

RELATIONSHIP BETWEEN PRIMARY CARE ACCESS THROUGH FREE CLINICS AND
EMERGENCY ROOM USAGE

BY

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DISSERTATION

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Abstract

The health care system in the United States has a safety net to provide care for the millions of Americans without health insurance and lack access to care. The safety net system includes hospital emergency departments, federally qualified health centers, and community clinics. With the costs of health care rising, ways to utilize and maximize the effectiveness of safety net providers is critical. One way to conserve costs involves preventing those without insurance from using the emergency room as a primary care provider. This study surveyed two uninsured groups, one using a local free clinic for primary care (n = 54) and one from the community that did not use the free clinic (n = 70). The uninsured group that used the free clinic had a statistically significant lower average of emergency room visits than the uninsured group that did not use the free clinic. The results suggest that providing primary care for the uninsured decreases emergency room usage.

To Tisa, Jeffrey Jr., Aja Rene, and James

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Chapter I – Introduction & Overview

Statement of the Problem

Since the wars in Iraq and Afghanistan started on March 19, 2003, 4,363 soldiers have died equating to approximately 646 deaths a year. The Vietnam War, which lasted 16 years starting in 1959 and ending in 1975, resulted in 58,193 casualties, averaging a death toll of 3,637 soldiers each year (www.en.wikipedia.org). According to the Kaiser Commission, 2006, the United States totals 18,000 deaths each year for those lacking health care coverage. If this statistic stretched out as long as the Vietnam War, the death toll of U.S. citizens would be 288,000 and counting. Despite the human losses incurred, the United States health care system continues to operate as a market-driven industry. Consequently, health care is primarily available for the privileged, defined as those able to attain and afford health care coverage. Therefore, the remaining 51 million Americans lacking health insurance rely on the safety net system to provide sufficient health care. The safety net system, comprised of hospital emergency departments (EDs), federally qualified health centers (FQHCs), public health departments, and community clinics, attempts to provide health care to the growing numbers of uninsured individuals. For example, community health centers (FQHCs and community clinics) provided health care to 16 million patients in 2007 (Rosenbaum 2009). Despite the efforts of community clinics, however, the uninsured sought care less often, were more likely to postpone care, and had more difficulty receiving care than those with public and private insurance (Cunningham 1998; Hadley 2005).

The largest component of the safety net, hospital emergency departments, have seen an increase in non-urgent (treatment required between 2 to 24 hours) visits, particularly from uninsured patients (Felland 2008). Less than half, approximately 47 percent, of ED visits

classified as emergent (requiring care within 15 minutes) or urgent for all insurance groups except Medicare patients, leaving the majority of visits as non-urgent (Cunningham 2003). Although people privately insured account for most of the increase in overall ED visits, the uninsured relied on the ED more often, which largely contributed to the \$24.9 billion in uncompensated care provided by U.S. hospitals in 2003 (Staiti 2005). With health care providers forced to do more with less, improved efficiency of the health care system translates into cost savings and increased access to care. Therefore, finding suitable ways to deter uninsured individuals from frequenting hospital EDs garners time and attention.

Outside of hospital EDs, the U.S. relies on Community Health Centers (CHCs which comprises of FQHCs or FQHC look-alikes) to catch those falling through the cracks. Since 2000, funding for CHCs doubled to approximately \$2 billion by 2006 (Hurley 2007). However, an increase of uninsured patients accompanied the increased funding as virtually all community health center directors reported treating more patients. CHCs also face additional difficulties, such as instituting electronic medical records, decreasing Medicaid reimbursement, improving reporting methods, and dealing with health care disparities (Hurley 2007). In some communities, CHCs operate at maximum capacity and still fail to meet the need for primary care for the uninsured. For example, according to Executive Director of Frances Nelson (the FQHC for Champaign County) Andrea Goldberg, the clinic had a waiting list for patients 1000 names long in 2004, informing those seeking care that the next available appointment was in a year. Therefore, as in many communities, Champaign County opened a free clinic for the uninsured to add another layer to the local safety net, called the Champaign County Christian Health Center (CCCHC). CCCHC is among hundreds of free clinics across the country that provides medical, dental, and pharmaceutical services. One study surveying 106 Midwestern free clinics showed

that 200,000 people received health care in 1999 (Geller 2004). Despite the good they do, free clinics draw criticism from observers who question the viability and overall usefulness in the context of the overall health care system (Gusmano 2002). Although many studies describe characteristics of free clinics (Geller 2004; Hadley 2004; Keis 2004), research measuring the effectiveness of free clinics in improving a community's health is lacking (Felt-Lisk 2002). Furthermore, practically no research exists that measures the impact of services offered by free clinics and how those services impact the uninsured and subsequently, hospital EDs. Studies on CHCs and their ability to impact ED usage among the uninsured exist, but most of those studies derive from analyzing regional, state, or national surveys.

Theoretical Framework

The field of policy studies has been described by Sabatier, 2007, p. 323, as 'mountain islands of theoretical structure, intermingled with and occasionally attached together by foothills of shared methods and concepts, and empirical work, all of which is surrounded by oceans of descriptive work not attached to any mountain of theory' (cited by Walt et al. 2008). Perhaps due to the close proximity to practicality, policy research tends to not rely on theory or frameworks as much as it should. Although this study contributed to the ocean of descriptive work, one framework and a couple of policy theories provided a broad context which connects this research to theory. For example, current reform efforts attempting to provide coverage to the uninsured fits the *stages heuristic framework* that divides policy analysis into four categories: (1) agenda setting, (2) formulation, (3) implementation, and (4) evaluation (Walt 2008). Agenda setting involves specific problems, among many, rising to the top of legislature's priority list, such as the growing number of uninsured individuals. Formulation is the next step where legislatures enact policy, such as mandated health insurance. Implementation is the actual

carrying out of the legislation, as the state of Massachusetts did with mandatory insurance. Finally, evaluation assesses the impact of the health policy. Additionally, the *multiple-streams theory* suggests that problems, policies, and politics are independent streams that when merged, provides a window for governments to act and change. Currently, the United States is experiencing such a merge as politicians attempt to pass laws enacting a different system of health care delivery. Finally, the *punctuated equilibrium theory* describes the process policy changes are implemented. It states that the policy-making process includes periods of stability with incremental policy change, eventually disrupted by bursts of rapid transformation. Those in the safety net system anxiously await the results of the potential current burst of rapid transformation and how that might alleviate their responsibility to care for the poor. Incremental policy change took place over the last 45 years, starting with the enactment of Medicare and Medicaid and will possibly end with new laws providing universal health coverage. The Obama-Biden health care plan will attempt to provide accessible health coverage for every American by building on the current insurance system and keeping Medicare intact (Obama 2008). Free clinic's provision of health care to the uninsured and subsequent ER use falls under the array of health policy theory although not imminently connected.

Purpose of the Study

The purpose of this study was to begin filling gaps in research concerning free clinics and their impact on the uninsured usage of hospital emergency departments. As health policy continues to be debated in Washington, any form of health care reform will take a lot of time to implement. Therefore, a greater analysis of the effectiveness of free clinics to relieve the strain on hospital EDs was not only relevant, but may have been critical in developing best practices in a new system. Additionally, providing health care to the uninsured on the local level,

particularly in Champaign County, could have a far reaching impact considering the lack of available primary care due to an overwhelmed FQHC. Collecting primary data also added uniqueness to this study as other similar studies primarily used secondary data. A secondary purpose of this study included an analysis of any association between four health services offered by CCCHC (medication disbursement, health education, spiritual support, and lab services) and ED usage among the uninsured CCCHC clientele. Results from this analysis could have led to better allocation of resources for CCCHC and other free clinics offering health services.

Research Questions

Based on research indicating that increased availability of primary care promotes decreased ER usage, several research questions were applicable.

Descriptive questions.

1. Are there any demographic differences between uninsured individuals who received care at a free clinic vs. those not receiving care at a free clinic?
2. Is there any difference in spiritual support between the two groups?
3. Is there any difference in length of being uninsured between the two groups?

Analytical questions.

1. Is there a significant difference in the means of ED visits between the two groups?
2. If there is a significant difference in the means, how do medications, lab services, health education, and spiritual support influence ED usage among the group with a lower ED visit frequency?

Null hypotheses.

1. There is no statistically significant difference in the number of ER visits between a group of uninsured individuals utilizing a free clinic versus a group of uninsured individuals not utilizing a free clinic. Additionally, when accounting for demographic and other variables, the slope (beta coefficient) equals zero, revealing no correlation between ER visits and care received at the free clinic.

$$H_0: u_1 - u_2 = 0$$

$$H_0: B = 0$$

Population u_1 = group of uninsured that has not received care from the free clinic

2. There is no association between ER visits and availability of health services among any group of uninsured individuals. These health services include the provision of medications, lab services, health education, and spiritual support.

$$H_0: B = 0$$

Alternate hypotheses.

1. There is a statistically significant difference in the number of ER visits between a group of uninsured individuals utilizing a free clinic versus a group of uninsured individuals not utilizing a free clinic with the group using the free clinic exhibiting lower ER usage.

$$H_1: u_1 - u_2 > 0$$

$$H_1: B = 0$$

Population u_2 = group of uninsured that has received care from the free clinic

2. There is an association between ER visits and availability of health services among any group of uninsured individuals. These health services include the provision of medications, lab services, health education, and spiritual support.

Definition of terms

Uninsured – although definitions vary, for this study, the uninsured were broken into three groups: (1) those being uninsured less than one month, (2) between 1 and 12 months, and (3) more than 12 months

Free Clinic – the free clinic from which clients will be drawn is the Champaign County Christian Health Center (CCCHC). CCCHC requires clients to be uninsured to receive services and has been in operation for six years.

Emergency Room (ER) – the vast majority of respondents will have most likely used the emergency rooms (if at all) of Carle Foundation Hospital and Provena-Covenant Hospital as they are the only two emergency departments in the Urbana-Champaign area.

Medications – defined as any utilization of medications prescribed by an approved physician.

Lab Services – defined as any tests conducted to diagnose or treat a patient. This can include any blood tests, urinalysis, or other similar procedures

Health Education – defined as any form of education delivered to a study participant. This can include education on various health issues like diabetes or hypertension, instruction on how to use a glucometer, provision of health related materials, or any other form of health education.

Spiritual Support – defined for this study as someone who has been prayed for with the study participant’s knowledge.

Significance of the Study

Despite the imminence of new health care policy providing the uninsured with insurance coverage, this study was significant in two ways. First, any passing of health care laws that provides accessible coverage to all Americans will take time to implement in a country with 51 million people uninsured, and over 305 million in total. Therefore, safety net providers, particularly free clinics, can use the results of this study to justify more support. Second, the discovery of free clinics ability to reduce ER visits (found in the study) informs health providers and administrators of the importance of primary care. Specific to this study, analyzing the effectiveness of various health services, such as medication usage and health education, could also direct the allocation of resources for health care providers when taking on the newly insured. Furthermore, health care reform could still lose momentum, face repeal, have a change in provisions, or revert to the current system already in place. Without a new system covering the uninsured, the effectiveness of free clinics will be a critical element to consider when allocating scarce health care resources.

Chapter II – Literature Review

Chapter Overview

The laundry list of societal ills continues to grow long with no shortening in site. Many people are looking to the government to fill the enormous hole that good old-fashioned greed dug for this generation and those to come. Finance companies, mortgage companies, banks, credit card companies, the auto industry, and insurance companies have all asked for government bailouts to prevent an economic collapse. Surprisingly, the health care industry has yet to be among industries asking for assistance despite several factors and trends that threaten the viability of the health care system. However, if efforts to rethink health care system dynamics, such as financing, access, and coverage fail to materialize, even a bailout will not prevent a collapse. Meanwhile, to adjust for the 47 million people without health insurance that put a strain on the current system, many organizations strive to fill gaps left by a market driven health care industry. Therefore, these organizations, collectively called the “safety net”, attempt to provide crucially needed health care to the uninsured and underinsured. Although a number of studies provide descriptive statistics concerning the efforts of safety net providers, much of the research fails to indicate the impact the safety net makes in creating a more effective and efficient health care system. Specifically, the research concerning the impact of free clinics, as part of the safety net, is lacking since human and financial resources among these organizations are limited. Due to the pressure health care providers are under to provide quality care and simultaneously maintain its financial viability, discovering the effectiveness of free clinics should be a priority among researchers and practitioners alike. One area worth paying special attention to includes the financial impact emergency rooms face due to the uninsured and underinsured having nowhere else to receive care. Emergency rooms may be the centerpiece of

the safety net system as almost all hospitals have them and, due to the 1986 passing of the Emergency Medical Treatment and Active Labor Act (EMTALA), cannot deny care in emergency situations.

Health Care Economics

Cost.

The total projected cost for health care in the U.S. for 2004 amounts to \$1.79 trillion, comprising of 15.5% of the gross domestic product and coming to \$6,167 per person (McCanne 2004). In 2008, health care spending in the U.S. totaled \$2.4trillion and has a projected increase to \$3.1 trillion by 2012 (Keehan 2008). Despite the high costs of the wars in the Middle East, health care spending still quadrupled (4.3 times) the amount spent on national defense coming out to \$7421 a person in 2007 (Foundation 2005). Estimates vary, but most sources, such as Keehan et al, 2008, report that health care spending will account for 20 percent of the Gross Domestic Product (GDP) by 2017. Each major area of health care system resemble these high costs as the annual growth in expenditures from 2000-2006 included hospital care (7.7% increase), physicians and clinical services (7.6%), nursing home and home health (5.9%), prescription drugs (10.3%), and program administration/net cost of private health insurance (10.2%) (Catlin 2008). Health care costs in the United States ranks the highest among developed industrialized nations with the second ranked country, Norway spending just over \$4520 per capita in compared to the U.S. \$6714 plus per capita in 2006 (Development 2008). Other countries trailing the U.S. include Canada (\$3678), Japan (\$2578), Germany (\$3371), and Mexico at \$794 per capita. U.S. citizens spend the most money out of pocket for health care compared to other countries as well. In the United States, the average person spends approximately \$800 out-of-pocket while people in other countries, like Australia (2nd highest)

spend approximately \$600 per person and Japanese citizens pay around \$400 out-of-pocket (Frogner 2005). Despite the high costs incurred for health care, the United States ranks low in various health indicators, such as life expectancy. In 2006, the U.S. life expectancy for the total population was 77.8 years which ranked the country 23rd among 29 industrialized nations (Development 2008). Cost has deterred people from receipt of proper health care in all insurance groups. Davis and Collins, 2005, show that 39 percent of those with individual insurance, for instance, reported at least one of the following: 1) not filling a prescription, 2) did not see a specialist when needed, 3) skipped a medical test, treatment, or follow-up, or 4) did not see a doctor when sick. The percent for those with employer insurance lacking access due to cost amounted to just over one third of carriers (34 percent), with Medicare of those 65 years or older at 15 percent, Medicaid at 40 percent, Medicare of those 19-64 years old at 35 percent, and the uninsured at 61 percent.

Reasons for high health care costs in the U.S. are numerous, including expensive technology in the form of medical equipment and medications, excessive administrative costs, defensive medicine, unnecessary surgery and procedures, malpractice suits, and an aging population. For instance, seniors, in particular, cost \$14,797 per capita in 2004, which is slightly more than five times the amount spent per child and three times the amount spent per working-age adult (Hartman 2007). The U.S. government, which pays for health care through programs, such as Medicare and Medicaid, both utilized by seniors, spent \$374 and \$181 billion on the two programs, respectively, with estimates reaching \$851 and \$410 billion by 2017 (Office 2007). A major cause for increased spending for public insurance stems from end-of-life treatment and care. Currently, the U.S. spends 64 percent of all health care dollars towards the sickest 10 percent of the population (Zuvekas 2007). Consequently the healthiest 50 percent of the U.S.

population only utilizes 3 percent of all health care spending. Although the sickest 10 percent does not strictly constitute seniors, they are disproportionately represented in that category due to age. For example, although the elderly make up 10 percent of the Medicaid population, they utilize 28 percent of the dollars (Commission 2006). The same is true for the disabled as they represent 14 percent of Medicaid enrollees and use 42 percent of the dollars.

Employer-based insurance premiums cost employees 5 percent more in 2008 than in 2007 with the average cost per family of four coming to \$12,700 (as charged by the insurance company to the employer) (Foundation 2008). Considering the minimum wage worker makes \$10,712 annually, the cost of health care surpasses all earned income. Costs for health care may even eclipse profits.

A unique system.

When a person goes to Walmart, he or she sees items on the shelves with clear costs listed so the consumer can intelligently judge whether or not the product is worth purchasing. Additionally, store employees stock similar products next to each other to allow the consumer to compare prices and garner the best value. Once a person selects their items, he or she proceeds to the checkout counter where the consumer pays the amount the items cost together plus tax and then walks out the store with his or her selections. Most industries operate in this fashion, where a two-way process occurs between the consumer and the producer of products or services. The health care industry, however, operates in a significantly different manner which includes, among other nuances, a third party payer.

Before the age of modern medical technology, doctors and health care providers focused more on being a friend to their patient than actually curing whichever ailment a person endured.

