

12-2015

# An Assessment of Primary Care Physician Opinions about Supporting the Independent Autonomous Practice by Advanced Practice Nurses

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An Assessment of Primary Care Physician Opinions about Supporting the Independent  
Autonomous Practice by Advanced Practice Registered Nurses in Primary Care

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy in Public Policy

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## Abstract

The Affordable Care Act (ACA) changed the national discussion about who is the decision-maker in healthcare delivery – physicians or others that pay the bill. The federal government is the largest payer of healthcare services while states are responsible for implementing the ACA's features. Through the ACA, the federal government endorsed non-physician primary care by advanced practice registered nurses (APRN). The research question of this study is: Why do some primary care physicians support independent autonomous practice for advanced practice registered nurses while others do not? The research question should be important to policy-makers because physicians are the predominate purchasers of healthcare services. However, dilemmas facing policy-makers as they adopt and implement the ACA are rapidly increasing public costs and demands for healthcare services that cannot be met by physicians alone. This study investigates ideology and PCP support for the ACA as influences on PCP opinions about APRNs. A web survey was offered to 2995 physicians practicing adult primary care in five states. Dichotomous groups were established from responses to the study's independent variables. Group mean responses computed from questions relating to physicians' opinions about APRNs were compared using the independent means *t* test. Results of bivariate testing find that ideology, support of the ACA, and whether physicians work with APRNs may influence physician opinions. Demographic characteristics including age, gender, and race are not related to physicians' opinions about APRNs.

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## **Acknowledgments**

The completion of this dissertation could not have happened without the support and assistance of many skilled and dedicated professionals. Dr. Barbara Shadden and Dr. Brinck Kerr, my dissertation co-chairs, tirelessly debated with me on the content and helped me to understand the meaning of the entire dissertation process. Thank you very much for keeping me on track and reading the many versions of the work. Dr. Geoboo Song, a member of my committee, challenged me to think of the policy implications in different ways and helped me to see the perspective of my dissertation in the bigger picture of public policy. Dr. Margret Reid was a wonderful mentor throughout my graduate career. Her insights into the subtleties of my work helped to keep the ideas fresh and meaningful to the business of academics. Dr. Patrick Stewart was an excellent source of inspiration to get this done. Thank you for making time to help me see that the end would actually occur. Thank you to LTC Tim Rhodes (USA Retired), MBA, MHA and Nadine Alex, MD for helping me to keep a perspective between the realities of academic research and that of care delivery. Dr. Alex and Mr. Rhodes allowed me access to their policy literature and often shared their experiences from health policy implementation in day-to-day clinical operations. They often debated me about the social value of health reform and introduced me to others with differing opinions. They allowed me real-time access to the workings of policy advocates, federal and state health institutions, and lobbyists attempting to induce demand for chronic care services. All of these influences while at the University of Arkansas have made me a better person. I appreciate the opportunity to complete this dissertation and hope that I am worthy of the efforts extended by so many on my behalf.

## Table of Contents

	Page
Chapter One - Introduction .....	1
Context of the Investigation.....	3
Characterization of Health Policy and Physician Collective Choice.....	6
Symbolizing the Healthcare Market .....	7
The Healthcare Lobby as Physician Opinion Influencer .....	12
The Rights and Responsibilities of Care Delivery.....	14
Care Delivery by Non-Physicians for Cost Containment.....	16
Study Purpose .....	19
Contribution to the Body of Knowledge.....	20
Summary of the Chapter .....	22
Chapter Two – Literature Review and Theoretical Orientation.....	23
Introduction.....	23
The IA APRN Value Proposition .....	23
Theory of Collective Choice.....	29
The Physician-patient Policy Arena.....	38
Physician Support of the Affordable Care Act.....	45
Ideology as a Mechanism of Influence on Physician Opinions.....	53
Summary of the Chapter .....	58
Chapter Three - Research Design .....	60
Introduction.....	60
Institutional Review Board Approval .....	60
Research Question .....	60
Hypotheses.....	61
Variables and Measures .....	62
Dependent Variable .....	62
Primary Independent Variables – Support for the ACA and Ideology.....	63
Respondent Characteristics Variables.....	65
Method of Data Analysis .....	65
Survey Instrument.....	66
Study Population.....	66
Respondent Sample.....	68

Data Collection .....	69
Data Management .....	70
Summary of the Chapter .....	71
Chapter Four - Results .....	72
Introduction.....	72
Response Rate.....	72
Univariate Data Analysis .....	73
Bivariate Data Analysis/Hypothesis Testing .....	77
Summary of the Chapter. ....	81
Chapter 5 – Summary and Discussion .....	82
Introduction.....	82
Findings.....	84
Implications.....	87
Study Limitations.....	94
Recommendations for Future Study .....	96
Summary and Conclusions .....	98
References.....	101
Appendix A.....	119
IRB Approval Letter .....	119
Appendix B .....	120
E-Mail Solicitation.....	120
Appendix C .....	122
Survey Instrument.....	122

## List of Tables

Table 3.1 Hypotheses, Independent Variables, and Comparison Groups .....	61
Table 3.2 Summary of Question Set Construction.....	62
Table 3.3 PCP Population Characteristics - Part 1 .....	67
Table 3.4 PCP Population Characteristics - Part 2.....	68
Table 4.1 Sample Panel Response Rates.....	73
Table 4.2 Dependent Variable Univariate Analysis Results.....	74
Table 4.3 Primary Independent Variable Univariate Analysis Results .....	75
Table 4.4 Significant Independent Variable Univariate Analyses.....	76
Table 4.5 Respondent Demographic Characteristics – Not Significant.....	76
Table 4.6 Respondent Univariate Practice Characteristics – Not Significant.....	77
Table 4.7 Significant Difference in Support of APRN Means Test Results $p \leq .05$ .....	78
Table 4.8 No Difference in Support of APRN Means Test Results $p \leq .05$ .....	79



## Chapter One - Introduction

The research question for this study is: “Why do some primary care physicians support independent autonomous practice for advanced practice registered nurses while others do not?” The aim of the study is to determine if relationships exist that suggest influences on physician opinions about a specific policy related to health reform, independent autonomous (IA) practice for advanced practice registered nurses (APRN). Influences on physician opinions may originate from a range of sources including institutional influences from legislation and its adoption, other actors in the legislative and care delivery system, and the internalized beliefs of the physician (Kingdon, 2011; Ostrom, 1990; Sabatier, 1986; Schlager, 1995). The study looks at two possible influences on physicians’ opinions that may underpin their decision to support IA APRNs or not: 1) their ideology and, 2) their support for the Patient Protection and Affordable Care Act of 2010 (P. L. 111-148, as amended) or Affordable Care Act (ACA) as it is popularly known.

Collective choice theory is the primary frame of reference for the study’s research question (Ostrom, 1990). The unit of analysis in this study is the individual physician. Individual physicians are members of one or more groups of peers who share membership in a collective based primarily on their status to practice medicine. A collective is a group of individuals who share benefits of membership through the collective and are motivated through membership to behave in specific ways (Olson, 1965, p. 33). Members of the collective are “jointly affected” by actions based on a common set of objectives and/or incentives from the collective (Ostrom, 1990, p. 38). In this study, the physician collective is licensed physicians who practice medicine as primary care physicians (PCP).

Members of the physician collective are appropriators of collective goods, common pool resources, who then through their role provide them to eligible members of a community through

a principal-agent relationship (Ostrom, 2005, p. 27; Bohren, 1998, p. 748). In this study, the collective good is reimbursement. Reimbursement is available to the physician collective because physicians are licensed to provide medical services and thus are eligible to receive reimbursement for rendering those services. Reimbursement is allocated to physicians based on the eligibility of their patients to receive medical services through a legislated entitlement and/or an explicit contract such as a health insurance policy (Stafford and Yale, 2013). It is important to note that reimbursement is allocated to physicians and not negotiated. Arrangements by physicians to receive reimbursement is through a contract with a payer to perform certain types of services for a fixed fee per service which is also known as fee-for-service (Centers for Medicare and Medicaid Services, n.d.).

Ostrom (1990, p.52) refers to the rules associated with membership in a collective as “collective choice rules.” Collective choice rules define how day-to-day decisions/behaviors or operational choices are expected to be carried out by members of the collective and are often related to collective goods, the common pool resource (CPR) (Ostrom, 1990). Collective choice is defined as decisions and/or actions taken by an individual in a situation that are “governed” by the rules, norms, incentives, and/or penalties of the collective (Ostrom, 1990, p. 140-141). Collective choice theory is a theory of how individuals use rules to “make choices among alternatives” (Olson, 1965; Ostrom, 2005, p 33). The conceptual frameworks Institutional Analysis Development (IAD) (Ostrom, 2005; Polski and Ostrom, 1999) and Advocacy Coalition Framework (ACF) (Sabatier, 1988; Weible, Sabatier, and Flowers, 2008) in conjunction with collective choice theory are used to help understand the possible relationships between the study variables in the health policy action arena (Schlager, 1995). In care delivery, the health policy

arena is the physician-patient encounter (Ostrom, 1990). Health policy identifies the behavioral scope for physician stakeholders in the physician-patient encounter (Ostrom, 2005).

