underpayment, as defined by the AHA, is “the difference between the costs incurred and the reimbursement received for delivering care to patients” (2010). It is essentially the amount by which payment is less than the costs. In 2010, the amount underpaid by the government to hospitals was $36.5 billion (AHA, 2010). Underpayments rose from $3.8 billion in 2000 to $36.5 billion in 2009 (AHA, 2010). This makes the total of UCC and underpayment to be $75.6 billion in 2009.

Emergency departments in particular have felt the brunt of uncompensated care. Although EDs are legally required to stabilize anyone who comes to be treated, only about half of all emergency services are compensated (ACEP, 2010). As EDs are expected to see patients whether or not they have the ability to pay, they are also accruing bad debt while at the same time emergency physicians receive greater cuts in reimbursement for Medicare services than other physicians (ACEP, 2010). UCC has closed the doors of many EDs in the country (ACEP, 2011c).

The financial repercussions of UCC are difficult to quantify. The uninsured, underinsured, indigent and immigrant populations are most commonly referenced when speaking of UCC (Pitts et al., 2008). The enormity of uncompensated care makes it an important issue for the health care system affecting recipients, providers and hospitals, and third-party payers.
Beyond the loss of hospital revenue, there are numerous implications. Cost of care and insurance premiums are increasing, due to a certain extent, from UCC. This, in turn, affects employers’ abilities to provide health benefits for employees (Coustasse et al., 2009), potentially increasing the number of uninsured and underinsured persons.

2.5 SOCIAL SUPPORT

Social interactions have profound impact on one’s life from birth to death (Karelina & DeVries, 2011). The physiological, psychological and behavioral ramifications of socialization are long-term. Social interaction is necessary for healthy development and has a strong influence in physiology and behavior (Karelina & DeVries, 2011). Social isolation has been found to be a risk factor and predictive marker of disease; it can have extremely negative effects on mental and physical wellbeing (Karelina & DeVries, 2011). Both animal and human studies have shown that the presence of other members of the same species has protective effects on the individual from stressful stimuli (Henry, Meehan, & Stephens, 1967; Liddell, 1949). Neither sickness nor wellbeing occur in a vacuum but in a social context that includes health care providers, one’s community or social network, and the physical environment (Gallant, 2003). All of these components contribute to the outward physical activities as well as internal perceptions regarding health and wellness.

While the significance of one’s social network and support system seems undeniable, there are a broad range of ways that social support is defined among the scientific community (Cohen, 1988). Kaplan, Cassel, and Gore found that social support was defined as “the ‘metness’ or gratification of a person’s basic social needs (approval, esteem, succorance, etc.) through environmental supplies of social support” (1977). It was also defined by the relative presence or absence of psychosocial support resources from significant others in one’s life (Kaplan et al.,
1977). Other studies have used a measure called social integration (SI), a structural index of social ties (Cohen, 1988). SI can include marital status, close family and friends, group activities and religious affiliations (Cohen, 1988).

In the past 30 years, there has been a wealth of studies on the benefits of social networks and social support on morbidity and mortality (Gallant, 2003). Despite the different operational and conceptual definitions as well as methodological issues, the general verdict over the years has been that social support has protective effects for a number of health outcomes (Gallant, 2003). There have been numerous studies that indicate that individuals with one or multiple forms of social support as well as perceived support are at lower risk for mortality than more isolated individuals (Berkman & Syme, 1979; Berkman & Glass, 2000; Cohen, 1988; Mazzella et al., 2010; Seeman, 2000). Not only for mortality, but research also shows that social environment is an important factor for morbidity, managing stress, diabetes, coronary heart disease, mental health, as well as a number of other chronic diseases and conditions (Cohen, 1988; Gallant, 2003; Seeman, 2000). Congruently, Karelina & DeVries (2011) have found experimental studies in the literature consistently suggesting that socially isolated animals display quantitative and qualitative differences in pathophysiological response to disease compared to socially housed animals.

Social support also plays an important part in self-care behaviors (Gallant, 2003). Self-management or self-care refers to daily activities that individuals must participate in so that symptoms of chronic diseases may be kept under control, both physical and mental (Clark et al., 1991). These can include taking medication, physical activity, diet, and specific disease-related behaviors (Clark et al., 1991). Research has shown that better self-management behaviors are related to better overall physical and psychological health (Clark et al., 1991). In an investigation
done by Gallant, of 13 studies without methodological concerns, 12 were found to have a significant or partial positive relationship between social support and self-management behaviors (2003). This supports the hypothesis that more support is associated with better self-management behaviors (Karelina & DeVries, 2011; Yuan et al., 2011).

It may be important to mention that there are indications of gender differences in social support and its effect on behaviors (Gallant, 2003). Connell, Fisher, and Houston found that for men, social support was directly related to compliance to diabetes treatment, but for women, support was only associated with general morale (1992). In a study conducted by Gallicchio, Hoffman, & Helzlsouer, men reported a higher health-related quality of life, with social support being an important correlate (2007). As poor social networks are associated with worse health (Seeman, 2000), quality of life and health-related quality of life are also identified with levels of social support (Gallicchio et al., 2007). Despite shorter life expectancy, higher mortality rate, and a similar or greater number of chronic conditions compared to women of the same age, more social ties and social support may enable men to perceive higher health-related quality of life (Gallicchio et al., 2007). Though men and women hold different definitions of support concepts, social support was still an important factor among both genders (Gallicchio et al., 2007).

In addition to the abundant evidence that conveys a positive relationship between social support and favorable health outcomes, there is also mounting documentation that reveals negative influences of health behaviors from social ties (Clark, Janz, Dodge, & Garrity, 1994; Clark & Nothwehr, 1997; El-Kebbi et al., 1996; Gallant, 2003). Some of the negative influences were behaviors of friends and family that were perceived as unsupportive, family responsibilities that took precedence over self-management of disease, nagging, and overreactions (Clark et al., 1994; Clark & Nothwehr, 1997; El-Kebbi et al., 1996). In a study done by El-Kebbi et al.,
diabetics encountered barriers in the social sphere when trying to adhere to a dietary therapy (1996). Patients did not feel supported, felt pressured to cook in ways that were accommodating to their families but detrimental to their conditions, and found it took too much time to cook separate meals for themselves and their families (El-Kebbi et al., 1996).

When people experience a loss or change in support from their social environment, this results in unmet needs, which will eventually experience psychological and physiological strain (Kaplan et al., 1977). The presence of social support is extremely important in managing and negotiating one’s health and wellbeing. It appears that the definition and understanding of social support are broad in literature, and in order to effectively utilize this essential resource, it may be necessary to be more specific with the demographic, disease, and context of the individual’s circumstances.