According to Starr, “in the nineteenth century, the medical profession was generally weak, divided, insecure in its status and its income, unable to control entry into practice or to raise the standards of medical education (Starr 1982). Furthermore, Starr continues his point and adds that during this time period of a religious dominated society, people did not give authority to physicians concerning their health, relying on common sense and native intelligence to cure their ills. The physician during this period, according to Jecker, 2005, were expected to be a devout Christian and a proper gentleman with no need of university training, but had to be of a proper birth. In an era when infectious diseases such as typhoid, measles, and small pox killed people and no such thing as organ transplants, hip replacements, or effective medications existed, the best health care included the compassion of doctors and the nurture of nurses. However, by the turn of the century, science shifted the health care profession to one of authority, transferring the decision making power of one’s health to professionals. Other changes, such as the shift of medical care to the hospital, the use of ancillary professions along with the growth of science-based medicine also promoted the health care system to a higher status (Jecker 2005). This transfer of authority and increased ability of health care to heal, cure, and remedy problems began a growing tidal wave of increasing costs for care. Hospitals went from being “houses of death” where doctors would not dream of sending patients to being the only place doctors would see their patients. Recently, Senator Tom Daschle points out in his book that physicians both diagnose and treat illness, which means they create and satisfy demand (Daschle 2008). This arrangement would be synonymous to Walmart dictating to its customers what they need to buy and consequently, being the agent to supply those needs. If Walmart possessed such an authority and position of influence, nothing would control the prices on their items as they intend to

maximize profits. This phenomenon occurs in health care and the resultant price increase in services that promoted the concept of a third party system.

The concept of the third party payer system began as early as 1910, “when the Western Clinic in Tacoma, Washington provided a wide range of medical services to lumber mill owners and employees for a monthly premium of 50cents” (Financial 2007). Particular industries that needed health care for their employees, and were in some cases, isolated from health care facilities, found it more convenient to create their own health care network. Furthermore, a concept known as “welfare capitalism”, which involved providing social services, like health care, for employees proved helpful in reducing union involvement (Starr 1982). The third party payer system further developed when, in 1929, Dr. Michael Shadid, started a cooperative health plan with rural farmers in Elk City Oklahoma, where the farmers paid a predetermined fee and Dr. Shadid provided health care. The health industry giant, CIGNA Health Care started that same year when the Ross-Loss Medical Group provided prepaid services to county employees of the city’s department of Water and power for \$1.50 per month (Financial 2007). The most significant earmark in history concerning third party payers took place in Dallas, Texas, where Baylor University Hospital provided up to twenty-one days of hospital care per year to 1500 teachers for \$6 month, which eventually became Blue Cross (Starr 1982). Eventually, Blue Shield started to cover medical costs incurred by physicians. Both Blue Cross and Blue Shield are best described as provider-controlled organizations using service-benefit plans to simultaneously cover subscribers and control moral hazard (the inability to predict and therefore, control costs incurred for receipt of health services by the subscriber), eventually becoming the dominant force in the health care third party payer system. Blue Cross/Blue Shield ended up being first to overcome the numerous obstacles in providing private health insurance. These

obstacles included: (1) high collection costs since it often took many agents to collect insurance money, (2) “adverse selection”, the problem of only sick people subscribing to insurance, (3) physician approval since the AMA often fought any entity that threatened physicians’ autonomy, and (4) controlling moral hazard or unpredictable risk involved in covering health care expenses (Starr 1982).

Politics: Free market vs. socialized medicine.

Although various forms of insurance plans grew in size both in coverage and enrollment, a “social insurance”, coined by Starr, that would provide coverage for everyone, never materialized. The purpose of this paper does not include or necessitate a history of health care reform attempts over the past century. However, the political environment influencing the health care industry over the years provides further basis for understanding the current system.

The root issue pertaining to the U.S. health care system stems from two divergent philosophical perspectives - whether health care in the U.S. should be a right or a privilege. The U.S. and South Africa compose of the only industrialized nations that do not utilize some form of nationalized health care coverage or insurance. Other industrialized nations are not short of having their own health care problems, but do cover all of their citizens, unlike the U.S. where 47 million people go without insurance. For example, the Canadian national government provides its provinces 16% of the health care costs for provincial citizens, while the province pays 56.7% totaling 72.7% of health care costs coming from the public sector (Care 2005). The remaining costs are covered through supplementary insurance, employer-based benefits, or out of pocket (although no one is denied care based on inability to pay). As with the U.S. health care system, cost is a problem as Canadian provinces feel the squeeze to provide care for all its residents while both providers and citizens have complaints concerning their pay and care

respectively. For example, providers, 51% of which are general practitioners, desire a 30% pay increase from their employers or if in private practice, higher reimbursement rates (Care 2005). The National Coalition on Health Care also reports that residents in Canada complain about long waits for emergency room services (74%), for diagnostic tests, such as MRIs (73%), and specialists (75%). Other countries embrace different arrangements to cover its citizens and deal with problems in various ways, such as Japan, who covers all its residents with three major types of plans supported by individual contributions, but face future problems due to a shrinking workforce and growing elderly population (Care 2005). In Germany, less than .2% of the population lacks health care coverage, but their system is not without its problems, such as those reported in a recent study where nearly have the citizenry said they were not satisfied with the system. Some specific problems include the lack of competition, insufficient care, shrinking revenue, and, like Japan, an aging population (Care 2005). A factor that drives the U.S. philosophy on health care stems from one of the problems stated in Germany, the lack of competition. Tied to the fear of no competition is a fear of government-controlled health care. These fears prove difficult to manage due to the lack of information and the proliferation of myths that surround health care market dynamics. For example, in a response to an editorial, a Dr. Bob Newbell, 2006, gives a history of government cost projections of various national programs, such as Medicare, Medicaid, and the recent Medicare Prescription Drug Benefit. He reports how Medicare, in 1967, was projected to cost the government \$12 billion by 1990, Medicaid \$100 million in 1992, when Medicare ended up costing \$107 billion and Medicaid \$11 billion (Newbell 2006). Furthermore, the Medicare Prescription Drug Benefit has an estimated pricetag of \$12 trillion over the next ten years. Dr. Newbell expressed concern over the inability for government to be fiscally responsible regarding health care costs, implying inefficiency and

waste. In defense of this response to his editorial, Dr. John Geyman, 2006, expresses that government is not the cause of the increased spending in health care, but other factors, such as medical technology, increasing age of the population, administrative bureaucracy, fragmentation of the market-based system, and other variables. He also provided specific examples of how a traditional, government-controlled Medicare programs have lower administrative costs (Geyman 2006). Fundamentally, due to its market-driven nature, health care is a privilege as opposed to a right, as insurance coverage remains the primary determining factor to gain access to care. Becker, 2004, argues this tide stems from an emphasis on traditional American values, including individual responsibility, productivity, and autonomy. This preoccupation with social policies (results of these values) which distinguish deserving and underserving populations promotes a health care system where the expectation of care stems from one's ability to pay (Becker 2004). Even so, government programs, such as Medicaid, provide limited coverage for the poor and Medicare for the elderly. However, 47 million people in the United States lack health insurance because they are unable to afford it.

Within the framework of health care being a privilege exists a system of government that disallows reform to occur. For instance, the American Medical Association's Political Action Committee (AMPAC), the lobbying arm of the AMA, has a long history of involvement and influence in American politics (Wilkerson 1999). The AMA's large membership consists of highly educated, respected, informed, and well-resourced people, which covers all the ingredients needed to place a strong political presence in Washington. The AMPAC in particular, distributes millions of dollars per election cycle to, as McCanne, 2004, claims, "promote physicians' freedom to maximize their personal financial reward, even though those policies may deprive tens of millions of Americans access to affordable care" (p. 115). Studies

observing the behavior of the AMPAC did not reveal a “money for votes” quid pro quo among Congress and the AMA (Wilkerson 1999; Gutermuth 1999). However, statistical analysis of the AMPAC’s monetary allocation to legislators did reveal their attempt to promote the AMA’s ideology, to establish and maintain access, and to influence election outcomes (Gutermuth 1999). However, AMPAC is far from alone in the lobbying scene concerning the health care industry. In 2000, health care lobbying expenditures totaled \$237 million, or 15% of all federal lobbying (Landers 2004). Furthermore, lobbying expenditures from the health care industry surpassed every other sector, such as agriculture (\$78 million), communications (\$201 million), defense (\$60 million), finance (\$229 million), and transportation (\$138 million). Of the \$237 million spent from the health care industry, \$96 million came from pharmaceutical and health product companies, \$46 million from physicians and other health professionals, \$40 million from hospitals and nursing homes, \$31 million from insurance and managed care companies, and \$12 million from disease advocacy and public health organizations (Landers 2004).

Hope of a reformed health care system renewed upon the election of Barack Obama, 44th President of the United States. With widespread consensus that the health care system is broken, President Obama may utilize his political capital to promote change in the system despite the health care industry’s disinterest in reform that will cause it to lose money. Some researchers, such as Oberlander, 2009, contributes President Obama’s health care reform shortcomings to lessons learned from the last attempt at reform by the Clinton Administration. These shortcomings include suggested reform that is politically safe, such as implementation of medical records and focus on disease prevention, but unproven (Oberlander 2009). Some of the areas President Obama stays away from changing include allowing Americans to keep their employer-based insurance in case they do not want to change plans, exemption of small

businesses from an employer mandate to provide health insurance, and providing tax credits for businesses wanting to provide health insurance. A major issue involving change may relate to political party distribution among legislators. For example, in Massachusetts, the first state to mandate health insurance, began its reform effort with most of the state's citizens belonging to the Democratic or Independent party, 34% and 47% respectively, compared to the U.S. population at 35% and 25% (Blendon 2008).

The Fallout

The uninsured.

“The health care system in the United States remains a ‘paradox of excess and deprivation’” (Oberlander 2002). In some parts of America with high access to health care, life expectancy exceeds the best in the world (three years better than Japan for females and four years better than Iceland for males), while in other areas in the U.S., such as poor rural blacks, life expectancy parallels the middle classes of developing countries (Murray 2006). The uninsured in America are more likely to die early and have poor health status (Quality 2004). The number of uninsured individuals in the U.S. exceeded forty-five million in 2004, an increase of 800,000 in a year and over six million since 2000 (Commission 2006). Furthermore, one of the main sources of insurance for Americans, employer-based coverage, decreased from covering 66% of the nonelderly in 2000 to 61% in 2004, contributing to 18% of the population having no insurance. The number of uninsured Americans remained constant or increased during the early nineties to early 2000s, during a healthy U.S. economy (Danis 2002). With an economy now steeped in recession, Daschle, 2008, reports that the number of uninsured has now reached over forty-seven million people. Various definitions of “uninsured” determine the number of people without health insurance. One factor involves the duration of a person’s

uninsured status. The Kaiser Commission, 2006, reports that 59% of the uninsured went at least two consecutive years without insurance, while 14% went 1-2 years, and 27% went less than one year. In 2003-2004, the state of Illinois number of uninsured reached 16% of the state's population (Commission 2006). The consequence of having over 47 million people uninsured translates into approximately 18,000 people dying due to the lack of coverage and access to needed medical care (McCanne 2004).

Although the uninsured population consists of people with different socioeconomic, educational, racial, and occupational backgrounds, some generalities do exist. For example, more than 8 of 10 uninsured individuals come from working families (DuBard 2006). The Kaiser Commission, 2006, supports this fact, specifically reporting that 70% come from families with one or more full-time workers and 13% from families with part-time workers. Despite the high percentage of uninsured individuals coming from working households, as a group, the uninsured are more likely to be poor or near-poor, with poor being defined as income less than 100% of the federal poverty level and near-poor between 100% and 199% (Commission 2006). Of the 45.5 million uninsured in 2004, 37% were poor, 29% were near-poor, with the remaining 36% having incomes 200% above the federal poverty level. This trend, according to Oberlander, 2002, is due to the uninsured typically having low-wage jobs or working in small businesses where employers do not offer insurance or the cost for insurance is too high for employees to afford. Another reason stems from the number of young people uninsured, which, in 2006 included 13.7 million people between the ages of 19 and 29 (Kriss 2008). It is worth noting, however, that this population accounts for \$3926 per capita of health care cost compared to \$6,152 per capita for those 50-64 years of age. Daschle, 2008, states that only 65% of people earning \$10 an hour or less get offered health insurance at all. Most of the working uninsured

are either part time (12%), self-employed (8%), or work for large businesses (28%) as one study revealed that only 21% of the uninsured who work full time are employed by small businesses (one hundred employees or less) (Kronick 2006). An employed uninsured workforce also translates into 37.8% of the uninsured having yearly household incomes over \$50,000 which infers there is a group of uninsured individuals who are able, but unwilling to purchase proper health insurance (Kuttner 2007). However, only one in twenty people of the 37.8% reported that level of income (more than \$50,000) on their tax returns, indicating that individual income levels of the uninsured are low, only made higher by combined household incomes.

Some other attributes of the uninsured reported by the Kaiser Commission worth noting include age, minority status, citizenry, and whether or not one is an adult or child. Regarding age, 20% of the uninsured population are 19 years of age or younger, 40% are between the ages of 19 and 34, while the remaining 40% are between the ages of 35 and 64. Within the 40 percent between the ages of 19 and 34, a 2005 issue brief by the Office of the Assistant Secretary for Planning and Evaluation (ASPE) from the Department of Health and Human Services report that approximately half (19 percent) are between the ages of 18 and 24 years old. When coupled with the reports finding that 57 percent of the uninsured are childless adults (Evaluation 2005), it is clear that many of the uninsured are single young adults who do not require a lot of health services. Furthermore, minorities are more likely to be uninsured as 21% of African-Americans, 1/3 of the Hispanic population, over 1/4 of Native Americans, and 18% of Asian Americans lack insurance compared to 13% of the white population. These higher rates of minorities being uninsured translate into numerous health disparities, such as infant mortality rates for African-Americans being 2.5 times higher than white Americans or the 31% higher mortality rate among African-Americans compared to white Americans (Daschle 2008). It is worth noting that various

theories exist that attempt to explain the lower infant mortality rate for Hispanic women compared to their minority counterparts. One source says that Hispanics place a high regards on personal relationships, and therefore, heavily rely on community-based organizations and clinics for their primary care (Health 2003). This claim is further supported by a study that showed 63 percent of Hispanics live within five miles of a community health center compared to 54 percent of blacks and 29 percent of whites (Cunningham 2004). Hispanic women tend to have their children at younger ages as well, which could also help explain their lower infant mortality rate as the risk of infant death increases with the age of the mother. Finally, the vast majority of the uninsured are U.S. citizens, accounting for 79% of the uninsured population. The growing immigrant population does not account for the growing number of uninsured as their numbers are too low to account for the increase (Holahan 2005).

Lacking health insurance directly relates to less access to health care among the uninsured. For instance, more than 40% of the uninsured lack a regular source of care while 20% consider the emergency room as their regular source of care (DuBard 2006). Additionally, almost of half the uninsured postponed seeking care due to the cost of care compared to 15% of those insured doing the same (DuBard 2006; Commission 2006). Furthermore, 35% of the uninsured needed care and did not get it compared to 9% of those with insurance. This also corresponds to the greater likelihood of the uninsured health conditions getting diagnosed in later stages and higher rates of hospital admittance for avoidable conditions (Oberlander 2002). Specifically, the Kaiser Commission reveals the ratio of diagnosed late-stage cancer between the uninsured and privately insured. The uninsured has a 1.4 times more likely chance to get diagnosed with late-stage breast cancer, 1.5 times with prostate cancer, 2.6 times with melanoma,

and 1.7 times with colorectal cancer. Overall, having insurance could reduce the mortality rates for the uninsured by 10% to 15%.

Some studies reveal the public perception and willingness to see the uninsured served. In a study designed to have participants prioritize component of a health care package based on limited resources that included dental, hospitalization, pharmacy, vision, primary care, testing, and other types of service, participants prioritized the “uninsured” (willingness to sacrifice services so the uninsured could purchase insurance at half price) at number twelve of fifteen (Danis 2002). The uninsured gained importance when participants completed the same exercise in a group context, ranking “uninsured” at number eight of fifteen services. Another study revealed a similar trend as participants when asked individually during a pretest where 54% of respondents were willing to give some of their health care dollars to cover the uninsured (22% covering adults and children, 32% just children), with the remaining not willing (Sessums 2004). While in a group process, all participants were willing to give up health dollars to cover the uninsured (76% covering adults and children, 24% just children). A posttest, conducted individually, revealed a change in reporting as 62% were willing to cover the uninsured (31% everyone, 31% just children), while only 38% showed no willingness to sacrifice health care dollars for the uninsured. These statistics reflect a philosophical approach to providing care to the uninsured as U.S. social policies, according to Minkler and Cole, 1999, are preoccupied with distinguishing between deserving and undeserving populations. Deserving populations equate to those associated with productivity and wealth, and therefore, able to pay for medical care (Minkler 1999).

The underinsured: Medicaid, inadequate insurance.

Medicaid, passed in 1965, provides insurance coverage for low-income Americans. Eligibility, based on an individual's or household's income relative to standard poverty rates, varies by state. In 2005, for instance New York and California (13 total states) allowed a person or household access to Medicaid if their income was greater than 200% of the poverty level, Illinois and Texas (28 total states and D.C.) at the 200% level, and Oregon and Wisconsin (10 total states) less than 200% of the poverty level (Commission 2006). Eligibility also varies based on whether the person is a child, parent of a child, or disabled as over half of Medicaid recipients are children. Furthermore, Medicaid rarely covers adults without dependent children regardless of income, a policy that contributes to the uninsured numbers.

The underinsured is also defined as anyone who spends 10 percent or more of their income towards (or 5 percent if low income) out-of-pocket medical expenses or if deductibles accounted for more than 5 percent of one's income. Approximately, 14 percent of non elderly adults, based on this definition, were underinsured in 2007 (Schoen 2008). Schoen, 2008, also reports a significant increase of underinsured status among the middle class as over 10 percent of people making between \$40,000 and \$59,000 were underinsured. In 2007, the number of underinsured totaled 25 million people, up from 16 million in 2003 (Schoen 2008).

The Safety Net

Emergency rooms.