### **Context of the Investigation**

The physician opinions of interest in this study are those that are associated with physician support for public policy about APRNs. Physician opinions about APRNs determine the circumstances under which physicians will support the policy or not (Ostrom, 2011; Weible, Hiekkila, deLeon, and Sabatier, 2012). Physician support for APRNs' IA practice is important for successful implementation of APRN policy because physician leadership is needed to transition the policy arena from the status quo to the reformed care delivery system (Angood and Birk, 2014).

Why physicians' opinions matter in the development of health reform policy may not be completely obvious to policy makers. Physicians are perhaps the most important collective of health policy stakeholders because they not only control which health care services are purchased, but they also direct the consumption of services and products by their patients (Enthoven and Singer, 1999). There are suggestions that physician opinions may not have been adequately addressed to assure successful policy adoption under the Affordable Care Act (Deloitte, 2015a). During development of the ACA, many considerations were offered regarding potential policy responses to rising chronic disease prevalence, an aging population, and the efficacy of traditional fee-for-service reimbursement as a continuing business model (Angood and Birk, 2014).

A Rand Corporation study on healthcare financing, completed prior to federal health reform in 2010, urged physicians to engage in "new" business practices. Rand advocated an expansion of the capabilities of the primary care system, in part to meet services demand that is

expected to grow throughout the current decade and in part to slow the growth of related costs (Eibner, Hussey, Ridgely, and McGlynn, 2009, p. 6). In a brief to lawmakers, the National Council of State Legislatures also recommended the implementation of care delivery models where physicians share patient responsibilities with different types of care providers through centralized delivery systems (National Council of State Legislatures, 2011). The Bi-partisan Policy Center made policy recommendations to change the reimbursement and payment models for physicians and also supported care delivery in the primary care system by non-physicians (Daschle, Domenici, Frist, and Rivlin, 2013). While seemingly targeted at the physician collective, many of the ACA policy development recommendations were actually “policy preferences” from interest groups not associated with direct clinical care (Arnold, 1990, p. 13; Gruber, 2011b, p. 4-5).

Recommendations to supplement the physician workforce, use new business models, and change reimbursement strategies for physicians were incorporated in the ACA (Kaiser Family Foundation, 2013). However, individual physicians have been reluctant to wholeheartedly support changes to their scope-of-practice and accept any associated economic risks through a shift from the status quo fee-for-service (FFS) business model to new payment and business models specified in the ACA (Deloitte, 2015a; Merritt Hawkins, 2014). It appears to some investigators that physicians are not fully engaged by policy-makers to support specific health policy adoption and may choose individual self-interest over public interest in response to insufficient engagement (Angood and Birk, 2014; Isaacs and Jellinek, 2012; Lipsitz, 2012; Ostrom, 2005). Individual self-interests are those interests that promote the values held by an individual and in making decisions the individual chooses alternatives “... only in light of their beliefs ...” that tend to benefit themselves (Ostrom, 2005, p. 33).

So, what influences physicians' opinions about engaging in self-interest behaviors over "benefits" to a common good? After all, patients and policy-makers intuitively believe that health policy is supposed to represent the common needs and best interests of the public (Bodenheimer and Grumbach, 2012; Patel and Rushefsky, 2014). The present study investigates two possible influences on physician opinions about backing health policy for independent autonomous (IA) practice by advanced practice nurses (APRN). The study's dependent variable is PCP opinions about APRNs. One of the independent variables and one of the two key concepts in the study is ideology. Ideology is measured on a polar scale from liberal to conservative for each respondent and relates to the PCP's core beliefs as an influence on their opinions (Sabatier, 1988). Ideology as a core belief may influence physician opinions about supporting changes to the status quo or not, even in the face of objective evidence to the contrary (Edelman and Crandall, 2012; Sabatier, 1988). In the current study a change in the status quo is the support of IA APRNs.

Another independent variable in the current study and the second key concept is support for ACA reform legislation. Support for health reform through the ACA is measured in terms of PCPs who support the ACA and PCPs who do not support the ACA. Federal health reform from the ACA may influence physician opinions about changes in the status quo because of its "top-down" rather than collaborative approach to changing physician practice patterns, reimbursement and payment amounts, and services that are eligible for reimbursement; topics that are important to the self-interests of physicians (Bhuyan, Jorgensen, and Sharma, 2010; Friedberg, Chen, White, Jung, Raaen, Hirshman, Hock, Stevens, Ginsburg, Casalino, Tutty, Vargo, and Lipinski, 2015; Sabatier, 1986).

The influences of ideology and legislated reform may be essential in forming physicians' support for policy adoption that benefit the common good over physician self-interests (Gruen,

Campbell, and Blumenthal, 2006). Through an understanding of the strength of influence from ideology and support for reform, health policy makers may be able to more effectively implement legislation that better meets the needs of their states. In addition, policy-makers might be able to more efficiently engage physicians to compromise in support of changes to the care delivery status quo that reduces program costs and increases access to services.

### **Characterization of Health Policy and Physician Collective Choice**

Health policy is most frequently focused on issues surrounding the costs of care delivery which operationally is related to the way physicians practice medicine, physician incomes, and government budget outflows (Jost, 2012; National Council of State Legislatures, 2011; Patel and Rushefsky, 2014). Current health policy is largely intended to moderate patient-care consumption and physician collective choice behaviors about what services are necessary in any given care situation (National Council of State Legislatures, 2011; World Health Organization, 2010).

Physician collective choice in the care delivery policy arena refers to the range of preferences from which an individual physician chooses when making a decision to select one treatment over another through a comparison between "... status quo rules and an altered set of rules" (Olson, 1965; Ostrom, 1990, p. 142, Ostrom, 2005, p. 45). The economic consequences from patient consumption and physician collective choice begin with physician-patient encounters and are subject to legal authority granted exclusively to physicians by a multitude of federal, state, and local legislation (Federation of State Medical Boards, 2005).

Legislatures and their endorsed medical governance institutions, including state medical boards and the Centers for Medicare and Medicaid Services (CMS) among others, attempt to shape physician collective choice about what is necessary and reasonable care. These institutional actions are deemed proper in order to regulate economic and political outcomes

from physician decisions and patient behaviors that require reimbursement from public funds (Boufford and Lee, 2001). The clinical decisions made by physicians enable patient and payer spending actions through reimbursement for the services provided at the point-of-care. State and Federal reimbursement for health services is a cost to government payers, typically with little offsetting revenue, and is projected by nearly every authority to continue growing in double digits at least through the next decade (Bodenheimer and Grumbach, 2012; Patel and Rushefsky, 2014; PWC Health Research Institute, 2014).

Patient-care decisions about which clinical treatments to employ are collective choice decisions historically influenced by the status quo of clinical experience and peer-based best practices (Ostrom, 2005; Robertson, Rose, and Keselheim, 2012). However, care decisions are increasingly being made based on policy mandates that may or may not be related to clinical evidence, but are driven instead by cost and price controls related to treatments and specific services (Angood and Birk, 2014; Friedberg, Chen, White, Jung, Raaen, Hirshman, Hock, Stevens, Ginsburg, Casalino, Tutty, Vargo, and Lipinski, 2015). In the case of policy that purports to be based on clinical evidence, physician collective choice still may not support prevailing policy, especially if the policy mandates the way physicians are expected practice medicine (Friedberg et. al., 2015). Without physician support of policy at the point-of-care, it is difficult to achieve the desired policy cost containment outcomes when physicians do not engage in the execution of the policy because in the end, patient-care decisions are their exclusive purview (Friedberg et. al., 2015).

### **Symbolizing the Healthcare Market**

Healthcare in the U.S. is a modern anachronism or a paradox through its symbolic persona. The traditional healthcare market's persona has developed historically through patient-

centered care, which is doing what is best for the patient and not being overly concerned with the economics of care delivery (Agnew, 1890; Jacox, 2009). In the early days of medicine before legislated demand for standards of services and formalized reimbursement, as in today's market, healthcare was primarily provided by the women of a community who did what they could for the sick and injured. The last resort in the community was to ask for help from the one educated or apprenticed person referred to as "doc" the country doctor (Agnew, 1890; Randolph, 2009; Wall, 1998).

Reimbursement for services rendered by the care provider was given by the patient or their family and judged fair based on gratitude for the effort that produced the type of outcome expected by both parties. In the 1900's endearing community concepts such as "the country doctor" gave way to a more formal care delivery business model where physicians were paid a set fee for the specific services they provided to the patient. Led by collective-based organizations, such as the American Medical Association and the Philadelphia Almshouse, these organizations' mission was to guide and/or shape the economic, professional, and political ideology of physicians (Agnew, 1890; Ehrenreich and Ehrenreich, 1971; Kaiser Family Foundation, 2009; Warrington, 1839). Through the advocacy of these and other policy entrepreneurs the national dialog about "public" medical care was forever changed and care delivery became formalized with physician decision-making related to reimbursement as "... the driving force in the healthcare system" (Ehrenreich and Ehrenreich, 1971; Wolinsky and Brune, 1994, p.44).