2.6 SPIRITUAL CARE

The relationship between religion and health has been of interest for as long as both have existed. Throughout history, traditional cultures have encouraged belief and expectancy in healing, incorporating rituals and practices to foster these ideologies. However, since the emergence of modern medicine, a perspective focused on biological sciences has been at the helm, driving the domain of healing (Alves et al., 2010). Religion and spirituality were pushed aside and not seriously considered in scientific investigations (Chatters, 2000). Nonetheless, in recent years, there is increasing consensus that recognizing spiritual concerns is important for understanding health behaviors, attitudes, and positive outcomes (Chatters, 2000; Craig, Weinert, Walton, & Derwinski-Robinson, 2006; Kohls, Sauer, Offenbächer, & Giordano, 2011).

There are a number of reasons why it has been difficult to study the roles and effects of religion and spirituality on health and wellbeing. Religion is an extremely broad and complex
concept to delineate and understand (Chatters, 2000; Craig et al., 2006; Hwang, Hammer, & Cragun, 2009). Ideas of religion and spirituality and subsequent involvement can range from the behavioral and organizational to subjective conceptualizations. The behavioral realm can include activities such as worship attendance, prayer, and participation in faith-based groups (Andrade & Radhakrishnan, 2009; Chatters, 2000). The subjective aspect of religion or spirituality can be more abstract, comprising of concepts such as beliefs, sense of meaning or purpose, transcendence, and attitudes towards oneself and the surrounding world (Alves et al., 2010; Chatters, 2000; Craig et al., 2006). Even when defined, the way in which religion or spirituality impacts an individual’s thinking and behavior may be very different from person to person. The multidisciplinary nature of the intersection of spirituality and health also adds to the difficulty of their study (Chatters, 2000). To identify the process in which religion and spirituality influence individual and population health can be quite challenging.

Another recognized obstacle in studying the effects of spirituality on healing is the amount of assumptions, misconceptions, and even antagonism towards this research question (Andrade & Radhakrishnan, 2009; Chatters, 2000; Ellison & Levin, 1998). Researchers and practitioners in the sciences have been found to be less involved in religious activities than the general population (Woodberry & Smith, 1998), which might have allowed them to regard spirituality as irrelevant in health matters (Chatters, 2000). Poor research designs, methods as well as contradictory results may heighten this perspective towards health and religiosity (Andrade & Radhakrishnan, 2009; Hwang et al., 2009).

Despite these disputes, the impact of spirituality and religion has become a topic of great interest for the scientific community. There exists a wealth of research looking at spirituality and religion that provides evidence of a salubrious effect on health (Alves et al., 2010; Cha, Wirth, &
Lobo, 2001; Craig et al., 2006; Koenig, 1999; Kohls et al., 2011). Rural areas tend to report problems with depression, but Craig et al. found that despite chronic conditions, participants that reported high levels of religious affiliation and spiritual feelings had higher levels of hope than in healthy, less religious counterparts (2006). Levin and Chatters also discovered that there was a moderate to significant positive effect of religion on psychological wellbeing (1998). Religion and spirituality may be important for individuals coping with depression and other mental health problems. People who use religious coping seem to reduce symptoms of depression (Koenig, 1999).

There is evidence that religious affiliation and practices have salutary effects on a number of diseases and conditions (Alves et al., 2010; Chatters, 2000; Ellison & Levin, 1998). Studies have looked at cancer, hypertension, stroke, mental health, and overall mortality (Colantonio, Kasl, & Ostfeld, 1992; Craig et al., 2006; Dwyer, Clarke, & Miller, 1990; Hummer, Rogers, Nam, & Ellison, 1999; Koenig, Hays, Larson, Cohen, & Blazer, 1998). There may be a number of mechanisms by which spirituality and religion ameliorate symptoms of an illness as well as the illness itself. Religion is an all-encompassing influence in a person’s life, affecting emotions, attitudes, behaviors, and activities, which all have potential to impact health outcomes (Chatters, 2000). Affiliation with a religious body can shape behaviors by nurturing those that are conducive to wellbeing and discouraging those that are harmful, e.g. not smoking, limiting drinking, overall moderation (Dwyer et al., 1990; Hummer et al., 1999, Van Ness, 1999).

Encouraging positive affect and feelings of self-worth are other added ways that members of a religious body can be influenced. Love, forgiveness, joy are just a few of the emotions that can be felt in religious involvement (Ellison & Levin, 1999). Social support and resources are also available in religious participation (Alves et al., 2010; Chatters, 2000; Ellison & Levin, 1999;
Hummer et al., 1999). Building social ties within a community of faith provides additional supportive relationships, both formal and informal (Chatters, 2000; Hummer et al., 1999).

Studies on prayer and meditation have also seen positive results in wellbeing (Andrade & Radhakrishnan, 2009). Different types of meditation can result in actual biological and psychological changes that are associated with improved health, such as immune system function (R.J. Davidson et al., 2003). In fact, Wachholtz & Pargament found that spiritual meditation was more effective than secular meditation and relaxation strategies on anxiety, improvement in positive mood, and pain tolerance (2005). In addition, spirituality and religion have been looked at alongside the placebo effect, as both operate from having a sense of meaningfulness and expectancy in a treatment or behavior (Andrade & Radhakrishnan, 2009; Kohls et al., 2011; Van Ness, 1999). A placebo is a “reduction in a symptom in an individual that results from one’s perception of the therapeutic intervention. This response may be considered both a biological and psychological event” (Vase, Riley, & Price, 2002). These studies suggest that similar to placebo, spiritual experiences and practices may promote salutary effects through neural “top-down” mechanisms, engaging the brain/mind to physiologically transform bodily processes (Kohls et al., 2011). This effect may be mediated through different attitudes and behaviors such as optimism and the degree of commitment to a ritual, like the placebo effect (Geers, Kosbab, Heifer, Weiland, & Wellman, 2007; Hyland, Whaily, & Geraghty, 2007).

Religious participation may also encourage behaviors and elicit emotions that are detrimental to one’s health. In an article by Van Ness, he identifies some negative effects of religion on health such fanaticism, asceticism, mortification and oppressive traditionalism (1999). Religion may be associated with poorer mental health status and negative coping behaviors (Alves et al., 2010; Ellison & Levin, 1998). Certain teachings may prohibit types
medical treatment and procedures or promote deviant behavior that is harmful to oneself, e.g. cult membership (Chatters, 2000). Despite aforementioned benefits of social ties in religious involvement, membership to a religious group may be sources of distress as well (Ellison & Levin, 1998). While following the social norms set by these groups can result in healthy, positive results, failure to do so can be distressing as there may be social exclusion or even disciplinary actions involved (Chatters, 2000).

