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Regis University
Rueckert-Hartman College for Health Professions
Final Project/Thesis

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Improving Access to Primary Healthcare and Cost Effective Care
for Underserved Populations

Patricia T. Dey

Submitted in partial fulfillment of the Doctor of Nursing Program

Regis University

April 9, 2012

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Executive Summary

Improving Access to Primary Healthcare and Cost Effective Care for Underserved Populations

Problem. Research findings continue to demonstrate populations who lack healthcare insurance have limited or restricted access to primary healthcare (Bauer, 2010). Lack of health insurance has been shown to be the most significant contributing factor to poor quality of care for some of the core measures captured by the Agency for Healthcare Research and Quality (Health Affairs, 2011). hi and Singh (2011) contended health insurance makes a difference in whether and when people get necessary medical care, where they get their care, and ultimately how healthy people are. The PIO (population, intervention, outcomes) question guiding this research proposal asked: Do vulnerable populations, specifically those lacking health care insurance, have access and effective primary health care if they seek care from Nurse Practitioners (NPs) who are in independent practice settings?

Purpose. The purpose of the this Capstone Project was to analyze the potential impact of independent NP practice on accessibility and cost-effectiveness in the delivery of primary health care for underserved populations, specifically, those lacking health care insurance.

Goal. The goal of the project was to find if a positive correlation exists between independent NP models of care in providing accessibility and cost effective primary care for underserved populations.

Objectives. Project objectives were to provide evidence-based outcomes demonstrating the impact of independent NP practice in primary care for underserved populations. Outcome measures relating to process and healthcare decision making directed the study approach. Other outcome measures implemented included demographic, symptom management, and patient satisfaction.

Plan. Following the DNP Project Process Model (Zaccagnini & White, 2011), a problem was identified through conducting a systematic literature review/needs assessment. Goals, objectives and a mission statement were developed to guide the process. Theoretical underpinnings were carefully selected to support the project framework. A survey instrument tool specific to this project was developed. Work planning included identifying milestones, along with the creation of a timeline and budget Development of an evaluation plan was completed. After approval from the university IRB, data was collected at two independent NP practice sites. Data was analyzed using descriptive statistics. Both oral and written dissemination of the findings completed the process.

Outcomes and results. The population sample size for this study was $N = 24$. Twenty-four participants completed the survey. The surveys were conducted at two independent NP practice sites. Demographics found 66% of the participants were established patients, compared to 34% who were not established patients with the NP practice. The question relating to symptom management showed 66% of the participants needed care due to illness versus 29% who presented for a physical and 5% needing injury follow up. Regarding access to care, 79% of the participants had same day appointments, 5% were scheduled for the next day, and 16% waited two days for an NP appointment. The survey also revealed that 70% of the participants had health insurance coverage, while 30% did not and were required to make full payment at time of care. Seventy five percent responded their preference of a healthcare provider was an NP in independent practice compared to 5% who preferred an NP working in a physician office.

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Problem Recognition and Definition

According to the American Association of Colleges of Nursing (AACN, 2006), scholarship and research are the hallmarks of doctoral education. Doctor of Nursing Practice (DNP) graduates generate evidence through their practice to guide improvements in practice and outcomes of care. In order to fully explore the plan for this DNP Capstone Project, a needs assessment was completed which gave direction on how to proceed. Inclusion factors contributing to this needs assessment were identification of the population, identification of all the stakeholders involved, assessment of organizational and available resources, identification of desirable outcomes, identification and selection of team members, analysis of cost and benefits, and definition of the scope of the project (Gilbert & Berg, 2011). Synthesis of the Regis University DNP courses has enabled fruition of this DNP Capstone Project.

Statement of Purpose

The vulnerable population, specifically populations lacking health care insurance, was the focus of this Capstone proposal. The issue of the uninsured has far-reaching economic impact to all Americans (Weiland, 2008). A report brief published by the Institute of Medicine (IOM) in 2009, found a number of ominous signs pointing to a continuing decline in health insurance coverage in the United States (U.S.). Health care costs and insurance premiums were growing substantially faster than the economy and families' income. Rising health care costs and a severely weakened economy threatened not only employer-sponsored insurance, the cornerstone of private health coverage in the United States, but also threatened recent expansions in public coverage (IOM, 2009). Overall, fewer workers, particularly those with lower wages, were offered employer-sponsored insurance, and few among the workers that were offered such insurance could afford the premiums. Moreover, employment has shifted away from industries

with traditionally high rates of coverage, such as manufacturing, to service jobs, such as wholesale and retail trades, with historically lower rates of coverage (IOM, 2009). According to the Center for Disease Control (CDC, 2011), more than 50 million people were uninsured last year, almost one in six U.S. residents. The reasons for the increase in the number of uninsured to 50.7 million, or 16.7%, from 46.3 million uninsured, or 15.4% were many: workers losing their jobs in the economic recession, companies dropping employee health insurance benefits, and families going without coverage to save money (Wolf, 2010).

Research findings continue to demonstrate populations who lack healthcare insurance have limited or restricted access to primary healthcare (Bauer, 2010). Lack of health insurance has been shown to be the most significant contributing factor to poor quality of care for some of the core measures captured by the Agency for Healthcare Research and Quality (Health Affairs, 2011). Uninsured people were less likely to get recommended care for disease prevention, such as cancer screening, and for disease management, such as diabetes care management. The Colorado Health Institute (2011) concurred with these findings stating health insurance coverage was highly correlated with an individual's ability to gain access to health care, from doctor visits to filling prescriptions.

From 2001 to 2004, the IOM issued six reports which concluded that being uninsured was hazardous to people's health and recommended that the nation move quickly to implement a strategy to achieve health insurance coverage for all. These reports were given validity by a robust body of well-designed, high-quality research showing compelling findings about the harms of being uninsured and the benefits of gaining health insurance for both children and adults. Despite the availability of some safety net services, there was a chasm between the health care needs of people without health insurance and access to effective healthcare services. This

gap resulted in needless illness, suffering, and even death (IOM, 2009).

Shi and Singh (2011) contended health insurance made a difference in whether and when people get necessary medical care, where they get their care, and ultimately how healthy people were. Uninsured adults were far more likely than the insured to postpone or forgo health care altogether. The consequences could be severe, particularly when preventable conditions went undetected. Being uninsured created lack of access to care; adults did not have a regular place to go when they were sick or needed medical advice and children lacked a usual source of care.

Rising health care costs have made health care less affordable, particularly for the uninsured (Shi & Singh, 2011). Between 1997 and 2006, the differences in access to care between the uninsured and insured widened. The insurance disparities in access to a usual source of care, annual check-ups, and preventive health care were the greatest and grew the most over the decade.

The IOM's (2009) published brief acknowledged that in the five years, since making compelling recommendations for health insurance coverage for all Americans, there had been no comprehensive national effort to achieve this goal. A severely weakened economy, rising health care and health insurance costs, growing unemployment, and declining employment-based health insurance coverage all provided evidence that the U.S. health insurance system was in a state of crisis. The IOM (2009) called for action, simply stating that health insurance coverage mattered. Expanding health coverage to all Americans was essential.

In 2008, despite the country's failing economy, newly elected President Obama made healthcare reform one of his priorities (Graham & Graham, 2011). After heated political debate heavily divided along party lines, President Obama signed the Patient Protection and Affordable Care Act Public Law 111-148 into law on March 23, 2010. The Affordable Care Act (ACA) was

designed to help millions of Americans obtain health insurance coverage. It was anticipated that 32 million poor and middle-income Americans will be added to the health insurance rolls with passage of this law (Graham & Graham, 2011).

Problem Statement

While current literature provided substantial study findings supporting cost effectiveness of independent nurse practitioner (NP) practice, there was little to demonstrate the concept of accessibility. According to Health Affairs (2011), access was a broad term that included everything from a patients' ability to find providers who meet their needs, to whether they have health insurance coverage that helps them pay for care, and whether they possess the ability to pay any out-of-pocket costs. Racial and ethnic minorities, people of low socioeconomic status, and uninsured populations were disproportionately represented among those with access problems. It was the premise of many nursing scholars that with an increased utilization of NPs in independent practice settings, primary health care would be both accessible and cost effective for underserved populations (Bauer, 2010). On-going research was needed to contribute to the body of knowledge in support of this premise.

PICO Statement

The PICO (population, intervention, comparison, and outcomes) statement guiding this research proposal was amended to PIO (population, intervention, and outcomes) due to lack of an existing comparison (Houser & Oman, 2011). The PIO asked: Do vulnerable populations, specifically those lacking health care insurance, have access and cost effective primary health care if they seek care from Nurse Practitioners who are in independent practice settings? The defined patient population was a vulnerable population, those lacking health care insurance. The study intervention was defined as independent NP models of care. The outcomes were defined as

accessible and cost-effective care.

Project Significance, Scope, and Rationale

The following Capstone Project demonstrated evidence-based application of both course and clinical learning synthesized throughout the DNP program. A practice change initiative was carefully selected and systematically developed with the utilization of the Process Model for DNP Project as found in Zaccagnini and White (2011). The intent of this Capstone Project was to show improved practice or patient outcomes for underserved populations, those lacking health care insurance, through independent NP models of care.

Theoretical Foundation

The American Association of Colleges of Nursing (2006) guidelines for doctoral education stated that the DNP must develop and evaluate new practice approaches based on nursing theories and theories from other disciplines. To support this research proposal, scientific underpinnings from two nursing theorists have been integrated. In review of Neuman's Systems Model (1970), the major concepts identified were holistic client approach, open system, basic structure, environment, created environment, stressors, lines of defense and resistance, degree of reaction, prevention as intervention, and reconstitution. This model provided a unified focus for nursing problem definition and for best understanding the client in interaction with the environment (Freese, 2002). The client as a system could be identified as a person, family, group, community, or issue. The environment was composed of internal and external forces affecting and being affected by the client at any time. Stressors were tension-producing stimuli occurring within the boundaries of the client system. This included extra-personal forces occurring outside the individual, such as financial circumstances. This dynamic model provided

insight into external stressors (lack of healthcare insurance, financial constraints, and deprivation) impacting vulnerable populations. Due to the inability to afford the out-of-pocket cost of primary health care, uninsured populations were significantly limited in their ability to seek and obtain care (Shi & Singh, 2011). Neuman's model took into consideration total available resources for the client (Freese, 2006). For the purpose of this study, the concept of available resources included NPs in independent practice creating more accessible and cost effective primary health care for underserved populations.

Ray (1989) stated that understanding and changing the emerging corporate culture of the health care system to benefit humankind was the most critical issue facing nursing educators, administrators, and practitioners. The transformation of American and other western health care systems to corporate enterprises emphasizing competitive management and economic gain seriously challenged nursing's humanistic philosophies, theories, and nursing's administrative and clinical practice. Ray's research formulated the grounded theory of Bureaucratic Caring for nursing practice in the organizational culture. The central concept of the theory was caring (Masters, 2012). Caring was defined as a complex, transcultural, relational process grounded in a spiritual, ethical context. The concept of spiritual-ethical caring for nurses facilitated the selection of choices for the good of others that could or should be accomplished. In the model paradigm, seven concepts evolved and supported the premise of caring (Masters, 2012). Supporting this research hypothesis were Ray's concept definitions of politics and economics. Politics included the influences of external government (policies and funding), insurance companies, and competition for scarce (human and material) resources to maintain and sustain the organization. Economics described money, budget, insurance systems and the allocation of scarce (human and material) resources in maintaining the economic viability of the organization.

These two concepts continued to resonate within the bureaucratic health care system and in the political arena currently challenging proposed health care reform.

Literature Selection

A systematic review of the literature was completed. The online databases of PubMed, CINAHL, Academic Premier, and Cochrane Library were searched to identify empirical literature relevant to this topic. The Systematic Review required review and presentation of a minimum of 30 journal articles. This time-intensive task was then finished with the detailed completion of the Systematic Review Evidence Table Format. Of the approximately 50 journal articles reviewed, the articles that best supported this Capstone Project were selected for inclusion and submission. Other key elements for this assignment included completion of data in a table, logical selection of keywords for the search, broad representation of scholarly databases, and comments that supported use of evidence in this DNP Capstone Project. Specifically, the table format required the following documentation: article title and journal, author/year, database and keywords, research design, level evidence, study aim/purpose, population studied/sample size/criteria, power, methods/study appraisal/synthesis methods, primary outcome measures and results, author conclusion/implications of key findings, strengths/limitations, funding source, and comments (Appendix A). Completion of this literature review demonstrated robust evidence to further guide this Capstone Project.

Scope of Evidence

According to Mechanic and Tanner (2007), vulnerability was the susceptibility to harm, resulting from an interaction between the resources available to individuals and communities and the life challenges they face. Vulnerability resulted from developmental problems, personal incapacities, disadvantaged social status, inadequacy of interpersonal networks and supports,

degraded neighborhoods and environments, and the complex interactions of these factors over the life course. The priority given to varying vulnerabilities, or their neglect, reflected social values. Vulnerability may arise from individual, community, or larger population challenges.

The Centers for Disease Control (2011) stated that health disparities were preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that were experienced by socially disadvantaged populations. These disparities were inequitable and were directly related to the historical and current unequal distribution of social, political, economic, and environmental resources. Factors contributing to health disparities included poverty, environmental threats, access to health care, individual and behavioral factors and educational inequalities. These factors continued to contribute to the current health status of the uninsured population in this country.

Discussion of vulnerability inevitably involved poverty and race and related issues of stigma and discrimination (Mechanic & Tanner, 2007). Low income and education from early life and often over the life course, which was more common within minority populations, was associated with a wide range of vulnerabilities. These effects permeated and contributed to poor future health and mortality. The U.S. Census Bureau (2011) found the nation's official poverty rate in 2009 was 14.3 percent, up from 13.2 percent in 2008. There were 43.6 million people in poverty in 2009, up from 39.8 million in 2008. Meanwhile, the number of people without health insurance coverage rose from 46.3 million in 2008 to 50.7 million in 2009, while the percentage of uninsured increased from 15.4 percent to 16.7 percent over the same period (U.S. Census Bureau). As demonstrated by the above findings, poverty and poor socioeconomic status (SES) coexisted with absence of healthcare insurance.

Review of Evidence

Background of the Problem

According to Weiland (2008), the social and economic outcomes of non-recognition and underutilization of NPs included denial of primary provider status, decreased patient access to care, and increased healthcare costs. The impact was that society was paying for non-recognition of the resource, not just financially, but by a serious lack of access to care. Tolman (2011) cited a recent Harvard study showing that 45,000 deaths per year in this country could be attributed directly to delays in treatment caused by a lack of comprehensive health insurance that inhibited patients from seeking timely care for fear of the resultant financial burden.

Systemic Review of the Literature

With the completion of the systematic review of the literature, the following key findings were presented. Bauer (2010) found that the costs of American healthcare could be reduced immediately by changing regulations and policies currently in existence in most states in this country that only reimburse higher cost health professionals for services that could be provided at least as well and for less money by NPs as licensed independent health practitioners. Cost-effectiveness analysis supported reimbursement to NPs versus paying more-expensive health professionals for similar clinical services. Independent NP practice offered an excellent way to reduce the cost of care without compromising quality in treatment of simple to complex medical problems for patients of all ages in hospitals, transitional care centers, out-patient clinics, personal residences, medical homes, nurse-managed clinics, school-based clinics, long-term care facilities, community health centers and care programs, convenience clinics, private practices (specialty and primary care), and workplaces (Bauer, 2010).