Today, third parties reimburse care providers on behalf of patients and operate as both patient and physician advocates to define the consumption relationships amongst all stakeholders in the healthcare market (Friedberg, et. al., 2015; PWC Health Research Institute, 2014). The



third-party payers, insurance companies, employers, and state and Federal government, allocate reimbursement resources annually based on population health projections (Ehrenreich and Ehrenreich 1971; PWC Health Research Institute, 2014; Wildavsky, 1977). The third party payers govern the equity of care delivery and economic exchanges to physicians on behalf of the sick and injured based on the specific amounts and services the third party chooses to reimburse in regulated patient-care delivery models (Ehrenreich and Ehrenreich, 1971; Wolinsky and Brune, 1994).

In the US, healthcare as an industry contributes 17.7% to America's Gross Domestic Product (GDP) and that gets the attention of policy-makers and policy advocates for a number of reasons (Centers for Medicare & Medicaid Services, 2013; Deloitte, 2015a; U.S. Department of Labor, 2014). Healthcare GDP includes wages through employment in care delivery markets and related organizations, state and federal taxes from patient care consumption of regulated and non-regulated health-related products and services, and manufactured and financial capital generated throughout the medical-industrial complex (Ehrenreich and Ehrenreich, 1971; Ostrom, 2010; Robertson, Rose, and Kesselheim, 2012; U.S. Bureau of Labor Statistics, 2014). In other words, nearly every citizen, law-maker, and all sorts of other advocates have a vested interest in how the makeup of care delivery policy will impact their interests, often irrespective of relevant clinical decisions.

Federal law provides the authority for regulation and implementation of healthcare delivery to states, principally through the 10<sup>th</sup> Amendment and the 14<sup>th</sup> Amendment of the U.S. Constitution (O'Brien, 2008). The governing relationship between patients and providers is established by state medical boards staffed primarily by members of the physician collective. Twenty states have separate medical boards for medical doctors and osteopathic doctors, both of

which are fully qualified physicians (Federation of State Medical Boards, 2012). These seventy groups of independent authority define how healthcare services are provided and by whom those services can be provided within state jurisdictions through medical scope-of-practice laws (Federation of State Medical Boards, 2005, 2012). Each state jurisdiction independently establishes legal practice authority in healthcare, but is influenced by "... state legislators, medical boards, medical societies, and others who have an interest in regulation of the medical profession ...” (Federation of State Medical Boards, 2012, p.3).

Overlaying the interests of state regulators and bringing another vested-interest to influence the type of care provided by medical professionals are hundreds of private and public “care adjudicators” (Green and Rowell, 2015). Care or claims adjudicators determine reimbursement amounts for care based on a claim that services were rendered. Care adjudicators work for payers and mediate payer financial obligations with physicians. Amounts available for reimbursement to physicians are typically determined through an annual budget cycle using population health projections that establish an acceptable medical loss ratio (MLR) (Green and Rowell, 2015; Haberkorn, 2010). The “acceptable” MLR for reimbursement is the ratio of available budgeted funds to the payments already provided from the budget (Haberkorn, 2010).

The pool of funds in the budget is allocated to reimburse providers based on the projected health incidence for that year (Green and Rowell, 2015; Robertson, Rose, and Kesselheim, 2012). However, for care adjudicators, the interest is economic over compassionate concerns about health status (Bodenheimer and Grumbach, 2012; Jacobson, Earle, and Newhouse, 2011; National Association of State Insurance Commissioners, 2014; Patel and Rushefsky, 2014). Adjudication criteria are based on a determination of what is “necessary and appropriate” care, which is “reasonably” defined and codified by the care adjudicators (Green and Rowell, 2015).

Care adjudicators are typically hired by health insurance companies, employers, public payers such as Medicare and Medicaid, and malpractice insurers (Green and Rowell, 2015; Lee, 2006; National Association of State Insurance Commissioners, 2014; Robertson, Rose, and Kesselheim, 2012).

The economic interests of payers is a powerful influence on physicians' opinions about the care delivery system especially that of government payers using public funds (Medicare Payment Advisory Commission, 2014). Payers reimburse for care based on their economic analysis rather than treatment criteria per se (Green and Rowell, 2015). In addition to contractual arrangements the physician accepts to treat public insurance beneficiaries, government payers have the power of legislative authority through interpretation of policy to ensure physician compliance with this payer's interests (Arnold, 1990; Green and Rowell, 2015). Private payers rely on contract relationships with physicians to assure compliance.

Often, already heavily discounting their service rates and being second guessed about clinical decisions during claim adjudication, physicians may resist legislated reforms of their practice patterns which have the potential, real or perceived, to further change their practice revenue flows (Robertson, Rose, and Kesselheim, 2012). It is important to understand that reimbursement is based on amounts the payer chooses, not the amount physicians' bill for the services (Green and Rowell, 2015). This institutional arrangement is likely a disincentive for some physicians to support a wholesale change to the care delivery model (Ostrom, 2005). The exception to such discounting from provider billing is when the patient is the payer. Patient payers are obligated to pay the amounts demanded by the physician. With non-contracted billing, patient payers and providing out-of-network services, the physician has legal authority to collect whatever they bill or negotiate to collect (Green and Rowell, 2015).

## **The Healthcare Lobby as Physician Opinion Influencer**

According to the Center for Public Integrity, in 2010 there were one-thousand-seven-hundred-fifty (1,750) registered lobby organizations employing four-thousand-five-hundred and twenty-five (4,525) lobbyists to influence health reform with federal policy-makers (Eaton and Pell, 2010, p. 1). The issues supported by healthcare lobbyists in 2010 were broad across the continuum of care, with some of the healthcare lobby interests either directly or indirectly advocating for or against opening up primary care scope-of-practice to non-physicians as a means of cost containment. However, nearly all of the groups lobbying for or against changes to scope of practice rules, including labor unions, manufacturers, small business, big business, and government among others, focused on economic issues and changes in the manner of the physician-patient interaction rather than clinical care issues (Eaton and Pell, 2010; Grubner, 2011a). The policy positions of these groups were often in ideological conflict with the direct interests of physicians (Gruber, 2011b). Aligning themselves with ideologically diverse groups may be a disincentive for physicians to support reform because of group differences rather than the characteristics of reform itself (Lewis, Dowe, and Franklin, 2013; Ripberger, Song, Nowlin, Jones, Jenkins-Smith, 2012). The Affordable Care Act which was passed into national law in 2010 during the Obama administration was possibly seen by many physicians as a challenge to their legally-granted clinical authority as well an intrusion by an ideologically liberal pro-reform government into physicians' self-interests (Bonica, 2014; Deloitte, 2013).

Healthcare advocates are mostly privately organized lobby groups, some structured as community grass-roots organizations and some extending their organization to include paid lobbyists (Eaton and Pell, 2010; Patel and Rushefsky, 2014). Vested interests in the healthcare system increasingly support issues related to driving economic and political agendas over “best

interest” patient-care decisions (American Association of Retired Persons, 2014; Bodenheimer and Grumbach, 2012; PWC Health Research Institute, 2014). For interests concerned about strictly healthcare spending around prices and costs for patient consumption interests, which includes the Centers for Medicare and Medicaid Services (CMS), the pharmaceutical industry, and health insurance companies among others, the policy preferences of lobbyists tend to be the minimization of the range of possible clinical decisions through standardized care guidelines (Bodenheimer and Grumbach, 2012; Ehrenreich and Ehrenreich, 1971; Enthoven, 1993; Gruber, 2011b; Wolinsky and Brune, 1994; Patel and Rushefsky, 2014). Other advocate groups concerned with patient-centric care behaviors, including the American Cancer Society, AARP, The Alzheimer’s Association, the American Pharmaceutical Association, and labor unions, among others, rally around policy to increase patient-consumption in order to maximize care for the money spent (Enthoven, 1993; Gruber, 2011b). The range of advocacy issues, whether seeking to minimize or maximize patient consumption behaviors, illustrates an important paradox that exists today between clinical decisions and economic factors in healthcare policy. That paradox is the reality that health policy relates to the perspective of who is paying for services and not physicians’ clinical decisions (Stone, 1977).

The balance between clinical efficacy and cost is defined by third-party payers of care, reinforced through health policy, and implemented by states through licensed providers of care. The balance of responsibility to patients in this somewhat convoluted payer-provider relationship establishes the perspective that physicians are at arm’s length from cost containment decisions and reinforces the persistent denial in the medical community that care delivery is not a profit-driven business (Angood and Birk, 2014; French, Gilkey, and Earp, 2009; Stone, 1997). Care delivery in the US is dependent upon two conflicting activities: 1) clinical decision-making and

2) the self-interests of individual physicians in generating medical practice revenue and profit (Bodenheimer and Grumbach, 2012, Gruber, 2011b; Patel and Rushefsky, 2014; Robertson, Rose, and Kesselheim, 2012). It is this incongruence that health policy attempts to clarify by exposing the economic relationships of clinical decision-making through a focus on cost containment (Angood and Birk, 2014; Isaacs and Jellinek 2012; Stone, 1997).