In the Champaign-Urbana area, not a single dentist accepts patients on Medicaid and require uninsured individuals to pay for their dental care up front (Lenhoff 2007). The availability of primary care in Champaign County nearly parallels dental care. Both local clinics,

Christie Clinic and Carle Clinic, stopped accepting people on Medicaid due to the low and often delayed reimbursement from the state of Illinois. Where primary care and dental services differ originates from the types of facilities used to provide care. In a typical dentist office, no emergency room exists where those with or without insurance enters and receives needed treatment despite the person's ability to pay. Because of laws, such as Emergency Medical Treatment and Active Labor Act (EMTALA), hospital emergency rooms must, at the minimum, stabilize those entering the emergency department (Medical 1990). Ultimately, emergency rooms are the most likely source of care for the uninsured and underinsured in the United States (Burt 2004). One study revealed a strong correlation between uninsurance rates and primary-care related ED visits (Begley 2006).

Based on a national sample, more than one third (36.1%) of emergency rooms were classified as having a high burden of safety net cases (Burt 2004; Chapman 2004). The "safety-net burden" is defined by Burt, 2004 as the amount or percentage of care provided to Medicaid, uninsured, and other vulnerable populations. Costs associated in emergency departments with higher safety-net burdens tend to be higher than other EDs because the uninsured often delay seeking care and therefore, come to the ED with more complicated health problems. For instance, one secondary analysis revealed that 7.7% of the estimated 36.6 million adults who visited an emergency department reported a delay in seeking care, having difficulty receiving care, or being unable to receive care (Kennedy 2004). These health problems vary, as one study of 113 emergency departments in North Carolina reported one-fifth of emergency visits stemming from complaints of chest pain, abdominal pain, and fever among 3,433,432 patients seen in 2003 (Spade 2005). The study also reported follow up care for these patients included 86.8% having received diagnostic/screening services, 43.2% given procedures, and 75.8%

provided medications. Only 12% of the emergency room patients resulted in hospital admissions although over 1/3 of all patients admitted to the hospital start in the emergency department. Furthermore, 21% of emergency department visits in the North Carolina hospitals were attributable to uninsured patients, a group continuing to grow. For the North Carolina hospitals, increased numbers of uninsured coupled with reduction in Medicaid payments (45% of ER visits included Medicaid and Medicare patients in the hospitals surveyed) pose a serious risk for financial failure (Spade 2005). Nationwide, EDs face increased pressure as the number of visits increased from 18 to 26 percent from 1994 to 2004, while the number of EDs decreased between 9 to 12 percent in that same timeframe, thus producing an overall 78 percent increase in ER visits (Kellermann 2006). This squeezing of ER services is the source of a 36 percent wait time increased for patients overall and a 40 percent increase in wait time for those needing emergent attention (Wilper 2008).

A common misperception concerning ER visits involves the composition of those utilizing the emergency departments. It is true that the federal Emergency Medical Treatment and Labor Act (EMTALA) opened the proverbial Pandora's box in regards to hospitals providing care for all those who need it, despite ability to pay. However, according to a meta-analysis conducted by Newton and others, 2008, claims which blame the uninsured for the increase in ED visits lack scientific support. For instance, Weber et al., 2008 report that the increase from 35.7 ER visits per 100 persons in 1992 to 39.6 ER visits per 100 persons in 2005 (28% increase) stemmed from nonpoor persons and those whose usual source of care is a physician's office. The uninsured are not disproportionately represented by those using the emergency room and only have a slightly increased likelihood of being frequent (more than four visits a year) users (Weber, Showstack et al. 2008). Furthermore, Cunningham, 2003, reveal that the increase in ER

visits in 1996-1997 compared to 2000-2001 trace back to those with private insurance (over 43 million visits and a 24.3 percent increase, representing one half of the overall increase) and Medicare beneficiaries (over 16 million visits and a 10 percent increase, accounting for one-sixth of the increase). Meanwhile, those considered self-pay, or uninsured, representing approximately 18 million ER visits in 2000-2001, had a 10.3 percent increase from 1996-1997 (Cunningham 2003). In another study, Cunningham, 2006, showed the uninsured to have a 16 fewer visits per 100 people than Medicaid enrollees, 24 fewer visits than Medicare enrollees, and parallel visits per 100 people as privately insured people. As some authors point out, however, this lack of research-based support does not prevent various claims being promoted, such as when the New York Times' January 19, 2008 editorial page highlighted:

“The nation’s failure to provide health insurance for all Americans seems to be harming even many of those who do have good health coverage. That is one plausible interpretation of a disturbing increase in waiting times at emergency rooms that are often clogged with uninsured patients seeking routine charity care” (Newton, Keirns et al. 2008).

A few months later, however, the New York Times' May 2008 issue expressed a contrasting statement by stating how those who lack insurance, are not the main cause of overcrowded ERs. A number of other key assumptions concerning the uninsured and emergency departments exist which possess varied amounts of empirical evidence to support them. For example, the assumption that uninsured patients use the ED for nonurgent or nonemergent primary care for convenience is not clearly supported according one metanalysis conducted by Newton, Keirns et al, 2008. They report that several studies (Cunningham 1995; Lucas 1998; Weber 2005) found that uninsured patients are no more likely to make a nonurgent visit than those with private insurance. Furthermore, the National Hospital Ambulatory Survey, according to Newton, Keirns, et al, reported an increase in ER visits considered emergencies from 10 to 14 percent

from 1997 to 2005 while the uninsured rates of ER nonurgent visits in that time went from 11 percent to 16.7 percent. One study using secondary data derived from the 1999 Medical Expenditure Panel Survey reported 11 percent of the population studied lacked insurance coverage while contributing to 10 percent of all ED visits (McLaughlin 2003). Another comprehensive study revealed several tendencies and distinctions between communities with high ED use compared those with low ED use. ED use in twelve case study sites/communities, using the 2003 Community Tracking Study (CTS), was analyzed and produced the following results: (1) a range of ED visits from 21 visits per 100 people in Orange County to almost 40 visits per 100 people in Cleveland (2) increased outpatient capacity modestly correlated to lower ED use, (3) something specific to each community best predicts ED use levels, and (4) increases in uninsurance rates were unlikely to cause higher ED visits (Cunningham 2006). Therefore, the uninsured did not show a higher proportion of ED usage as a group.

Although the uninsured do not disproportionately represent the increase in emergency room visits, as a group, they still cost hospitals billions of dollars from uncompensated care which often includes a greater intensity of services due to the severity of illness among uninsured ER patients. A study conducted in Michigan looking at 29 hospitals, representing 31 percent of the state's ER visits, found that 11.1 percent of ER visits (1,146,280) consisted of uninsured (Cunningham 1995) individuals with an average collection per uninsured patient of \$16.50, compared to the Medicare average compensation per patient at \$77.15, and Medicaid at \$61.81 (Irvin, Fox et al. 2003). The high severity of illness stems, in part, to the lack of primary care as the uninsured showed a negative 36.9 percent change in physician office visits from 1996-1997 to 2000-2001 (Cunningham 2003).

Some studies make a distinction between emergency and non-emergency visits as well. For instance, one study reported estimates of nonurgent ED care ranging from 5 to 82 percent (Irvin, Fox et al. 2003). The source of this variation comes from defining a nonurgent visit by subjective, health care professional-rated assessment of urgency or by diagnosis. By using CPT codes to define urgent and nonurgent care, children with Medicaid had the greatest number of nonurgent visits, followed closely by insured patients.

Public health.

Perhaps a quote mentioned by Starr, 1982, from Charles Edward Amory Winslow, professor of public health at Yale, best describes the all encompassing definition of public health. In 1920, Winslow defined public health as “the science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles in personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health” (p. 180). Although stated in 1920, the current overall idea and practice of public health resembles Winslow’s quote. According to the Illinois Department of Public Health website (www.idph.state.il.us), their services include vaccinations to protect children against disease; testing to assure the safety of food, water and drugs; licensing to ensure quality health care in hospitals and nursing homes; investigations to control the outbreak of infectious diseases; collection and evaluation of health statistics to develop prevention and regulatory programs; screening newborns for genetic diseases; programs to meet the special health needs of women. As the site says, the “department's nearly 200 programs touch virtually

every age, aspect and cycle of life”. With all encompassing definitions of service, public health, at least historically, began intruding on the turf of the medical community by requiring reporting of diseases and even establishing health centers to provide preventive and curative medical services. In Champaign County, the local public health department, the Champaign Urbana Public Health District (CUPHD) provides a number of services, but purposefully avoids the provision of primary medical care (Julie Prdye, CUPHD Director). However, when funding is available, CUHPD may make an exception as they do provide limited dental care to children covered by SCHIP or Medicaid. Therefore, outside the overarching tenants of CUPHD, the uninsured do not receive direct assistance for their health care needs.

Community clinics.

Uninsured patients utilize the ER due to the lack of access to primary care (Cunningham 2006). This dramatically affects health care costs as studies show it less costly to extend hours for primary care facilities for the uninsured than to provide care in an emergency room, partially due to the fixed costs incurred by ERs (Richardson L.D. 2001; Ong Eng Hock 2005). Community clinics attempt to prevent unnecessary ER visits by providing the uninsured a medical home. There are many different types of community health centers that range in scope of practice, type of clientele, and disease specific. However, for the purpose of this paper, emphasis and focus will be placed on Federally Qualified Health Centers (FQHCs) and free clinics. Although often unable to meet the demand of health care, local clinics do possess ability to tailor their efforts on the specific needs of the community (Taylor 2006). Increased capacity of community clinics has also been associated with decreasing the ED visit total among poor and low-income individuals (Cunningham 2006).

Federally qualified health centers.

Other than the emergency departments in hospitals, federally qualified health centers or FQHCs, make up the most critical component of the safety net system. In 2007, 1,200 government funded health centers provided care to over 16 million patients from 7,200 locations (Rosenbaum 2009). The birth of community health centers began during the sixties in response to various forms of injustice across the country including the way the poor were treated. The history of health centers started from two separate paths that eventually came together to form what are now known as FQHCs. Both paths developed through governmental support, one starting with the Office of Economic Opportunity (OEO) which was commissioned to develop programs for the underserved, and the second was the Department of Health, Education, and Welfare, or HEW (now known as the Department of Health and Human Services) (Lefkowitz 2007). The OEO sponsored and organized various programs, such as Headstart, Foster Grandparents, and Legal Services before realizing health care access was a central component to combating poverty. Fighting poverty, a legacy left by assassinated President John F. Kennedy, later embraced by President Lyndon B. Johnson, Robert Kennedy, and Ted Kennedy, led to the OEO receiving funding to develop health centers around the country. In 1966 in particular, Ted Kennedy helped push funding to OEO in the form of \$51 million dollars strictly for developing health centers (Lefkowitz 2007). As a result, 33 new health centers received funding and before merging with HEW, the number of OEO health centers grew to 100, primarily located within inner cities and isolated rural areas. In 1969, HEW sponsored 24 health centers with hopes to expand to 1,000 centers to provide care for 25 million people. However, before the merge with OEO, HEW only had about 50 health centers open. Both departments urged community participation and local control which can be seen today in the requirements for FQHCs as the

majority of the board of directors must consist of patients receiving service from the FQHC (Department of Health and Human Services, 2009). After years of growth and threats to dissolution depending on the White House administration at the time, George H.W. Bush's administration saw health centers become FQHCs which translated into a shift of funding sources. Before legislation creating FQHCs were implemented in 1989 for Medicaid and 1990 for Medicare, most funding for health centers came through federal grants (41 percent of revenues) while Medicaid accounted for 21 percent of revenues (Lefkowitz 2007). After the legislation federal grant revenue fell to 26 percent while Medicaid revenue rose to 34 percent of health center budgets. This shift provided increased stability for FQHCs as they ended up less dependent on direct federal funding. During the George W. Bush administration, health centers received increased amounts of government support and reached a goal of providing care for 16 million people before President Obama took office. Some critics of President Bush argue that increased funding for health centers translated into no action to address the larger looming problems in the health care system, however (Lefkowitz 2007). The Obama administration currently plans for health care reform and already provided increased funding for FQHCs, which were received in May 2009 (Conversations with Directors of FQHCs at the 2009 Christian Community Health Fellowship Conference). This new funding came through provisions of the American Recovery and Reinvestment Act of 2009 (ARRA), which passed in February 2009 and provided money for capital investment, workforce, modernization, and operations to all health centers and additional provisions for infrastructure and health information technology adoption for health centers (Rosenbaum 2009). ARRA also included Medicaid provisions, a significant revenue stream for FQHCs. The increased funding for FQHCs allows for increased numbers of those needing care and the ability to provide more services to the underserved. The need for

increased services and capacity from FQHCs reflect the economic downturn as Yahoo news reported the unemployment rate rose to 9.4 percent in May 2009 (www.yahoo.com 2009). Currently, 70 percent of health center patients or 10.6 million people make less than 100 percent of the federal poverty level (FPL), 21 percent earn between 101 and 200 percent of the FPL, while only 9 percent earn more than 200 percent of the FPL (Rosenbaum 2009). Therefore, a struggling economy translates into more people losing insurance and needing to receive health care from FQHCs. Since poverty is often linked to minority status, it is no surprise that half of health center patient populations consist of minorities, with one third having a Hispanic/Latino ethnicity. Beyond the financial and racial statistics, the Kaiser Foundation report shows that health centers serve a wide array of people in regards to age, insurance status, and health status. For instance, 39 percent of health center patients are uninsured, 35 percent use Medicaid, 16% have private insurance, with the remaining 10 percent using Medicare (8%) and other public insurance (2%). Health centers also provide care for people through the full spectrum of life starting at childhood as 36 percent of patients are under 20 years of age, 57 percent are between 20 and 64 years old, and 7 percent are 65 or older. Furthermore, health centers disproportionately provide care to chronically ill individuals as 25 percent of FQHC patients have a chronic illness compared to 9 percent who receive care with private physician offices.

Free clinics.

Literature concerning the safety net system surfaced in the early nineties. Many studies concerning the safety net system draw from national and regional databases, similar to studies concerning the uninsured. The use of national databases with vast amounts of descriptive data allows researchers to run more in depth statistical analysis. Using these databases also provides large sample sizes to enhance generalizability. For example, Hadley and Cunningham, 2004

used a sample of 6,248 non-elderly uninsured persons to analyze access to care in relation to proximity to safety net providers. They found that shorter distances to the nearest safety net provider increase access to care for uninsured individuals (Hadley 2004).

Access to local safety net providers is limited in availability in other ways as well. For example, other than the emergency departments, the Champaign County Christian Health Center (CCCHC) in Champaign, Illinois, is the only safety net provider available in the evenings. Based on demographic data collected from CCCHC, many of the uninsured using the clinic include the working poor which is consistent with the Kaiser Commission, 2006, report showing that 83 percent of the uninsured come from households with at least one full or part time worker. Furthermore, clients of free clinics lack follow up care only hospitals can provide due to costs. For instance, when an uninsured person utilizing Frances Nelson (FN), a local FQHC, or CCCHC, needs services beyond the scope of these providers, an unpublished dissertation by Cindy Elkins reported that past debt is a major barrier to receiving necessary care (Elkins 2007). Considering that health care providers are increasingly relying on collection agencies to recoup charges associated with medical care (O'Toole 2004), the uninsured options for treatment shrink. O'Toole et al, 2004, article revealed that 274 adults with an average age of 43.9 years, 77.3% African-American, 54.6% male, 47.2% homeless, experienced aggressive debt retrieval for medical care which had a negative effect on subsequent health-seeking behavior. Locally, CCCHC cofounder, Wayne Mathews, reported that 68% of all the bankruptcies in Champaign County occur because of medical debt. Finally, access is limited for people not legally abiding in the country. A common characteristic of a free clinic, however, entails their willingness to see any patient and not request any information regarding immigration status (Keis 2004).

Many studies reveal the positive effects of safety net providers. For example, one study surveyed 106 free clinics in seven states discovering that they were responsible for providing medical, dental, and pharmaceutical services to over 200,000 patients (Geller 2004). Geller further reports that volunteer-based clinics, or free clinics, have existed for decades. Depending on philanthropic community for financial support, free clinics function because of health care providers who volunteer their time. In Champaign County, CCCHC acquires resources from various sources, including grants and donations from foundations, businesses, churches, and individuals. The value of in kind supplies and volunteer hours is ten times more than the amount of cash donations CCCHC receives. Over one hundred volunteers (comprising of 15 providers, 20 nurses, lab volunteers, social workers, and non professional positions) spend time taking care of the uninsured in Champaign County. Some other characteristics of free clinics involve their target population, length of time in operation, average budgets, and percentage of clients without insurance. Target population or area was described as urban, rural, or suburban. Out of the 106 clinics surveyed, half described their target area as mixed, while 25% described it as urban, 17% as rural, and 8% as suburban (Geller 2004). Most of the clinics, 75% reported being in operation for less than 10 years with 13 opening since 1998 and two that had been opened since the 1950s. Most free clinics operate on small budgets with 63% of the ones surveyed have a budget less than \$200,000 with a mean of \$235,170. However, this statistic is misleading because an outlier clinic has a budget of 2,147,000 million dollars. The median budget for the 106 clinics was \$157,000, which is a more precise figure. Finally, the range of clients free clinics served that did not possess health insurance went from 12% - 100%. However, the mean was 93%, which indicates the vast majority of clients did not have health insurance. Interestingly, one study reported that 34% of the clinics took people with Medicaid. Normally Medicaid recipients

utilize local hospitals or at the minimum, the local FQHC due to those facilities ability to receive reimbursement for services rendered – unlike a free clinic that does not charge and would not normally have the infrastructure to bill Medicaid (have to receive accreditation which is typically outside the scope of a free clinic). Such a large percentage of Medicaid clients at free clinics may indicate a lack in the availability of primary care for low income individuals.