Bauer (2010) further addressed cost effectiveness of independent NP practice by the

reduction of direct and indirect costs of professional liability (i.e., malpractice). Recently published data from 1991 to 2009 demonstrated that NPs do not increase liability claims or costs. NPs had remarkably lower rates of malpractice claims and lower costs per claim..

Differences in annual incomes would help explain the cost-effectiveness benefit of using NPs (Bauer, 2010). For 2008, the average total compensation for nurse practitioners was \$92,000 (Bauer, 2010). The average earnings for primary care physicians (PCPs) and internists in the same year were \$162,500. Numerous studies have shown that the cost of services provided by nurse practitioners was generally less than the cost of the same services provided by a physician. The recognition of a serious and growing undersupply of PCPs added even more power to the case for expanding use of nurse practitioners.

In the current system, 10% to 30% of Americans have poor access to health care because they were uninsured or underinsured, or because a Health Care Provider (HCP) who would accept their insurance in their neighborhood was unavailable (Tolman, 2011). Underinsured was defined as having a health plan, but spending more than 10 percent of income on prescriptions, co-pays, or other items not covered (Booth, 2011). Medicaid, Medicare, and Tricare reimbursement rates were so low that many physicians accepted no patients, or only a limited number, with this coverage. By tradition, NPs in publicly-funded clinics and independent practices accepted these patients. Compared with physicians, NPs charged less per visit, thereby providing more care to more people.

The independent NP model was cited by Christensen, a Harvard economist, as a disruptive innovation, a necessary and inevitable economic paradigm shift, now that NPs were a competent and available option (as cited in Tolman, 2011). Christensen contended that all physicians, with their higher level of education, should be referral specialists who could see the

sickest and most complex patients, and that NPs should provide the primary care for families. Physicians, as a group, seemed to agree with this suggestion because so few of them choose primary residencies. This dearth of available PCPs meant delay in healthcare services that might have prevented crises, complications, or lives lost.

Project Plan and Evaluation

Market Risk Analysis

Strategic planning required multiple assessments including environmental scans (who is the competition and what are they doing), background information (historical information regarding health care), situational analysis (independent NP practice regulations within the State of Colorado and within the United States), and a SWOT (strengths, weaknesses, opportunities, and threats) analysis.

Project Strengths, Weaknesses, Opportunities, Threats

Investigative findings for this proposed project were formulated through strengths, weakness, opportunities, and threats (SWOT) analysis (Appendix E). Strengths were found in The American Nurses Association (2011) published statistics stating 90% of the 140,000 NPs credentialed to practice in the U.S. were actively practicing. With 89% of the NP population prepared in a primary care focus (adult, family, gerontological, pediatric, or women's health) and over 75% of actively practicing NPs providing primary care, NPs were a vital part of the U.S. primary care workforce. There were more than six million visits to NPs every year, according to the American Academy of Nurse Practitioners (AANP, 2011). Nurse Practitioners delivered primary care in small and large private and public practices and in clinics, schools, and workplaces (Naylor & Kurtzman, 2010). They functioned in both independent and collaborative practice arrangements, often taking the lead clinical, management, and accountability roles in

innovative primary care models such as nurse-managed health centers and retail clinics. NPs have been called health care's best kept secret (Tolman, 2011).

Weakness for this research study was the statistical fact that only a minority of NPs are currently working in independent practice model settings. An overwhelming majority of NPs are employed in physician practices and/or in specialty or acute care practice settings. NPs were much more likely to be employees than employers/owners. A 2009 survey of more than 6000 advanced practice registered nurses (APRNs) indicated that just three percent owned their own practices (Tolman, 2011). Other contributing factors creating potential weakness included lack of public understanding of the NP role in providing primary healthcare (Dey, 2011). Patients might adhere to the older, more traditional, model of healthcare that had historically been driven by a physician medical model. Newly established independent NP practices continued to slowly build patient volume. This research project and data collection might be constrained by limited exposure to patients in these settings since each practice averaged four to six patient visits per day.

Opportunities for independent NP practice existed. NPs were in high demand due to the current and future prediction in primary care physician shortage (Landau, 2011). According to Toth (2011), a key component limiting access to primary healthcare was the increasing shortage of primary care physicians. There were fewer physicians going into family practice and/or working in rural settings, all contributing factors to the healthcare shortage. Toth further stated the aging baby boomers and healthcare reform would put an estimated 35 million people onto health insurance and thus into doctors' offices. The lack of doctors in less lucrative fields like family medicine or in rural areas of the country was coming together in a health system perfect storm to create a doctor shortage. The Association of American Medical Colleges' (AAMC)

2008 projections found that driven by such factors as U.S. population growth, aging population and doctors, and increased physician visits, the demand for doctors would outstrip the supply through at least 2025. There would be a shortage of 63,000 doctors by 2015, with greater shortages on the horizon: 91,500 in 2020 and 130,600 in 2025 (Mann, 2011).

The AAMC (2011) stated health care would have to be structured around persistent physician shortages for a decade or more. Increased enrollment in U.S. medical schools would not be sufficient to meet future patient needs and demand. Complex changes such as improving efficiency, reconfiguring health care delivery, and making better use of both physicians and other health care professionals would be necessary. Increasing the supply of the health care workforce alone would not be sufficient to assure access to care. Redesigning the delivery system to make more effective use of our health workforce was critical (Alliance for Health Reform, 2011).

Recognizing primary care as the backbone of prevention care, NPs had the pivotal opportunity to help shape the delivery of care that concentrated on health promotion and disease prevention (Graham & Graham, 2011). Tolman (2011) called for action stating the current health care reform movement was opening a door of opportunity. NPs needed to rise to the challenge, step up to serve the needs of their communities, and choose a better future for themselves and the patients they serve by promoting independent primary care practices for NPs as the new paradigm in US health care.

Threats included the very real financial constraints facing NPs in independent practice. Business models in existence helping guide independent practice included Ideal Medical Practice (IMP) (Tolman, 2011). This healthcare model was based on an innovative, nationwide movement of physicians looking to remodel the primary care delivery system by changing the way they practiced medicine. By greatly reducing overhead, a family practice provider could

provide higher quality health care while experiencing greater personal and professional satisfaction. As overhead (rent and staffing costs) diminished, the separation between profitability and non-viability widened, allowing the provider to see fewer patients per day with longer and more thorough visits than the typical medical office. Currently, over 800 practices across the country had successfully implemented variations of this model. IMPs represented one of the largest trends in primary care today (Moore & Watson, 2007). Many NPs had discovered this business model. By mirroring their practice along these guidelines, they had established successful independent practices.

For decades, Americans have regarded physicians as the unquestioned leaders of the healthcare delivery system. Physicians' higher education level and economic power had given them the control or strong influence over the reimbursement system and legislative priorities (Tolman, 2011). Supporting this finding was verbal testimony given by NPs working in independent practice in the Denver metropolitan area (Colorado Nurses Association-Government and Public Policy Committee [CNA-GAPP], personal communication, April, 13, 2011). These NPs were struggling for recognition and reimbursement by health insurance carriers for covered services. Current Colorado law did not mandate reimbursement for independent NP services in urban settings. Reimbursement was only mandated for NP care provided in the rural setting, as it was deemed an underserved demographic area. Private health insurers continued to adhere to pressure from physicians groups preventing equal recognition or empanelment for NPs working in independent practice settings. A proposed health policy was introduced during the 2011 State of Colorado Legislative session asking for rectification of this unfair practice, as it created restriction of trade (CNA-GAPP, personal communication, May 5, 2011). The bill passed through the Senate but was then over-whelmingly defeated in the House Business and Economic

Development Committee. The Colorado Nurses Association continued to work within the legislature process for reintroduction of a similar but re-crafted proposal. Tolman stated this unfair reimbursement practice was limiting these independent NPs' reimbursement to cash-paying patients or those with Medicaid, Medicare Part B, or Tricare. Eligibility of NPs as independent care providers should be recognized by every public and private insurance provider and might require federal action.

Disparate payment policies reimbursing NPs only a portion of what was paid to physicians for the same services raised significant concerns. Medicare, Medicaid, and private insurers typically reimbursed NPs at rates that were just 75% to 85% percent of what they paid physicians for the same services (Naylor & Kurtzman, 2010). Equivalent reimbursement should be paid for comparable services regardless of practitioner.

Legislation regarding requirements for physician collaboration in some states had made independent practice difficult, if not impossible. In 2009, all but three states in the country introduced legislation to remove some of the legal and practical barriers limiting access to NP care (Tolman, 2011). Barriers to NP independent practice at the state and federal level should be systematically and quickly eliminated. Substantial barriers prevented NPs from practicing to their fullest capabilities (Naylor & Kurtzman, 2010). In many states, nurse practice acts were unnecessarily restrictive and kept NPs from providing the comprehensive primary care services permitted by their licenses and educational preparation. Many state laws, often passed at physicians' instigation, barred NPs, Physician Assistants (PAs), and other qualified primary care providers from practicing to the extent that their training warranted (Dentzer, 2010).

There was virtually no opposition to NPs as healthcare providers other than from organized physician groups, and then only when NPs were striving to release the legal apron

strings that tied NPs to physicians (Buppert, 2012). In light of evidence demonstrating the equivalence of NP-provided care, substantial efforts should be made to standardize nurse practice acts and remove unwarranted restrictions. To this end, the Consensus Model for APRN Regulation was based on a single APRN license, enabling independent practice with no regulatory requirements for collaboration, direction, or supervision. This model should be both supported and implemented (Naylor & Kurtzman, 2010).

Need, Resources, and Sustainability

The Future of Nursing, a report brief published in 2010 by the IOM, found that with more than three million members, the nursing profession was the largest segment of the nation's health care workforce. Barriers that limited nurses' abilities to respond effectively to rapidly changing health care settings and an evolving health care system needed to be overcome. There were more than a quarter million APRNs (NPs, Clinical Nurse Specialists, Midwives, and Certified Registered Nurse Anesthetists) in the United States. The tasks APRNs were allowed to perform were determined not by their education and training, but by the unique state laws under which they worked. The IOM (2010) recommended all nurses should practice to the full extent of their education and training. Naylor and Kurtzman (2010) recommended that nurse practice acts, the state laws governing how nurses may practice, be standardized.

Stakeholders and Project Team

The anticipated addition of an estimated 37 to 45 million Americans having access to healthcare was expected to greatly increase the need for primary care providers (Graham & Graham, 2011). NPs were the principal group of APRNs delivering primary care in the United States (Naylor & Kurtzman, 2010). In 2006, the ANA published statistics showing that there were greater than 141,000 NPs in the United States who could provide 80% of primary and

preventive healthcare services that were once the sole purview of medicine.

Other key stakeholders in the debate of equal reimbursement for comparable services provided included professional medical groups. Naylor and Kurtzman (2010) found that professional jockeying by APRNs, physicians, and PAs to control professional practice and compensation had resulted in organized opposition to APRNs' quest for independence. Fearing increased competition, professional medical groups, health care systems, and managed care organizations had typically resisted expanding the practice scope of APRNs.

Identification of project sponsors included assigned Capstone Chairperson, Dr. Phyllis Graham-Dickerson. Dr. Graham-Dickerson had been instrumental in guiding this project forward. Other sponsors supporting this project included Capstone Mentor, Deanna Tolman, DNP, NP-BC owner of Head2Toe HealthCare, LLC. This practice was located in Aurora, Colorado. The third identified sponsor of this Capstone research project was Dawn Fetzko NP-C, owner of Colorado Primary Care Clinic, LLC. This practice site was also located in Aurora, Colorado. Both NP practices were independently owned and operated. These NPs helped this student navigate and understand the realities involved in independent NP practice, including business models and financial barriers. Stakeholders of this project were NPs in independent practice, primary care physicians (whose practices may be negatively impacted by independent NP practice), and underserved or uninsured consumers of primary health care.

Cost-Benefit Analysis

Cost-benefit analysis was demonstrated by the potential economic impact of this care model. The cost analysis for this project was borrowed from a study conducted by the RAND Corporation on behalf of the Commonwealth of Massachusetts. The analysis followed the state's adoption of universal coverage legislation. The analysis assumed that the average cost of a NP or

PA visit was 20 to 35 percent lower than the average cost of a physician visit (Naylor & Kurtzman, 2010). By substituting such visits for physician visits, the analysis projected cumulative statewide savings for \$4.2 to \$8.4 billion for the period 2010 to 2020 (Naylor & Kurtzman). The use of NPs and PAs in the delivery of primary care could result in substantial health care savings if implemented in other states.

The cost-benefit analysis for this proposed research project was summarized by Bauer (2010). All evidence supported using NPs as one of the most cost-effective and feasible reforms to solve America's serious problems of cost, quality, and access in health care. The issue allowed patients to receive all the clinical and economic benefits of direct access to nurse practitioners. Americans were paying an unnecessarily high price for a system that denied direct access to the cost-effective provider of many basic health services. Independent NP primary care practice was an obvious and fair solution to the U.S. healthcare crisis (Tolman, 2011).

Mission/Vision/Goals

The mission for this Capstone Project was to analyze the impact of independent NP practice on accessibility and cost-effectiveness in the delivery of primary health care for underserved populations, specifically those lacking health care insurance. The vision driving this Capstone Project was the future for NPs as the major provider of primary health care in this country. NPs would obtain a standardized and nationally recognized NP practice act. NPs would no longer be required to have physician oversight or collaboration. NPs would be recognized as primary care providers, and NPs would be reimbursed equally for services provided by health insurance carriers. As stated by Dr. Sara Jarrett, independent NP practice would be the new paradigm for health care delivery in the U.S. (CNA-GAPP, personal communication, May 5, 2011).

The proposed Capstone Project could not proceed without clear outcomes identified (Zaccagnini & White, 2011). The project's goal was to find what relationship existed between independent NP practice and the creation of accessible and cost effective primary care for underserved populations, those lacking health care insurance.

The measurement of outcomes was an important parameter by which APRN care could be evaluated. The selection of outcomes measures should be based on a clear sense of what is to be measured, and why (Kleinpell, 2009). The outcome measures chosen for this Capstone Project were carefully selected and clearly linked to the APRN role. Outcome measurements included demographic, symptom management, process related, healthcare decision making, and patient satisfaction. These outcomes measurements directed the development of the survey instrument tool (Appendix G).

Demographic data included whether the patient was already an established patient or if this was the first visit to the APRN practice. Other demographics sought clarification about the patient's health insurance status. Asking what type of health problem brought the patient to the clinic was a symptoms management outcome. The question regarding length of time to appointment correlated to a process related outcome. Healthcare decision outcome aligned to the cost of care. Lastly, patient preference when selecting a healthcare provider coincided with the outcome measurement of patient satisfaction.

Benchmarking theory was based on performance comparison. Effective benchmarking helped better satisfy patients' needs for quality, cost, and service by establishing new standards of care. Other positive outcomes included promotion of change and improvements in quality, productivity, and efficiency (Kay, 2007). Comparison or benchmarking independent NP models of care to other models of care (NP or PA practices sites having physician oversight) was not

done. Data collection was limited to only independent NP sites of care.