### **The Rights and Responsibilities of Care Delivery**

The historically persistent physician collective and lobby group is the American Medical Association (AMA) which was established in 1847. The AMA spent at least \$20 million lobbying on behalf of physician interests in the year before passage of the ACA (Bonica, 2014; Eaton and Pell, 2010). The AMA is a federation of physician collective affiliates in each state with centralized governance that sets its agenda around issues it deems important (Ehrenreich and Ehrenreich, 1971; Olson, 1965; Wolinsky and Brune, 1994). From its inception, the AMA served to preserve the economic interests of physicians and the sanctity of clinical medical decision-making only by physicians (Wolinsky and Brune, 1994). Later through its endorsement of Blue Cross Blue Shield Organizations, the AMA legitimized the business and economic relationships of care delivery (Bodenheimer and Grumbach, 2012; Wolinsky and Brune, 1994). Insurance and other third party payers keep the economics of care delivery at an arm's length from clinical decision-making, but never-the-less which clinical services are reimbursed is a vested physician interest (Ehrenreich and Ehrenreich 1971).

In the early 1920's organized groups around issues related to patients' rights and professional responsibilities grew in number. A contrast in ideologies came to a head in 1920-1921 through a dialog that would recur to present time. Liberals supported healthcare as a patient right. Conservatives supported healthcare as a commodity (Lemons, 1969). Lemons (1969) noted

widespread industry and physician opposition to care delivery reform and public health insurance as seen by concerted attacks on the Sheppard-Towner Act of 1921, an attempt to establish national health insurance. Collectives of physicians, organized as state medical societies and under the influence of AMA thought leaders, portrayed federal health insurance proposals and healthcare reform as an "... imported socialist scheme" even though this act was supported by notable conservatives of the time including President Harding (Lemons, 1969, p. 781-782). Organized physicians' opposition was based on a desire to maintain the status quo of medical practice while increasing physician conformity to AMA values, including the preservation of their mutual free-market self-interests (Bodenheimer and Grumbach, 2012; Lemons, 1969; Whyte, 1998).

The commoditization of healthcare was essentially cemented in the late 1920's. Private health insurance was formalized at Baylor University and supported by the AMA. The Baylor insurance program is the forerunner of what today is known as Blue Cross Blue Shield (Bodenheimer and Grumbach, 2012; Reed, 1965; Wolinsky and Brune, 1994). From that time in history until the passage of Medicare in 1965, physicians as the key stakeholders in healthcare were fairly autonomous from restrictive government regulation (Lemons, 1969).

With the passage of Medicare and Medicaid in 1964-1965, the status quo of care delivery became based on the volume of services provided by physicians and government-assured reimbursements (Colombotos, 1969). Healthcare costs then began escalating out of control primarily due to care delivery based on status quo fee-for-service reimbursement (Office of the President, 2013). State implementations of national health policies began to compete with other social programs for funding and resulted in budget challenges for most states (Office of the President, 2013). From the 1970's to present, the demand for services began to grow beyond the

ability of the physician establishment to adequately provide access to care delivery services (Bodenheimer and Grumbach, 2012; Green, Savin, and Lu, 2013; Gruber, 2011a; Patel and Rushefsky, 2014). Rising costs, increasing patient demand, not enough physicians to provide care, and the implementation requirements of the ACA created a need for states to seek care delivery solutions outside of the traditional care delivery models (Green, Savin, and Lu 2013 National Conference of State Legislatures, 2013a).

### **Care Delivery by Non-Physicians for Cost Containment**

State governments have at their disposal at least one solution to control and reduce high healthcare costs in primary care settings while increasing access to services for their constituents under the ACA. The solution involves permitting independent autonomous (IA) primary care practice by advanced practice registered nurses (APRN) (Hill, Wilkinson, and Holahan, 2014; Hoyt and Proehl, 2012, p. 287). IA licensure of APRNs increases the number of primary care providers in a jurisdiction and provides care services that "... maximize the capacity of the healthcare system ..." for previously underserved patients and their need for services access (Link, Perry, and Cesarotti, 2014, p. 128).

At the end of 2014, there were nineteen (19) states and the District of Columbia that had legislated full independent autonomous (IA) scope of practice authority for nurse practitioners including many of the rights and privileges historically empowered to physicians (American Association of Nurse Practitioners, 2014, Minnesota Nurse Practitioners Association, 2014; Yee, Boukus, Cross, and Samuel, 2013). This suggests that in the states that permit IA APRNs, there was some support by primary care physicians for changing state scope-of-practice laws for APRNs. Physicians in general offer positive opinions about APRNs as clinicians, but they have not widely endorsed APRNs for IA scope of practice in primary care settings (Acquilino,



Damiano, Willard, Momany, and Levy, 1999; Street and Cossman, 2010; Donelan, DesRoches, Dittus, and Buerhaus, 2013). Physicians, particularly PCPs, work closely with APRNs in the care delivery system and are likely to be in the best position to evaluate and endorse IA APRNs as clinicians (Bodenheimer and Grumbach, 2012). Physician opinions about IA APRNs seem inconsistent with the facts about APRN practice given relatively homogenous healthcare needs in the US. Opinions about permitting APRNs to practice independently vary among physicians and are often aligned with State Medical Scope of Practice Acts which may support the self-interests and ideology of physicians more than the interests of patients and the community served by IA APRNs (Safrit, 2011).

Physicians that choose not to adapt to the dynamics of community healthcare reform with increased access and lower costs are more likely to exit the business of medicine or move their practice of medicine to business models other than private practice (Physicians Foundation, 2010). Under Federal legislation from the ACA, physician and APRN independent practice together is projected to meet the growing demand for services and provide greater patient access to more primary care services in their communities (Mathews and Brown, 2013; Oliver, Pennington, and Reville, 2015). These joint practice characteristics in the reformed healthcare market beg the question of why do some primary care physicians support IA APRNs while others do not.

APRNs practicing IA primary care is a change in the care delivery system promoted by national health reform legislation from the ACA, but left to states to adopt or not. Physicians are slow to adapt to reform of the care system under the ACA. The ACA specifies reform through a focus on cost containment and changes to the structure of the care delivery system including adding new business models and provider types (Connors and Gostin, 2010, p. 5; Hoyt and

Proehl, 2012). Physicians in primary care have been made aware through advocacy groups that the provisions of the ACA may benefit other stakeholders, including APRNs, over PCPs (Porter and Lee, 2013). Physicians are also aware that by continuing to practice under the status quo fee-for-service reimbursement model, their incomes will be reduced through cost controls and payment reform while simultaneously experiencing reductions in their clinical decision-making authority (American Medical Association, 2010; Lathrop and Hodnicki, 2014; Mathews and Brown, 2013). The ACA is politically divisive legislation with Americans nearly evenly divided over the ideological issues associated with the details of reform under the act (Doherty and Tyson, 2014). Physicians, like the public in general, may have developed negative opinions about the legislated ACA reforms for reasons other than empirical facts related to certain social benefits. On this basis, some physicians remain steadfast in their opposition to the inevitable changes in the way healthcare is practiced in the US (Merritt Hawkins, 2014).

In the reformed primary care system, APRNs are poised through education, skill and demonstrated competence to be more than physician extenders as they are often characterized by the physician community (American Medical Association, 2009; Lathrop and Hodnicki, 2014). APRNs at the level of their education can provide the same types of care and services in the primary care delivery system as physicians with the same quality outcomes at a lower cost (Link, Perry, and Cesarotti, 2014; Mathews and Brown, 2013). Despite the legislated reform from the ACA and demonstrated value from APRN practice, physicians who could gain economically and politically through an equal partnership with APRNs have not widely endorsed independent autonomous practice by APRNs (Gilman and Koslov, 2014; Naylor and Kurtzman, 2010). State policymakers whose budgets are being strained to deficit by rising healthcare costs are increasingly not waiting for physicians to support the independent autonomous primary care

practice of nurse practitioners and are legislating changes to state scope-of-practice laws over the concerns of their states' physician collectives (Merritt Hawkins, 2014; National Conference of State Legislatures, 2013). In states that have changed scope-of-practice laws to favor APRN IA practice, the results of those policy implementations are generally positive through increased access and lower costs (Conover and Richards, 2015; Oliver, Pennington, and Reville, 2015).

### **Study Purpose**

The research question for this study is “Why do some primary care physicians support independent autonomous practice for advanced practice registered nurses while others do not?” The purpose of this study is to assess if ideology and PCP support for the ACA are associated with why some physicians support policy for IA APRNs and some do not. The study also characterizes the relationship of respondent's age, gender, years in practice since residency, how often they work with APRNs, and their role in their affiliated care delivery organization to physician opinions about APRNs.

Policy-makers may discover the study findings useful in constructing state health policy about APRN practice that is meaningful to PCPs in their jurisdictions. The study findings may also assist policy makers in promoting social change to PCPs in ways that encourage compromise in reform of primary care delivery models that are required by federal legislation. Insights into correlates of physician opinion may additionally enhance consumer understanding of APRN policy's benefits and risks while increasing the likelihood of receiving endorsement for APRN policy from elected legislators.