The intersection of health and religion and spirituality will continue to be an area of necessary inquiry as long as people are connected to religion and have their own spiritual beliefs. Collaboration with leaders and organizations within faith-based communities have resulted in numerous health programs such as health screenings, disease prevention and other health-promoting activities with positive results (Chatters, 2000). Oftentimes, these institutions give legitimacy to the purpose and intent of program content (Maton & Pargament, 1987). There are numerous reasons to persist in incorporating spirituality in care for individuals with serious conditions. As further study develops, refining methodology and delivery methods may be of interest in order to heighten and enhance the positive effect that spirituality and religion have on the population’s health.
CHAPTER 3: METHODOLOGY

3.1 INTRODUCTION

The purpose of this study was to examine the potential effect of certain concepts on ED usage. Data already collected for a previous study was analyzed to determine the relationship between social support and frequency of ED usage as well as the relationship between spiritual care and ED usage. The subjects in this study were from the Champaign-Urbana area in central Illinois. Participants were between the ages of 18 and 64 and were recruited from various locations in the area.

3.2 DATA COLLECTION

The current study used data from a previously existing database. This data had been collected from the following locations: Champaign County Christian Health Center, Family Dollar, Rose & Taylor Barber Shop, Salt & Light, and the emergency departments of two local hospitals – Carle Foundation Hospital and Provena Covenant Hospital. The Champaign County Christian Health Center (CCCHC) is a non-profit clinic that exclusively serves the uninsured population free of charge. While they do have a religious affiliation and offer spiritual support services, there is no requirement to become a patient of CCCHC except for lack of any form of health insurance, including public aid. Family Dollar is a discount retail store that is frequented by a wide range of individuals, due to its low-priced merchandise. It is located in an area without any other shops of its kind, near a lower socioeconomic status neighborhood. Rose & Taylor Barber Shop has been in the community for about 50 years. A previous needs assessment in the community revealed high numbers of uninsured clientele at this barbershop. Salt & Light is a food and clothing distribution ministry for the poor. It has working relationships with other
organizations in the community to provide health services as well, such as school physicals for children.

Surveys were administered in order to collect data regarding participants’ demographic information (age, race, sex, income, education), sources of social support, exposure to four health-related services (medication, health education, testing services, spiritual support), frequency and characterization of ED usage in the past three months, and other sources of health care (see Appendix). No identifiable information was included in the survey. Individuals were handed a survey to mail back, surveyed in person or surveyed over the phone. For those surveyed over the phone, a script was read to each participant, including a prompt for informed consent. Once the surveys were completed by phone, information tied to a participant’s name was destroyed to protect confidentiality. Individuals who were handed a survey were also read a script, and upon completion of a consent form, were given the survey to fill out at that time or to be finished at a later time and mailed in. A total of 283 subjects took part in the study and the resulting data was recorded and analyzed in The Statistical Package for the Social Sciences (SPSS) 20.0.

3.3 RESEARCH QUESTIONS AND VARIABLES

The original study intended to look at the uninsured population and ED usage. In particular, the research was centered on a group of uninsured individuals that used the services of a free clinic and another group of uninsured individuals who did not utilize available services of a free clinic. Consequent differences between the two groups regarding the frequency of ED usage were observed. Four variables (health education, spiritual care, medicate usage and testing services) were also examined to determine whether or not any differences between the two groups of uninsured subjects could be attributed to these factors.
This current study focused on the interaction between social support and frequency of ED usage and spiritual care and frequency of ED usage by members in the Champaign-Urbana community. In order to examine the frequency of utilization of the ED, participants had been surveyed to see how many times they had visited the emergency room in the past three months. This was a relatively short window of time for people to remember a major event such as an ER visit and also gave a picture ED utilization frequency. The number of ER visits from the past three months elicited continuous responses and was labeled as ED usage. This was the dependent variable in the current study.

The first research question (I) asked, what is the demographic composition of the study participants? Demographic characteristics were looked at for a description of the individuals that provided data. Gender elicited a binomial response. Insurance status was also categorical, requiring a binomial yes/no response. Race was reported by choosing from six different options, which also included a multiracial choice. Annual income and educational background also presented six different choices a participant could choose from. All demographic questions prompted categorical responses except for age, which was a continuous variable.

The second research question (II) asked, is there a significant difference in means of ED visits between groups receiving varied amounts of social support? The extent of social support was determined as subjects chose as many options that applied out of five categories of sources that provided support, which were family, friends, co-workers, church, and clubs/organizations. Participants were then placed into six groupings and characterized by the amount of social support with a number from 0 to 5, depending on how many categories they chose. The amount of social support was also organized in a second way (entitled social-2 support) into two groupings characterized by having little to no support (0 or 1 group selected) or having moderate
to high support (2 to 5 groups selected). Both social support and social-2 support were
categorical variables.

The third research question (III) asked, is there a significant difference in means of ED
visits between those who receive spiritual care in the form prayer and those who do not receive
spiritual care? *Spiritual care* was measured in this study based on a binomial (yes/no) response
to a question on the survey that asked about receipt of prayer. Spiritual care was also a
categorical variable.

The fourth research question (IV) asked, is there a significant difference in means of ED
visits between the genders and between those who have insurance and those that are uninsured?
Gender and insurance status were the only demographic information tested for any potential
effect on ED usage. Each of these categorical variables was analyzed separately to determine if
either had a significant impact on frequency of ED visits.

The fifth research question (V) asked, are there differences in the means of ED visits
between combinations of the variables? In order to answer this question, each demographic
variable – gender and insurance status – was paired with each of the remaining independent
variables – social support, social-2 support, and spiritual care. The resulting combinations were
social support and gender, social support and insurance status, social-2 support and gender,
social-2 support and insurance status, spiritual care and gender, and finally, spiritual care and
insurance status. Each of these combinations were analyzed to determine whether there was a
combined effect of variables on the frequency of ED visits for study participants.

The sixth and last research question (VI) asked, are there any associations between any of
the independent variables? Social support, social-2 support, spiritual care, gender, and insurance
status were the independent variables in the current study. Social support and gender, social
support and insurance status, social-2 support and gender, social-2 support and insurance status, spiritual care and gender, and spiritual care and insurance status were the combinations that were analyzed for potential associations.