Process/Outcomes Objectives

This Capstone Project demonstrated evidence-based application of both course and clinical learning synthesized throughout the DNP program. To ensure completion of this project, a Capstone Timeline (Appendix H) was created following the DNP Process Model. The nine steps of the process model were clearly defined, measured in time-sensitive terms, and linked to objectives with benchmarks. The Capstone timeline provided ongoing guidance in moving the project forward and also provided acknowledgment when successfully meeting milestones of the project. Major milestones included final acceptance of the PIO statement (amended from PICO), development and completion of a survey instrument tool, Capstone Project approval by Regis University Institutional Review Board (IRB) on October 18, 2011, and study data collection.

During the timeline of this project, the PIO question evolved through multiple revisions. The final PIO guiding this project remained nearly identical to the original conceptual question: Is primary healthcare accessible and cost-effective for underserved populations, specifically those lacking healthcare insurance, if care is provided by independent NP models of care?

The research project application, along with supporting documentation, was submitted to Regis University IRB. After one required revision, this project received approval as an exempt study under 45CFR46.101(b)(2) survey research (Appendix J). To further demonstrate ethical compliance involving human subjects, the Collaborative Institutional Training Initiative (CITI) was completed in June 2011 (Appendix K). Agency letters of support were also needed for Capstone Project compliance (Appendix L).

Logic Model

The Logic Model provided guidance including work break-down, timeline tools, and

project milestones (Zaccagnini & White, 2011). Adhering to the model helped determine the flow of the project, predict when resources are needed, and estimate time to completion, which would in turn help the DNP student researcher estimate whether the project can be done in the allotted time. Further guiding the sequence of events for the Logic Model was the process of work being broken down into small packages that can be easily monitored. Each task or subproject could be examined for milestones. Milestones identified when an important or large part of the project was completed.

The Logic Model provided a foundation on which to build. The DNP Process Model diagram (Appendix D) visually documented continuous progression and growth of the Capstone Project. Each DNP course contributed to the cumulative product.

Objectives and Research Design

According to Tymkow (2011), clinical trial data and data from aggregate sources did not always address the outcomes that could be uniquely attributed to APRN/DNP practice. It was important that measures were selected that truly reflected the APRN/DNP role. Burns (2009) concluded outcomes measures should be selected that accurately demonstrate the impact of APRN practice. It was the intent of this Capstone Project to develop role-sensitive indicators and collect data findings specific to the NP role in providing primary health care to underserved populations. The project question addressed accessibility and cost-effectiveness of primary healthcare when provided by independent NP models of care.

Measureable objectives were selected to support the outcome measures of process (access to care), healthcare decision making (cost-effectiveness), demographics, symptom management, and patient satisfaction. Outcome measures relating to process and healthcare decision were the focus in the development of the instrument study tool.

Measureable objectives included the following: (1) to investigate the process required by the patient in finding a healthcare provider; (2) to analyze the decisions utilized in selecting a healthcare provider; (3) to identify the population demographics of patients seeking care at independent NP practice sites; (4) to evaluate the patient's health problem creating the NP clinic visit; and (5) to distinguish if the patient has a preference when choosing a healthcare provider.

A thorough search of the literature was conducted and deemed unsuccessful in finding an existing survey tool which would provide reliability and validity to support this study. Therefore, the proposed survey instrument tool was created by the primary investigator with review given by Regis Capstone faculty, Capstone Chairperson, and Capstone Mentors. The survey instrument tool (Appendix G) began with a brief introduction stating participation in the study was voluntary. The purpose of this study was to provide information about access and cost of primary care. The survey consisted of seven questions:

1. Are you an established patient with the NP clinic or is this your first visit?
2. If this is your first visit, why did you seek care here today?
3. How long did it take to get an appointment?
4. Do you have health insurance?
5. Could you afford the costs of today's visit?
6. What is your preference of a healthcare provider?
7. Do you prefer being seen by an NP working in a physician office?

Population/Sampling Parameters

Participants were patients seeking primary health care at independent NP practice sites. This project potentially included the vulnerable populations of pediatrics, elderly and mentally or physically handicapped. The two independent NP sites chosen for data collection also served

ethnic and immigrant populations. The underserved population, specifically those lacking health insurance, was the prime focus of this study. This vulnerable population was found not only in rural settings, but also in urban setting. As previously stated there were currently 50 million people in the United States lacking health insurance. Shi and Singh (2011) contended health insurance made a difference in whether or when people get necessary care, where they get their care, and ultimately how healthy people were.

Evidence-Based Practice (EBP) Project Setting

Data collection was completed at two NP clinical practice sites, both of which were independently owned and operated. No other sites were included in this study design. Participants were approached in the waiting rooms and asked to participate in this research study. Participants were asked to read an informed consent (Appendix F), which most participants declined to read, and to complete the survey instrument tool (Appendix G). Completion of the survey tool took less than five minutes. With completion of the survey instrument tool, the intervention session was completed. The data collected excluded any identifiers related to each participant. The following constraints were followed: (a) The only communication between the participants and the researcher was when requesting participation; (b) The survey instrument tool elicited anonymous responses; and (c) The subject participants included patients seeking primary healthcare from NPs in independent practice settings. The participants were recruited in the waiting room. Recruiting was done only by this researcher. The required informed consent included the necessary components of essential information for consent, comprehension of consent information, competency to give consent, and voluntary consent.

EBP Design Methodology and Measurement

Measuring whether the outcomes were met or not with the proposed practice change was

an important portion of the DNP Capstone Project (Gilbert & Berg, 2011). Determination of the appropriate data to collect and methods to analyze the data had been formulated. This study utilized quantitative methods of analysis. The data has been analyzed using descriptive statistical measurement. Methodology to demonstrate this relationship has been captured through the findings obtained using the instrument survey tool. Ratio measurement has been employed to demonstrate ratio or percentages of responses. The project findings are presented in bar graph table format, Tables M-6. (Appendix M).

The population sample size for this study was estimated to require 21 participants based on the statistical application of power analysis. According to Creech (2011), a power analysis was a statistical procedure that determines whether the proposed sample size was large enough to allow a fair test of the statistical hypothesis. The needed sample size for a one-tailed t-test study, given the probability level of 0.05, the anticipated effect size of (Cohen's d) 0.8 and the desired statistical power level of 0.8 equates to at least 21 participants.

Protection of Human Rights

There was minimal risk to the participants who completed the survey. The risk for exposure of personal information was expected to be minimal due to lack of interaction between the researcher and the participants as well as anonymity of the responses. The participants were not be paid or rewarded in any other fashion. No funding was used to complete this analysis.

Consent was implied with completion of the survey. The survey took less than five minutes to complete and did not identify the participants by name. Records were stored in a locked file cabinet. Only the investigator and others authorized by regulation had access to the materials. The data will be saved for three years, then shredded. No funding was received for this research study.

Instrumentation Reliability

Use of nationally recognized outcomes measures and instruments rather than self-developed tools should be incorporated into APRN outcomes research (Kleinpell, 2009). As previously stated, an existing measurement tool which would provide reliability and validity to support this study could not be found. Therefore, the instrument measurement tool utilized for data collection was created by the primary investigator with contribution given by Regis Capstone faculty, Capstone Chairperson, and Capstone Mentors.

Face validity was a simple form of validity in which the researchers determine if the test seems to measure what is intended to measure. The test was simply given face value by looking at whether a test appears to measure the target variable (Cherry, 2012). The survey instrument utilized for this project was given face validity by the multiple authors involved in development of the instrument. Incorporating face validity did not ensure the test would be valid. This form of validity did help direct future studies, determining if the test was valid and if it should be used in future study projects.

To further investigate instrument reliability Cronbach's alpha reliability statistical test was employed. According to Santos (1999), Cronbach's alpha determined the interval consistency or average correlation of items in a survey instrument to gauge its reliability. Alpha coefficient ranges from 0 to 1. The higher the score (closer to 1) the more reliable was the generated scale. It was a general consensus among statisticians that 0.7 was an acceptable reliability coefficient (Santos, 1999).

Statistical support needed to complete this test was obtained through Regis University School of Pharmacy. Cronbach's alpha statistical test found that none of the six questions had internal reliability (question seven was not included as it had not been answered by study

participants). The coefficient for this test was $-.281$. When analyzing question three (process) and five (healthcare decision making) as a subset, the coefficient was found to be zero. Question five with a 100% finding, offered no variance among observations. Variables derived from test instruments were declared to be reliable only when they provided stable and reliable response over a repeated administration of the test (Santos, 1999).

Data Collection

Data collection was completed at two NP clinical practice sites, both of which were independently owned and operated. No other sites were included in this study design. Only this primary investigator approached potential subject participants. The project completion guidelines as outlined in the Regis University IRB proposal were strictly followed.

Project Findings and Results

Organized by Objective

Kleinpell (2009) found that patient-related outcomes of care were those outcomes that affected the patient perceptions, preferences, or knowledge. Process outcome measurement directed the question of access to care. What was the process the patient went through in making an appointment? Did this affect the choice or preference of a healthcare provider? Did length of time to appointment matter? Did the patient have the perception/need for walk-in accessibility, same day appointment, or could the health issue wait days to weeks before being seen? Care-related outcomes were those outcomes that resulted from APRN involvement in care from an APRN intervention. The outcome measurement relating to healthcare decision directed the question regarding cost-effectiveness of care. Was cost of care the primary driving force when choosing a healthcare provider? Were other factors included when making healthcare decisions or selecting a provider? How did quality of care enter into decision making when selecting a

healthcare provider?

The Capstone Project outcome measures were carefully selected to address specific healthcare concerns for underserved populations. The intent of the PIO statement outcome measures was to extract if a positive relationship existed between accessibility and cost-effectiveness of primary healthcare in underserved populations if care was delivered by independent NP models of care. The outcome measurement of demographics, symptom management, and patient satisfaction also provided findings to investigate independent NP practice in caring for underserved populations.

Key Elements and Findings

The instrument tool parameters defined for this project asked seven questions (Appendix G). When preparing for the final stages of the implementation plan, key elements of the instrument tool were instantly noted. Question number one (Are you an established patient with the NP clinic or is this your first visit?) was a poorly written question. Because the instrument tool had been approved by the IRB, it was not amended. The question did create confusion to the survey participants. Other findings of the instrument tool found that question number seven (If you prefer being seen by an NP who is in a Physician office, please explain why?) was not answered by any of the participants. Although somewhat confusing, the first question seeking demographic outcomes found 66% of the participants were established patients, compared to 34% who were not established patients with the NP practice (Table M-1). Symptom management outcomes extracted that 66% of the participants needed care due to illness versus 29% who presented for a physical, and 5% needed injury follow up (Table M-2). Process outcome measurement revealed 79% of the participants had same-day appointments, 5% were scheduled for the next day, and 16% waited two days for an NP appointment (Table M-3). The

demographic outcome related to health insurance status demonstrated that 70% had health insurance coverage, while 30% did not and were required to make full payment at time of care (Table M-4). Healthcare decision making outcomes discovered that 100% of the participants acknowledged they could afford the cost of the NP visit (Table M-5). Seventy-five percent of the participants answered their preference of a healthcare provider was an NP in independent practice compared to 5% who preferred an NP working in a Physician office and 20% who stated it did not matter (Table M-6). This outcome measure was congruent with both healthcare decision making and patient satisfaction regarding care provided.

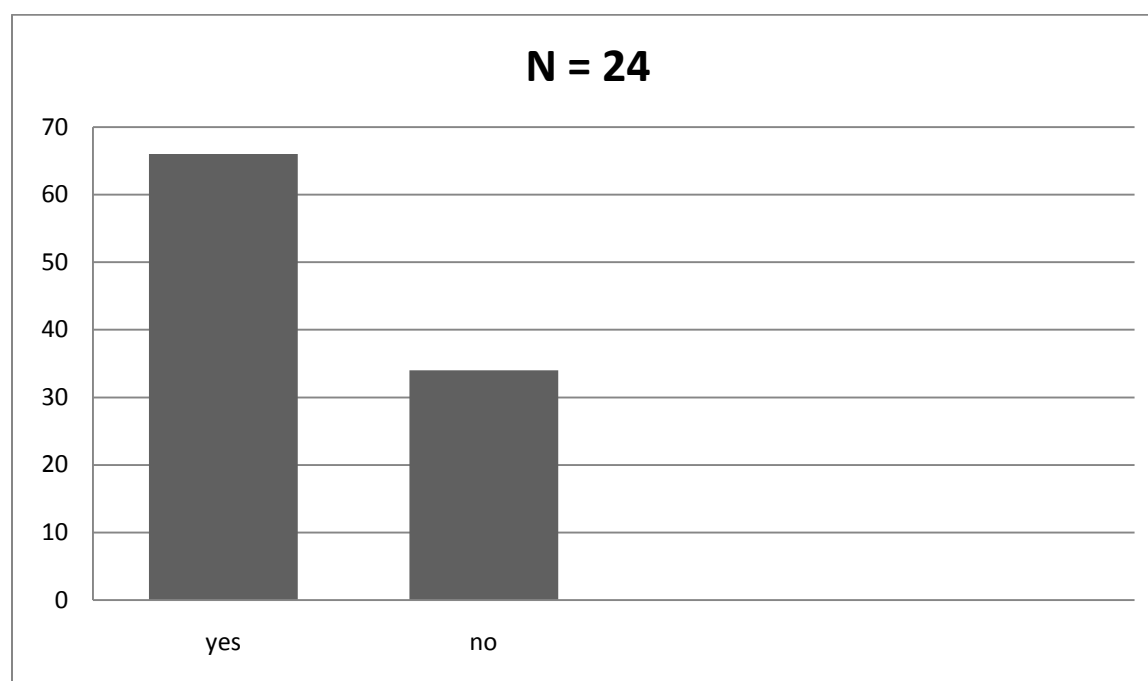


Table 1: Are you an established patient with this Nurse Practitioner (NP) clinic?

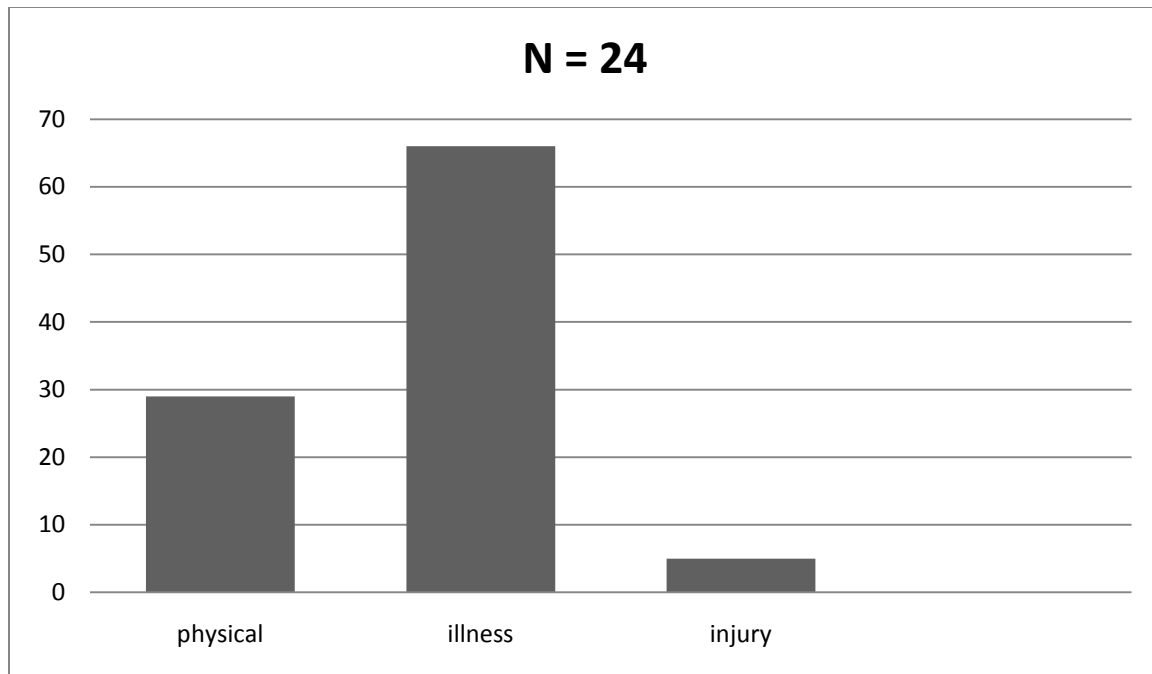


Table 2: Why did you seek care here today?