Other studies seek to provide specific data about the uninsured that frequent free clinics. For instance, Keis, 2004, interviewed 248 patients from three free clinics to gather more in depth information concerning their clientele. In this study, a majority of the free clinic patients were low income, uninsured, and female. Most of the patients did not have a usual source of care (62%), nor would they know where to go if the clinic was closed (61%). The vast majority of clients (82%) reported using the free clinic because they lacked health insurance. According to CCCHC's demographic sheets each client completes, almost all of the clients would either go to the emergency room or seek no care if they could not make it to the clinic.

Free clinic's role in the safety net system has its share of criticism. The safety net system comes under scrutiny due to the difficulties to sustain itself with declining resources, political threats, or the increasing demand for services. A study focusing on the high-ranking personnel of various types of safety net providers (community-based free clinics, family planning clinics, local public health departments, and FQHCs), attempted to understand key adaptive strategies their organizations used to survive. After interviewing 74 respondents at 20 organizations, the researchers reported that medical directors, head administrators, financial directors, and members of the board of directors perceived the unmet need is expanding faster than organizational capacity; organizations are unable to keep up with demand (Jacobson 2005). Additionally, health programs functioning with donated care like free clinics, face future difficulties as the

amount of charity care provided by volunteer physicians has been declining for the past decade (Taylor 2006).

Usual/Regular Source of Care and ER Usage

Conflicting reports exist regarding the effectiveness of a usual source of care in preventing necessary or unnecessary ER visits, although data heavily skews towards prevention. Weber et al, 2005, reports, through a secondary analysis, that uninsured individuals were no more likely to have an ED visit than insured individuals. The dependent variable in this study was whether or not a subject had a usual source of care. A second study revealed an inverse relationship between families obtaining a usual source of care and coordinated patterns of seeking care at a pediatric emergency department. This longitudinal study done in Boston, reported that 42 percent of families had a usual source of care in 1964 compared to 95 percent in 1993. Despite this increase in regular care, uncoordinated patterns of seeking care (when ED visits occurred without attempting to utilize a usual source of care first) increased from 55 percent in 1964 to 72% in 1993 (Shah-Canning 1996). Paradoxically, another study recording the effects of a program in Delaware that provided basic health services to over 1,500 uninsured individuals reported a reduction in ED visits after being enrolled for six months (Gill 2005). A similar study conducted in a Midwest county revealed that a program called Health Care Access, created to provide primary care to the medically underserved, reduced ED visits among the uninsured by 40 percent in three years while insured visits increased (Smith-Campbell 2000). Overall, areas where there are higher rates of people with a usual source of care correlates with greater physician supply, which is associated with better quality – defined as state rankings of health system performance (Cooper 2008). One study, for instance, reported a 33 percent higher

ED usage among the uninsured in rural communities that did not have a community health clinic versus those that did (Rust 2009).

Predictor variables: the Uninsured and Lower ER Usage

Positive health outcomes stem from a multitude of health-related services. For this study, four services, particularly offered by CCCHC, deserve a closer examination. These health services come in the form of (1) medications, (2) lab services, (3) health education, and (4) spiritual support. Patients who lack insurance coverage for medications end up at risk for adverse clinical outcomes (Sorensen 2004).

Medications.

Schoen et al, 2008, report that 44 percent of the uninsured with a chronic condition experience a medical, medication, or lab error. One study looking at people with hypertension revealed that the uninsured are less likely to show medication persistence than those with insurance (Gai 2009). Sorensen et al, 2004, describe the difficulty in providing the uninsured with medications due to costs, partly due to pharmacies charging cash-paying customers 14 percent more than those in an insurance plan. Furthermore, the use of samples proves ineffective because this process relies on pharmaceutical reps to supply medications designed for short term use. Additionally, pharmacy assistance programs force patients to wait weeks to obtain or refill prescriptions. Sorensen et al conducted focus groups and found that 59 percent of patients using samples or enrolled in pharmacy assistance programs experienced 1 or more days of missing a drug due to the lack of availability. Furthermore, medication nonadherence correlates to those with low health literacy rates (Ngoh 2003).

Prayer.

A significant amount of research connecting spirituality/religiosity and health has been done. Although these studies sometimes show positive correlations between spirituality and health, critics often question the credibility of the research designs and methods (Hwang 2009). Difficulty in measuring spirituality's association to health also stems from the numerous ways spirituality is defined (Curlin 2007) – ranging to specific theological beliefs to religious practices, such as church attendance. Spiritual care is a common component of health care delivery in many community clinics. For example, physicians who care for the uninsured and underserved in faith-based, urban community health centers were more likely to connect their spiritual beliefs to their work (Curlin 2007). Locally, the Champaign County Christian Health Center offers prayer to each client being served, and therefore, this study will measure spirituality based a binomial (yes/no) response to the receipt of prayer.

Health education.

Many health care providers serving the uninsured or low income individuals often fail to provide health education to their patients due to limited resources. Locally, Frances Nelson, does not have available personnel or finances to do more than hand health information materials to their patients (Andrea Goldberg, personal communication, May 2003). The Champaign County Christian Health Center, which has a holistic approach, provides health education to its clients as part of their visit. This study seeks to observe any influence the receipt of health education has on decreasing ER usage.

Lab services.

Obtaining labs that determine health status is a critical component to maintaining good health. However, many uninsured lack these services. For example, a longitudinal study by

McWilliams et al, 2003, tracked 3 groups of people with three levels of insurance coverage before being eligible for Medicare (1) continuously insured, (2) intermittently insured, and (3) continuously uninsured. They found significant decreases in the gap, from 35.4 to 17.7 percent, between the continuously insured and uninsured regarding the use of lab services (McWilliams 2003). Another study compared insured with uninsured individuals and revealed that the uninsured were less likely to get several screening tests done, such as prostate cancer screening, mammograms, and pap testing (Robinson 2008).

Reform

A survey conducted in several countries asked chronically ill adults if the health care system in their country needed to be completely rebuilt. In the U.S., 33 percent (the highest listed) of respondents answered in the affirmative compared to 26 percent in Germany, 16 percent in Canada, and 9 percent in the Netherlands (Schoen 2008). The 33 percent total comprised of 46 percent of the uninsured combined with 27 percent of the insured with chronic conditions.

Many people have many opinions concerning the problems with the health care system and potential solutions to fix it. In an article with excerpts from a health care panel discussion printed by the New England Journal of Medicine, twelve experts pointed out many of these problems. For instance, Charles Baker explains how Medicare is procedure and technology driven instead of making tenets of primary care a priority (Baker 2008). Furthermore, Arthur Caplan offers the viewpoint of physicians who, because of system constraints, lack vested interest in changing their practices to promote better health care. Other areas addressed by these experts include prescription costs, insurance premiums, health care for the poor, and end of life issues. Despite these discussions, Fuchs, 2009, points out that many organizations prefer the

status quo like insurance companies, drug manufacturers, and companies that employ young health workers. Furthermore, disagreement among reformers existed a century ago and still prevents change today (Fuchs 2009).

A news article, posted on Yahoo News, quoted President Obama, saying, "The plans you are discussing embody my core belief that Americans should have better choices for health insurance, building on the principle that if they like the coverage they have now, they can keep it, while seeing their costs lowered as our reforms take hold". Unfortunately, the problems with the health care system go beyond the issues of choice, but start and end with issues of cost. As stated previously, most health care dollars go towards the sickest 10 percent of the population. Furthermore, costs correlate with the ability to spend as opposed to particular health conditions. For example, higher spending regions were more likely to recommend discretionary services, such as referring a patient to subspecialist for typical gastroesophageal reflux or stable angina, than lower spending regions when controlling for health status (Fisher 2009). Lower spending areas were also 30 percent more likely to discuss palliative care with a patient and their family compared to higher spending regions. Therefore, Fisher suggests these costs are controlled in large part by physicians who make medical decisions. This is also consistent with a statement made by Dr. Art Jones, a long time physician with Lawndale Christian Health Center who said, during his presentation at the Christian Community Health Fellowship conference, physicians are the solution to dealing with end-of-life health care costs. Arnold Epstein expresses the problem by saying the U.S. spends \$130 billion a year on end of life care and is the only country in the world where people think death is optional (Baker 2008).

Chapter III – Research Design & Methodology

Chapter Overview

A myriad of issues arise when conducting research, particularly in health care settings. As Becker, 1965, says, “no matter how carefully one plans in advance, research is designed in the course of its execution” and the “finished monograph is the result of hundreds of decisions, large and small, made while the research is underway” (p. 602). A critical element of solid research, the random assignment of subjects between intervention and control groups, is frequently impossible, problematic, or unethical in health care settings. For instance, to observe the effects of smoking, an ideal study would include a group of people who do not smoke to be randomly assigned to two groups. One of these groups would begin smoking while the other group does not. This design format would reduce problems of validity such as selection bias or attrition. However, since such a study is not possible, research in health care settings must make concessions and address the shortcomings. Although health care research rarely allows the use of the best designed studies, most research is acceptable if shortcomings are addressed and design decisions are explained. This flexibility varies when considering research components, such as generalizability or external validity, which addresses how well the study sample represents the population being described. For example, a study on sexual behavior among teenagers from 13 to 17 conducted with a church youth group in Urbana-Champaign, must not make any claims that recorded results apply to all teenagers 13-17 in the country.

Conducting research among an uninsured population complicates design decisions and issues of validity. This section includes the conceptual model used to frame this study, a description of the study design, and discussion surrounding issues of validity and limitations.

Interaction Between Uninsured, Free Clinics, and ERs: Conceptual Model

As with any social science research, numerous variables should be considered when attempting to predict behavior or outcomes. However, for the purpose of this study, a variation of a comprehensive model by Davidson et al, 2004, was utilized to analyze the potential relationships between safety net entities (particularly, ERs and free clinics) and the uninsured. Davidson et al divides their model into three major components including: 1) Community Characteristics, 2) Individual Characteristics, and 3) Health Care Access and Outcomes. Community characteristics break into five subsections composed of the safety net population, low income population, the health care market, safety net support and safety net services with each subsection containing specific components to provide further description. For instance, safety net services include public hospitals, teaching hospitals, and community clinics. Each of the remaining categories breaks down into multiple components as well. Although this model provides a comprehensive framework for evaluating safety net factors on access and outcomes, this study is only utilizing the major components of this framework. Therefore, “Individual characteristics” was simplified to “the uninsured”, “community characteristics” was scaled down to “free clinic care”, and “health care access and outcomes” was paired down to “ER usage” (see Figure 1).

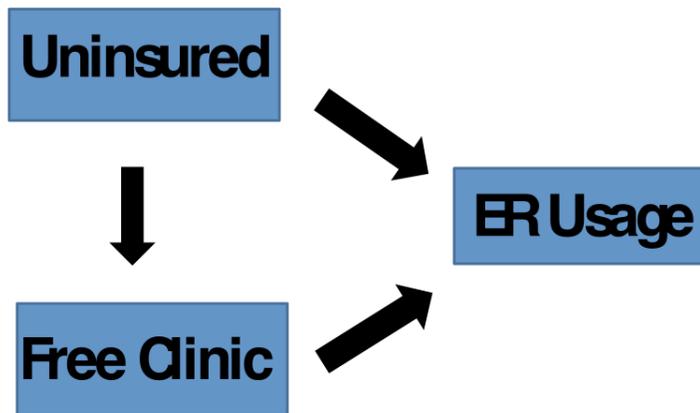


Figure 1. Conceptual Framework for evaluating care given at a free clinic and ER usage.

This study involved the comparison of one group of uninsured individuals who utilized the services of a free clinic with another group of uninsured individuals that did not use the services of a free clinic, and consequently, observed any group differences regarding the frequency of emergency room visits. Furthermore, if one group had a statistically different frequency of ER usage than the other, four variables including, health education, spiritual support, medication usage, and testing services will be recorded to observe which factor best explains the lower ER usage. Additionally, demographic data was collected to describe the age, race, sex, income, education, and sources of spiritual support among the study participants. The demographic data also highlighted any major differences between the two groups being compared.

Study Population

The subjects in this study included 54 uninsured clients from the Champaign County Christian Health Center (CCCHC), who had been clients for at least 6 months, and 70 uninsured

individuals from other locations in the Urbana-Champaign area, such as Family Dollar, Rose and Taylor Barber Shop, Salt and Light, and Carle Hospital ER,. Subjects were between the ages of 18 and 64 and considered uninsured, with uninsured defined as not having any form of health insurance at the time of completing the survey. The surveys were conducted in person, handing the survey to a participant to complete, or over the phone. To discover the necessary number of participants for this study, a power analysis was conducted utilizing EpiInfo Version 6. Using an alpha level of .05 and a desired beta level of .80, assuming a one to one ratio, a total of 176 participants (88 in each group) would be required to detect a 15% difference between the two groups. Therefore, this study will attempted to obtain 200 total participants as a goal.

Research Instrument

The surveys asked for demographic data such as age, race, sex, income, education, and sources of spiritual support to characterize the sample. Additionally, the surveys asked participants to describe their frequency of ER usage as well as their exposure to four health related services, including medications, health education, testing services, and spiritual support. Finally, a question asking clients about any other sources where they received health care was included to improve validity. No personal identifiable information was included on the survey. The approximate time to complete a survey was between 10 to 15 minutes.

Description.

In measuring emergency usage among a group of uninsured individuals, research designs vary. Some studies analyzed secondary data, such as Weber et al, 2005, where odds ratios showed ED visits occurred most frequently among those with poor physical or mental health. The study also revealed changes in insurance status and usual source of care increased the

likelihood of an ED visit. A retrospective cohort design study revealed the outcomes of a program in Delaware, called the Delaware Community Health Access Program that provided basic health services for 1,596 uninsured individuals. This research revealed that introducing a regular source of care to the uninsured enrolled in this program reduced ED visits (Gill 2005). This particular study had a few limitations, particularly with its sample selection as a large percentage of enrollees were Hispanic women.

Research Questions

Based on research indicating that increased availability of primary care promotes decreased ER usage, several research questions apply.

Descriptive questions.

1. Are there any demographic differences between uninsured individuals who received care at a free clinic vs. those not receiving care at a free clinic?
2. Is there any difference in spiritual support between the two groups?
3. Is there any difference in length of being uninsured between the two groups?

Analytical questions.

3. Is there a significant difference in the means of ED visits between the two groups?
4. If there is a significant difference in the means, how do medications, lab services, health education, and spiritual support influence ED usage among the group with a lower ED visit frequency?

Null hypotheses.

3. There is no statistically significant difference in the number of ER visits between a group of uninsured individuals utilizing a free clinic versus a group of uninsured individuals not utilizing a free clinic. Additionally, when accounting for demographic and other variables, the slope (beta coefficient) equals zero, revealing no correlation between ER visits and care received at the free clinic.

$$H_0: u_1 - u_2 = 0$$

$$H_0: B = 0$$

Population u_1 = group of uninsured that has not received care from the free clinic

4. There is no association between ER visits and availability of health services among any group of uninsured individuals. These health services include the provision of medications, lab services, health education, and spiritual support.

$$H_0: B = 0$$

Alternate hypotheses.

4. There is a statistically significant difference in the number of ER visits between a group of uninsured individuals utilizing a free clinic versus a group of uninsured individuals not utilizing a free clinic with the group using the free clinic exhibiting lower ER usage.

$$H_1: u_1 - u_2 > 0$$

$$H_1: B = 0$$

Population u_2 = group of uninsured that has received care from the free clinic

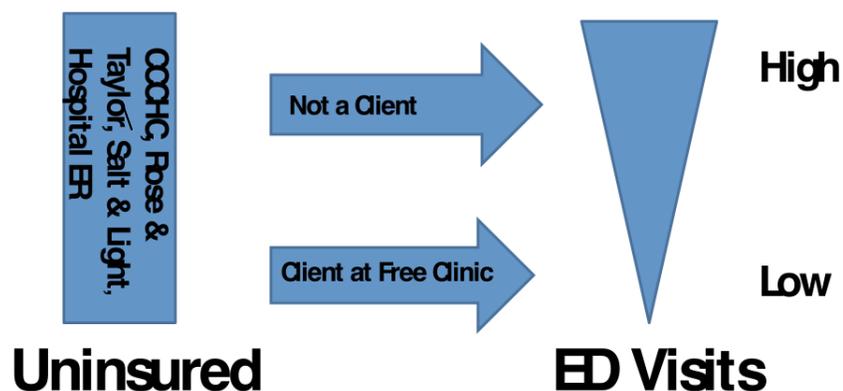


Figure 2. Illustration of alternate hypothesis

5. There is an association between ER visits and availability of health services among any group of uninsured individuals. These health services include the provision of medications, lab services, health education, and spiritual support.

Study Design

This study used a quasi-experimental approach - specifically, a *posttest-only design with nonequivalent groups*. This design was applicable since one cannot gather a group of uninsured people and randomly assigned some to go receive care at a free clinic and have another group not receive care from a free clinic. This prospective study also required a convenience sample since one cannot control when others become sick and seek after health care or purposely start and stop insurance coverage. In an ideal study, one group of uninsured individuals who never received care from a free clinic would be randomly assigned, with half receiving care at a free clinic while the other did not. Additionally, the number of ER visits would be recorded before the intervention and after the intervention (in this case, care from free clinic) to ensure the clinic

caused any decrease in ER visits. Although not the ideal study design, this study tried to control selection issues by gathering demographic data on each group and note any significant differences.