3.4 STUDY DESIGN

The study used a quasi-experimental approach – a posttest-only design with nonequivalent groups (Trask 2011). This design was appropriate, as the participants could not be randomly assigned to a specific number of sources for social support nor whether or not they received spiritual care.

3.5 ANALYSIS

In order to analyze the data, SPSS 20.0 was used for the necessary calculations. Descriptive statistics were calculated from the demographic data collected. When examining the interaction between social support and the number of ED visits in the past three months, linear correlation was used. However, to examine the interactions between social-2 support and ED usage, independent sample t-test was utilized. A two-way analysis of variance (ANOVA) were applied to explore the association of gender and social-2 support and ED usage, and then applied again to examine insurance status, social-2 support and ED usage. Spiritual care and ED usage were compared using a t-test. When looking at the combined effect of spiritual care and ED usage with gender or insurance status, two-way ANOVAs were used.

An association between social support and gender was studied, an independent sample t-test was performed. However, in order to observe the interaction of social-2 support and gender, chi-square tests were utilized. Chi-square was again employed to study any association between gender and spiritual care. Finding the $r$ and $p$-values for these analyses helped uncover any potential relationships the variables may have with one another. A p-value less than 0.05
indicates that there is a significant difference in means and that the independent variable(s) being looked at have had a statistically significant impact on the dependent variable(s).
CHAPTER 4: RESULTS

4.1 INTRODUCTION

This study was interested in looking at the frequency of ED visits in a three-month time frame. By using a secondary dataset, the objective was to determine whether or not social support and spiritual care helped mitigate the number of these trips to the ED for the subjects involved. With the statistical software SPSS, descriptive statistics were calculated for the following independent variables: gender, race, income, insurance status, education level, sources of social support, and spiritual care. The effects of social support and spiritual care on the frequency of ED visits were tested for significance. Additionally, gender and insurance status were analyzed with social support and spiritual care for any trends they may exhibit that could assist in further clarifying significance or a lack thereof.

4.2 GROUP CHARACTERISTICS

There were a total number of 283 participants who submitted surveys that were included in the final analyses. They were asked to fill out a demographic portion of the survey in order to better catalog the different groups of individuals that were sampled in this study. These characteristics included gender, race, income, insurance status, and education level. Additionally, the survey asked subjects to describe their sources of support from social circles as well as spiritual care defined by the receipt of prayer in the previous three months. The subsequent data from these questions was used look at ED usage and their possible interactions.

According to the 280 individuals that provided gender information, this group favored women with 62.9% female and 37.1% males, (see Table 1). Participants of the study were also
Table 1: Gender of Study Participants

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>176</td>
<td>62.9</td>
</tr>
<tr>
<td>Male</td>
<td>104</td>
<td>37.1</td>
</tr>
<tr>
<td>Total</td>
<td>280</td>
<td>100.0</td>
</tr>
</tbody>
</table>

prompted to give information about their racial identity, selecting from White/Caucasian, Black/African-American, Hispanic/Latino, Asian/Pacific Islander, Native American and multiracial. The racial composition of the 280 subjects that responded to this portion was distributed as follows (see Table 2): White/Caucasian at 53.2% (n = 149), Black/African-American at 30.4% (n = 85), Hispanic/Latino at 10.4% (n = 29), Asian/Pacific Islander at 2.9% (n = 8), Native American at 1.1% (n = 3), and Multiracial at 2.1% (n = 6). Respondents were able to describe their annual income by choosing between under $9,999, $10,000 to $14,999, $15,000 to $19,999, $20,000 to $24,999, $25,000 to $34,999, or over $35,000. The results of the survey indicated that most of the subjects reported an annual income of less than $9,999. Of the 273 individuals that responded to this portion of the survey, 133 people, or 48.7%, made less than $9,999 annually, while 17.2% earned $10,000 to $14,999, 10.6% earned $15,000 to

Table 2: Racial Composition of Study Participants

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White/Caucasian</td>
<td>149</td>
<td>53.2</td>
</tr>
<tr>
<td>Black/African-American</td>
<td>85</td>
<td>30.4</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>29</td>
<td>10.4</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>8</td>
<td>2.9</td>
</tr>
<tr>
<td>Multiracial</td>
<td>6</td>
<td>2.1</td>
</tr>
<tr>
<td>Native American</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>Total</td>
<td>280</td>
<td>100.0</td>
</tr>
</tbody>
</table>
$19,999, 9.9% earned $20,000 to $24,999, 6.6% earned $25,000-$34,999, and 7.0% earned over $35,000 per year (see Table 3). Participants were able to indicate their insurance status on the surveys, whether they currently had a source of insurance or not. Only one respondent did not specify their insurance status, and of the 282 subjects, 57.8% of them communicated that they did not have any form of insurance at the time of the survey (see Table 4). The other 42.2% indicated that they did have insurance. In the education portion of the survey, respondents had six different options to choose from to indicate their educational backgrounds. Participants reported their educational backgrounds, 4.0% of which had completed up to the 8th grade and 33.2% of which had earned a high school diploma or its equivalent. Those who had completed some college comprised 28.6% and 10.2% earned a two-year degree, 16.3% earned a four-year college degree, and 4.6 % went to a trade school (see Table 5).

Table 3: Annual Income of Study Participants

<table>
<thead>
<tr>
<th>Annual Income</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $9,999</td>
<td>133</td>
<td>48.7</td>
</tr>
<tr>
<td>$10,000 – $14,999</td>
<td>47</td>
<td>17.2</td>
</tr>
<tr>
<td>$15,000 – $19,999</td>
<td>29</td>
<td>10.6</td>
</tr>
<tr>
<td>$20,000 – $24,999</td>
<td>27</td>
<td>9.9</td>
</tr>
<tr>
<td>$25,000 – $34,999</td>
<td>18</td>
<td>6.6</td>
</tr>
<tr>
<td>Over $35,000</td>
<td>19</td>
<td>7.0</td>
</tr>
<tr>
<td>Total</td>
<td>273</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4: Insurance Status of Study Participants

<table>
<thead>
<tr>
<th>Insurance Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>163</td>
<td>57.8</td>
</tr>
<tr>
<td>Yes</td>
<td>119</td>
<td>42.2</td>
</tr>
<tr>
<td>Total</td>
<td>282</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 5: Educational Background of Study Participants