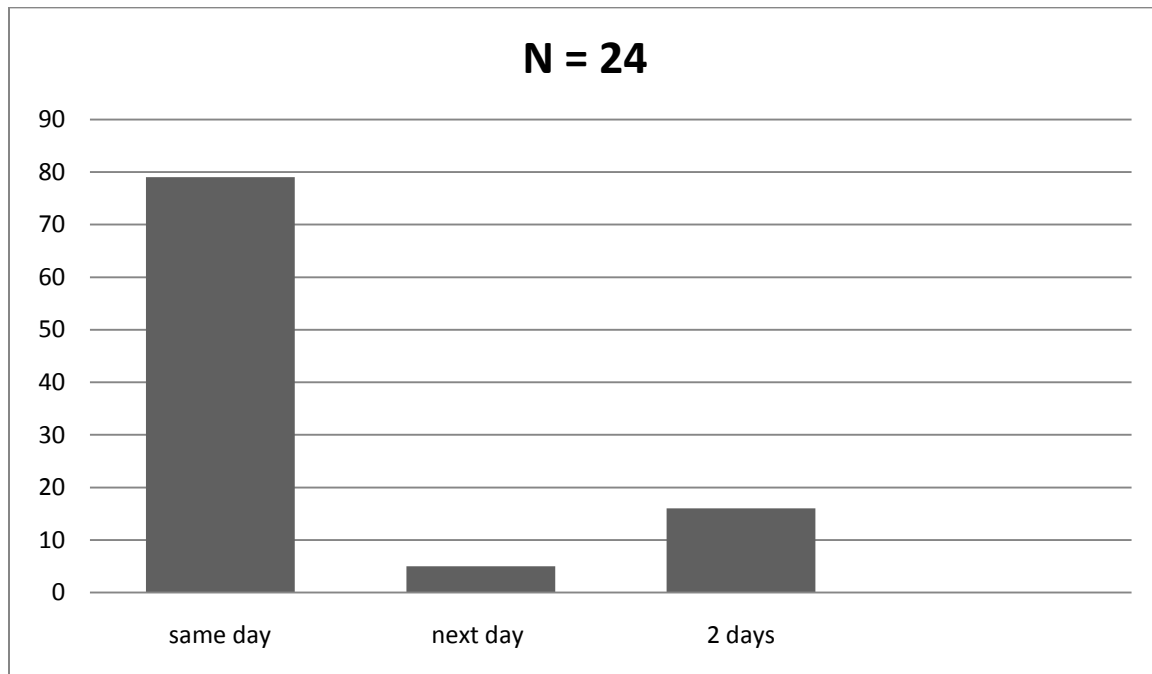


Table 3: How long did it take to get an appointment?

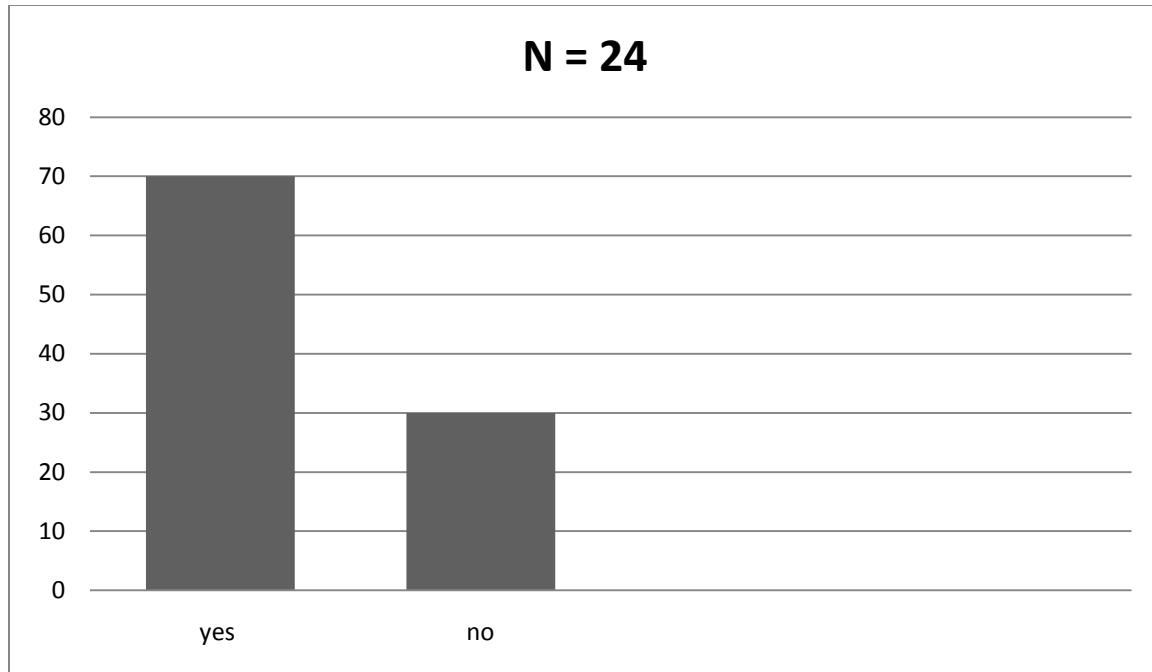


Table 4: Do you have healthcare insurance?

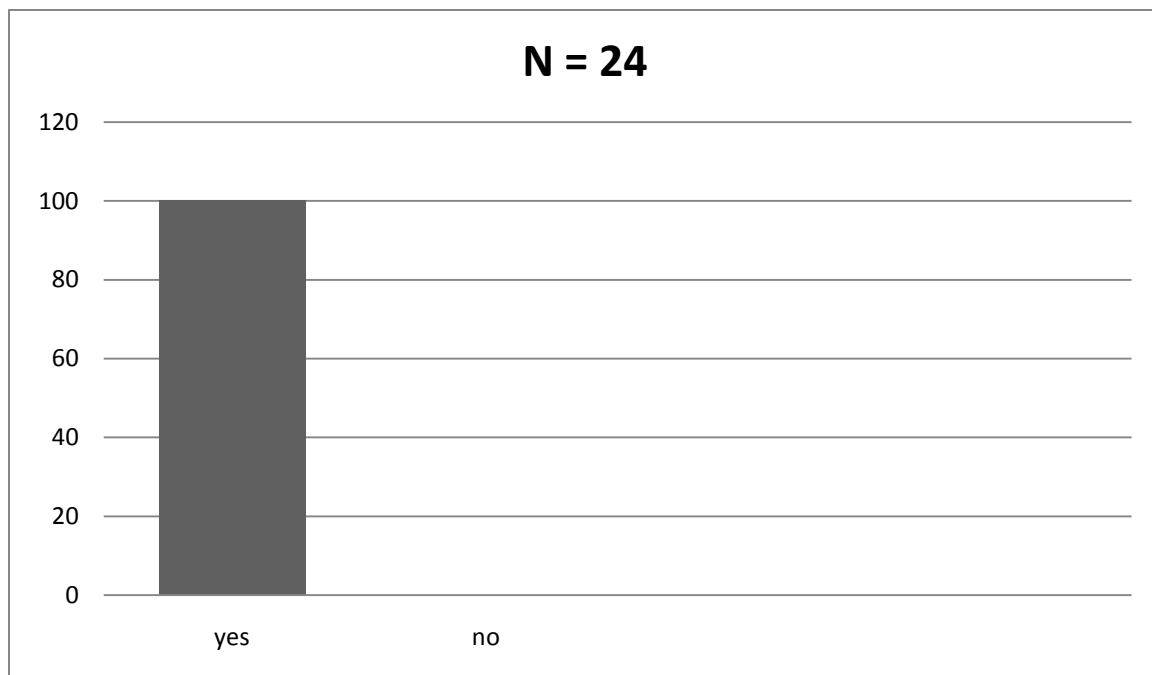


Table 5: Could you afford the cost of today's visit?

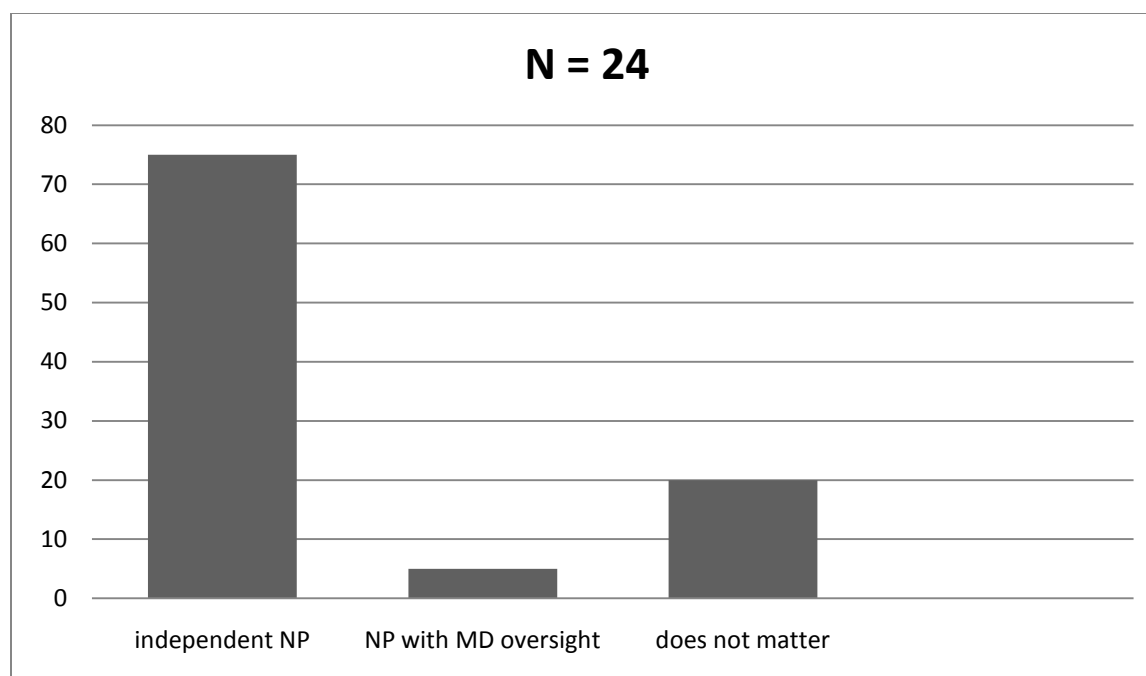


Table 6: What is your preference of a healthcare provider?

Statistical Data Findings

Zaccagnini and White (2011) stated quantitative data collected in the DNP project served to demonstrate the efficacy of the project and were not intended to meet rigorous statistical tests for significance. A total of 24 instrument survey tools were successfully completed. Only one potential participant declined participation. Descriptive statistical analysis was then utilized to document project results. Ratio measurement was implemented to capture ratio or percentages of responses. When a variable was measured on a nominal scale, or on an ordinal scale with a small number of values, researchers could construct a bar graph to display frequency information (Polit, 2010). The project findings were presented in bar graph table format, Table M-6 (Appendix M).

Evidence-Based Practice Results

Identifying a knowledge gap and then asking a question about that gap and assessing the information found was a key component of lifelong learning (Traditi, 2011). This Capstone

Project identified a knowledge gap regarding primary healthcare for underserved populations, specifically those lacking healthcare insurance. The PIO statement then directed questions about that knowledge gap. The project question was: Is primary healthcare for underserved populations, those without healthcare insurance, accessible and cost-effective if care is provided by independent NP models of care? The project's true intent was to seek clarification addressing the issues of accessibility and cost-effectiveness of care for underserved populations.

In an attempt to capture this data, the survey instrument identified outcome measures related to process and healthcare decision making as well as demographics, symptom management, and patient satisfaction. The instrument survey tool demographic outcome measures found that a majority of the study participants had healthcare insurance. The specific type of healthcare insurance was not investigated further. Process outcomes addressed the question of accessibility. The instrument tool findings demonstrated accessibility to care with the majority of study participants having same-day appointments.

Healthcare decision making outcomes mined the question of cost-effectiveness of the care provided by independent NP models of care. The instrument survey tool discovered that all of the participants, those with or without healthcare insurance, could afford the cost of the NP visit. This finding was an unexpected outcome. For those without insurance, full payment was required at time of the appointment. This out-of-pocket cost was considered affordable for those not holding healthcare insurance. Upon anecdotal investigation, the type of health insurance held by many of the participants was Medicaid, mandating co-pays of one to two dollars at time of service. This co-pay was considered affordable for the study participants. Investigating the type of private insurance held by participants was not included in the instrument or outcome measures. Delving into this topic would offer further analysis regarding the cost of private

insurance co-pays, along with third party reimbursement or denial for independent NP care. This information could give a more factual evaluation of cost of care, including possible financial constraints or limitations in accessing independent NP care. Third party reimbursement for independent NP models of care provided opportunities for ongoing study.

The finding that all participants could afford the cost of the NP visit supported the study premise that independent NP models of care create cost-effective care for underserved populations, those lacking healthcare insurance. The study unexpectedly found that independent NP models of care also provided cost-effective care for populations having healthcare insurance. The study demonstrated independent NP practice sites provided accessible care with the majority of patients having same-day appointments. All participants who completed the survey had access to care within two days from the time of requesting an appointment. The finding that a majority of the participants chose NPs in independent practice could be given reduced credibility due to overt bias by the study participants. The study findings were given at face value and could not be validated.

Limitations, Recommendations, Implications for Change

Limitations

Limitations of the study were those characteristics of design or methodology that set parameters on the application or interpretation of the results of the study (Cline & Clark, 2000). Multiple limitations affecting this Capstone Project had been identified. Although the sample size did meet the power analysis requirements, researchers acknowledged that a small sample size created the limitation or ability to draw a conclusion or inference in transferring these findings to a larger population (Polit, 2009). A larger sample size would give more power to the study findings.