IA APRN practice may be attractive to state budget authorities and legislators in controlling costs and improving access to services (Cassidy, 2012; Institute of Medicine, 2011; Gilman and Koslov, 2014; Liu, Finkelstein, and Poghosyan, 2014; National Conference of State

Legislatures, 2013; Wiysonge and Chopra, 2008). Through a better understanding of the influences on PCP's opinions about IA APRNs, policy makers can make informed decisions about the policy context for IA APRNs while soliciting professional support from physicians of all practice types for the implementation of policy related to IA APRNs' scope of practice authority. The assumption underlying this study is that if it is possible to measure the influences on physicians' opinions about APRN policy, then it is likely that successful policy implementation can be predicted in some circumstances. If this assumption is plausible, then policy-makers can use this knowledge during policy development and possibly better serve the interests of physicians, patients, and other stakeholders.

### **Contribution to the Body of Knowledge**

This study is bringing together previously independent insights, motivations, and/or influences from other studies on PCP opinions about APRNs (Acquilino, Damiano, Willard, Momany, and Levy, 1999; Dimock, Doherty, Kiley, and Krishnamurthy, 2014; Donelan, DesRoches, Dittus, and Buerhaus, 2013; Huntoon, K., McCluney, C., Scannell, C., Wiley, E., Bruno, R., Andrews, A, & Gorman, P., 2011; Jackson Health Care, 2012; Street and Cossman, 2010). The opinions of PCPs as health policy stakeholders are important to policy makers when considering changes to APRN scope-of-practice laws. PCPs represent a key sub-population of physicians who professionally associate with APRNs in ways that may be different from other physician specialists (Link, Perry, and Cesarotti, 2014). PCP leadership is needed to re-frame the delivery system around the requirements of health reform in ways that successfully re-define physician self-interest in line with change that maximizes all stakeholder interests as much as possible.

The current study is unique for four reasons compared to other studies that have looked at physician opinions about APRNs. First, the study population includes only PCPs rather than including other specialists with possibly different APRN practice experiences. Secondly, the PCPs in the study practice adult primary care, which is the patient population with the highest expected rate of growth through 2030 (United Healthcare Center for Health Reform & Modernization, 2014). Third, physician ideology has not been considered as a primary influence on opinions about APRNs, but has been shown to be a socio-political determinant for who does what in healthcare (Jacox, 2009). And, fourth, the study assesses whether PCPs' support of the ACA is related to their opinions about APRNs.

The study research question considers the lack of accord between physician support of IA APRNs and empirical evidence of its social benefit. In the face of this discordance, the study considers the possibility that ideology and support for the ACA are factors of influence on PCP opinions about IA APRNs. There is a great deal of evidence supporting the practicality of APRN practice as one part of the solution to address the inability of the traditional physician-led primary care system to control costs and expand access to care. Very little empirical evidence to the contrary exists outside of that produced through the physician lobby to suggest that IA APRNs would not meet these unmet social needs. Given the strength of evidence toward the likely success of APRN as primary care providers it seems reasonable to speculate that intrinsic factors may be holding sway over physicians' opinions about IA APRNs. In other studies, ideology and support for the ACA have been shown independently to influence physician opinions (Goldman, 1974; Beaussier, 2012; Bonica, Rosenthal, and Rothman, 2014). This study looked at both factors in the same research panel to better understand their relationship to physicians' opinions.

## **Summary of the Chapter**

Healthcare cost and access challenges set in motion the possibility of greater reliance on non-physicians in primary care. The ACA suggests that states should change their scope-of-practice laws to permit IA APRN practice in primary care. Still, some physicians do not support IA APRNs in light of evidence that suggests APRN care is a prudent solution to issues of cost and access. The present study was undertaken to determine the association between ideology and support of the ACA on physicians' opinions about APRNs.

Chapter one presented the study's perspective of the health policy arena which is rooted in the delivery of primary care services under health reform, generally in terms of preventative services and chronic disease maintenance. As a point of reference, the historical status quo perspective of primary care delivery is acute care with fee-for-service reimbursement while reform legislation calls for services that are integrated toward wellness with payments based on health outcomes. Chapter two is a review of the academic and professional literature about public policy, APRNs, issues of health reform, ideology, and collective action based on the current state of knowledge. Chapter two includes an examination of the healthcare market's value proposition about care delivery related to APRNs. The APRN value proposition is included in order to establish an empirical foundation about the reasonableness of supporting APRNs for IA practice in primary care. Chapter three describes the research methodology employed in the present study. Chapter four presents the study results. Chapter five offers an interpretation of the study results from the perspective of successful healthcare reform. Chapter five also provides a description of the study's contribution to the state of knowledge and offers suggestions for extending the current study in future research.

## **Chapter Two – Literature Review and Theoretical Orientation**

### **Introduction**

This chapter discusses the paradigms used to establish the perspective for answering the study's research question; "Why do some primary care physicians support independent autonomous practice for advanced practice registered nurses while others do not?" The study's review of literature is divided into five sections. First, the value of APRNs in the healthcare market is considered to assure that IA APRNs are a reasonable policy response to meet ACA policy objectives. The APRN value proposition is reviewed from the perspective of implementing APRN policy and changing state scope-of-practice laws. Second, collective choice theory as portrayed by Ostrom (1990) is examined as a rational theoretical foundation to guide the study and its research design. Third, the structure and significance of policy arenas (Ostrom, 1990, 2007; Sabatier, 1988) is reviewed to explore how exogenous influences in the physician-patient policy arena might interact with ideology and support for the ACA to influence physician opinions. The fourth section of literature reviews physicians' support for the Affordable Care Act or not in terms of how physician behavior is manifest from their opinions about health reform from inception to the present. Finally, literature about ideology as a generalized motivating influence on physician behavior related to health reform is reviewed.

### **The IA APRN Value Proposition**

The clinical contribution of APRNs in the care delivery policy arena is important to establishing the value of their IA practice to relevant stakeholders. Independent autonomous (IA) practice is also referred to as full practice authority. "Full practice authority is the collection of state practice and licensure laws that allow for nurse practitioners to evaluate patients, diagnose, order and interpret diagnostic tests, initiate and manage treatments—including prescribe

medications—under the exclusive licensure authority of the state board of nursing” without physician oversight (American Association of Nurse Practitioners, 2013, p. 1). IA APRN practice in primary care needs to elicit continuing confidence from the public, policy-makers, and their primary care peers. In addition, as states consider scope-of-practice changes, APRN value should also demonstrate how those contributions “fit” into the framework of the ACA as meaningful elements of federally legislated health reform. Federal health reform legislation is adopted and implemented by state jurisdictions according to their unique needs. It should be significant to policy-makers that the National Conference of State Legislators has a vested interest in health reform adoption and advocates that the absence of a state’s legislative acceptance of IA APRNs is a missed opportunity to better control rising budgets and to bring primary care services to underserved constituent populations (National Conference of State Legislatures, 2013).

Physicians in opposition to IA APRNs generally express concerns in concert with narratives from the AMA that if APRNs are allowed to practice IA primary care, they will not have the skills to identify complications at the point-of-care and patients may die or be irreparably be harmed (American Medical Association, 2009; Donelan, DesRoches, Dittus, and Buerhaus, 2013). The services provided by APRNs in primary care are often more comprehensive than similar primary care services delivered by physicians or other non-physician providers due largely to the scope of their professional training (Cassidy, 2012; Wiysonge and Chopra, 2008). APRNs are able to provide the same or greater quality outcomes as physicians, but without the depth of diagnostic skills that might be determined by physicians as necessary during acute care assessment (American Medical Association, 2009; Cassidy, 2012; Institute of Medicine, 2011). However in similar ways as PCPs refer complex patients to specialist



physicians through the recognition of needs outside of their expertise, APRNs are trained to make the same type of referrals both to PCPs and specialists (Cassidy, 2012; Conover and Richards, 2015).

Primary care delivered by APRNs has been shown to be cost effective in terms of providing direct care of common acute care presentations such as generalized malaise, minor to moderate injuries, and most chronic disease maintenance activities (American Association of Nurse Practitioners, 2013). Primary care by APRNs is also appropriate for delivering preventative services and managing indirect care by monitoring patient self-management (Institute of Medicine, 2011). APRNs as primary care providers generate high levels of patient satisfaction and increase access to care services both in highly served and underserved populations (Cassidy, 2012; Conover and Richards, 2015; Liu, Finkelstein, and Poghosyan, 2014; Tillett, 2011).

Oliver, Pennington, and Revelle (2014) specifically assessed the outcomes from independent autonomous practice by APRNs throughout the U.S. Their study compared existing state scope-of-practice criteria for APRNs from restrictive to full-practice authority. They found that in states enforcing reduced or restricted APRN practice authority compared to IA APRNs there is an associated lower quality of health status. “States that allow independent APRN practice have a healthier population than states that do not” often with better outcomes than their physician counterparts and at least with similar outcomes (Oliver, Pennington, and Revelle, 2014, p. 4). The Oliver, Pennington, and Revelle (2014) study suggests that common objections (American Medical Association, 2009) about outcomes and quality from APRN care delivery are not supported through empirical evidence (Conover and Richards, 2015).