<table>
<thead>
<tr>
<th>Educational Background</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed 8th grade</td>
<td>11</td>
<td>4.0</td>
</tr>
<tr>
<td>High School Diploma/GED</td>
<td>94</td>
<td>34.3</td>
</tr>
<tr>
<td>Some College</td>
<td>81</td>
<td>29.6</td>
</tr>
<tr>
<td>Two-Year Degree</td>
<td>29</td>
<td>10.6</td>
</tr>
<tr>
<td>Trade School</td>
<td>13</td>
<td>4.7</td>
</tr>
<tr>
<td>Four-Year Degree</td>
<td>46</td>
<td>16.8</td>
</tr>
<tr>
<td>Total</td>
<td>274</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In order to examine the effect of social support on the frequency of ED usage, the number of sources of support was organized into a scale from 0 to 5, each integer representing the number of sources (out of 5) that participants reported present in their lives. From data collected from the 271 individuals that reported about their social support, the majority of participants revealed that they had at least one source of support, with only 1.1% (n = 3) accounting for zero sources support. Subjects who reported having one source of support comprised of 42.1%, two sources of support comprised 24.0%, three sources of support comprised 21.8%, four sources of support comprised 10.2%, and those with five sources comprised 0.9% of the entire group (see Table 6). Social support was organized in two other arrangements in addition to the previously stated manner. Designated as social-2 support, the amount of social support study respondents

Table 6: Distribution of Social Support of Study Participants

<table>
<thead>
<tr>
<th>Social Support</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 sources</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>1 source</td>
<td>114</td>
<td>42.1</td>
</tr>
<tr>
<td>2 sources</td>
<td>65</td>
<td>24.0</td>
</tr>
<tr>
<td>3 sources</td>
<td>59</td>
<td>21.8</td>
</tr>
<tr>
<td>4 sources</td>
<td>27</td>
<td>10.2</td>
</tr>
<tr>
<td>5 sources</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>271</td>
<td>100.0</td>
</tr>
</tbody>
</table>
reported was organized into two groups – having little to no levels of support (0 or 1 sources of social support selected) and having moderate to high levels of support (2 to 5 sources of social support selected). The group that reported 0 to 1 sources of social support comprised of 43.2% of the 271 participants, while those that reported 2 to 5 sources of social support were 56.8% of the whole (see Table 7).

Table 7: Distribution of Social Support of Study Participants

<table>
<thead>
<tr>
<th>Social Support</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1 source</td>
<td>117</td>
<td>43.2</td>
</tr>
<tr>
<td>2 - 5 sources</td>
<td>154</td>
<td>56.8</td>
</tr>
<tr>
<td>Total</td>
<td>271</td>
<td>100.0</td>
</tr>
</tbody>
</table>

This study also intended to examine the effect of spiritual care on the frequency of ED visits as measured by receipt of prayer. Of the total surveys, 269 of them indicated whether or not they had been offered prayer in the previous three months. Those who responded “yes” to the offer of prayer were 31.6% of the 269, while those who responded with a “no” comprised 68.4% (see Table 8).

Table 8: Distribution of Spiritual Care of Study Participants

<table>
<thead>
<tr>
<th>Spiritual Care</th>
<th>Percentage</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>85</td>
<td>31.6</td>
</tr>
<tr>
<td>No</td>
<td>184</td>
<td>68.4</td>
</tr>
<tr>
<td>Total</td>
<td>269</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.3 RESEARCH QUESTIONS

This study intended to examine a potential association between the amount of social support and frequency of ED visits in the previous three months. Of equal interest was the relationship between spiritual care and frequency of ED usage. In order to evaluate their effects,
SPSS was utilized in order to run the appropriate analyses. When evaluating the influence of social support on ED usage, linear correlation was used. ED usage presented a mean of 1.06 and social support had a mean of 2.01. While the results indicated that there was a slight negative correlation between the two variables, there was no statistical significance between the amount of social support (0 to 5 sources) and frequency of ED visits in a three-month span (see Table 9).

Table 9: Linear Correlation Result of Social Support and ED Usage

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED Usage</td>
<td>277</td>
<td>-0.54</td>
<td>0.384</td>
</tr>
<tr>
<td>Social Support</td>
<td>271</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
**p < .01
***p < .001

The association between social support and ED usage was measured in second way by using a different organization of the amount of social support, designated as social-2 support. Instead of a six-part scale (0 to 5) of social support sources, data was separated instead into two different groups, having little to no social support (0 to 1 source) and having moderate to high social support (2-5 sources). To determine whether social support as social-2 support had a significant effect on ED usage for the study participants, an independent sample t-test was performed in SPSS. The average ED usage for those with little to no social support was 1.08, while those with moderate to high social support had an ED usage mean of 0.99. The results of the analysis indicated that there was no significant difference between the two means (see Table 10).

The spiritual care variable was established by a binomial yes/no response to an offer of prayer in the previous three months. Its effect on ED usage in the same time frame was observed by using an independent sample t-test in SPSS. The mean ED usage by those that received prayer
was 0.95 while those that did not receive prayer had a mean of 1.07. Although those who received spiritual care had a lower ER usage average, the analysis showed that it was not a statistically significant difference (see Table 10).

Two demographic variables, gender and insurance status, were examined to see their effects on the frequency of ED usage in study participants. Independent sample t-tests were again used to check if the relationships between gender and ED usage as well as insurance status and ED usage were significant. Although female participants had a greater mean of ER visits (1.15) than the male participants did (0.85), there was no significant difference between the means (see Table 10). Insurance status and ED usage resulted in a similar outcome – there was no significant difference between the mean numbers of ER visits whether or not one was insured (see Table 10).

**Table 10: Relationship of Independent Variables to ED Usage**

<table>
<thead>
<tr>
<th>Variable</th>
<th>ED Usage</th>
<th>N</th>
<th>Mean</th>
<th>Sig.</th>
<th>95% Confidence Interval of the Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support</td>
<td>Little to none</td>
<td>113</td>
<td>1.08</td>
<td>.654</td>
<td>- .291</td>
<td>.464</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate to high</td>
<td>153</td>
<td>.99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiritual Care</td>
<td>No</td>
<td>183</td>
<td>1.07</td>
<td>.543</td>
<td>- .265</td>
<td>.503</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>84</td>
<td>.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>174</td>
<td>1.15</td>
<td>.121</td>
<td>-.079</td>
<td>.678</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>100</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance Status</td>
<td>No</td>
<td>159</td>
<td>1.03</td>
<td>.742</td>
<td>-.436</td>
<td>.311</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>117</td>
<td>1.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
**p < .01
***p < .001

Further analyses were conducted with the variables social-2 support and ED usage by incorporating both gender and insurance status, separately. A two-way ANOVA was utilized to
observe the interaction of social-2 support, gender, and ED usage. The results did not prove to be significant as the subsequent p-value was 0.393 (see Table 11). Another two-way ANOVA was performed to see whether or not there was an interaction effect of social-2 support and insurance status on the dependent variable of ED usage (see Table 11). Upon examination, the results were found to be significant with a p-value of 0.033. This indicated that there was a meaningful combined effect of insurance status and social-2 support on participants’ ED usage from the previous three months.