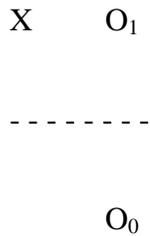


Figure 3. Nonequivalent Group Design with dashed line representing nonequivalent groups

Data Collection

A group of 54 uninsured individuals that met the criteria, (out of approximately 2000 possible) were randomly selected as study participants who had received services from the free clinic and were surveyed over the phone (note: all subjects drawn from the free clinic's medical records was uninsured when clients there as that is a criteria for being a client). A standard script was read to each potential participant including informed consent. Each study participant was assigned a number that matches a name to avoid duplication. This would only have been a problem if additional names needed to be randomly selected from the medical files after the first random selection. Once the surveys are completed, information tied to a study participant's name was destroyed to preserve confidentiality. A second group of 70 uninsured individuals was surveyed at various locations in the community, such as Salt & Light, Rose & Taylor, and Carle Hospital. Study participants were asked to complete the survey in person. Any surveys indicating a person had some form of insurance was not used in this study. Both groups were convenience samples. Data was recorded in a SPSS database.

Sources of Data

Data collection was done at the Champaign County Christian Health Center (CCCHC) for the group receiving care from a free clinic. For the group not receiving care from the free clinic, data was collected at various locations where uninsured populations frequent, such as Salt and Light (a food and clothing distribution ministry for the poor), Rose and Taylor (a barber shop that revealed high numbers of uninsured clientele from a previous needs assessment in the community), and local emergency departments (namely Carle Foundation Hospital and Provena Covenant Hospital). Demographic data previously collected by CCCHC was also utilized to help reveal intervention effects.

Study Limitations

The most significant limitation of this study stems from difficulty revealing a causal effect due to the research design. A nonequivalent group design study with no pretest created uncertainty about the size of the treatment effect (care received at the free clinic) due to potential selection differences. Besides comparing demographic data between the groups to recognize significant differences, overall, uninsured individuals represent a full spectrum of the population in relation to race, age, and sex. Furthermore, the uninsured population tends to fall into lower income categories, often considered the working poor (Commission 2006). Lastly, data gathered from the control group came from different environments in the hope that the uninsured population would have been well represented, including those who have sought care at a local hospital. Another approach to improve validity stemmed from previously collected data from the free clinic group that recorded frequency in ER visits among clients upon their first visit. Since

part of the criteria for selecting clients from the free clinic included being a client for at least 6 months, treatment effects could be observed.

Another limitation stemmed from the inability to randomly assign study participants and the utilization of a convenience sampling technique. Unfortunately, health science research often prevents ideal study conditions such as random assignment, random sampling, and controlling the environment. However, much can be learned by gathering data and revealing correlations as well as creating platforms for future research.

Due to the design of the study, some issues of validity were controlled while other validity issues are addressed in the following discussion. Due to data collection occurring within a brief window of time with no pre or posttest, history, maturation, and attrition were not factors in this study. Besides potential problems with selection threats to validity previously discussed, instrumentation could also have created validity issues. Two questions on the survey, one asking what a study participant would consider an emergency and the other asking if a study participant received any health education in the last 3 months, could be interpreted differently based on a participant's perspective on what constitutes a medical emergency and what they consider to be health education, respectively. To account for one of these threats, background data from research helped indicate how often ED visits were considered medical emergencies. To account for the other question, examples of health education services were provided to the study participants.

Self-reporting, particularly through asking study participants to recall their receipt of care, is another limitation. This study hoped to overcome this issue by asking yes/no questions so that any receipt of care would constitute an affirmative answer instead of asking for specific

information. Additionally, a 3 month window is a relatively short time for people to remember when it comes to major events like going to an emergency room. Overall, survey data was the best source of information as the study relates to an individual's experience in the health care system.

Operationalization of Measures

All of the questions on the survey were either categorical or continuous. On the demographic part of the survey, the only continuous variable was age while all the other questions solicit categorical responses, such as income bracket, gender, educational level achieved, race, and sources of spiritual support. Similarly, questions on the analytical side of the survey called for binary categorical responses, such as receipt of medications and lab services. Continuous questions on this part of the survey included "number of ER visits in the last 3 months" and how many visits a study participant made to other health-related facilities. There are also a few open ended questions that asked where study participants received specific services.

Demographic Analysis

The Statistical Package for Social Sciences (SPSS) 17.0 was used to analyze the data. Descriptive statistics (i.e. frequencies, medians, standard deviations) were calculated from the demographic data collected. The data was used to note demographic differences, if any, between the two uninsured groups and to note any trends or correlations between demographic characteristics and number of ER visits. All demographic data was collected by a survey designed by the researcher (see Appendix 1).

Analytical Analysis

Using SPSS, a t-test was used to compare the mean ER visit total between the two groups. To account for potentially confounding variables, a multivariate linear regression analysis was done as well. The regression analysis included demographic characteristics and length of being uninsured. A second regression analysis was conducted looking at the group with the lower ER visit frequency and four dependent variables including, medication usage, prayer, health education, and lab services to observe if any of these variables influenced the lower ER usage. All four variables required binary responses (yes/no). Some qualitative data was gathered based on survey questions asking where health services were obtained and which health care facilities study participants visited.

Conclusion

This study contributed to the base of knowledge regarding the uninsured usage of the emergency department. Due to contradictive research attempting to address this issue, a study conducted directly with the uninsured should help answer some critical questions. The most profound question this study attempts to address concerns the association between the uninsured having a usual source of care and the resulting influence on ER visits. Due to the financial constraints placed on health care facilities, any information that directs health care administrators how to best utilize their resources will prove useful. The second analysis of this study could have helped community clinics, such as CCCHC, improve their focus on ways to treat the uninsured. For example, if medication usage had correlated to lower ER frequency, then resources could have been focused in that area. Overall, this study is valuable for any safety net facility attempting to provide optimal care for the uninsured.

Chapter IV - Results

Free Clinic Impact on ED Visits

Hospital emergency departments (EDs) visits have increased since the 1990s while the number of emergency departments has decreased (Tang, Stein, Hsia, Maselli, and Gonzales, 2010). Additionally, Tang et al. report “the number of uninsured persons has increased from 38.8 million in 1999 to 46.3 million in 2008 and Medicaid enrollment has increased from 28.5 million in 1999 to 42.6 million in 2008” (p. 664). Although the uninsured are not increasing their rate of ER usage more than those with private insurance or Medicaid (Newton, Keirns et al. 2008; Weber, Showstack et al. 2008), costs incurred by hospital ERs stemming from uncompensated care for the uninsured is a problem. Newton, Keirns et al. highlight in their meta-analysis that the uninsured come to the ER with more acute problems, and, therefore, tend to incur higher costs. Additionally, the percentage of uninsured patients evaluated in a primary care setting decreased by 37% between 1996 and 2001. Consequently, the ED “comprises an increasingly greater proportion of the safety net and is now one of the few health care options for uninsured patients” (p. 1919). Concurrently, other safety net providers, such as Federally Qualified Health Centers (FQHCs) and free clinics (both considered Community Health Centers) attempt to fill in the safety net holes. As Cunningham (2006) points out, greater Community Health Center (CHCs) capacity reduced ED visits for poor and low-income people in his study analyzing several communities.

Most research conducted to track ER usage among the uninsured is either through secondary data analysis or descriptive in nature. Furthermore, unexplained differences exist when comparing ER usage among multiple communities, revealing the potential effects of regional variation (Cunningham; Davidson et al., 2004). Concurrently, although research concerning free clinics reveals the contribution they make to the safety net system (Keis et al.,

2004), little research reflects how their contributions affect ER usage. Therefore, the intention of this study was to help fill the gap in research through a statistical analysis of primary data concerning ER usage among two groups of uninsured - those given free care at a local clinic and those who have not.

Research Questions #1 and #2

Are there any demographic differences between uninsured individuals who received care at a free clinic vs. those not receiving care at a free clinic?

Several studies reveal the demographic make-up of uninsured populations. For instance, (Keis et al. 2004) reported that most free clinic patients are low income (58% making less than \$15,000 a year in the household), uninsured (81%), white (77%), and female (55%).

In this study, as shown in Table 8, using linear regression, none of the demographic variables were statistically significant between the uninsured surveyed from CCCHC and the uninsured surveyed in the community. One shortcoming in answering this question stems from the locations in which the uninsured in the community were surveyed. Using a convenience sample, study participants in the community were recruited in areas that primarily consist of minorities. Although when comparing the racial composition of the two groups (see Tables 2 & 3) there are significant differences between the percentage of Caucasians and African-Americans of each group (CCCHC uninsured with 53.7% Caucasian, African-American 22.2%, Community uninsured with Caucasian 36.1%, African-American 44.4%).

The larger percent of African-Americans comprising of the uninsured group surveyed from the community, despite not being statistically significant, could have made an impact on the ER visit totals between the two uninsured groups. Although the lack of insurance as a causal factor for ER visits is nullified in this study since all groups are uninsured, African-Americans, proportionately speaking, have a higher prevalence of diseases such as cardiovascular disease,

high blood pressure, diabetes, and cerebrovascular disease for a multitude of other reasons (beyond the lack of insurance) (Agency for Healthcare Quality and Research, 2004). Therefore, the imbalance of the racial composition among the groups could have biased the ER visit totals between the two uninsured groups, increasing the community uninsured group ER visits because of a higher representation of African-Americans. Furthermore, a study by Tang et al. (2010), who used data from the National Hospital Ambulatory Medical Care Survey, reported that African-American ED visit rates increased nearly double that of non-Hispanic white and Hispanic individuals between 1997 and 2007. Additionally, a New York Times story reported that in 2007, twenty-five percent of African-Americans visited the ER compared to twenty and eighteen percent among Caucasians and Hispanics respectively (Rabin, 2010).

Group characteristics.

As shown in Table 1, the sample for this study consisted of two primary groups. The two primary groups include uninsured individuals who received care at the Champaign County Christian Health Center (CCCHC) (n = 54) and uninsured individuals in the community who have not received care at CCCHC (n = 72).

Table 1

Number of Uninsured Surveyed by Group

Group	Number	Survey Method
CCCHC uninsured	54	Phone
Community uninsured	72	In Person

CCCHC uninsured demographics.

The average age of study participants among those that received care at the Champaign County Christian Health Center was 42.6 years. The racial composition of Champaign and Urbana Illinois differed from those surveyed in this study. For example, the percentage of Whites/Caucasians in Champaign and Urbana was 73.2 percent and 67 percent (U.S. Census, 2011) respectively compared to 53.7 percent in the CCCHC uninsured group (see Table 2).

Table 2

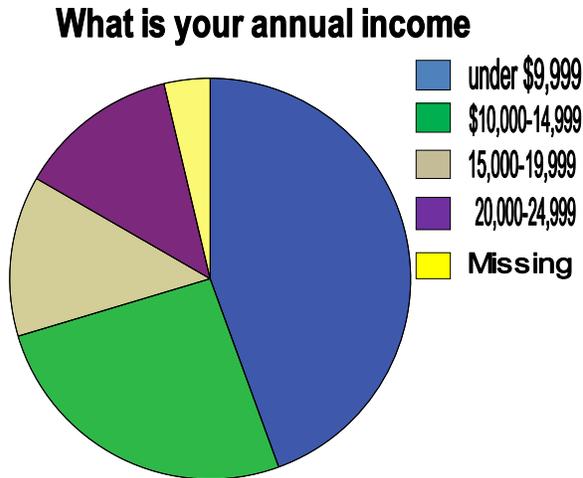
Racial Composition of CCCHC Uninsured Group

Group	Race/Ethnicity	Percent
CCCHC Uninsured	White/Caucasian	53.7
	Black/African-American	22.2
	Hispanic/Latino	11.1
	Asian/Pacific Islander	7.4
	Multiracial	3.7
	Missing	1.9

The gender of this group favored women as they represented 59.3% of study participants while men represented the remaining 40.7%. All study participants in this group lacked health insurance and were primarily of lower incomes with 44.4% earning \$9,999 or less, 25.9% earning \$10,000 to \$14,999, 28% making \$15,000 or more, no data for 3.7% (see Chart 1).

Chart 1

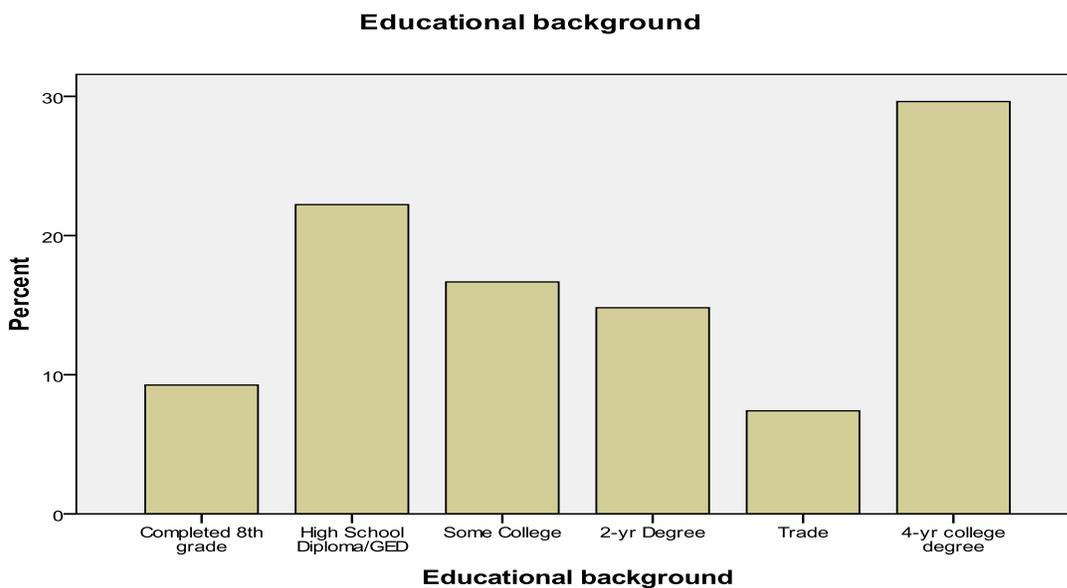
Annual Income of CCCHC Uninsured Group



Educationally, 9.3% of this group completed the 8th grade, 22.2% earned a high school diploma, 16.7% had some college work, 14.8% completed a two year degree, 7.4% went to a trade school, while 29.6% earned a four year college degree (see Chart 2).

Chart 2

Educational Background of CCCHC Uninsured Group



Community uninsured demographics.

The average age of individuals surveyed in the community not receiving care from CCCHC was 35.6 years old; nearly seven years younger than the uninsured surveyed at CCCHC. Although not statistically significant in this study, the difference in age presents potential bias as older individuals tend to have more health care needs than those younger. A Kaiser Commission (2203) report attributed a portion of the twenty percent increase in ER visits from 1993 to 2003 to the aging population. However, age bias is difficult to detect in detail as major databases reporting ER usage compile ages into categories of 18-44 and 45-64. The percentage of African-Americans surveyed at 44.4 percent (see Table 3) was higher than the African-American percentage for Champaign and Urbana; 15.6 and 14.3 percent respectively (U.S. Census, 2011).

Table 3

Racial Composition of Community Uninsured Group

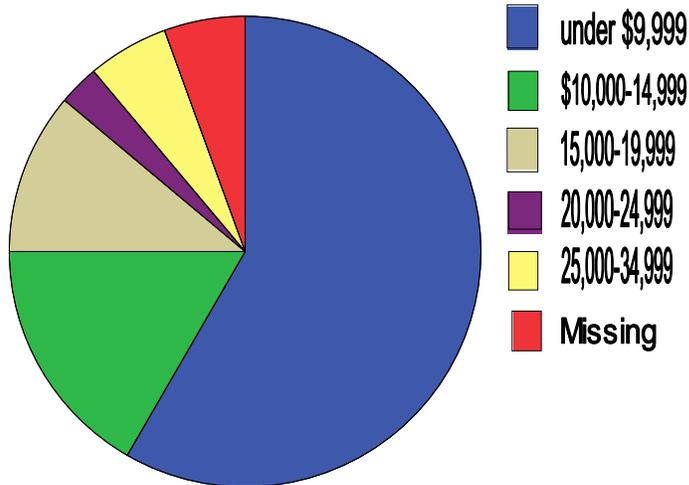
Group	Race/Ethnicity	Percent
Community Uninsured	White/Caucasian	36.1
	Black/African-American	44.4
	Hispanic/Latino	11.1
	Asian/Pacific Islander	2.8
	Multiracial	1.4
	Missing	1.4

The gender of this group favored women as the CCCHC group, but not as much, with 56.3% female and 43.1% male (1.4% missing data). More people in this group fell into the 0\$ to \$9,999 annual income category at 58.3%, while 16.7% earned \$10,000 to \$14,999, 19.5% over \$15,000, and no response from 5.6% of study participants (see Chart 3).