Another significant limitation of this project was the lack of a pre-existing validated instrument measurement tool to employ in determining whether the intervention was effective. A pre-existing instrument tool would have enhanced validity for the study. While the instrument did capture outcome findings, some questions were flawed, creating confusion for study participants. The instrument survey tool was given acceptable face validity by the instrument creators. The survey instrument did not have internal validity, as demonstrated by Cronbach's alpha statistical testing. Possible etiology for this finding is that the outcome measures were too diverse and not related. The study asked clarification on five different outcome measures (demographic, symptom management, process, healthcare decisions, and patient satisfaction). If a scale showed poor reliability, then individual items within the scale must be reexamined and modified or completely changed as needed (Santos, 1999). Without significant refinement, the utilization of this instrument survey tool would not be recommended for future studies. Suggestions for development of a future instrument tool would be to employ focused questions regarding only one outcome measure. This would have provided internal reliability when searching the underlying construct being measured (Santos, 1999).

The survey tool was dependent on self-reported data, meaning the data could not be independently verified. The data had to be accepted at face value. According to University of Southern California LibGuides (n.d.) *Organizing Your Social Sciences Research Paper*, self-reported data may have had elements of bias (selective memory, telescoping or recalling events that occurred at one time as if they occurred at another time), attribution (the act of attributing positive events and outcomes to one's own agency but attributing negative events and outcomes to external forces), and exaggeration (the act of representing outcomes or embellishing events as more significant than is actually suggested from the data).

Other limitations for this project included time. The data collection design, that only this researcher would solicit participants, limited the ability to collect a larger sample size. Data collection was a time-intensive task for the project. Allowing the two independent NP providers to inform and invite patient participation in the study would have helped create a larger sample size.

A significant limitation for the Capstone Project findings was that the outcome measures were not compared or benchmarked to other models of primary care. The study's original intent was to compare outcomes against NPs in non-independent practice settings, those having physician oversight. This component was removed as it was deemed access to physician-led models of care would have been denied. Therefore, comparison was removed from this Capstone Project.

Recommendations

Capuano, Davidson, and Hitching (2011) acknowledged that basing practice on what has been explored, tested, and found to best serve the health needs of patients would enhance professional practice, enabling care that is patient centered and appreciation of evidence as the foundation of effectiveness (p. 231). Recommendations for future study include testing this project query in multiple independent NP practice sites with the intent of creating a larger population sample size. Utilization of a standardized measurement instrument would enhance validity of the outcomes. Exploration of the healthcare insurance type such as Medicare and/or Medicaid would provide information regarding NP care for this particular underserved population. Further study recommendations include comparison of outcome measures against other primary care settings such as physician models of care employing NPs and PAs, to determine if there was improved access and more cost-effective primary healthcare for

underserved populations. Questioning why patients prefer receiving care from APRN in independent practice would further delineate outcomes of care directly related to APRN care.

Implication for Change

Theories were formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge, within the limits of the critical bounding assumptions (University of Southern California, n.d.). Neuman's Systems Model provided theoretical underpinnings for this Capstone Project. Environmental extrapersonal stressors were external environmental interaction forces that occurred outside the boundaries of the client system at the distal range (Neuman, 2002). Examples of extrapersonal stressors included social policies or financial concerns impacting healthcare. Limited or restricted access to primary healthcare due to lack of healthcare insurance continued to create health deprivation for socially disadvantaged populations (Dey, 2011).

It is hoped that with the passage of the Affordable Care Act (2010), the nation's health care system will be overhauled by increasing access to health care, improving the health of individuals and communities, and reducing overall costs (Colorado Health Institute, 2011). McNeal (2010) found individual states that permit APRNs to bill for third party reimbursement, to prescribe pharmaceutical agents, and to practice independently, have demonstrated the cost effectiveness of this level of practitioner (p. 58). An expanded role for advanced practice nurses could mitigate the shortage of primary care providers, helping reduce restrictions in access to care (Alliance for Health Reform, 2011).

Ray's (1989) concept of spiritual-ethical caring guided the selection of choices for the good of others that could or should be accomplished. The impact of the Theory of Bureaucratic

Caring on the corporate enterprise would necessitate a system shift from a narrow to a broad focus (p. 41). Current efforts directing national healthcare reform demonstrate the need for a broad focus of care. There is no more urgent place to begin national health reform than by reinventing primary care (Dentzer, 2010).

The IOM (2010) Consensus Report found that the United States has the opportunity to transform its health care system, and nursing/APRNs can and should play a fundamental role in this transformation. Fairman, Rowe, Hassmiller, and Shalala (2011) argued that economic forces, demographics, the gap between supply and demand, and the promised expansion of care necessitated changes in primary care delivery. Physicians joining forces with APRNs to develop innovative models of team care will lead to the best health outcomes (Susman, 2010). Ray (1989) envisioned a unified healthcare system to ensure the transformation of health care organizations and models of care to benefit humankind.

Rowe (2012) clearly articulated that allowing nurses to act as primary-care providers (PCP) would increase coverage and lower health-care costs. One of the best ways to alleviate the severe shortage of primary care physicians facing the nation is to expand the scope of practice for APRNs. Expanding nursing scope of practice not only can help fill the gap in PCPs, but it can save money as well. Employers and healthcare consumers are also calling for reform requesting improved utilization and reimbursement for this model of primary care.

This Capstone Project was an initial attempt to collect data explaining the role of the independent NP in providing primary health care for underserved populations, specifically those lacking health care insurance. The outcome findings demonstrated that independent NP models of care provided cost-effective care for not only underserved populations, but also for populations having healthcare insurance. The study also found independent NP models of care

provided accessible healthcare. The potential impact of independent NP practice creating more accessible and more cost-effective care for all consumers of primary health care is unknown.

Further study is needed to explain the role of independent NP models of care as a key component supporting proposed health care reform in this country.

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Appendix A:
Systematic Review of the Literature

Systematic Review Evidence Table Format [adapted with permission from Thompson, C. (2011). Sample evidence table format for a systematic review. In J. Houser & K. S. Oman (Eds.), <i>Evidence-based practice: An implementation guide for healthcare organizations</i> (p. 155). Sudbury, MA: Jones and Bartlett.]							
Article Title and Journal	The Medical Home/ Family Practice Management	Level of Autonomy of primary care NP/AANP	NP as underutilized resource for health reform/AANP	Commission on social determinants of health/Critical Public Health	Veteran's perception of care by NP/AANP	The Innovator's Prescription	Primary NP and cancer survivorship care/AANP
Author/Year	Backer 2007	Bahadori 2009	Bauer 2010	Baum 2008	Budzi et al 2010	Christensen 2009	Cooper et al 2010
Database and Keywords	PubMed/Healthcare delivery, Reform, Primary care	Cinahl/NP, Primary care, Autonomy	Cinahl/EBP, Cost effectiveness	PubMed/Health promotion, socio-economic	Cinahl/Satisfaction, quality	N/A, Disruptive solution, healthcare	Cinahl/Models of care, NP
Research Design	meta-analysis	Descriptive	Review of Cochrane Collaboration	Describe the work of the Comm. On the Social Determinants of Health, WHO 2005	Descriptive statistics and categorical variable summarized	Quantitative and qualitative studies	Review of MEDLINE, CINAHL, MD-Consult and Cochrane's data bases
Level of Evidence	Level VI	Level VI	Level V	Level V	Level VI	Level V	Level IV
Study Aim/Purpose	Propose new way to deliver quality healthcare	Determine the level of autonomy of NP in primary care	Present evidence based demonstration of cost effectiveness	Commission findings supports health promotion and reduce inequities	Examine difference in patient satisfaction with care provided by NP, MD and PA	To show the need to reinvent medicine in the US	To examine the important role of NP in providing long term surveillance and health maintenance
Population Studied/Sample Size/Criteria/Power	large self insured employers, PCP Care collaborative	N=48 primary care NP	Primary care and acute care settings	World health review	1.6 Million surveys returned	Healthcare delivery systems in the US	Survivors of breast, colorectal and prostate cancer

Methods/Study Appraisal/ Synthesis Methods	meta-analysis	meta-synthesis	Meta-analysis	systemic review	meta-analysis	Meta-analysis	meta-analysis
Primary Outcome Measures and Results	Is this the future of quality primary care	Level of autonomy of primary care NP	Evidenced based quality	Evidenced based and re-orientate health systems	satisfaction increased 5% with addition of NP vs. 1.8% with MD/PA	Health care needs to be disrupted or redesigned	NPs play important role in surveillance and maintenance in cancer survivors.
Author Conclusions/ Implications of Key Findings	Many PCPs may have to redesign their systems of care to meet this demand	Primary Care NPs are highly autonomous professionals and continue to struggle with empowerment	NPs provide evidenced based quality healthcare	Effective to reduce health inequities and ensure health promotion	Majority of primary care clinic patients prefer NP	Disrupters to the current MD driven healthcare system include NP and PA.	Shared model to transition patient to back to primary care
Strengths/ Limitations	Reviewed large data base of PCPs	Tool used for measurement; Dempster Practice Behaviour Scale Small study N=48,	Potential bias	Review of global health studies	Large sample size N=1.6M	Business/economic model	Large study findings reviewed over 13 years
Funding Source	Nothing to disclose	none declared	None declared	None declared	No external funding	None declared	No external funding
Comments	Demonstrates the role of nursing/APN in future healthcare models	Demonstrates support for Capstone project, NP need to be empowered	Key argument/ support for Capstone project	supports Capstone in data findings regarding inequities and vulnerable populations.	strong study showing patient satisfaction by NP	Health care reform in this country	Great example of collaboration between specialty practice and primary care
Article Title and Journal	The Promise of Prevention/Plus Medicine	Characteristics of risk in patients of NP safety net practices/AANP	Transition toward a NP managed clinic/Journal of CV Nursing	New Era of Healthcare affords new opportunities The Nurse Practitioner	7 Strategies for creating a more effective practice/IMP	The Future of Nursing Leading Change, Advancing Health/IOM	The introduction of HIA in the WHO European Healthy cities Network/Health Promotion International

Author/Year	Danaei, Rimm Oza et.al.2010	Fiandt 2010	Gambino, Planavsky, Gaudette 2009	Graham 2010	Ho 2007	IOM 2010	Ison/2009
Database and Keywords	PubMed/Prevention, Disparities	Cinahl/At risk, Vulnerable	Cinahl/APN, Model, Prevention	Cinahl/Health reform, Primary care	PubMed/Effective, primary care	Cinahl/Advancing Health	Academic Premier/Healthy cities, HIA
Research Design	National data sources on risk factor exposure and surveillance	meta-analysis	Descriptive, qualitative and Likert scale review	meta-synthesis		Consensus Report	methodology
Level of Evidence	Level I	Level V	Level VI	VII	Level VII	Level VII	Level III
Study Aim/Purpose	Evaluate chronic disease disparities among underserved populations	Describe vulnerability in patients at safety net practices	Evaluate patient satisfaction after CV clinic transition to NP managed	New opportunities for primary NP	Presented ways to make practice more effective	Empower Nurses to lead change and advance health	Incorporation of HIA as model for improving community health
Population Studied/Sample Size/Criteria/Power	Eight Subgroups in the US	Patients in 4 federally subsidized rural clinics	Patients at Cleveland Clinic Cardiology and Rehab program	Underserved, uninsured	Based on IMP model of solo practice	Nursing is the largest segment of healthcare workforce at 3M	Implemented in 4 European cities
Methods/Study Appraisal/Synthesis Methods	Meta-analysis	5 year data collection using VAS	Meta-analysis	meta-synthesis	meta-analysis	Meta-synthesis	systemic review
Primary Outcome Measures and Results	Disparity exist in primary prevention	high level of risk for poor health outcome	Overall patient satisfaction and cost savings found	32 million Americans will be added to the insurance roll with Healthcare Reform	Positive results	Four recommendations made to enhance future of nursing	Effective mechanism for using and implementing a methodology
Author's Conclusions/Implications of Key findings	Disparities exist in exposure/risk contributing to increase mortality	NP provide health care to very vulnerable patients, ongoing data needed	APNs are an effective and efficient way to provide CV risk reduction	Increased demand for primary care providers	Improved use of technology to increase efficiency	Four key messages delivered	HIA is an effective tool for creating healthy communities

Strengths/ Limitations	Review of large national data bases	limited to 4 clinics, but 5 year collection of data	Small study - one clinic	Opinion	opinion	Consensus Report	WHO supported, large studies supporting findings
Funding Source	CDC and ASPH	none declared	Cleveland Clinic	The Nurse Practitioner	nothing to disclose	RWJF and IOM	Evaluation commissioned by WHO regional office for Europe
Comments	Great argument supporting NP role in improving care to the underserved	provides data on NP care in rural and underserved populations.	shows patient satisfaction and cost saving of NP	Excellent support of Capstone project	supports independent practice	Very supportive argument for changing healthcare/nursing in the country	current topic for promotion of health population and for health policy
Author Title and Journal	Praxis and the role development of the acute care NP/Nursing inquiry	One year seems like 25 years and 25 years seems like one/AANP	The Future of nursing and health care/AANP	There is no "point" in decision- making: a model of transactive rationality for public policy and administration/Pol- ity Science	Overview of patient preference for, satisfaction and care provided by GP and NP/Journal of Clinical Nursing	Vulnerable People, groups, and populations/Health Affairs	Health public policy - is HIA the cornerstone/Public Health
Author/Year	Kilpatrick/2008	Knettler 2010	Koeniger- Doohue & Hawkins 2010	Kuruvilla/2009	Laurant et al 2008	Mechanic & Tanner 2007	Metcalf, Higgins 2009
Database and Keywords	Cinahl/ACNP, Praxis, Role development	Cinahl/NP, Healthcare, Future	Cinahl/Vision for future	PubMed/Public policy, pragmatist, philosophy	Cinahl/Famil- y MD, NP, Satisfaction	Academic Premier/Vulnerable people, groups, populations	Academic Premier/Health inequities, public policy
Research Design	integrative review	meta-synthesis	meta-synthesis	linear rationality	cross- sectional survey	Explores unifying themes	Review of WHO data
Level of Evidence	Level V	Level VII	Level VII	Level III	Level VII	Level V	Level III

Study Aim/Purpose	Evaluate role development for the ACNP	NPs are positioned at the forefront to solve many of today's healthcare challenges	Healthcare for all Americans, Health will be a right not a privilege	Policy making is a rational process	Assess views on care delivered by NP vs. MD	Redesigning alternative policy interventions	Evaluate effect of public policy on populations
Population Studied/Sample Size/Criteria/Power	Multiple studies utilized and included	Re-examination of articles supporting expanded NP role	Healthcare reform in the next two decades	Review of multiple public policy models	N=235	Diverse, vulnerable populations	Underserved populations
Methods/Study Appraisal/Synthesis Methods	integrative review		meta-synthesis	meta-analysis	meta-synthesis	Meta-analysis	Meta-analysis
Primary Outcome Measures and Results	ACNP fulfill needed role in healthcare delivery	NP are under utilized and provide quality healthcare	NP scope and responsibility will greatly expand and will be instrumental in provider of healthcare	Effective method for policy change	Overall patients happy with care received = equal between MD and NP	Loss of opportunities affects entire society	Implementation of the Health Impact Assessment tool
Author's Conclusions/Implications of Key findings	Praxis can be used to develop the ACNP role of clinician and researcher	Need to bring down the barriers to NP practice that will bring access, cost effective healthcare	NP will provide greatest share of primary care in the country at Doctoral level of education.	Transactive rationality is a model for public policy	Individual patient characteristics play a major role in deciding patient satisfaction	Attention to vulnerable population contributes to entire community	HIA creates healthier public policy, reducing disease burden and inequities
Strengths/Limitations	Incorporated nursing praxis (ontology, epistemology, education as vital components of this role)	opinion/editorial	Opinion/editorial	Large study of previous public policy models	Small study	Public Policy and social review	Review of large data sets - WHO