Table 11: Two-Way ANOVA Results of Independent Variables on ED Usage

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social-2 Support</td>
<td>1.638</td>
<td>1</td>
<td>1.638</td>
<td>.686</td>
<td>.408</td>
</tr>
<tr>
<td>Gender</td>
<td>4.019</td>
<td>1</td>
<td>4.019</td>
<td>1.682</td>
<td>.196</td>
</tr>
<tr>
<td>Social-2 * Gender</td>
<td>1.903</td>
<td>1</td>
<td>1.903</td>
<td>.797</td>
<td>.373</td>
</tr>
<tr>
<td>Error</td>
<td>623.527</td>
<td>261</td>
<td>2.389</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>630.694</td>
<td>264</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social-2 Support</td>
<td>.048</td>
<td>1</td>
<td>.048</td>
<td>.020</td>
<td>.887</td>
</tr>
<tr>
<td>Insurance Status</td>
<td>.247</td>
<td>1</td>
<td>.247</td>
<td>.104</td>
<td>.747</td>
</tr>
<tr>
<td>Social-2 * Insurance</td>
<td>10.954</td>
<td>1</td>
<td>10.954</td>
<td>4.619</td>
<td>.033*</td>
</tr>
<tr>
<td>Error</td>
<td>619.002</td>
<td>261</td>
<td>2.372</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>631.758</td>
<td>264</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Care</td>
<td>1.127</td>
<td>2</td>
<td>.563</td>
<td>.267</td>
<td>.766</td>
</tr>
<tr>
<td>Gender</td>
<td>9.450</td>
<td>1</td>
<td>9.450</td>
<td>4.475</td>
<td>.035*</td>
</tr>
<tr>
<td>Spiritual * Gender</td>
<td>.160</td>
<td>1</td>
<td>.160</td>
<td>.076</td>
<td>.784</td>
</tr>
<tr>
<td>Error</td>
<td>549.107</td>
<td>260</td>
<td>2.112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>559.940</td>
<td>264</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Care</td>
<td>.098</td>
<td>2</td>
<td>.049</td>
<td>.023</td>
<td>.977</td>
</tr>
<tr>
<td>Insurance Status</td>
<td>6.215</td>
<td>1</td>
<td>6.215</td>
<td>2.915</td>
<td>.089</td>
</tr>
<tr>
<td>Spiritual * Insurance</td>
<td>20.905</td>
<td>1</td>
<td>20.905</td>
<td>9.807</td>
<td>.002*</td>
</tr>
<tr>
<td>Error</td>
<td>558.488</td>
<td>262</td>
<td>2.132</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>580.697</td>
<td>266</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  
**p < .01  
***p < .001
Spiritual care, gender and ED usage as well as spiritual care, insurance status and ED usage were analyzed using two-way ANOVAs. Gender and spiritual care together did not have any significant effect on ED usage (see Table 11). Surprisingly, although gender did not previously have a significant impact on ED usage (see Table 10), gender had a p-value less than 0.05 in this particular two-way ANOVA, indicating a significant difference in ED usage means between the genders. In addition, insurance status and spiritual care together were found to have a significant effect on ED usage for study participants, with a p-value of 0.002 (see Table 11). This meant that while spiritual care and insurance status separately did not have a notable impact on ED usage in the previous three months, these two factors together did have a significant effect on the frequency of ED visits.

To investigate any relationships between the independent variables used in the analyses, some final tests were performed using social support, social-2 support, spiritual care, gender, and insurance status. An independent sample t-test was performed on the amount of social support participants had (0 to 5 sources) and gender (see Table 12). Although women on average had more support than men did, the results were not significant. Another t-test was performed to see potential associations between social support and insurance status (see Table 12). According to

| Table 12: Relationship of Gender and Insurance Status on Social Support |
|---------------------------------|-----|------|-----|-----------------|-----|
|                                | N   | Mean | Sig. | 95% Confidence Interval of the Difference |
|---------------------------------|-----|------|-----|---------------------------------|-----|
| Gender                          |     |      |     |                                |     |
| Female                          | 170 | 2.11 | .076| - .026                         | .518|
| Male                            | 100 | 1.86 |     |                                |     |
| Insurance Status                |     |      |     |                                |     |
| No                              | 154 | 1.90 | .053| - .526                         | .004|
| Yes                             | 116 | 2.16 |     |                                |     |

*p < .05  
**p < .01  
***p < .001
the results, there was no relationship between these two variables; insurance status did not have a significant bearing on how much social support a participant had.

Social-2 support, divided into two categories of the amount of social support sources, and gender were analyzed for an association by using the chi-square test. According to the data, a

<table>
<thead>
<tr>
<th>Social-2 Support</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little to None</td>
<td>66</td>
<td>50</td>
<td>116</td>
</tr>
<tr>
<td>Moderate to High</td>
<td>104</td>
<td>50</td>
<td>154</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>100</td>
<td>270</td>
</tr>
</tbody>
</table>

The significance value of 0.73 indicated that there was no statistically significant difference in the amount of social support (little to none or moderate to high) had by the two genders (see Table 13). Another chi-square analysis was used to determine if there was any association between social-2 support and insurance status. Upon viewing the results of the test, it was concluded that

<table>
<thead>
<tr>
<th>Insurance Status</th>
<th>No</th>
<th>Yes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little to None</td>
<td>73</td>
<td>43</td>
<td>116</td>
</tr>
<tr>
<td>Moderate to High</td>
<td>81</td>
<td>73</td>
<td>154</td>
</tr>
<tr>
<td>Total</td>
<td>154</td>
<td>116</td>
<td>270</td>
</tr>
</tbody>
</table>

it was not significant and there was no relationship between a participant’s insurance status and the amount of social support they had, whether they had little to none or moderate to high levels (see Table 14). A third chi-square test was performed on spiritual care, as characterized by
receipt of prayer in the previous three months, and gender (see Table 15). The resulting significance value of 0.150 revealed that there was no meaningful association between spiritual care and gender. There was one last chi-square that was run for receipt of spiritual care and study participants’ insurance status. The results of the test signified that a participant’s insurance status did not have a significant effect on whether or not one received prayer (see Table 16).