Chart 3

Annual Income of Community Uninsured Group

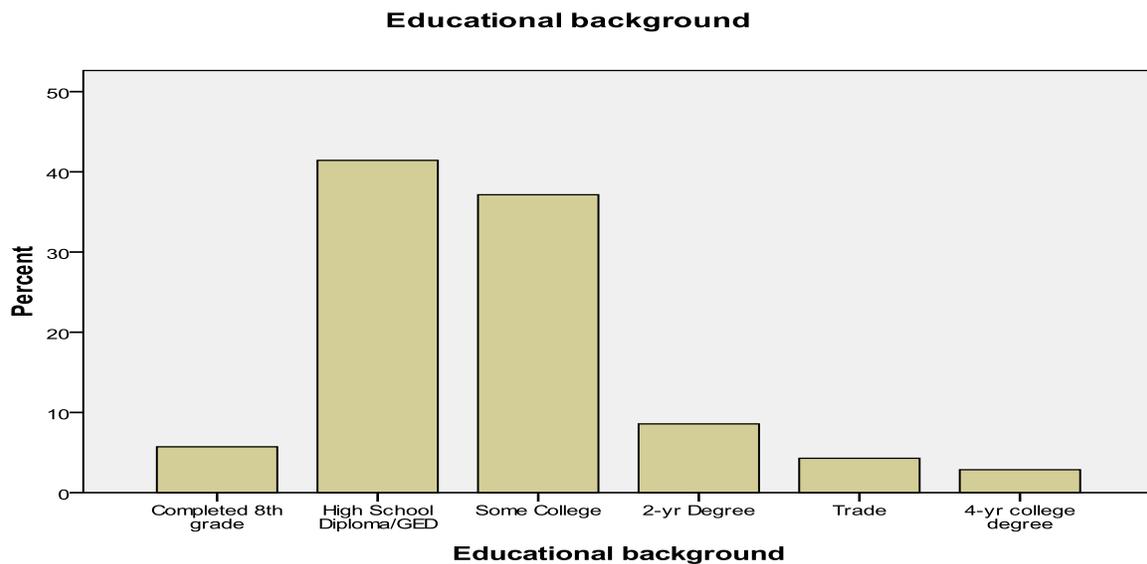
What is your annual income



Educationally, 5.6% completed the 8th grade, 40.3% earned a high school diploma, 36.1% had some college, 8.3% earned a two year degree, 4.2% went to a trade school, and 2.8% earned a four year degree (2.8% missing data) (see Chart 4).

Chart 4

Educational Background of Community Uninsured Group



Average ER visits and length of time without insurance.

Is there a difference in length of uninsured status between the two groups?

Keis et al. (2004) revealed that 57% of those uninsured had been so for at least a year or more (76% for six months or more). As shown in Table 5, length of being uninsured was not statistically significant in relation to ER visits between the CCCHC group and community group. Although the uninsured surveyed at CCCHC had a higher rate of being chronically uninsured than the community uninsured group (see Table 4), a linear regression analysis resulted in this variable having no statistically significant difference at a p value of .05 (see Table 5). The length of time going without health insurance was measured with the following values: 1) Less than one month = 0, 2) Between 1-12 months = 1, and 3) Over 12 months = 2. The CCCHC group averaged 1.72 while the community uninsured group (non CCCHC clients) averaged 1.61. As shown on Table 4, the average number of emergency room (ER) visits among the two uninsured groups differed. The uninsured from CCCHC (n = 54) averaged .48 ER visits in the past three months, while the uninsured surveyed in the community (not CCCHC clients) (n = 70) averaged 1.09 visits (see Table 4).

Table 4

Average ER Visits and Length of Not Having Insurance among Groups

Group Surveyed	Average ER Visits	Average Length without Health Insurance*
CCCHC Uninsured	.48	1.72
Community Uninsured	1.09	1.61

Note. *Values include: 0 = Less than 1 month, 1 = Between 1 and 12 Months, 2 = More than 12 months with no health insurance

Linear regression of demographic variables.

When analyzing demographic variables to detect their influence on ER visits among the CCCHC uninsured group (group with the least ER visits), no demographic variable, such as race, age, and gender, had statistical significance (see Table 5). Not finding any demographic variable with statistical significance in predicting ER usage is not consistent with the literature. For instance, the association between race and ER usage in a study by Cunningham (2006) revealed that twenty-five percent of the difference in ER usage among various communities was attributed to the demographics of the population; in particular, racial/ethnic composition. However, this study focused on high population, urban areas.

Table 5

Linear Regression: Demographics and ER Visits in Past 3 Months

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.489	.854		2.915	.006
	Race	.030	.133	.035	.224	.824
	How long have you been uninsured	-.563	.302	-.290	-1.866	.069
	Age	-.019	.013	-.216	-1.451	.154
	Gender	-.108	.332	-.050	-.327	.746
	What is your annual income	-.176	.160	-.174	-1.099	.278
	Educational background	-.028	.101	-.047	-.281	.780

Note. Dependent Variable: Visits to ER in past 3 months

Observations of Predictor Variables in Relation to ER usage

Each group was asked if they received any of the following services or aid in the past three months: 1) medications, 2) prayer, 3) health education, and 4) testing services. For

instance, sixty-four percent of study participants at CCCHC reported receiving medications in the past three months while approximately thirty-five percent did not (see Table 6). Each group’s response to each predictor variable is either in the affirmative (yes) or negative (no) by percentage. Major differences between the CCCHC uninsured group and the other two groups were found in each of the predictor variables. Those surveyed from CCCHC received medications, prayer, health education, and testing services more often than the other two groups. For example, 56.9 percent of CCCHC participants received prayer compared to 34.8 percent from the community and 5.4 percent from the Carle group. Furthermore, 45.3 percent of CCCHC study participants received some form of health education compared to 24.3 and 21.6 percent for the other two groups.

Table 6

Uninsured Groups and Predictor Variables

Group	Medications		Prayer		Health Ed		Testing Services	
	Yes	No	Yes	No	Yes	No	Yes	No
CCCHC	64%	36%	57%	43%	45%	55%	37%	63%
Community	36%	64%	35%	65%	24%	76%	21%	79%
Total %	48%	52%	42%	58%	33%	67%	28%	72%

Note. Services received in the last three months. Total % is for both uninsured groups combined.

Number of Forms of Support

Study participants were asked to report what best describes those that support them (in any fashion). The list of options included 1) Family, 2) Friends, 3) Church, 4) Coworkers, 5) Clubs/Organizations, or 6) Other. A study participant could circle any of these forms of support that applied to them. For this study, the total number of forms of support were recorded for each study participant. Table 7 shows the average number of forms of support for the CCCHC uninsured and Community uninsured groups. On average, the CCCHC uninsured group reported

more forms of support than the Community uninsured group. The difference in the two averages of forms of support between the groups was statistically significant at a p level of .05 (see Table 8). Carrot, Fassa, and Kawachi (2007) reported that lack of social support (defined in this study as a friend or relative able to accompany a person to the hospital) led to higher inappropriate ER usage. However, in this study, a linear regression, controlling for all other variables measured in this analysis, resulted in no statistical significance between ER usage and the number of forms of support among the CCCHC uninsured group (group with lower ER usage in this study)(see Table 9). Therefore, although the CCCHC uninsured group reported a higher number of forms of support, the affect on ER usage is inconclusive.

Table 7

Average Number of Forms of Support

	Group Surveyed	N	Mean	Std. Deviation	Std. Error Mean
Social Support	CCCHC uninsured	52	2.17	1.061	.147
	Community uninsured	70	1.77	1.132	.135

Table 8

T-test Comparing Means of Number of Forms of Support between Two Uninsured Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Social Support	Equal variances assumed	.273	.602	1.990	120	.049	.402	.202	.002	.801
	Equal variances not assumed			2.009	113.617	.047	.402	.200	.006	.798

Table 9

Linear Regression: Number of Forms of Support among CCCHC Uninsured Group in Relation to ER Usage

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.267	1.063		3.073	.004
	How long have you been uninsured	-.495	.319	-.251	-1.552	.130
	Race	.169	.167	.165	1.011	.319
	Age	-.022	.014	-.250	-1.594	.121
	Sex	-.352	.369	-.157	-.955	.347
	What is your annual income	-.142	.175	-.140	-.814	.422
	Educational background	-.135	.111	-.217	-1.217	.233
	Purchased/received any medications for health concern in the last 3 months	.451	.419	.198	1.077	.290
	Offered prayer in the last 3 months	-.550	.348	-.250	-1.580	.124
	Were you provided health education	-.488	.385	-.223	-1.268	.214
	Receive/purchase any testing services	.364	.362	.178	1.004	.323
	Social Support	-.215	.154	-.213	-1.399	.172

Note. Dependent Variable: Visits to ER in past 3 months

Research Question #3

Is there a statistically significant difference in the means of ED visits between the two groups?

Current research indirectly supports the possibility that a group receiving primary care would frequent an emergency room less often than a group not receiving primary care. For example, Cooper (2008) stated that the greater number of physicians in a community is associated with a higher quality of care. Additionally, Gill et al. (2005) study showed decreased ED visits associated with individuals having a regular source of care (RSOC). This research leads to the model developed as shown in figure 4, where being a client of CCCHC (receiving primary care) theoretically translates into lower ER usage.

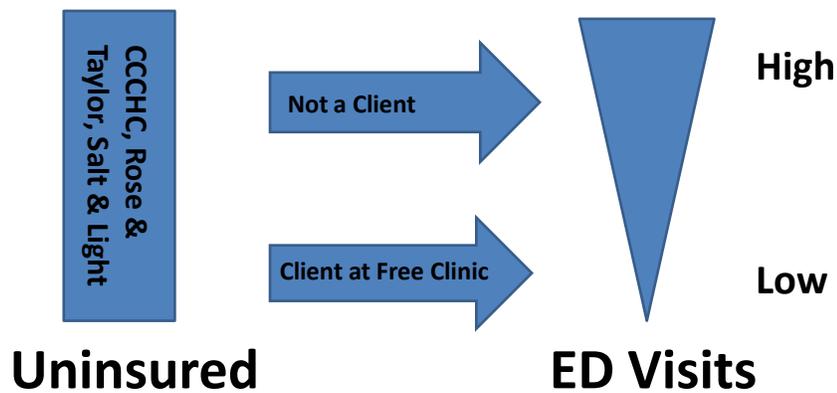


Figure 4. Illustration of alternate hypothesis

Comparison of means.

Table 10 shows the number, mean, and standard deviation of ER visits in the past three months among the CCCHC uninsured group and the uninsured surveyed in the community. A t-test (see Table 11) was conducted to compare the means between the uninsured group from CCCHC (n = 52, m = .48, std = 1.038) and the uninsured group from the community (n = 70, m = 1.09, std = 1.969). As Table 11 shows, the value of t for this study equals -2.016, with 120

degrees of freedom, thus making the difference in ER visits between the CCCHC uninsured group significantly lower, statistically, than the ER visits of the community uninsured group. A power analysis revealed an estimated beta of .714, using DSS Research's power calculator. A one-tailed t-test in the direction hypothesized in this study ($H_1: u_1 - u_2 > 0$ with u_1 representing the group of uninsured surveyed in the community) requires that $t = -1.64485$ or less (greater negative number) to be statistically significant at the .05 alpha level. This study produced a t value of -2.016. The confidence interval was between -1.199 and -0.011 with equal variances being assumed ($F = 4.341$, significant at a .05 alpha level = .039). Therefore, the null hypothesis is rejected ($H_0: u_1 - u_2 = 0$) at an alpha of .05.

Table 10

Number, Mean, and Standard Deviation of Uninsured Groups

	Group Surveyed	N	Mean	Std. Deviation	Std. Error Mean
Visits to ER in the past 3 months	CCCHC Uninsured	52	.48	1.038	.144
	Community Uninsured	70	1.09	1.969	.235

Table 11

T-test Comparing Means of Two Uninsured Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Visits to ER in the past 3 months	Equal variances assumed	4.341	.039	-2.016	120	.046	-.605	.300	-1.199	-.011
	Equal variances not assumed			-2.193	109	.030	-.605	.276	-1.152	-.058

Research question #4

If there is a significant difference in the means, how do medications, lab services, health education, and spiritual support influence ED usage among the group with a lower ED visit frequency?

Since there was a statistically significant difference in the means of the two uninsured groups surveyed, with CCCHC study participants with a lower ER visit mean (.48), a secondary analysis was conducted. The null hypothesis for the secondary analysis was that there is no association between ER visits and availability of health services among any group of uninsured individuals. These health services include the provision of medications, lab services, health education, and spiritual support in the past three months. Lab services included any health care related test or procedure conducted, such as a mammogram; while health education included any health related information provided to a study participant, such as being given pamphlets concerning nutrition. Spiritual support for this study was defined as whether or not someone prayed for the study participant in the previous three months.

Using linear regression, the four variables: 1) medication, 2) prayer, 3) health education, and 4) testing services did not show statistical significance in relation to number of ER visits in the last three months for the study participants from CCCHC (see Table 12). Therefore, the analysis to detect an association between the four predictor variables and the group with the lowest mean of ER visits (CCCHC study participants) was inconclusive. When observing the descriptive statistics of the predictor variables in relation to the uninsured groups surveyed (see Table 6), differences in the responses to each of the variables are easily detected – particularly with the CCCHC group more likely to have received each of the four services. Although no

association can be found, it is suggested by the data that CCCHC study participants both received more of the four services asked on the survey and incurred less ER visits than the other uninsured group, thus supporting the model illustrated in Figure 1.

Table 12

Linear Regression: Predictor Variables and ER Visits in Past 3 Months

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.543	.315		1.726	.091
	Received Medications	.500	.360	.225	1.387	.173
	Offered prayer	-.513	.310	-.239	-1.656	.105
	Provided health education	-.385	.345	-.182	-1.119	.269
	Received testing services	.351	.309	.175	1.136	.262

Note. Dependent Variable: Visites to ER in past 3 months

Chapter V - Discussion

Study Implications

This study which provides supporting evidence that receipt of primary care from a free clinic, specifically, for the uninsured, is associated with lower ER visits has multiple implications. The results of this study potentially affect the community at large, health care delivery, and health policy (both locally and nationally).

Community health impact.

Observing the complete conceptual model presented by Davidson et al. (2004), community characteristics such as available safety net services (which includes community clinics), influence health care outcomes, such as preventable hospitalizations. Results revealing lower ER usage among the uninsured with increase provision of primary care may translate in greater collaboration efforts between health care entities in a community. Large facilities, such as hospitals, could see community relations improved through their support of free clinics and FQHCs by showing their support for the uninsured. For example, in Urbana, Illinois, Carle Foundation Hospital received praise from a health care advocacy group, called the Champaign County Health Care Consumers (CCHCC), when receiving news of Carle's financial support of the Champaign County Christian Health Center. Considering CCHCC played a significant role in another local hospital temporarily losing its tax exempt status due to lack of charity care, favorable recognition towards Carle was significant. Furthermore, hospital budgets could experience some much needed relief through cost savings by preventing unnecessary ER visits by the uninsured (Thompson, 1999; Irwin et al., 2003; Gill et al., 2005). A study examining a statewide program in Delaware that provided a regular source of care to the uninsured, called the

Community Healthcare Access Program (CHAP), recorded ER usage among its 795 enrollees and found a significant decrease ER visits due to participation in the program (Gill et al., 2005).

Health care delivery.

Cunningham's (2006) secondary data analysis identified several trends of ER usage in sixteen cities across the United States. For instance, "increases in uninsurance rates are unlikely to result in net increases in ED visit rates" (p. 334). Findings from this study support Cunningham's research with only 35 percent of those surveyed in Carle's ER being uninsured, with the remainder being privately or publically insured (primarily Medicaid). However, any increased pressure over time, inevitably causes increasing damage to a system (i.e. circulatory system with high blood pressure causing heart damage in the long run). With billions currently being spent on uncompensated health care (some of which includes ER costs among uninsured individuals unable to pay for care), any increase in people unable to pay ER bills further strains health care facilities already shrinking budgets. Carle Foundation Hospital in Champaign, Illinois, has seen a gradual increase in the number of uninsured coming to the ER along with a decrease of those with private insurance (see Figure 5). The number of ER visits by uninsured individuals went from 6,866 (6.3% of total cases) in 2006 to 9,377 (8% of total cases) in 2010; an increase of 37 percent (see Figure 6). Therefore, although the rate of increase of the uninsured presenting at the ER is no greater than those with private or public insurance, the overall number of uninsured (like other groups) is increasing, thus adding pressure to hospital ER departments.

Figure 5

Table of All Payers at Carle Hospital's ER

**ALL PAYERS
Carle Foundation Hospital**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 11 JUL-NOV
All Non Govt Payers	44.0%	42.6%	40.8%	38.5%	36.8%
All Govt Payers	49.6%	50.8%	52.3%	53.5%	54.0%
Uninsured	6.3%	6.6%	6.9%	8.0%	9.2%



Figure 6

Table of All Payers at Carle Hospital's ER Broken Down in Payer Groups

ALL PAYERS Carle Foundation Hospital

	FY 2007		FY 2008		FY 2009		FY 2010		FY 2011 JUL-SEP
	CASES	% OF TOTAL CASES	CASES	% OF TOTAL CASES	CASES	% OF TOTAL CASES	CASES	% OF TOTAL CASES	% OF TOTAL CASES
All Non Govt Payers	47,787	44.0%	47,237	42.6%	45,867	40.8%	44,820	38.5%	36.8%
All Govt Payers*	53,866	49.6%	56,372	50.8%	58,767	52.3%	62,302	53.5%	54.0%
Medicare	29,887	27.5%	30,863	27.8%	31,870	28.4%	33,571	27.1%	28.1%
Medicaid	20,478	18.9%	22,104	19.9%	23,854	21.2%	27,730	23.8%	23.4%
Workers' Comp	3,035	2.8%	2,940	2.6%	2,562	2.3%	2,444	2.1%	2.1%
Tricare	466	0.4%	465	0.4%	481	0.4%	557	0.5%	0.5%
Uninsured	6,866	6.3%	7,342	6.6%	7,697	6.9%	9,377	8.0%	9.2%

Between FY 07 and FY 10

- Medicaid cases have grown by 35%
- Uninsured cases have grown by 37%



Health policy implications.