In a related follow-up study, Oliver, Pennington, Revelle, and Rantz (2014) assessed spending by state and federal jurisdictions on Medicare and Medicaid and found that IA APRN practice in primary care settings is related to lower rates of expenditures accomplished in part through effective long-term care from primary care: fewer hospitalizations and lower hospital re-admission rates. Positive findings about clinical outcomes by APRNs suggest that denying APRNs full practice authority in local jurisdictions, especially those with access deficiencies, low health status, and negative budget impact from healthcare spending may be a missed opportunity for state legislators to better serve their constituencies (Conover and Richards, 2015; Gilman and Koslov, 2014). The study states are representative of states with low overall health status and are deficient in providing primary care services to their constituencies (United Healthcare Foundation, 2014). National rankings of health status identify Arkansas (overall 49<sup>th</sup>), Mississippi (overall 50<sup>th</sup>), Oklahoma (overall 46<sup>th</sup>), Louisiana (overall 48<sup>th</sup>), and Alabama (overall 43<sup>rd</sup>) in the lowest positions of those rankings (United Healthcare Foundation, 2014). None of the study states permit IA practice in primary care by APRNs.

Federal healthcare systems including the Veterans Administration, Community Health Centers, Indian Health Service, and the US Military permit independent autonomous practice by APRNs as a means to expand their respective clinician pool and provide greater access to care services (Morgan, Abbott, McNeil, and Fisher, 2012; US Department of Health and Human Services, 2013). Medicare permits APRNs to bill for services they provide irrespective of their autonomous status (Yee, Boukus, Cross, and Samuel, 2013). However, in states that do not allow independent autonomous practice for APRNs the fees received from Medicare reimbursement for APRN service are typically paid to the medical practice that employs the APRN which increases the cost of the services provided through the practice's cost of doing business (Gilman

and Koslov, 2014). According to the National Institute for Health Care Reform, physician control of APRN practice through employment relationships determines which patients will be cared for, and determines which services APRNs will provide (Institute of Medicine, 2011; Yee, Boukus, Cross, and Samuel, 2013).

Donelan, DesRoches, Dittus, and Buerhaus (2013) surveyed 972 physician and nurse practitioner clinicians about their respective roles in the primary care delivery system. Each group of clinicians, physicians and APRNs, were generally in opposition with their counterparts when responding to questions about whether physicians or APRNs deliver the highest quality of care, whether physicians and APRNs should receive equal pay for equal work, and whether increasing the number of primary care providers would have a positive effect on the cost of care (Donelan, DesRoches, Dittus, and Buerhaus, 2013, p. 1905). The contrast in opinions between APRNs and physicians assessed by Donelan, DesRoches, Dittus, and Buerhaus (2013, p. 1905) suggested that positively influencing physicians' opinions is an important consideration for gaining IA scope-of-practice status for APRNs in primary care.

Street and Cossman (2010) surveyed 563 practicing physicians in Mississippi to determine their attitudes about APRNs among those physicians who work directly with APRNs. Their conclusion was that "Familiarity does not yet generate enough attitudinal support to persuade Mississippi physicians that NPs should be permitted to practice independently ..." (Street and Cossman, 2010, p. 437). The authors found that while physicians who work directly with APRNs generally have positive opinions about APRNs and regard their work with patients as positive, as a group, physicians in Mississippi choose not to support full practice authority of APRNs (Street and Cossman, 2010, p. 433). The majority of the Street and Cossman (2010) study respondents preferred APRNs to practice only under the authority of a physician. Physician

practice authority is a characteristic of the traditional care system where physicians are the sole decision-makers and resource appropriators (Reinhardt, 1977; 30 Million New Patients, 2013). The Street and Cossman study sample of physicians self-identified more heavily as specialists (59%) rather than PCPs who most often work with APRNs and may as a group have a different perspective about APRNs (Street and Cossman, 2010, p. 434-435). PCPs are the physician specialists who are most likely to benefit economically and professionally from a care delivery system that includes IA APRNs (Matthews and Brown, 2013).

Street and Cossman's study (2010) used a rating scale containing statements about APRN practices and consequences; the scale was originally developed and validated by Acquilino, Damiano, Willard, Momany, and Levy (1999). The same index and question set measuring physicians' opinions about APRNs was used in this study as the dependent variable. The Acquilino et al. study surveyed 259 self-identified primary care physicians in non-institutional practices to provide a measure of their attitudes about APRNs delivering primary care in Iowa (1999, p. 224). Both the Street and Cossman study and the Acquilino et al studies computed a composite score across twelve (12) questions that reflect physicians' attitudes toward APRNs. Both studies found that when physicians work with APRNs, the physicians have a positive opinion about APRNs as professionals and the care they provide, yet those physician decision-makers in their respective states did not support the independent autonomous practice of APRNs (Acquilino et al., 1999; Street and Cossman, 2010).

At the time of both studies, there was a large and growing body of literature documenting that APRNs are as competent as physicians in providing primary care, are more cost effective than physicians providing the same level of care, and produce at least the same quality of care outcomes as physicians (U.S. Congress Office of Technology Assessment, 1986; US Department

of Health and Human Services, 2002; American Association of Retired Persons, 2010; Yee, Boukus, Cross, and Samuel, 2013). Organized physician groups such as the AMA and the American Academy of Family Physicians (AAFP) among others continue to lobby against IA APRNs and present counter views to the value of APRNs as IA primary care providers (American Academy of Family Physicians, 2013, 2015; American Medical Association, 2009).

### **Theory of Collective Choice**

This study looks to collective choice theory articulated by Ostrom (1990) for guidance in better understanding the dynamics of opinions and decisions made by physicians about supporting independent autonomous practice by nurse practitioners. Collective choice theory is a theory about how individuals as members of a group make choices between actions and behaviors that result in outcomes that either benefit themselves, self-interest, or the larger public interest (Ostrom, 1990). Collective choice theory considers the influences on individuals from peers, institutions, the environment, and other factors when faced with a choice situation. In collective choice theory, individuals who are faced with choices are members of a group defined as a collective. Choices faced by the collective are typically associated with a resource or resources that are of interest to the collective (Ostrom, 1990).

A collective is a group of individuals who share a homogeneous and mutually understood identity that "... transforms individual experiences into collective experience" Mosimane, Breen, and Nkhata, 2012, p. 347). The members of a collective have shared interests around a resource(s) and through those interests common experiences and expectations about the collective are shared through a "collective identity" (Mosimane, Breen, and Nkhata, 2012, p. 350; Ostrom, 1990). In this study, the collective is licensed physicians who practice medicine as primary care physicians (PCP). Individuals in the PCP/physician collective assume the role of

“appropriator” of collective goods also known as a common pool resource (CPR) (Ostrom, 1990, p. 30-31). The common pool resource of interest to physician appropriators in this study is reimbursement.

Another key concept in collective choice theory is that of the common pool resource (Ostrom, 1990; Seabright, 1993). The CPR is a finite and subtractable asset which is the focus of appropriator actions and behaviors, observable in an action arena (Ostrom, 1990, p.32; Walker, Gardner, & Ostrom, 1989). In this study the common pool resource is reimbursement.

Reimbursement is payment to care providers from payers for services rendered to patients.

Reimbursement, whether from private or public payers, is finite and subtractable, two primary properties of a CPR (Ostrom, 1990). The Reimbursement CPR is a budgeted entity, meaning it is finite based on the projected allocation by the payer to make it available to appropriators (Rubin, 2010). Reimbursement is also subtractable meaning that once a unit of reimbursement is consumed that unit is no longer available for appropriation and the total amount of budgeted reimbursement is reduced by the amount of that unit (Rubin, 2010)<sup>1</sup>. Appropriation of reimbursement is available uniquely to PCPs because of their membership in the physician collective. Members of the PCP collective are entitled to appropriate reimbursement from private and public payers for the services they provide to eligible patient beneficiaries (Ball, 1997).

Patient beneficiaries or “resource users” are members of a community which is a subset of individual patients in the general population (Ostrom, 2005, p.15). Patient beneficiaries are eligible and have rights to receive benefits associated with the CPR, reimbursement, through a

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<sup>1</sup> Conceptually subtractability of reimbursement fits the definition posited by Ostrom (1990, p. 32). However by law public payers must make up any shortfalls from the budget and pay all legitimate claims for reimbursement. For private payers, the shortfall situation is similar. State regulators require private payers to maintain reserves as a proportion of their annual reimbursement budgets to makeup budget shortfalls.

legislated entitlement and/or an explicit contract such as a health insurance policy (Stafford and Yale, 2013). The CPR is a private and/or public good in healthcare delivery, depending on the payer. The CPR brings the physician collective together with patient beneficiaries in an action/policy arena where appropriation activities occur (Ostrom, 2005).

Eligibility for membership in a collective is based on a specific exclusive right such as licensure. Membership promotes shared beneficial outcomes through the “interdependence” of appropriation activities among members of the collective including income earning opportunities not attainable by non-members (Olson, 1965, p. 6; Ostrom, 1990, p. 38). However, there are bounded constraints on behavior that are associated with being a member in the collective such as behaving ethically according to the specifics of licensure regulations, managing the consumption of resources for the common good, and attaining periodic recertification of licensure, among others (Olson, 1965; Wade, 1987; Ostrom, 1990). An example of a bounded constraint through membership in the PCP collective is the right only by licensure to treat patients and receive reimbursement for those treatment services. Licensure to practice medicine is granted by state medical boards and is open only to properly credentialed individuals (Federation of State Medical Boards, 2012). There are substantial legal penalties for non-members of the physician collective who attempt to practice medicine in a medical commons.