To summarize, 283 total surveys were analyzed to determine any associations between the independent variables gender, insurance status, social support, social-2 support, and spiritual care, and the dependent variable of ED usage frequency in a three-month time frame. Fourteen different tests were run to determine areas of significance. Notable findings included a significant relationship between insurance status, social-2 support and ED usage, as well as insurance status, spiritual care and ED usage.

Table 15: Chi-Square Result of Spiritual Care and Gender

<table>
<thead>
<tr>
<th>Spiritual Care</th>
<th>Total</th>
<th>Pearson Chi-Square</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>109</td>
<td>59</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>72</td>
<td>26</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>181</td>
<td>85</td>
<td>267</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  
**p < .01  
***p < .001

Table 16: Chi-Square Test Result of Spiritual Care and Insurance Status

<table>
<thead>
<tr>
<th>Spiritual Care</th>
<th>Total</th>
<th>Pearson Chi-Square</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>102</td>
<td>54</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>82</td>
<td>30</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>184</td>
<td>84</td>
<td>269</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  
**p < .01  
***p < .001
CHAPTER 5: DISCUSSION

5.1 INTRODUCTION

The purpose of this study was to determine if social support, from a variety of relationship sources, and spiritual care, as defined by the receipt of prayer in a three month period, had any significant impact on the frequency of emergency room visits in a three month period for surveyed participants. This information was gathered from a secondary dataset of 283 surveys that had been previously collected by researchers. The analyses indicated that while social support and spiritual care alone did not have significant effects on the frequency of ED usage, there were some notable interactions with insurance status that produced meaningful results.

5.2 MAJOR FINDINGS

The main research questions involved the effects of social support (from five different sources of support), social-2 support (split into two levels of support), and spiritual care (the receipt of prayer in the three months prior to survey administration), each separately on the dependent variable, the amount of ED usage in the three months prior to survey administration. Upon analysis, none of the three variables had a significance level of \( p < 0.05 \) and therefore were not found to have a significant effect on the frequency of ED usage. Demographic variables gender and insurance status were also each tested separately to determine if these factors had any sort of effect on ED usage. The results indicated that neither gender nor insurance status had any significant effect on the frequency of ER visits in the independent sample t-tests. However, in a two-way ANOVA with spiritual care on ED usage, gender had a \( p \)-value of 0.035, demonstrating significance.
More tests were performed to detect any interaction effects of the three main independent variables (social support, social-2 support, spiritual care) with demographic variables (gender and insurance status) on ED usage frequency. Social-2 support and gender did not have any significant effect on ED usage and neither did spiritual care and gender on the number of ED visits. However, social-2 support and insurance status did have a significant interaction effect on ED usage with a p-value of 0.033. This meant that depending on the participants’ insurance status and how much social support they had (little to no support or moderate to high support), it made a difference in the number of times they went to the emergency room. Spiritual care and insurance status also had a significant effect on ED usage. With a p-value of 0.002, the interaction effect between having received prayer and one’s insurance status made a difference in how often a participant of this study went to the ER.

As previously mentioned, gender, analyzed with spiritual care using a two-way ANOVA, resulted in a significant effect on ED usage. This is contradictory to results from the independent sample t-test that was performed on gender and ED usage. One possible explanation for this discrepancy is that the samples for the two tests differed. For the t-test, every single survey with gender information was utilized to determine the effect of gender on ED usage. However, in the two-way ANOVA, only surveys that had both gender information and spiritual care data could be employed. Spiritual care data had the lowest frequency with only 269 entries, limiting the frequency of gender data from 274 in the t-test to 265 in the two-way ANOVA. This may be why there are inconsistencies in the effect of gender on ED usage means.

There were no other statistically significant interactions between variables. Analyses were performed between independent variables social support and gender, social support and insurance status, social-2 support and gender, social-2 support and insurance status, spiritual care
and gender, and spiritual care and insurance status. None of these interactions proved to be significant.

Consistency between the literature and results of this study is varied. Research conducted by Carret, Fassa and Kawachi (2007) found that lack of social support was a factor in inappropriate use of the ER. However, there is not a great deal of literature that directly links social support or spiritual care with frequency of ED usage. The research indicated the plausibility of both social support and spiritual care having potential to decrease ED usage. Social support may be able to mitigate the potentially preventable circumstances that bring people to emergency departments by reducing morbidity and mortality risk (Gallant, 2003). Having multiple support relationships can encourage self-care behaviors and proper management of chronic diseases (Gallant, 2003; Seeman, 2000).

Surprisingly, there was not a strong effect of social support alone on ED usage. Although there was a slight negative correlation between the amount of social support a participant had and number of ER visits, it was not a consequential relationship. It may not be that the amount of social support is important as the quality of the relationships one has, which was not measured in the survey. However, social support and insurance status together did have a significant effect on how often a participant went to the emergency department in a three-month span. This could suggest that social support or lack thereof has greater repercussions depending on insurance status.

Spirituality and religious affiliation have been found to have a positive effect on chronic illnesses, depression, and other mental health issues (Craig et al., 2006; Levin & Chatters, 1998; Colantonio et al., 1992; Dwyer et al., 1990). Prayer and meditation have beneficial effects on health (Andrade & Radhakrishnan, 2009), which may also contribute to fewer trips to the ED. In
this study, spirituality in the form of receipt of prayer did not have a significant impact on the frequency of ED visits for participants. Although those who were offered prayer had slightly fewer ED visits in a three-month period, there was not a notable difference in means. However, spirituality and insurance status together did significantly affect ED usage. Just as in social support, the results suggest that receiving prayer may have a greater impact depending on insurance status. This implies that especially for those who are uninsured, having resources besides insurance can reduce the number of ER visits one may need.

The literature indicates some gender differences in social support and its effects on men and women (Gallant, 2003). Gallicchio et al. found that men had more social support and ties, enabling them to have a higher health-related quality of life. However, in the current study, there was no difference in the amount of social support each gender had. There was also no gender difference between whether or not a participant received spiritual care.

There is a fair amount of information on insurance status and ED usage. A number of studies have found that the uninsured and publicly insured have contributed greatly to use of the emergency department, turning it into their source of primary care (Billings et al., 2000; Grumbach et al., 1993; O’Brien et al., 1997; Begley et al. 2006; Begley et al. 2011). There are other studies suggesting that overcrowding and inappropriate usage of the ED does not fall on the uninsured but on the overall increase of ED visits from the general population (Begley et al., 2010; Garcia et al., 2010; Weber et al., 2005). The current study found that insurance status did not affect the frequency of ED visits. One reason for this finding may be because Trask (2011) found that amongst the uninsured population in this study, those with a usual source of care had significantly fewer visits to the ED in the three months prior to survey administration than the uninsured that did not have a source of primary care. Although uninsured, there may have been
enough significant differences within the uninsured participants to equalize any variance between the uninsured and insured subjects.