As new health care reform legislation takes its shape in the health care marketplace, finding ways to keep health care costs contained and provide more efficient means of health care delivery is a priority. Studies showing the cost effectiveness of primary care for uninsured populations justify a greater emphasis on entry level care. This study further supports the current research by showing those receiving primary care at a local free clinic had lower ER usage than those not receiving primary care. Although results concerning receipt of additional health care services were inconclusive in this study, future studies may reveal, more specifically, why at-risk populations present to the ER.. Further research is critical as some communities, whose health care facilities are already near maximum capacity, will incur an influx of newly insured individuals with no previous medical home. The Patient Education and Affordable Care Act (ACA) has a provision to ensure the 34 million chronically uninsured people in the U.S. will have an opportunity to obtain some form of health care coverage (“Understanding Affordable”, 2011). This study shows the importance in preparing for health care legislation that will increase the number of people able to receive health care. Cost containment will more likely occur when primary care is readily available and sufficient to keep people out of emergency departments. The ACA will increase the pressure on hospitals to identify medical homes for people as another provision allows for anyone to go to an out of network emergency department without prior approval from their insurance company (“Understanding Affordable”). Additionally, a provision (already in place for children) to be implemented for adults in 2014 allows anyone with a pre-existing condition to obtain health insurance. Primary care will be a crucial element to prevent people with pre-existing conditions to use the ER for non urgent conditions.

Although the ACA has in its provisions to cover the 34 million chronically uninsured through state exchanges and expanded Medicaid eligibility, implementation may be a challenge. Currently, debate concerning the constitutionality of the mandated insurance component of the ACA is underway in the district courts. Thus far, two Democratic appointed District Court judges have deemed the mandated insurance constitutional while two Republican appointed District Court judges ruled the opposite (Herring, 2011). Eventually, the disagreement will make its way to the Supreme Court and be decided – perhaps by, ultimately, by one moderate judge (assuming the other judges rule according to their political affiliation). If mandated insurance is ruled unconstitutional, other components of the act, particularly the inability for insurance companies to deny coverage to people with pre-existing conditions, becomes impossible to implement (resources obtained from those participating in mandated insurance would be used to cover people with pre-existing conditions).

Furthermore, it is a mystery if the proposed insurance exchanges charged to the states to develop and implement (with the federal government insuring regulations are upheld) will work as expected. Kingsdale (2010) said, “Whether an insurance exchange looks more like a Walmart than a flea market will depend on whether doctors organize themselves into efficient, patient-responsive systems of care” (p. 2150). As with any major new legislation, implementation is a complex, arduous, and lengthy process. Locally, the thousands of uninsured in Champaign County would be able to participate in an exchange developed by the state of Illinois, providing them with insurance coverage and subsidies to pay for it. This study supports the idea of providing means for current uninsured individuals to obtain coverage as increased availability of primary care decreases the possibility of the ER being used as a first point of care. As research

illustrates, however, the number of primary care providers is decreasing (Tobler, 2010) and therefore, capacity issues need resolution.

In conjunction with the insurance exchanges is the provision that people cannot be denied care based on pre-existing conditions. However, the financial plan proposed to cover the thirty-four million chronically ill uninsured individuals in the U.S. appears inadequate (Pollack, H.A., 2011). If resources fall short of covering the expenses incurred by newly insured (formerly uninsured) chronically ill people, health care facilities will be unable to provide complete care for these individuals. Therefore, the need for free clinics will still exist to provide care for individuals falling through the cracks. Insufficient care for this population, as is the case currently, will increase costs to health care facilities due to uncompensated care, which will be shifted to other populations that have the ability to pay for care.

Federally Qualified Health Centers.

According to Kimberly Konkel, from the U.S. Department of Health and Human Services, the ACA designated \$11 billion for Federally Qualified Health Centers (FQHCs) in the next four years with the potential for additional funds (personal communication, May 28, 2010). Grants to install and implement electronic medical records were part of this new funding; something the FQHC of Champaign County, Frances Nelson took advantage of already according to Andrea Goldberg (personal communication, February 7, 2011). Only 2 percent of new resources for primary care were reserved for non FQHCs or FQHC look-alikes (Konkel). The significance of the findings of this study may influence the designation of future funds allocated for primary care by showing care at a local free clinic (CCCHC) corresponds to decreased ER visits. Further investigation targeting the effects of a holistic (prayer and health education in addition to medications and testing services) approach to providing care may also

lead to more non FQHC primary care outlets receiving more federal support. According to Steve Noblett, Director of the Christian Community Health Fellowship, funds provided through the Faith-based Initiative developed during the presidency of George W. Bush, helped dozens of faith-based clinics across the country provide health care for tens of thousands underserved individuals. Although empirical data is lacking that compares the effectiveness of faith-based organizations compared to secular ones, there is a theory that can direct future research. This theory of individual change, highlighted by Goggin and Orth (2002), says “faith-based organizations (FBOs) in social services are portrayed as being motivated by a desire to change the lives of the individual clients they serve, and the individuals within those FBOs are viewed as change agents” (p. 48). Two arguments supporting this theory include: 1) FBOs taking a holistic approach which transforms clients in ways secular organizations do not, and 2) Relationships established with clients are more caring and enduring than secular organizations. This is consistent with the reaction of those who receive health care from CCCHC. Numerous clients have made comparisons between Frances Nelson and CCCHC, stating the difference in how they are treated and cared for between the two health clinics. Many clients referred to Frances Nelson by CCCHC refuse to use the referral and insist on continuing on as a CCCHC client (those referred have the opportunity to become Frances Nelson patients).

Limitations

Sampling.

Due to the geographic limitations of this study (only included Champaign and Urbana Illinois), any generalizations are limited and should be taken with prudence. Additionally, although the groups surveyed were diverse, African-Americans in the community uninsured group were over represented compared to the Champaign-Urbana population and CCCHC

uninsured group. Finally, the groups surveyed were all examples of convenience sampling, lacking random selection.

Survey collection.

Data obtained in this study was self-reported. Typical problems with self reported survey collection involve memory recall and honest reporting (“Self-report study”, 2011). This study attempted to control for memory recall by only asking for ER visits in the past three months. Additionally, to promote honesty in reporting, confidentiality and anonymity was assured to study participants.

Convenience samples were utilized for all three uninsured groups. As with any convenience sample, various validity issues could skew findings. Each of the samples may have included bias based on the location of survey collection or the method used to gather surveys. For instance, the Champaign County Christian Health Center (CCCHC) has specific health delivery methods, locations, volunteers, values, personnel, and collaborations. Each of these characteristics (as well as others) could have influenced participants responses on the survey compared to other free clinics. For example, CCCHC provides a holistic approach to health care, which includes offering prayer, social work services, and medications to its clients. Therefore, clients of free clinics offering different services could produce different results than this study. The lack of standardized, consistent provision of health care among free clinics affects the ability to generalize findings to other communities that may offer free care for the uninsured as well.

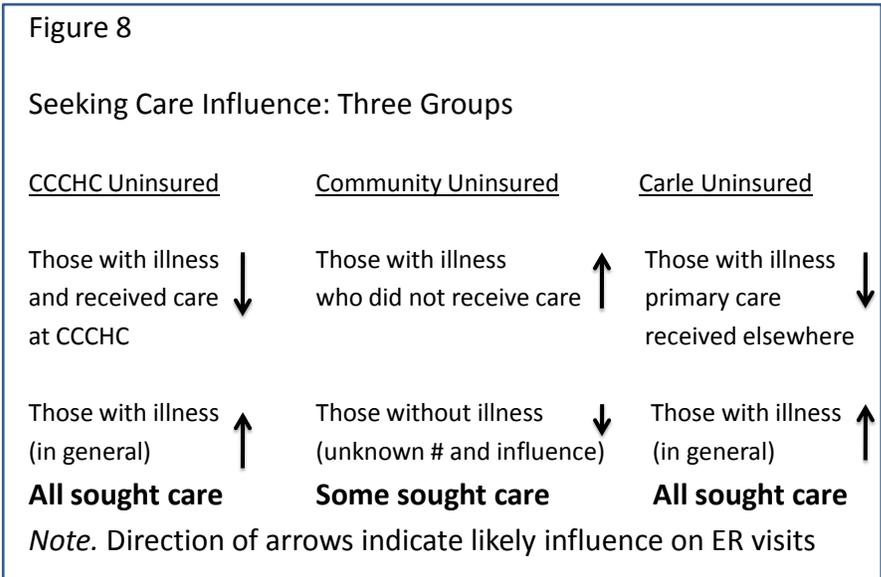
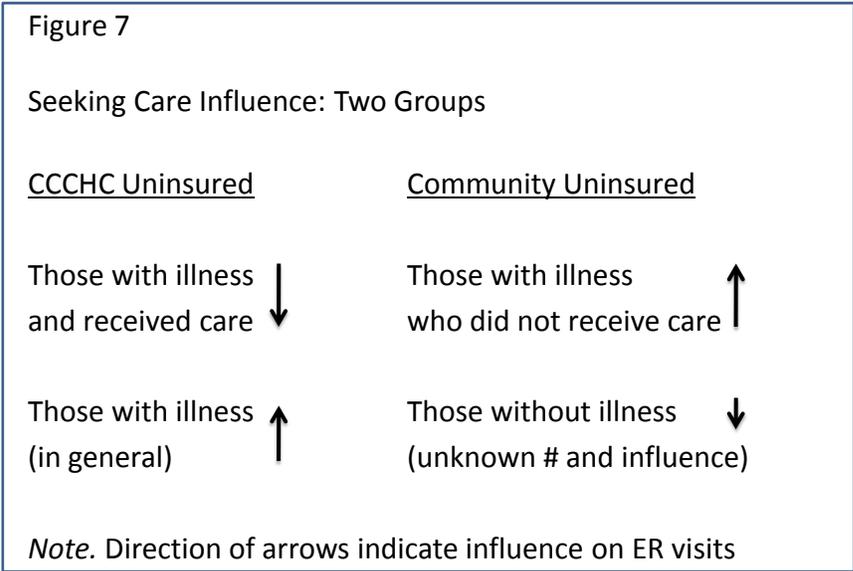
An additional potential bias exists for those surveyed at CCCHC as all surveys completed with this sample were through phone interviews. The study excluded a segment of CCCHC clients who did not have current phone numbers and therefore, potentially created bias associated with the ownership of a working phone. Similar issues exist for those surveyed in the Champaign

Urbana community. Specific characteristics of the locations where surveys were gathered may not exist in other communities and therefore, any conclusions cannot be generalized to every community. Surveys collected in the community of Champaign Urbana, such as Salt and Light, for example, could have created bias based on organizational location, services provided, personnel, or other unknown variables. Furthermore, certain locations, such as the local barber shop, would most likely include more African-American study participants than a random sample of all uninsured individuals in Champaign Urbana.

Seeking care.

A potential problem faced during data collection involved differences between the two primary uninsured groups being surveyed. One of the main differences involved whether or not a study participant sought medical care in the past three months (time from completing the survey). Those surveyed at CCCHC had clearly sought health care by being a current or former client. However, individuals surveyed outside of CCCHC, may not have sought any care in the previous three months. The guarantee that CCCHC clients sought care compared to the possibility of individuals surveyed in the community seeking care, introduced potential bias to the major outcome variable (number of ER visits in past three months). Therefore, a group of uninsured individuals utilizing Carle Hospital's ER was surveyed to "balance out" this potential bias. Since the uninsured utilizing Carle's ER was definitely seeking care, like the CCCHC uninsured group, the survey data (from Carle's ER) was going to be used as a control group; particularly controlling for a variable not measured in this study – whether a survey participant was seeking care or not. However, a statistical significance was discovered between the original two groups being surveyed with those in the community averaging a higher number of ER visits. Therefore, surveying the Carle uninsured who presented in the ER was not necessary. Surveying

the uninsured at Carle's ER was useful, however, considering the data collected from this group supported the primary alternate hypothesis - getting care at CCCHC is associated with less ER visits than those not receiving care from CCCHC (note: no one surveyed in Carle's ER was a CCCHC client). As shown in Table 16, those in the community uninsured group averaged 1.09 ER visits in the past three months compared to only a .48 ER visit average by CCCHC clients. The Carle uninsured group had an average of 1.68 ER visits in the past three months. There was no statistically significant difference between the Carle uninsured group and the community uninsured group although both were statistically significant when compared to the CCCHC group. Seeking care can cause the data to lean both ways. While it would seem that a group definitely needing care would end up with more ER visits (because they were sick at some point) than a group that had any number of fully healthy people, it is also possible that those needing care had less ER visits because their health care needs were met – as opposed to those who were sick but had no source of medical care (see Figure 7). Figure 4 represents the dynamics that promoted the idea to survey the uninsured that presented at Carle's ER. Figure 8 represents the idea that surveying an uninsured group from Carle's ER would balance out the potential bias created by the uninsured in the community not necessarily seeking care. Without further study, however, any influence of seeking care is vastly unknown.



Urgent Care.

This study did not delineate emergency care from urgent care. Research varies on the subject both by definition and measurement. Additionally, due to self reporting, urgency of care

is defined by the study participant; leading to a high percentage of visits being defined as emergencies (74 % according to data collected in this study). Newton et al.(2008) highlighted that research determining urgent versus non urgent care is inconclusive, with some of the issues including: defining urgent care, questions as to whom determines or classifies visits as urgent or non urgent, and that some health concerns seemingly non urgent may best be treated in an ER (i.e., sprains, fractures, lacerations). Ideally, distinguishing ER visits between urgent or emergency versus non urgent (by a comprehensive medical standard) could lead to determining the extent of preventability of unnecessary ER visits among the uninsured.

Recommendations for Future Research

There are many areas in which this study can be a building block for future research. First, this study focused solely on the uninsured. Other groups, such as those covered by Medicare, Medicaid, private insurance, or some other kind of plan, may resemble similar attributes as the uninsured – particularly, a lower ER visit total for those seeking and receiving primary care versus those who do not. Scientific based results for this kind of study could influence future health policy and current actions of health care facilities.

Second, surveying larger groups of uninsured individuals (see Addendum 2) would provide stronger and more detailed descriptive data of this population. For instance, when combining all groups of uninsured in this study (n = 164), each question of the survey has more power than each group separately when describing the uninsured in Champaign County (see Tables 17 - 19; Charts 7 & 8). This is especially the case considering the three uninsured groups in this survey were gathered from different locations.

Third, investigation into the variables used to see what most influenced lower ER totals, although statistically insignificant for this study, could be expanded and produce interesting

results. For example, there were no significant findings regarding the four predictor variables found in the CCCHC uninsured group. However, when combining all uninsured groups (n = 164), the influence of prayer on ER visits was statistically significant at the .01 level (.003) with a negative correlation (see Table 20). This indicates that people who received prayer in the previous three months, ended up in the ER less than those who did not receive prayer. Due to various reasons, causality cannot be claimed and other unknown variables, such as amount of social support, could also have influenced the lower ER total. However, further studies could focus on each predictor variable and collect other types of data that could influence ER visits, thus better controlling for some of the unknown variables.

Conclusion

National perspective.

The health care industry faces a tremendous challenge to maintain and improve quality, control costs, and grant access to all. As with most circumstances, the need greatly outweighs the resources available to meet the need. Therefore, innovative and creative thinking is needed to modernize health care delivery and meet the growing demand for health care services. Going by the status quo may result in hospital closings, more people without access to health care, and a dismal future for the nation. Health care spending cannot continue at its current rate without other areas suffering (as already witnessed by the state of Illinois and its difficulty paying Medicaid bills, translating into budget cuts). Because free clinics operate with minimal resources and still manages to help thousands of people, they have a place in the health care industry.

Community perspective.

One of the creative and innovative strategy involves communities working together to address health care problems on a local level. Before and during the first several years of operation, those at CCCHC believed a difference was being made through their efforts. It was believed CCCHC helped keep the uninsured of Champaign County out of the emergency room by providing holistic care, but no one knew for sure. Although this study does not provide all the answers, it gives support that CCCHC's work is important. Others in the community, such as Carle Hospital, the Champaign County Health Care Consumers, Provena Covenant Hospital, Frances Nelson, and even government officials reinforce the need for CCCHC by showing their support.

Personal perspective.

As someone who has spent much of my life (almost 9 years) developing and building CCCHC, conducting research concerning ER usage has been eye opening. One of the biggest revelations stem from understanding the uninsured do not consume more than their share of the available resources as many assume. The problem stems from the lack of insurance and subsequently, uninsured individual's ability to pay for their share of resources. Giving the uninsured access to care, not only would benefit them, but the entire health care community. More importantly, it would close a chasm that has existed far too long – the lack of access to quality health care. I hope this study can help convince decision makers to look more closely at ways free clinics promote a little more equity and equality in our health care system.