Funding Source	none declared	none declared	none declared	none declared	none declared	Rutgers and National Institute of Mental Health	None declared
Comments	relevant and current topic for NP roles	excellent support for Capstone and the future of NP	Promotes Capstone theory providing , NP will provide majority of primary care in the country	abstract concepts	small qualitative study	defines diverse/vulnerable/underserved	public health theory for change in health policy
Article Title and Journal	Revitalizing the evidence base for public health/Promotion and Education	Primary Care Outcomes in Patients treated by NP or MD/JAMA	The Role of NP in Reinventing Primary Care/Health Affairs	Primary care provider turnover and quality in managed care organizations/AJMC	APN: De we have an Identity Issue/JAEN	International Survey on APN Education, Practice and Regulation/Nursing Scholarship	The challenge of vaccinating vulnerable children/Journal of Pediatrics
Author/Year	Morgan, Ziglio 2007	Mundinger et al 2000	Naylor & Kurtzman 2010	Plomondon et al 2007	Proehl & Hoyt 2010	Pulcini et al 2010	Rodewald/2001
Database and Keywords	PubMed/Health assets, asset mapping	PubMed/Health assets, asset mapping	Academic Premier/NP, Primary care	PubMed/Satisfaction, preventive care	Cinahl/APN, Understanding	Cinahl,APN, Policy regulation	PubMed/Vaccination, vulnerable
Research Design	Review of international data	randomized trial	Literature search to identify and synthesize evidence	retrospective cohort	meta-synthesis	Cross sectional descriptive web-based survey	integrative review
Level of Evidence	Level IV	Level II	Level IV	Level V	Level VII	Level VI	Level III
Study Aim/Purpose	Effectiveness of Asset model	Compare outcomes for patients	Review the evidence of NP contribution to primary health care	examine association between PCP turnover and pt satisfaction	Educating the public for the various APN roles	Describe international trends on developing role of the NP-APN	evaluate challenges for vaccinations
Population Studied/Sample Size/Criteria/Power	Population Health	N=1316	Patients receiving primary care by NP vs. MD	615 managed care organizations	Review and presentation of previous findings	N=91 APNs returned the survey	CDC reports on immunizations related to poverty

Methods/Study Appraisal/ Synthesis Methods	Meta-analysis	Integrative review	Meta-analysis	multivariable hierarchical regression model			integrative review
Primary Outcome Measures and Results	Most current health promotion policies are deficit based	Outcomes comparable	Need for high quality primary care with shrinking MD work force	Is there relationship between PCP turnover and patient satisfaction	Public confused by multiple APN names/roles	Multiple levels of education, titles and recognition and resistance to APN found	barriers exist for children of low SES
Author Conclusions/ Implications of Key Findings	Assets Model promotes multi-method approach for population health, reduces inequities	Patient outcomes for NP and MD delivery of primary care do not differ	NP contribute vital component in high quality primary care	Turnover is associated with several measures of care quality	Need to educate the public and reinforce our "brand" as APNs	International networking and support is needed	need new strategies for reaching all children
Strengths/ Limitations		large study, MD supported	Most studies reviewed - qualitative	Large study	Incorporated 3 journal articles	Qualitative study, survey results, small population size, but obtained from international APNS	looked children in Rhode Island, but could be extrapolated to other populations
Funding Source	none declared	none declared	U of Penn. SON	none declared	None declared	none declared	none declared
Comments	promotes healthcare policy advocacy portion of my Capstone	Older study, but good evidence to support Capstone	Article strongly supports my Capstone	study supports correlation between over worked provider and poor quality of health care delivered	dialogue for public education on what DNP means	Evidence at the international level	Old study, but topic remains current
Article Title and Journal	Acute NP as Hospitalist/AACN	How Family MD, NP and PA incorporate spiritual care in practice/AANP	DNP prepared nurses as Practitioner researchers/A NNP	Reflection on independence in NP practice/AANP	Implementati on of a lifestyle program in primary care/AANP	Barriers to developing the NP role in primary care-the GP perspective/Family Practice	
Author/Year	Rosenthal, Guerrasio 2009	Tanyi et al., 2009	Vincent et al 2010	Weiland 2008	Whittemore et al., 2010	Wilson et al 2002	

Database and Keywords	Cinahl/Acute care, NP, Role expansion	Cinahl/Barriers to care, Spirituality	Cinahl/Research, Practice	Cinahl/Independent NP	Cinahl/Behavioral health, Chronic illness	PubMed/APN, general practice	
Research Design	Quantitative and qualitative studies	phenomenological qualitative design	Model that conceptualizes the differentiation and interrelatedness of DNP and PhD prepared nurses	Extensive literature search, CINAHL, OVID, MEDLINE etc..	mixed method clinical trial	qualitative	
Level of Evidence	Level VI	Level VII	Level VI	Level V	Level VI	Level VII	
Study Aim/Purpose	Demonstrate the expanding role of NP to meet growing health needs	To investigate how family healthcare providers incorporate spirituality into their practices	DNP prepared APN to close the gap between research and practice	Review ability of NP to practice independently	Describe the implementation process and participant satisfaction in a lifestyle program provided by NP	Explore the views and attitudes of GPs regarding APN	
Population Studied/Sample Size/Criteria/Power	Review of NP in various acute care role	N=10	Research at the DNP level	Primary care setting and the role of the NP	N=58	N=32	
Methods/Study Appraisal/Synthesis Methods	Meta-analysis	meta-synthesis	meta-analysis	Meta-analysis	meta-analysis	meta-synthesis	

Primary Outcome Measures and Results	Acute care NP function in variety of roles.	Despite barriers to care, can spirituality be incorporated into primary care	DNP play a leading role in implementation and dissemination of newly acquired knowledge in developing new standards of practice and creation of new knowledge	NP are qualified to independently manage uncomplicated acute and stable chronic illness	Are NPs prepared to implement life style counseling	4 themes emerged	
Author Conclusions/ Implications of Key Findings	Acute care NP provide quality care and cost effectiveness	5 major themes emerged, future research needed	DNPs will be key to closing the research to practice gap and improving healthcare in the U.S.	Barriers still exist to impede independent NP practice	NPs in survey felt well prepared and mod effective in counseling life style changes for Type II DM	Need to acknowledge GP concern	
Strengths/ Limitations	Limited focus	Qualitative, small study	Well designed conceptual model	Strong evidence supported by literature findings	Small study N=58	small study, biased results	
Funding Source	None declared	none declared	None declared	None given, Author is a Doctoral student	NIH/NIDDK	none declared	
Comments	shows the varied practice settings for NP	Provides/shows holistic approach to primary healthcare	Conceptual model to transfer DNP research into primary practice	One of the first journal articles found to support my Capstone	NP expanded role in primary care	example of resistance to NP role development and growth	

Source for Leveling the Evidence:

The source for leveling of the evidence was the utilization of the seven tiered levels of evidence, adapted from Melnyk and Fineout-Overholt (2005). In this model, evidence is categorized from the highest form of evidence (Level I) to the lowest (Level VII). According to Houser and Oman (2011), high quality meta-analysis represents the best source of evidence and are given the highest rating in most leveling models.

Level I- findings are defined as evidence obtained from a systematic review or meta-analysis of relevant randomized controlled trials (RCTs), or evidence-based clinical practice guidelines based on systematic reviews of RCTs.

Level II - demonstrates evidence obtained from a least one well-designed RCT.

Level III - finds evidence obtained from well-designed controlled trials without randomization (quasi-experimental studies).

Level IV - evidence is obtained from well-designed case-control and cohort studies (non-experimental studies).

Level V - evidence is obtained from systematic reviews of descriptive and qualitative studies.

Level VI - evidence is extracted from single descriptive study or qualitative study.

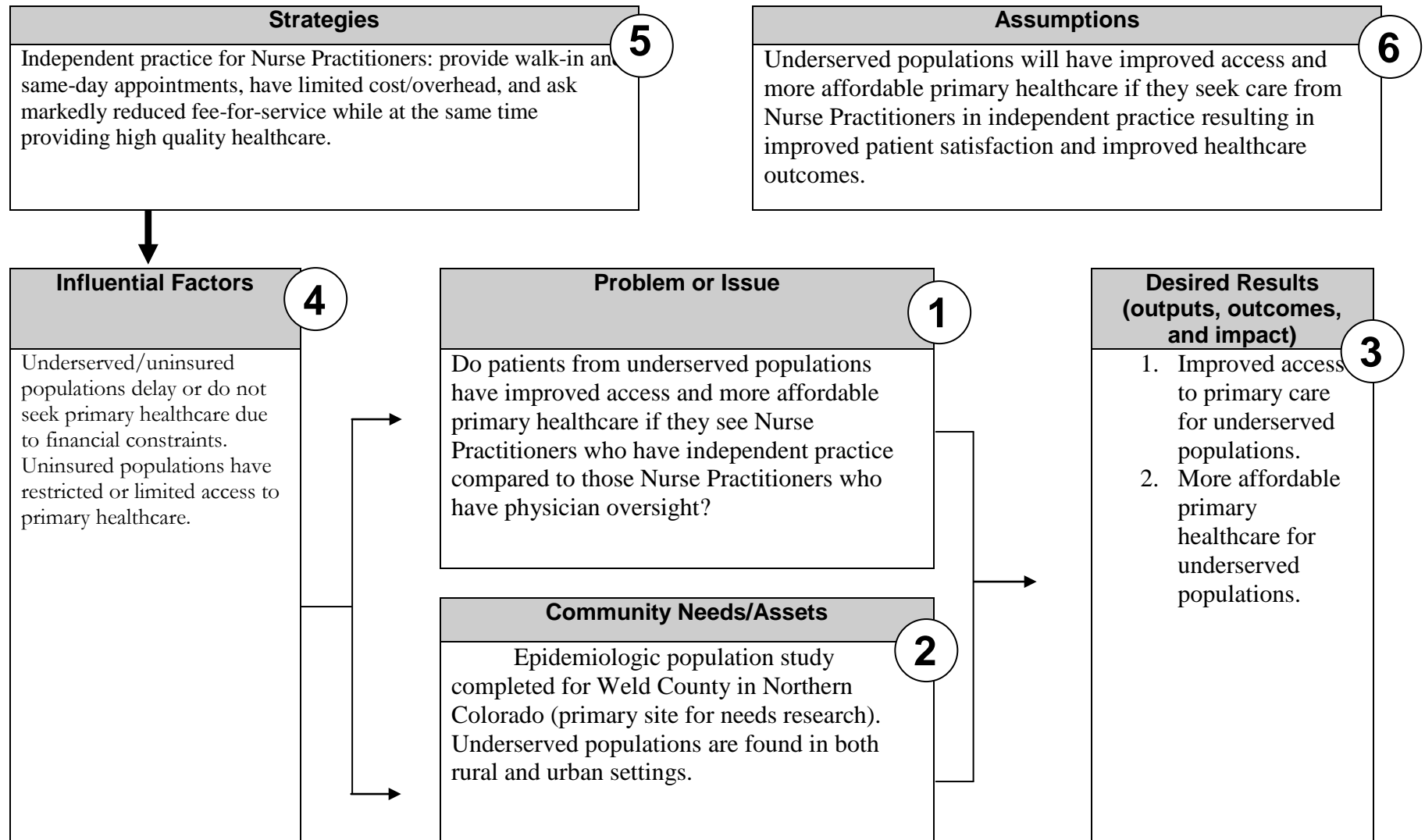
Level VII - evidence is obtained from expert opinion, regulatory opinions, and/or reports of expert committees.

Rodgers, M.E., Williams, A.E., & Oman, K.S. (2011). Systems for Defining and Appraising Evidence. In Houser, J., Oman, K.S. *Evidence-based practice: An implementation guide for healthcare organizations*. Sudbury, MA: Jones and Bartlett