The concept of a commons is a broad term that is a generic reference to a community and/or collective with certain rights related to resources (McGinnis, 2011). A commons can represent the rights to many different types of resources such as fishing rights, oil and other natural resources, or Medicare and private health insurance reimbursement benefits in the medical commons (Hiatt, 1975; Ostrom, 2005). For instance, Medicare benefits which are rights to seek medical services, are available only to a subset of US citizens who are entitled to receive

those benefits under law (Ball, 1997). Like Medicare benefits, private health insurance benefits are another type of rights in the medical commons. Insurance policy members/owners are the only individuals eligible to receive the specific choices of services, funding, and access to services offered under common benefits associated with an insurance policy.

Members of the physician collective use the CPR as a means to provide benefit to patient members of the medical commons. Members of the physician collective have a formal affiliation with the commons through some type(s) of preferred relationship which is typically a contract that makes them eligible to treat specific patients (Centers for Medicaid and Medicare Services, n.d.). Physicians are licensed by one or more state jurisdictions, a requirement for collective membership, and are individually certified to access reimbursement for beneficiaries in one or more specific patient commons (Hiatt, 1975; Ostrom, 1990, 2005). Reimbursements for medical services are limited by and subtractive from private and public financial budgets, patient access to the physician collective, and the types of services that are allocated to individual patients (Hiatt, 1975; Ostrom, 2005).

PCPs appropriate reimbursement on behalf of their patients which may involve authorizing related collectives to receive reimbursement through the same or other commons such as Medicare Part A and Part B beneficiaries. Other types of collectives that have an interest in reimbursement based on physician collective decisions are hospitals, pharmacies, state and local government, and clinical laboratories among others who can also receive reimbursement through physician-patient interactions (Hiatt, 1975; Ostrom, 1990; Woolf and Stange, 2006). The collective of provider appropriators in each medical jurisdiction is authorized by state medical boards that can, with or without legislation, determine which clinician types under what



circumstances can participate in resource appropriation activities (Federation of State Medical Boards, 2012).

The common pool resource of the medical commons, reimbursement, is established by annual government budgets for public medical spending and by private insurance companies which determine annual limits of reimbursement based on actuarial computations (Hunter, 2008). It is fundamentally these constraints on reimbursement by government and private payer companies that are incentives or dis-incentives toward self-interest by clinician appropriators. Other interested stakeholders in the reimbursement CPR, hospitals and so forth, are motivated by their interest in the CPR to influence physician collective behaviors and/or opinions toward those interests such as toward the benefits of one drug over another or the quality of one hospital over another (Hunter, 2008; Ostrom, 1990). Physicians' opinions about the legitimacy of the institutionally imposed constraints on their access to the CPR and the influences from other stakeholders shape physician appropriation behaviors toward how patients' treatments are selected and the allocation of resources during treatment (Lipsitz, 2012; Robertson, Rose, and Kesselheim, 2012).

Appropriation activities for reimbursement resources start at the point-of-care when provider decisions about patient needs are determined. At the point-of-care, the clinician is sole decision-maker typically only subject to institutional adjudication of those decisions (Scott and Vick, 1999). Physician appropriators' access to resources from the common pool of reimbursement is based primarily on personal and collective self-governance of their decisions or operational rules (Ostrom, 2005). Appropriation decisions in the medical commons are also subject to national governance constraints surrounding the CPR which are termed constitutional rules and include constraints such as reimbursement payment limits or availability of the

resource for other reasons. Constitutional rules, which typically result from legislative policy, are translated into local, state and collective operational rules, and are implemented through state and local jurisdictions (Ostrom, 2005; Polski and Ostrom, 1999). Wennberg (1984, p1.) describes the impunity of physician clinical decision-making based on operational rules as the physician “practice style factor” which is tempered through the institutional governance that resulted in establishing the operational rules (Ostrom, 2005). Governance surrounding clinical decisions is achieved through rules that tend to constrain appropriation decisions and behaviors based on cost containment strategies in the policy arena (Ostrom, 1990; Robertson, Rose, and Kesselheim, 2012; Woolf and Stange, 2006). Working rules specify which services are available for reimbursement by the payer (Ostrom, 2005).

Clinical decisions in the physician-patient policy arena are often specified through the physician collective’s “working rules” (Ostrom, 2005, p. 19-20). Working rules are often characterized as expected or normative behavior through condition of collective membership and enforced through procedures such as peer review (Federation of Medical Boards, 2012; Ostrom, 2005). Working rules are also an integral part of each member’s self-interest. Working rules enable collective-choice decisions associated with reasonable and customary services to provide to a patient, order on behalf of the patient, and refer to other providers in the practice of medicine (Ostrom, 1990; Scott and Vick, 1999).

Ostrom (2005) describes the choices members of the collective make during appropriation behaviors as being challenges to maintaining a balance between self-interest, interests of the collective, and interests of the commons. Searle (2001, p. 56-57, 124-126) when discussing the motivation of individuals to engage in rational collective actions, suggests that this balance of interests is “collective intentionality that enables institutional facts ...” such as

meanings, status, beliefs, and desires, and in essence represents adherence to norms and expectations of individual behavior. It is precisely the physician's impunity in making clinical decisions that is attractive to various types of stakeholders who want to influence the clinical decision-making process and maximize their own participation in the healthcare policy arena through association with the physician collective.

Choice-behaviors made by member-appropriators of a collective tend to be based on decisions that are taken to maximize outcome utility relative to the member's self-interest or in other words "...attaining something by means of this membership" (Olson, 1965, p. 6). Hardin (1969) posits that self-interest related choice-behaviors in the collective will eventually become the dominant motivation over interests beneficial to the collective and lead to the failure of the collective in what he describes as the "tragedy of the commons." Hardin further suggests that there is no technical solution, that is to say formalized institutionalized incentives or constraints, which will intervene in the path to destruction of the collective from an over-riding self-interest (Hardin, 1968). Ostrom (1990, 2005) takes issue with failure of the collective as a *fait accompli*. Ostrom (2005, p. 62) suggests that institutional intervention in the form of rational governance will sustain the collective by regulating/socially constructing the meaning and/or value of self-interest to be more consistent with interests of the collective and the commons.

Under health reform, interests of the commons are defined as population health characteristics which through evidence-based medicine produce information to guide clinical decisions toward the interests of the commons (Berwick, Nolan, and Whittington, 2008; Berwick and Hackbarth, 2012). Choice behavior in the collective is increasingly influenced by information from the collective to guide members in decision-making situations relative to the context of a choice situation and to the benefit of the collective; such as information describing

behavioral constraints from reform legislation and which services are likely not to be reimbursable (McGinnis, 2013). Information, according to Wildavsky (1994), is itself a context-based social construction that is seldom complete, mutually shared, un-biased, and influences decision-making and appropriation behavior toward outcomes based on personal opinions and preferences that may be inconsistent with collective interests or interests of the commons. Self-interest inconsistencies with collective and/or common interests may also be the result of cultural bias influences that includes individual ideology and level of support for reform from the ACA (Ripberger, Song, Nowlin, Jones, and Jenkins-Smith, 2012).

Decisions that are based on information available only in the primary care collective, such as institutional regulations regarding PCP reimbursement and appropriation adjudication among similar types of information, have come to be influenced as much by individual appropriator characteristics as by clinical evidence (Berwick and Hackbarth, 2012). Increasingly, prior experiences, influences from opinion leaders, group think, the principal agent relationship, physician agency, and moral hazard among others, influence physician opinions and decisions. These influences, asymmetric to the physician decision-maker, often carry more weight than sources of relevant evidence-based information which seemingly should drive clinical decision-making at the point-of-care (Berwick and Hackbarth, 2012; McGinnis, 2013; Scott and Vick, 1999; Searle, 2001; Stone, 2011).

Incomplete or asymmetric information often results in inefficient resource appropriation in choice situations; typically overutilization of resources that benefits the appropriators' self-interest (Berwick and Hackbarth, 2012). The principal beneficiary of the choice outcome, the patient in the primary care commons, permits the appropriation as chosen by the PCP because they do not object to or are not aware of inconsistencies in the appropriation. Without objection

from the patient about the services they receive, the patient consents to the physicians' decision and relies on their clinical expertise to make a proper decision that will benefit relevant stakeholders in the choice situation (Berwick and Hackbarth, 2012; Nair, Manchanda, and Bhatia, 2010; Scott, 2004; Scott and Vick, 1999). Some medical professionals suggest that it is the inefficient appropriation of commons resources through the traditional fee-for-service care delivery system that has necessitated the need for reform of the healthcare system (Berwick and Hackbarth, 2012).

Healthcare reform from the ACA mandates new constitutional rules for a (re)prioritization, or rationing, of how commons resources are allocated through cost controls on services, payment caps, and reimbursement reductions (Ostrom, 2007). The ACA also specifies changes to operational rules in the physician-patient policy arena which are typically specified by the physician collective through state implantation of federal legislation (Ostrom, 1990). Under the ACA some operational rules are implemented through the constitutional level rather than through state implementation by authorizing of new types of delivery organizations, accountable care organizations and patient centered medical homes, which through the Act are authorized and eligible for special reimbursement (Berwick and Hackbarth, 2012; Cassel and Brennan, 2007; Hiatt, 1975; Ostrom, 2007, Woolf and Stange, 2006).