5.3 IMPLICATIONS

From the resulting data, there are a few implications this study provides. Although the literature seemed to suggest that social support and spiritual care would have a mitigating effect on ED usage, these variables alone did not have a significant impact. However, both social support and spiritual care do in fact significantly reduce ED visit frequency when insurance status is involved. This would mean that first, for the uninsured population, it appears that the expansion of resource options may help mitigate trips to the emergency room. Encouraging more social support, positive relationships and spirituality (to those who desire it) can be of benefit. It would also seem advantageous for religious organizations to join forces with health care agencies in order to expose people to more health education as well as open dialogue about health in different dimensions of life. These are cost-effective, practical measures that most people can take on not only to avoid the ED but to most likely improve their physical and emotional health.

The personal health benefit to patients is also a financial benefit to providers, hospitals and beyond. Reducing trips to the emergency room can save hospitals in uncompensated care, cutting revenue losses, especially as EDs are mandated by law to see anyone who walks through their doors. Uncompensated care costs is a contributor to the rise in overall cost of care as well as insurance premiums; one way to be able to put a cap on these expenses may be to avoid inappropriate, frequent visits to the emergency room.
5.4 LIMITATIONS

There were a number of limitations in this study. Because the sampling was done in one geographic area (Champaign and Urbana in Illinois), generalizations must be contextualized to the rest of the population. Also, the research lacked random selection and instead used convenience sampling. Self-report was another limitation. In order to control for this and encourage accurate recall and honesty in the data, the survey asked for participants to look back only three months and assured confidentiality and anonymity.

Participants that were patients of CCCHC presented a number of ways the data could have been skewed in this study. First, CCCHC is a holistic clinic with specific characteristics, including the offer of prayer. If a different free clinic or more participants from the general community were used, this could have produced different results in the area of spirituality. Secondly, CCCHC patients were also interviewed over the phone, which introduced potential bias of phone ownership, as patients without a phone number could not be included in the participant pool to choose from.

5.5 FUTURE STUDIES

Based on findings, there are multiple ways in which this study could serve as an impetus for further research that is more in-depth in this area. Perhaps social support is not as important as the literature suggests. Or when regarding ED usage, the health benefits that social support provides which may lower ED usage could be leveled out by the same support that is encouraging an ED visit if deemed necessary. In any case, more specific study in the type of social support and mechanisms by which participants are receiving assistance may be important to distinguish. This database did not differentiate between the type of social support and only recorded the aggregate number of support sources. It may be helpful to look at the particular
relationships (spouse vs. friends vs. co-workers, etc.) instead of categorizing the amount of support participants receive (0 of 5 sources, 1 of 5 sources, 2 of 5 sources, 3 of 5 sources, etc.). It is also of interest to know how these relationships provide practical help in health care, such as specific self-care behaviors, as well as the kind of emotional and mental support they may give.

Although the literature presents both positive and negative influences on health, spirituality was expected to have generally favorable effects. There are issues of overlap in social support and spirituality, as religious groups and affiliations oftentimes play very pivotal roles in socialization and care-taking. The survey that was utilized in this study did not completely separate the two areas and included “church” as an option for sources of social support. In future studies, it would be consequential to differentiate the two as much as possible in questions. There were also some clarity issues with how the spirituality assessment question was expressed. Study participants were asked whether they were offered prayer in the past three months about their health concern, which Trask used to measure as spirituality (2011). It would be advantageous to be more specific this kind of question, as being offered prayer is not the same as having actually received prayer about a health concern. In addition, if incorporating spirituality in health care is indeed beneficial, there must be more done to assess how this can be done appropriately with sensitivity.

5.6 CONCLUSION

As health care costs increase and the number of those who cannot afford care continues to grow, the situation becomes more urgent. This provides a pivotal opportunity for new, creative, cost-effective, and accessible ways to meet the basic health demands of so many that are in need. Though the conventional methods of fulfilling these needs exist, it is clear that something different must be done as health care spending cannot continue in the same way.
Further inquiry into different forms of social support as well as the role of spirituality and religiosity in a person’s health may become more critical in the search for non-traditional solutions.
REFERENCES


doi:10.1001/jama.284.16.2117


Do you currently have health insurance?  
Yes  
No

If yes, what kind of insurance do you have?  ___________________________________________________________________

How long have you been uninsured?  
Less than 1 month  
Between 1 – 12 months  
Over 12 months

Demographic Information:

**Race/Ethnicity (Please circle):**

White/Caucasian  
Black/African-American  
Hispanic/Latino  
Asian/Pacific Islander  
Native American  
Multiracial

**Age:** ________

**Sex/Gender (Please circle):**

Male  
Female

Other Information

Please circle you the amount that best describes your **annual income:**

- Under $9,999
- $10,000-$14,999
- $15,000-$19,999
- $20,000-$24,999
- $25,000-$34,999
- Over $35,000

Please circle what best describes your **educational background:**

- Completed 8th grade
- High School Diploma/GED
- Some College
- 2-Yr. Degree
- Trade School
- 4-Yr. College Degree

Please circle (all that apply) what best describes those that **support** you (in any fashion):

- Family
- Friends
- Church
- Coworkers
- Clubs/Organizations
- Other ___________
Emergency Room Usage Questionnaire

1. How many times have you visited the emergency room in the past 3 months? 
________

Where did you receive emergency services (please circle)?
Carle Hospital Provena Hospital Other ________________

2. How many of those visits do you consider were emergencies? __________

3. Have you received/purchased any medications for your health concerns in the past 3 months? 
Yes No
If yes, who prescribed the medications? __________________________

4. Were you offered prayer in the past 3 months for your health concerns? 
Yes No
If yes, who offered you prayer? __________________________

5. Did anyone provide you with health education regarding your health concerns in the past 3 months? Health education includes any information provided to you concerning your health, such as a brochure on diabetes, instruction on dieting and nutrition, or properly taking your medication.
Yes No
If yes, who provided the health education __________________________

6. Did you receive/purchase any testing services related to your health concern in the past 3 months? Testing services can include mammograms, cholesterol checks, blood sugar checks, and any other similar test.
Yes No
If yes, where did you receive lab services? __________________________

7. Which of the following have you visited in the past 3 months (180 days)?

How many times?
Champaign-Urbana Public Health District _______
Champaign County Christian Health Center _______
Frances Nelson Health Center _______
Hope Community Clinic _______
Carle Clinic _______
Christie Clinic _______