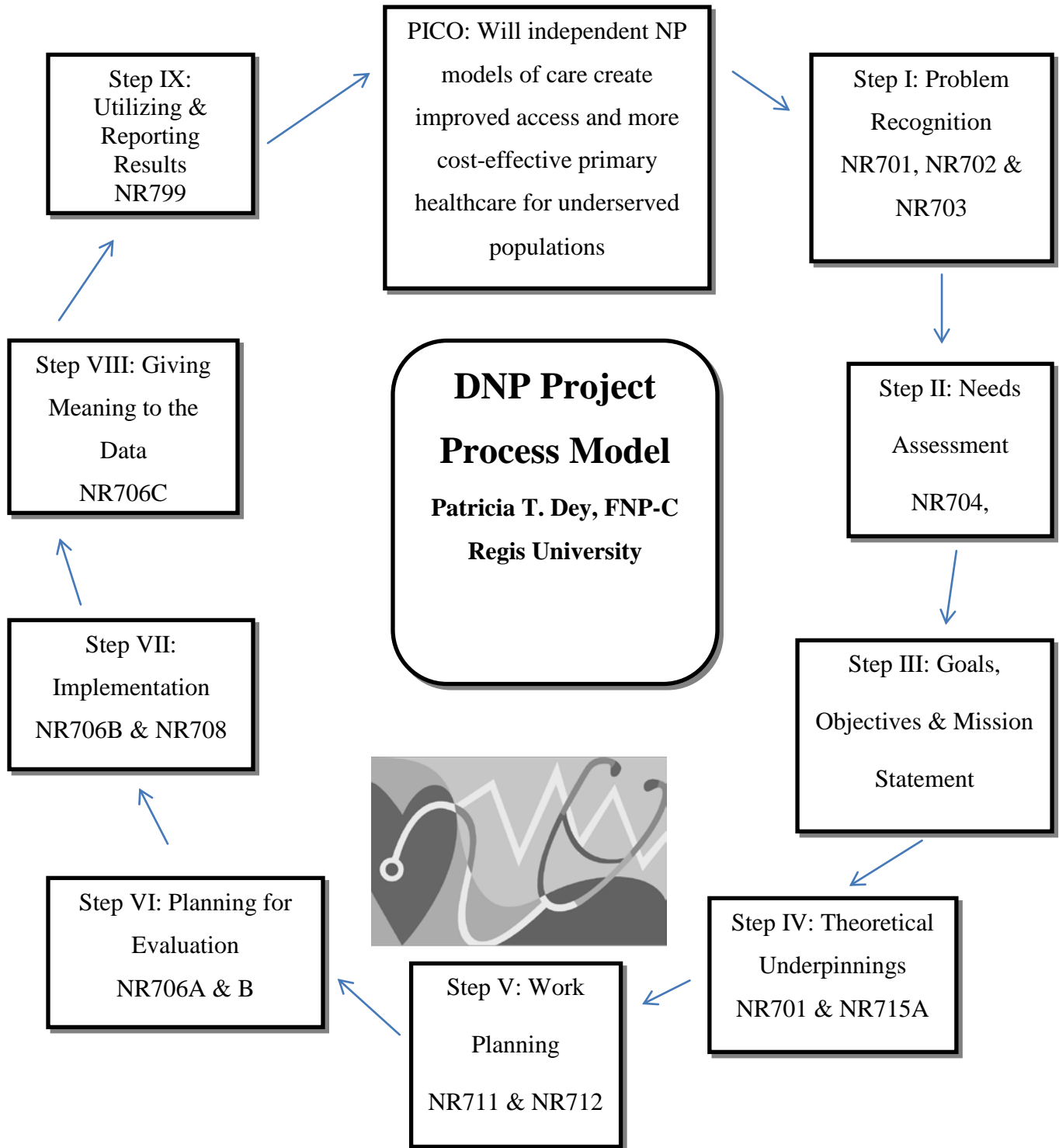
Appendix B:
Logic Model

RESOURCES	ACTIVITIES	OUTPUTS	SHORT & LONG-TERM OUTCOMES	IMPACT
<i>In order to accomplish our set of activities we will need the following:</i>	<i>In order to address our problem or asset we will accomplish the following activities:</i>	<i>We expect that once accomplished these activities will produce the following evidence of service delivery:</i>	<i>We expect that if accomplished these activities will lead to the following changes in 1-3 then 4-6 years:</i>	<i>We expect that if accomplished these activities will lead to the following changes in 7-10 years:</i>
<p>IRB approval</p> <p>Approval to conduct research study in both independent Nurse Practitioner (NP) practice and NP practice with physician oversight.</p> <p>Survey questionnaire</p> <p>Data collection including recording devices</p>	<p>Visit/email/network multiple independent NP practices an NP practices with physician oversight.</p> <p>Email potential participants in these practices to seek willing participants.</p> <p>Produce flyers to post in clinics making patients aware of the coming research study.</p> <p>Conduct qualitative research study by completing questionnaires/interviewing participants.</p> <p>Review/analyze all documents, tapes, surveys and field notes to get an overall sense of the data, placing data into focus areas, coding the data looking for themes and patterns, identifying common themes across data sets, and interpreting the results.</p>	<p>Underserved/uninsured populations will have improved access and more affordable primary healthcare if they receive care from NPs who have independent practice compared to those NPs who have physician oversight.</p>	<p><u>1-3 years</u> Improved healthcare for underserved populations.</p> <p>Improved patient healthcare satisfaction and improved healthcare outcomes measures.</p> <p><u>4-6 years</u> Support the body of nursing evidence; demonstrate the impact of independent NP practice in providing primary care to underserved populations.</p> <p>Provide evidence-based research to support healthcare policy advocacy and change at both the national and state level.</p>	<p><u>7-10 years</u> The national healthcare standard will be independent NP practice.</p>

Appendix C:
Logic Model Diagram



Appendix D:
Project Process Model



Appendix E:
SWOT Analysis

Strength	Weakness
<ul style="list-style-type: none"> * 80% of primary care in this country can be completed by NPs. * High-quality care * More accessible care * More cost effective care * Patient-centered care 	<ul style="list-style-type: none"> * Few NPs in independent practice * Confusion to role/ability of NP * Patients adhering to physician lead model of care
Opportunities	Threats
<ul style="list-style-type: none"> * Primary models of care for underserved * Provide health promotion/disease prevention * NP high demand due to predicted physician shortage * Creation of new paradigm in U.S. health care 	<ul style="list-style-type: none"> * Financial constraints * Non-recognition and disparate reimbursement by health insurance companies * Physician organized opposition to independent NP practice * Legislative mandates limiting independent NP practice

Appendix F:
Consent Form
Making Primary Health Care More Accessible and Cost Effective for

Underserved Populations

Subject Consent

Principle Researchers: Patricia T. Dey, MS, FNP-C

Purpose of the Survey:

The purpose of this survey is to explore if Nurse Practitioners in independent practice create improved access and more cost effective primary healthcare. Your participation in this study is voluntary.

Procedures:

If you agree to participate you will be asked to complete a survey. The survey will take less than 5 minutes to complete and will not identify you by name. Records will be stored in a locked file cabinet. Only the investigator and other authorized by regulation will have access to the material. The data will be saved for three years and then shredded.

Discomforts and Risks:

There is very little risk to you as a participant. You are not required to share any information you do not wish to share. If the topic makes you uncomfortable, you may choose not to participate or you may stop taking the survey at any time without consequences to you.

Benefits:

You will receive no benefit from participating in this research study other than the knowledge you have contributed to the body of knowledge for the nursing profession.

Source of Funding:

No funding was received for this research study.

Cost to Subject:

There is neither cost to you for participating in this study nor any material compensation for participating in this study. It is strictly voluntary participation.

Study Withdrawal:

You participation in the survey is entirely voluntary and you may decide not to complete the survey at any time.

Invitation for Questions:

If you have questions about this study and how the data will be used, you can contact the researcher, Patricia T. Dey at dey139@regis.edu or by telephone at 970-576-5934.

If you have questions about your rights as a research subject or if you feel you have been placed at risk, you may contact Regis University Institutional Review Board (IRB) by mail at Regis University, Office of Academic Grants, 447 Main, Mail Code H-4, 3333 Regis Blvd., by phone at 303-346-4206 or by email at [**dbridger@regis.edu**](mailto:dbridger@regis.edu).

Confidentiality:

I understand the survey I complete will not be identified to me in any way. The researchers will treat your identity with professional standards of confidentiality. The information obtained in this study may be published in professional journals, but your identity will be anonymous.

If you agree to participate, please complete this survey.

Thank you.

Patricia T. Dey, MS, FNP-C

Appendix G:
Measurement Tool

Directions: Please complete this brief survey to the best of your ability. By completing this survey you have agreed to participate in this study. The purpose of this study is to provide information about access and cost of primary healthcare.

1. Are you an established patient with this Nurse Practitioner (NP) clinic or is this your first visit
☐ Yes
☐ No

2. If this is your first visit, why did you seek care here today? Why first visit only-what about second or more visit(s)?
☐ Physical
☐ Ill
☐ Injury
☐ Other, Please explain_____

3. How long did it take to get an appointment?

4. Do you have healthcare insurance?
☐ Yes
☐ No

5. Could you afford the cost of today's visit?
☐ Yes
☐ No

6. What is your preference of a healthcare provider? Please select one of the options below:
☐ NP who is in independent practice/stand-alone clinic
☐ NP who is in a Physician office?

7. If you prefer being seen by an NP who is in a Physician office, please explain why?

Thank you for your participation in this survey. All information will be kept confidential. Your contribution is very valuable in the promotion of making primary healthcare accessible and affordable.

*Appendix H:
DNP Capstone Timeline*

Process Step	Key Details	Resources	Anticipated Barriers	Comments
Step I: Problem recognition	Identify need, PICO statement	NR701 PICO development and revisions as needed	Time requirements, continued evolution of PICO	PICO evolving
	Literature review	NR701		Aug-Sept 2010 August 2010 and ongoing
Step II: Needs assessment	Identify population	NR 704 Epidemiology identified population	Population refined	Population ID completed
				Oct-Nov 2010
	Identify sponsors/stakeholders	Working with Capstone Mentor and other “co-mentor”		
		NR703	Coordinate meetings with Capstone mentor	Sites found for data collection
	Organizational Assessment			Dec-10
		Systematic literature review		Jan-April 2011
	Resource assessment	Mentor and co-mentor		
	Desired outcomes identified	NR 706B	NR 706A	May-July 2011
	Team selection	Survey tool developed/refined, will help drive scope of project		Mar-11
	Cost/benefit analysis			Jan-May 2011 Ongoing literature findings
				June-Sept 2011

	Define scope of project			May-Sept 2011
				Completed for submission of IRB
Step III: Goals, Objectives, and Mission Statement	Goals	NR 707		May-Sept 2011
	Outcomes objectives			May-Oct 2011
	Mission statement	NR711		Aug-11
Step IV: Theoretical Underpinnings	Adaptation to change	Neuman's System Model	Both theories accepted	
	Corporate culture	Ray's Bureaucratic Caring	Original paper by Ray hard to find	June-Sept 2011
Step V: Working plan	Project Proposal	NR711 & NR712		Aug-11
	Management tools (milestones, timeline, budget)			June-Aug 2011
				April 2011 and ongoing
Step VI: Planning for evaluation	Develop evaluation plan	NR708	Ongoing changes needed	July-Sept 2011
	Logic Model	NR 706A		Aug-11
Step VII: Implementation	IRB Approval	Completion of IRB proposal	Difficult project	IRB approved Oct 2011
	SWOT analysis	NR708		Sept-Oct 2011
	Monitoring implementation phase	NR706B		Jan-12
	Project closure			

				Feb-12
Step VIII: Giving meaning to the data	Qualitative vs. Quantitative data	Completion of research study	Compile qualitative data, look for statistical significance	Jan-Feb 2012
Step IX: Utilizing and reporting results	NR702	NR706C		Mar-12
	Written dissemination	NR 706C		Mar-12
	Oral dissemination			Apr-12
	Electronic dissemination	NR799 Capstone Defense		Apr-12

Appendix I:
Budget and Resources
 Balance Sheet for Capstone Project: Making Primary Healthcare More Accessible and
 More Cost Effective for Underserved Populations

Assets	
Current Assets	
• Cash (self-donated)	\$250
• Net accounts receivable	\$0
• Prepaid Expenses	\$0
Total Current Assets	\$250
Net Property & equipment (computer, phones, car)	\$1500
Total Assets	\$1750

Liabilities and Equity	
• Accounts payable	\$0
• Withheld taxes	\$0
• Employee Benefits withheld	\$0
• Accrued salaries and wages	\$0
Total Current Liabilities	\$0

Equity	
• Contributed capital	\$1000
• Retained earnings	\$0
Total Equity	\$1000
Total Liabilities and Equity	\$1000

<i>Variable Fixed & Direct Costs</i>	<i>Billed per project event</i>	<i>Projected variable Costs</i>
• Office supplies	\$25/project	\$25
• Labor	\$44/hour	\$44 x 79.5 hours=\$3,498
• Commute/gas	\$.65/mile	\$.65 x 1,260 miles = \$819
• Phone/communications	\$150/month	\$150 x 2 months = \$300
• APN License/DEA/Memberships	\$1000	\$1000
<i>Total Variable Fixed & Direct Costs</i>		\$5,642

Balance Sheet is adapted from Cleverley, W.O., Song, S.H., & Cleverley, J.O. (2011). Health Plans. In W.O., Cleverley, S.H. Song, and J.O. Cleverley (Eds.) *Essentials of health care finance* (p. 276). Sudbury MA: Jones and Bartlett Learning.

Variable Fixed and Direct Costs is adapted from Cleverley, W.O., Song, S.H., & Cleverley, J.O. (2011). Cost Measurement. In W.O., Cleverley, S.H. Song, and J.O. Cleverley (Eds.) *Essentials of health care finance* (pp.324-325). Sudbury MA: Jones and Bartlett Learning.

Appendix J:
IRB Letter



Academic Affairs
Academic Grants

3333 Regis Boulevard, H-4
Denver, Colorado 80221-1099

303-458-4206
303-964-3647 FAX
www.regis.edu

IRB – REGIS UNIVERSITY

October 18, 2011

Patricia Day
1920 15th Ave.
Greeley, CO 80631

RE: IRB #: 11-303

Dear Michelle:

Your application to the Regis IRB for your project “Making Primary Healthcare More Accessible and More Cost Effective for Underserved Populations” was approved as exempt on October 18, 2011.

Supporting reference information from the chair: “...approved as an exempt study under 45CFR46.101(b)(2) (survey research).

The designation of “exempt,” means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the named application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,

Daniel Roysden, Ph.D.
Chair, Institutional Review Board

cc: Phyllis Graham-Dickerson, Ph.D.

Appendix K:
CITI Training Certificate

Page 1 of 1

CITI Collaborative Institutional Training Initiative

Human Research Curriculum Completion Report
Printed on 8/7/2011

Learner: Patricia Dey (username: trishdey17)

Institution: Regis University

Contact Department: Loretto Heights School of Nursing

Information Email: trishdey@gmail.com

Social Behavioral Research Investigators and Key Personnel:

Stage 1. Basic Course Passed on 06/10/11 (Ref # 6161370)

Required Modules	Date Completed	
Introduction	06/10/11	no quiz
History and Ethical Principles - SBR	06/10/11	4/4 (100%)
The Regulations and The Social and Behavioral Sciences - SBR	06/10/11	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	06/10/11	4/5 (80%)
Informed Consent - SBR	06/10/11	5/5 (100%)
Privacy and Confidentiality - SBR	06/10/11	3/5 (60%)
Regis University	06/10/11	no quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiler Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

[Return](#)

Appendix L:
Agency Letters



14901 E. Hampden Avenue
Suite 140
Aurora, CO 80014
Office Phone: (303) 627-1400
Office Fax: (866) 893-1180
Website: www.Head2ToeHC.com

August 17, 2011

IRB
Regis University
3333 Regis Blvd
Denver, CO 80221-1099

RE: Making primary health care more accessible and affordable for underserved populations
Patricia Dey, MS, FNP-BC

Dear Regis IRB,

The purpose of this letter is to confirm Head2Toe HealthCare, LLC's participation in **Making primary health care more accessible and affordable for underserved populations**, the project that Patricia Dey will be carrying out in our institution. Further, Head2Toe HealthCare, LLC, accepts the review/judgment of the Regis IRB regarding the use of human subjects in this project.

Sincerely,

A handwritten signature in cursive script that reads "Deanna Tolman, FNP".

Deanna Tolman, DNP, FNP-BC
Head2Toe HealthCare, LLC
Owner/Family Nurse Practitioner



COLORADO PRIMARY CARE CLINIC, INC.

XXXXXXXXXXXXXXXXXXXX Office: 303-343-9500; Fax: 303-343-9506 WWW.CPCCI.NET
 303-341-4422
 11275 EAST MISSISSIPPI AVENUE, 2ND FLOOR, SOUTH WING, SUITE 6
 AURORA, COLORADO 80012

Wednesday, October 05, 2011

IRB
 Regis University
 3333 Regis Blvd
 Denver, CO 80221-1099

RE: *Making primary healthcare more accessible and more affordable for underserved populations with Trish Dey*

Dear Regis IRB,

The purpose of this letter is to confirm *Colorado Primary Care Clinic, Inc.* participation in *Making primary healthcare more accessible and more affordable for underserved populations* that *Trish Dey* will be carrying out in our institution. Further, *Colorado Primary Care Clinic, Inc.*, accepts the review/judgment of the Regis IRB regarding the use of human subjects in this project.