Addendum 1 - Carle ER Uninsured

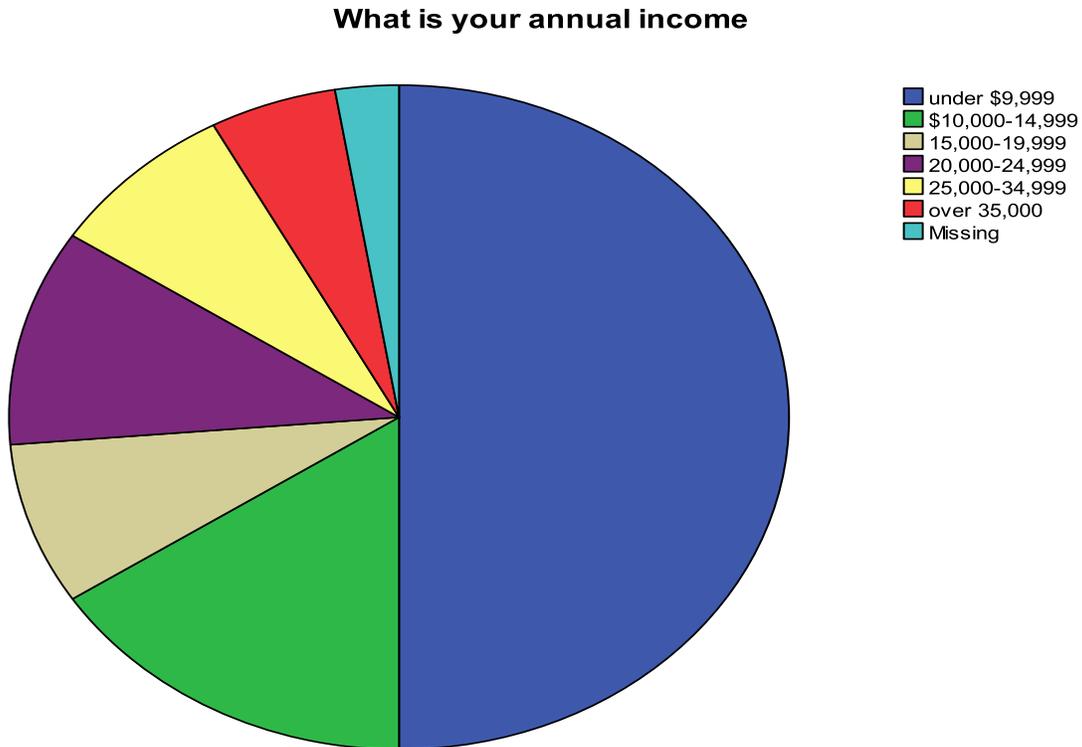
The supplementary group includes uninsured individuals who did not receive care at CCCHC but utilized Carle Hospital's emergency room (n = 38).

Carle ER Uninsured

The average age of those surveyed in Carle Hospital's emergency department was 30.9 years. This group was the only one of the three that had more men, 50.0% than women, 48.6% (2.6% missing). Half of the study participants from Carle's ER made less than \$9,999 annually while 16.2% earned between \$10,000 and \$14,999. The remaining 24.3% made over \$15,000 (with 2.6% missing).

Chart 5

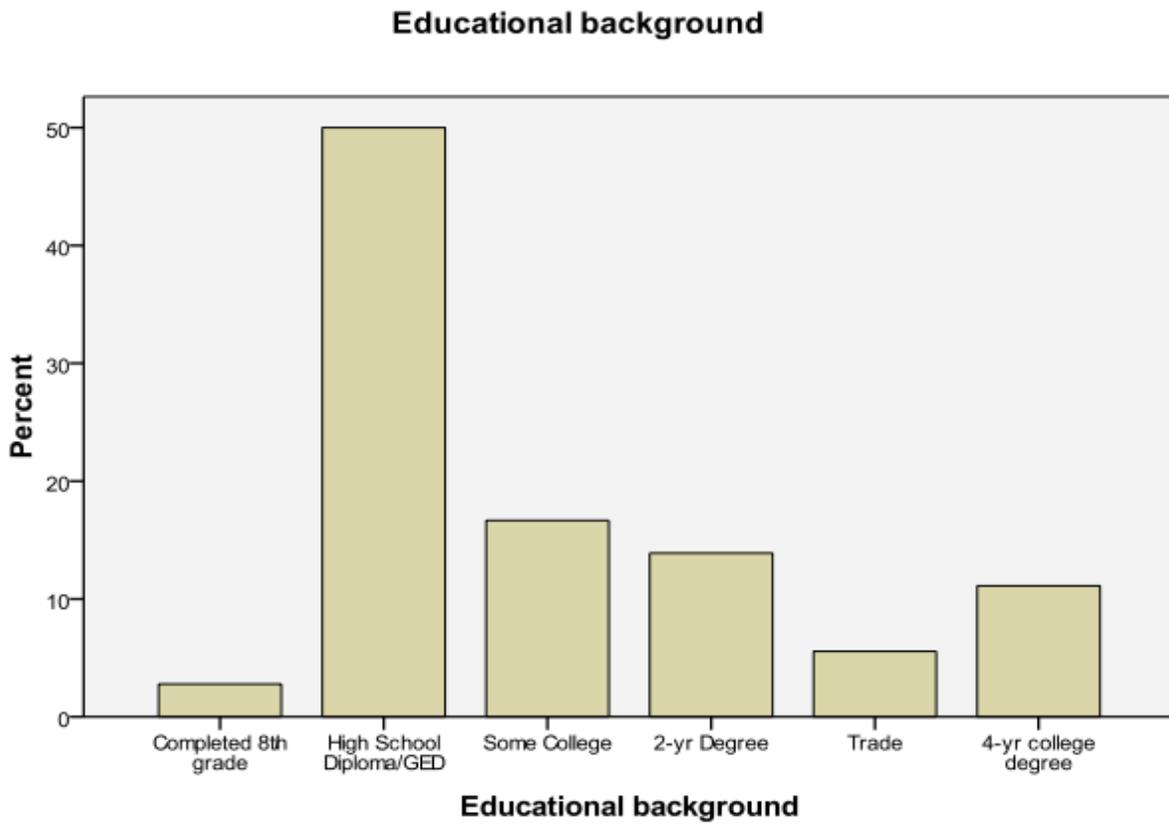
Annual Income of Carle ER Uninsured Group



In regards to education, nearly half 47.4% graduating from high school or earned a GED, 2.6% completing the 8th grade, 15.8% getting some college completed, 13.2% earning a 2 year degree, 5.3% in a trade, and 10.5% earning a four year college degree (5.3% missing)(see Chart 2).

Chart 6

Educational Background of Carle ER Uninsured Group



Addendum 2 - Combined Uninsured Analysis

Interestingly, when combining all three uninsured groups, two variables (one demographic, one predictor) do show statistical significance – prayer received in past three months and racial composition. Although no specific racial group can be identified that matters more than another, the p value .004 indicates race is statistically significant at the .05 level (see Table 13). The predictor variable of prayer is also statistically significant at the .05 level with a p value of .003 (see Table 14). Additionally, the coefficient was negative indicating that the more prayer someone received in the last three months, the less they ended up in the ER.

Table 13

Linear Regression: Demographic Variable (Race) of Combined Uninsured Groups

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.565	.552		2.835	.005
	Race	.350	.118	.251	2.965	.004
	Age	-.006	.009	-.054	-.641	.523
	What is your annual income	-.056	.102	-.049	-.552	.582
	Educational background	-.148	.081	-.159	-1.842	.068
	How long have you been uninsured	-.399	.205	-.168	-1.944	.054

Note. Dependent Variable: Visits to ER in past 3 months

Table 14

Linear Regression: Predictor Variable (Prayer) of Combined Uninsured Groups

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.040	.170		6.130	.000
	Received Medications	.091	.260	.031	.352	.725
	Offered prayer	-.773	.254	-.253	-3.047	.003
	Provided health education	.186	.276	.059	.676	.500
	Received testing services	.514	.278	.159	1.847	.067

Note. Dependent Variable: Visits to ER in past 3 months

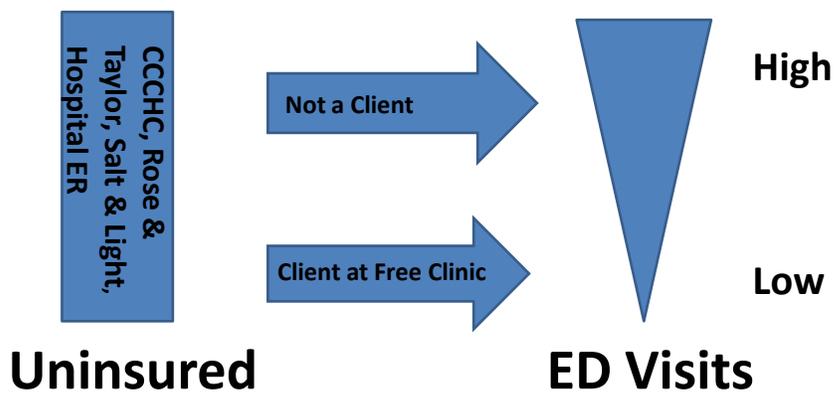


Figure 9. Illustration of alternate hypothesis with Carle ER

Figure 9 includes the Carle ER uninsured group to the conceptual model.

The percentage differences of the predictor variables are even greater between the Carle ER uninsured group compared to the CCCHC uninsured group (see Table 15).

Table 15

Uninsured Groups and Predictor Variables

Group	Medications		Prayer		Health Ed		Testing Services	
	Yes	No	Yes	No	Yes	No	Yes	No
CCCHC	64.2%	35.8%	56.9%	43.1%	45.3%	54.7%	37.0%	63.0%
Community	35.7%	64.3%	34.8%	65.2%	24.3%	75.7%	21.4%	78.6%
Carle ER	29.7%	70.3%	5.4%	94.6%	21.6%	78.4%	15.8%	84.2%

Note. Services received in the past 3 months

Table 16

Average ER Visits and Length of Not Having Insurance among Groups

Group Surveyed	Average ER Visits	Average Length without Health Insurance*
CCCHC Uninsured	.48	1.72
Community Uninsured	1.09	1.61
Carle ER Uninsured	1.68	1.63

Note. *Values include: 0 = Less than 1 month, 1 = Between 1 and 12 Months, 2 = More than 12 months with no health insurance

Table 17

Descriptive Statistics for Combined Uninsured Study Participants

	N	Minimum	Maximum	Mean	Std. Deviation
Length of time uninsured	145	0	2	1.66	.594
Age	156	18	67	36.97	12.744
Visits to ER in past 3 months	160	0	10	1.03	1.611

Note. Length of time being uninsured was measured categorically with the following scale: 0 = being less than one month, 1 = between 1 and 12 months, and 2 = more than twelve months

Table 18

Gender of the Combined Uninsured Study Participants

Gender	Frequency	Percent
Female	90	55.6
Male	72	44.4

Table 19

Race of the Combined Uninsured Study Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White/Caucasian	79	48.2	49.1	49.1
	Black/African-American	55	33.5	34.2	83.2
	Hispanic/Latino	16	9.8	9.9	93.2
	Asian/Pacific Islander	6	3.7	3.7	96.9
	Native American	2	1.2	1.2	98.1
	Multiracial	3	1.8	1.9	100.0
	Total	161	98.2	100.0	
Missing	System	3	1.8		
Total		164	100.0		

Chart 7

Income of Combined Uninsured Groups

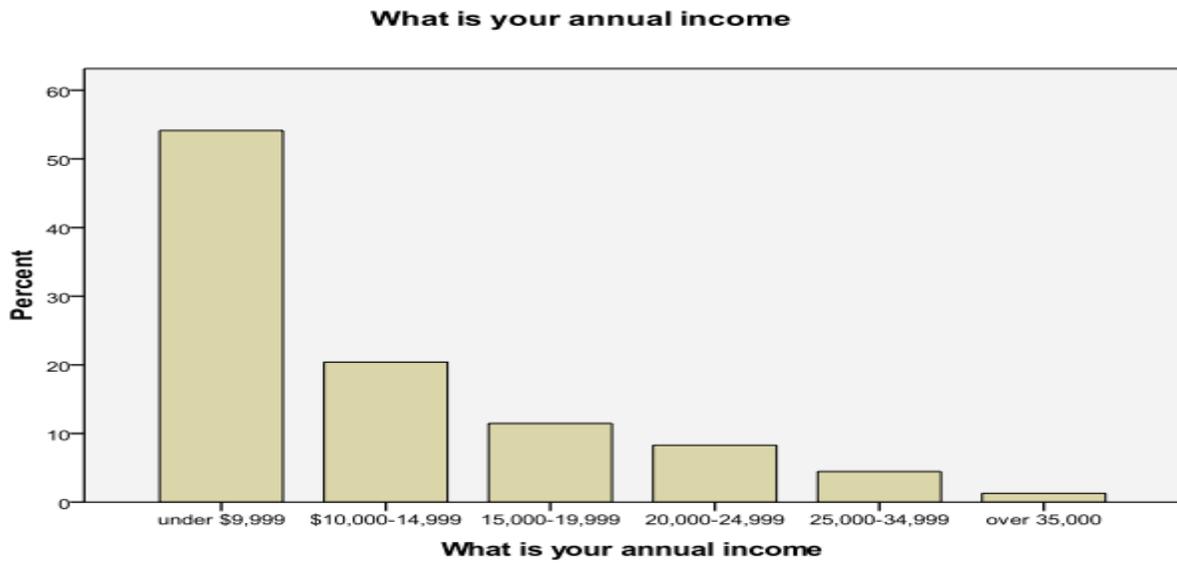


Table 20

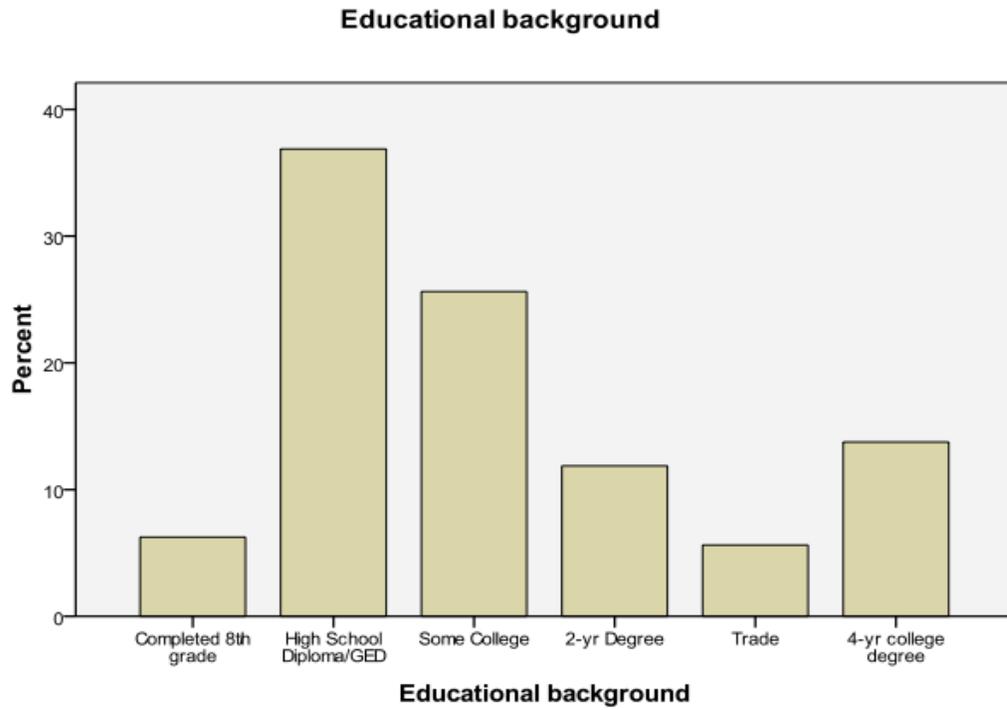
Linear Regression of Four Predictor Variables for Combined Uninsured Group

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.040	.170		6.130	.000
Purchased/received any medications for health concern in the last 3 months	.091	.260	.031	.352	.725
Offered prayer in the last 3 months	-.773	.254	-.253	-3.047	.003
Were you provided health education	.186	.276	.059	.676	.500
Receive/purchase any testing services	.514	.278	.159	1.847	.067

Note. Dependent Variable: Visits to ER in past 3 months

Chart 8

Education of Combined Uninsured Groups



Appendix A – Survey Instrument

Emergency Room Usage General Questionnaire

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 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	_____

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Education, Honors, and Certifications

PhD Community Health

University of Illinois at Urbana-Champaign, IL. Projected Graduation, May 2011

M.S. Education Administration

Eastern Illinois University, Charleston, IL. 2001

Bachelor of Science Health Care Policy and Administration

University of Illinois at Urbana-Champaign, IL. 1997

Honors

Citizen of the Year, National Association of Social Workers, Illinois Chapter, 2006

Employment

New Covenant Fellowship, Champaign Il

- **Sunday School Administrator**, June 2001 to May 2004
- **Mercy and Justice Pastor**, June 2001 to Present
- **Church Administrator**, September 2006 to Present
 - Lead Pastoral Leadership Team meetings
 - Finance Committee
 - Congregational Council
- **Pastoral Care**, June 2001 to Present
- **Worship Leader**, September 2005 to Present
-

University of Illinois at Urbana-Champaign, Il

- **Teaching Assistant/Lecturer**, August 2005 to Present
 - Lecturer for Community Health 100, August 2006 to Present
 - Teaching Assistant for Community Health 304, August 2009 to Present
 - Teaching Assistant for Community Health 100, Aug 2005 to May 2006
- **Grader**, August 2005 to May 2007
 - Community Health 330
 - Rehab 410
- **Graduate Fellow**, August 2005 to Present
-

Eastern Illinois University, Charleston, Il

- **Health Educator**, 1999-2001
 - Alcohol Education Coordinator
 - Alcohol Education Class Facilitator
- **Tobacco Cessation Class Facilitator**, 1999-2001
 - Charleston Public Health Department

Carle Foundation Hospital, Urbana, Il

Human Resource Department, 1997-1998

Volunteer Services Department, 1998-1999

Professional Affiliations and Community Service

Christian Community Health Fellowship, Former Board Chair

Champaign County Christian Health Center, Founder

Rev. Dr. Martin Luther King Advocacy for Justice Committee, Treasurer

Christian Mercy and Justice Network, Co-chair

Author's Biography

Jeffrey Tyson Trask was born in Chicago, Illinois on May 15, 1975. Married in 1996, he graduated from the University of Illinois at Urbana-Champaign in 1997 with a major in Health Care Policy and Administration. After completing a Masters Degree Education Administration at Eastern Illinois University in 2001, Jeffrey established or participated in organizations to help the poor. In 2003, Jeffrey founded the Champaign County Christian Health Center which provides free health care for the uninsured. In 2005, Jeffrey sought to complete a doctoral degree in Community Health with a specialization in Health Policy.