Sincerely,

Ms. Dawn Fetzko ANP-BC, GNP
 Board Certified Nurse Practitioner/Owner

"IMPROVING NATIONAL HEALTHCARE ONE PATIENT AT A TIME!" (C) 2010

Appendix M:
Project Findings and Results

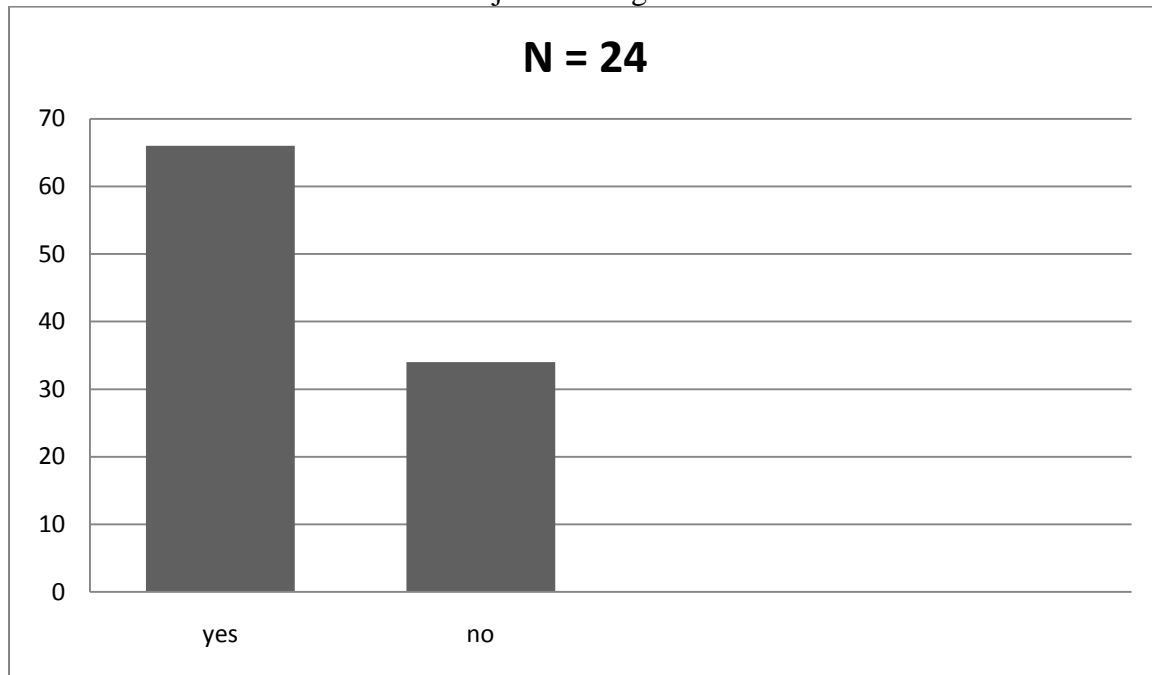


Table M-3: Are you an established patient with this Nurse Practitioner (NP) clinic?

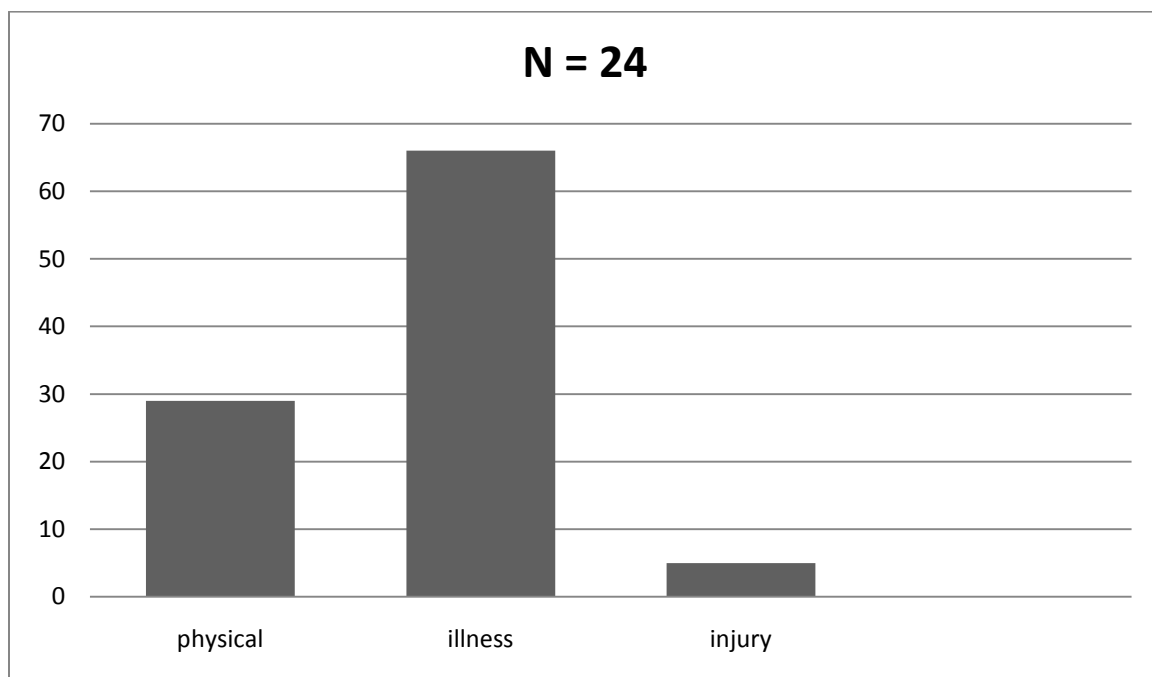


Table M-4: Why did you seek care here today?

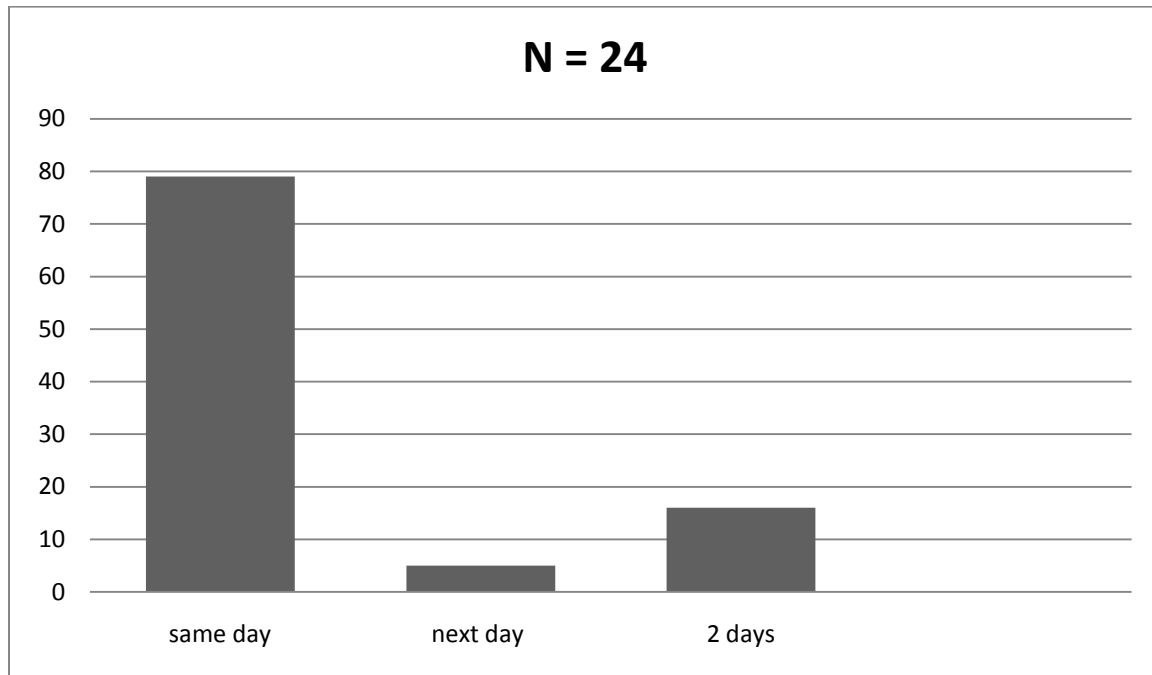


Table M-3: How long did it take to get an appointment?

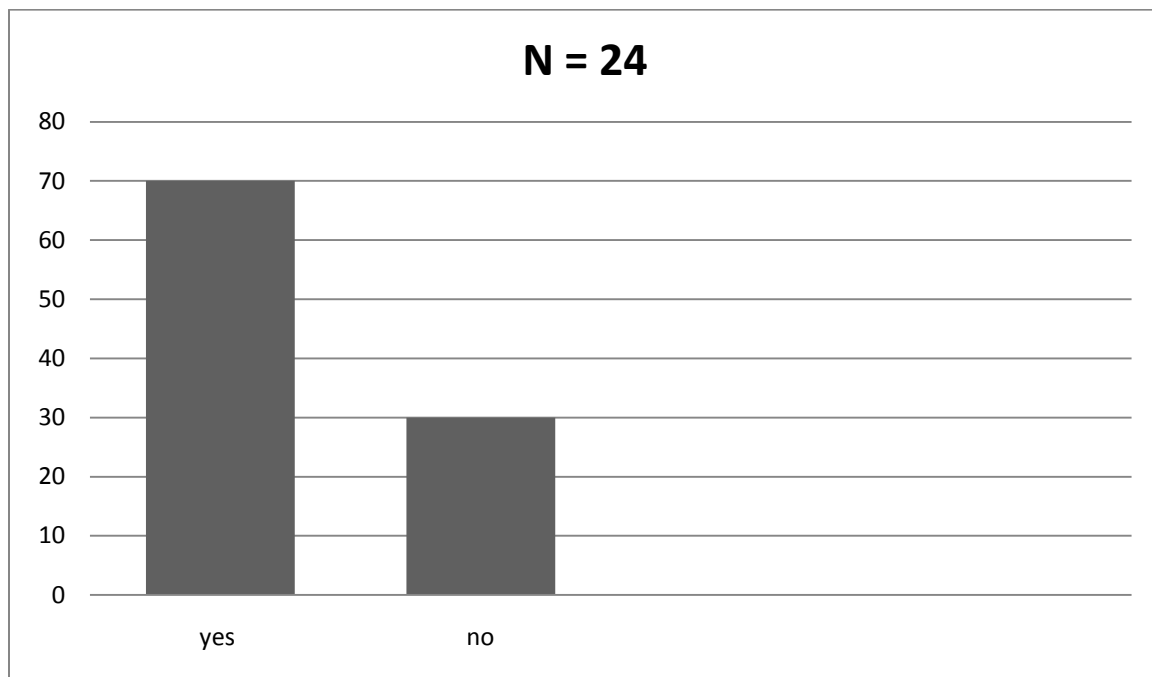


Table M-4: Do you have healthcare insurance?

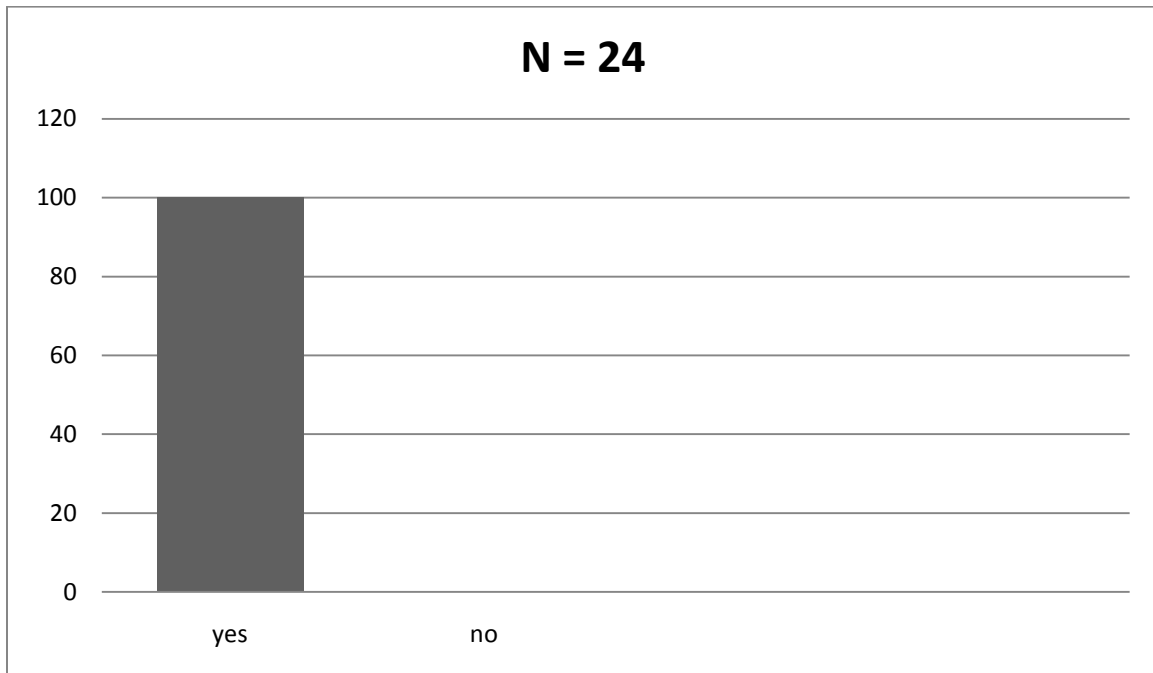


Table M-5: Could you afford the cost of today's visit?

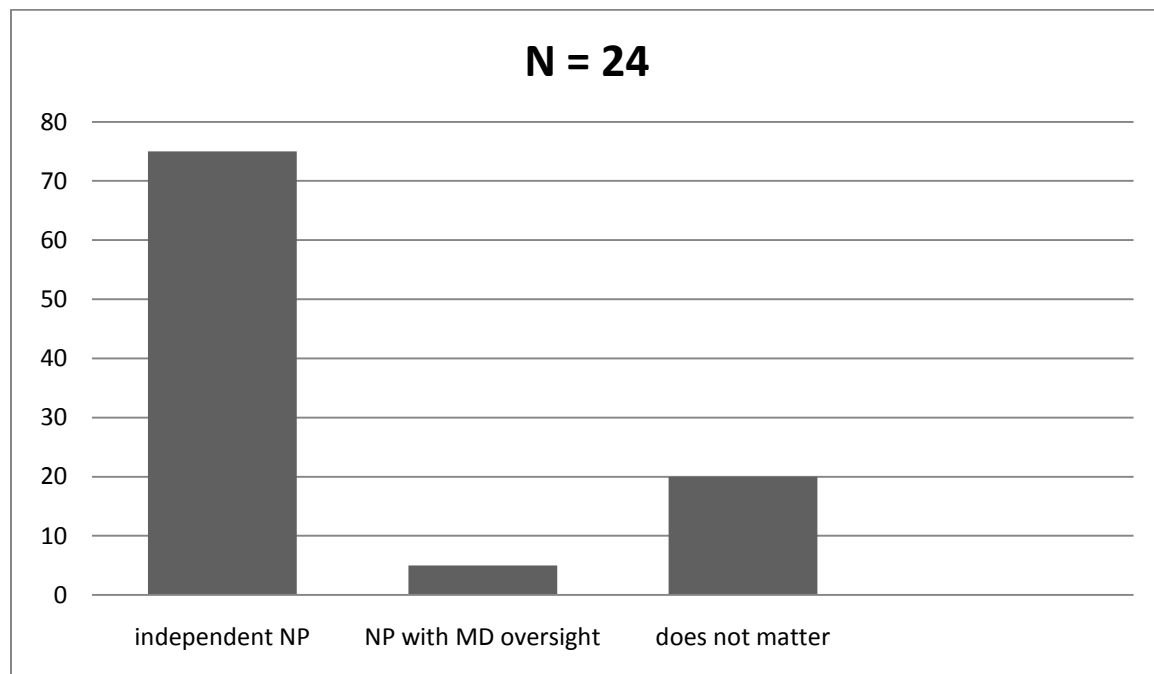


Table M-6: What is your preference of a healthcare provider?