Collective choice theory predicts that in times of needed rationing through a prioritization of resource appropriations, such as with healthcare spending controls in the current marketplace, resource appropriators will be influenced to maintain personal control over the most lucrative resources that minimize their costs and simultaneously maximize their self-interests over common interests (Ostrom, 2011). In the medical commons, lucrative resources could be characterized as appropriations from care delivery transactions that do not require the expertise

of a highly educated physician professional and are consciously withheld from appropriation by less expensive methods of appropriation, such as by IA APRNs (Hiatt, 1975). That sort of collective action by physicians, denial of non-physician access to the commons, serves to maintain the care delivery status quo (Berwick and Hackbarth, 2012; Robertson, Rose, and Kesselheim, 2012). Self-interest actions of this type can be observed in the physician-patient policy arena.

### **The Physician-patient Policy Arena**

A policy arena is the context where the interaction effects of policy incentives and/or disincentives are observable. Interactions in the physician-patient policy arena are easily thought of as separate transactions, but in reality each one is often a set of interdependent economic transactions (Andersen, 1995). One or more of these interdependent transactions may simultaneously exert influence over treatment decisions that are made in the policy arena, such as with diagnostic testing (Ostrom, 2011). All transactions in the physician-patient policy arena originate from a physician-patient interaction which is the distinct starting point in the CPR appropriation process. The physician-patient policy arena is where clinical treatment decisions are made based on collective-choice rules and physicians' preferences that are manifest through their clinical expertise. A broad array stakeholders thus have vested interests in influencing the outcomes of treatment choices made by the physician (Weible, Sabatier, and Flowers, 2008).

In health policy arenas, the influences on physician opinions and decisions can come from a wide range of sources including personal beliefs, business interests, policy actors, individual citizens, and government (Kingdon, 2011; Weible, Heikkila, deLeon, and Sabatier, 2012). Policy actors are a special type of influence on collective action the policy arena. Policy actors are often characterized as policy specialists within a policy arena/subsystem and often

offer expert information as the basis of their credible influence (Weible, 2008). Policy specialists are typically specific to a policy subsystem and should not be confused with physician specialists. Policy actors/specialists may impact the beliefs and opinions of physicians and other stakeholders in ways that influence the way policy is implemented (Ingold, 2009; Sabatier, 1988; Weible, 2008). In health policy arenas, non-physician stakeholders often operate to influence physician behavior through advocacy narratives that possibly operate in concert with ideology to support the status quo or to vigorously pursue favorable implementation in support of their interests (Shanahan, Jones, McBeth, and Lane, 2013; Stone, 1989). Many attempts to influence health policy implementation focus on care delivery transactions in the physician-patient policy arena.

The physician-patient policy arena operates through a fundamental principal-agent relationship representing economic incentives directed by physicians (Laffont and Martimort, 2001). The patient as principal is the recipient of the direct benefits of the transaction such as treatment and acquiesces to decisions and information from the physician-agent (Frees, Gao, and Rosenberg, 2011). The physician in their role of agent frequently makes all decisions about care including what services to purchase and how those services will be delivered. Frees, Gao, and Rosenberg (2011) used the publically available national Medical Expenditure Panel Survey (MEPS) to assess the predictability of health care expenditures. They found that not only do patients acquiesce to their clinician about purchase decisions, but they also rely on the payer of care, insurance companies and government, to assure that services are available to support physician decisions (Frees, Gao, and Rosenberg, 2011).

The relationship between payer and the type of care delivered certainly seems to favor the physician's ability to make choice decisions within the framework of most favorable

reimbursement from both party's perspectives. Mealem and Yaniv (2011) in a study of patient compliance with treatment regimens suggest that higher physician reimbursement for services has a tendency to increase the exchange of information between agent and principal which may result in better treatment outcomes. Conversely the model they applied found that physician empathy toward making pro-patient choices between eligible services fell as the rate of their reimbursement fees increased (Mealem and Yaniv, 2011, p. 10). This finding on physician empathy by Mealem and Yaniv (2011) suggests that economic self-interest is an important motivation for unilateral decision-making about care delivery in the physician-patient action arena.

Nearly all care delivery transactions have related advocacy interests seeking to gain favor with physicians to minimize or maximize the reimbursement on behalf of the patient principal (Bandura, 2001; Robertson, Rose, and Kesselheim, 2012). All care delivery transactions are related to physician agency as well as economic motivations. The significance of physician agency surrounding care delivery and reimbursement decisions is related to induced-demand; that is to say, the ability to make binding choices about care delivery with impunity (Bandura, 2001; Jacobson, Chang, Newhouse, and Earle, 2013). Economic considerations are powerful motivations in the health policy arena. They are part of a reward structure for participating in the business of healthcare which is not only beneficial to physicians, but to other stakeholders downstream from the initial patient-physician transaction (Enthoven, 1998; Ostrom, 2010).

Such systemic and exogenous influences on health policy and physician opinions is often obscured to the public and elected legislators' by a lack of knowledge of how relationships between healthcare providers and others in the healthcare system operate and are permitted to interact by regulation (Weed and Weed, 1999; Lipsitz, 2012; McGinnis, 2013). Care delivery



relationships between patients and providers also create confusion about the characteristics of the healthcare system and relevant health policy (Gruen, Campbell, and Blumenthal, 2006). Patients tend to experience care delivery with narrowly focused objective criteria related to the perceived appropriateness of the physician-patient interaction (Andersen, 1995).

Patients and the lay public in general tend to view physicians as agents always acting in the patient's best interest (Scott and Vick, 1999). In reality, patients' best interest may or may not be known to the patient. The principal-agent relationship in care delivery is generally how the lay public understands the workings of the healthcare market (Bodenheimer and Grumbach 2012; Gruen, Campbell, and Blumenthal, 2006). There is a lack of understanding by the lay public about the significance and the scope of non-professional roles physicians assume that also impact their treatment decisions (Bodenheimer and Grumbach, 2012; Gruen, Campbell, and Blumenthal, 2006; Scott and Vick, 1999). Patients want to see the compassionate side of care delivery from physicians as the only interest clinicians engage in on behalf of patients. They do not readily perceive physicians' need to maximize profitability of the practice, to finance their retirement, and generally to engage in all sorts of economic related behaviors related to running a business (Scott and Vick, 1999). This selective understanding of physician behavior is frequently the result of asymmetric knowledge and information regarding what is appropriate during care delivery (McGinnis, 2013).

Physicians can and do induce demand for their own services in part through their desire to please patients, such as over-testing to rule out all possible causes of malaise and in part to serve their own interests (Reinhardt, 1975; Stone, 2011). It is difficult for the lay-public to understand the risks and rewards of policy that may or may not influence physicians through the multitude of interpersonal and system interactions involved in care delivery (30 Million New

Patients, 2013). Without an understanding of the subtleties involved in the depth and breadth of care delivery, citizens are unlikely to assist legislators through their comment and advocacy in the development of meaningful health policy. Therefore in the policy arena it is often necessary for the public and most legislators to rely on subject-matter experts, policy actors, to interpret the complexities of legislation; such as the case with the ten titles in the 1,100 pages of specifications of the ACA intended to reform the traditional care delivery system (Bernier and Clavier, 2011; Forest, 2013; Mebane and Blendon, 2001). As a result of the passage of the ACA there appears to be a general lack of willingness by physicians to provide patients with non-biased information about care delivery changes even as it impacts their treatments (Wilensky, 2012; National Public Radio, Robert Wood Johnson Foundation, and Harvard T.H. Chan School of Public Health, 2015).

Physicians' biases through the dissemination of information in the physician-patient policy arena is experienced by both patients and non-physician rule-making authorities (Scott and Vick, 1999). Scott and Vick (1999) performed a discreet choice experiment with the public to determine patient care delivery experiences related to information exchange in the physician-patient policy arena. In a principal-agent relationship such a physician-patient, the ideal situation is when the agent makes the same decisions an informed principal would make, given the same information. Scott and Vick (1999) noted that in the physician-patient policy arena, there is an absence of an explicit contract between principal and agent. The lack of an explicit contract puts the principal (patient) at a disadvantage when services are received because the experience is based on agent (physician) actions rather than predictable expectations known by both parties (Landwehr and Bohm, 2011; Scott and Vick, 1999).

The study by Scott and Vick (1999) found a relationship between the annual number of times a patient engages with a physician in care delivery and their involvement in decision-making about care delivery based on the information presented by the physician. The greater the number of times the patient and physician interact, the more relevant information becomes and the greater the likelihood that the patient will become involved in decision-making (Scott and Vick, 1999, p. 127). Patient engagement in treatment decisions has been shown to improve quality outcomes (Robert Wood Johnson Foundation, 2014).

The Scott and Vick findings (1999, p. 113-114; 127) suggest that patients with less frequent interactions simply want to know “what is going on” rather than being engaged in care through the details of treatment or options – indicating a preference for information in the short term over knowledge and understanding. They also found that in cases where the care being provided is due to an acute episode of care, such as severe pain, patients are not inclined to seek much information at all about their care. Patients are inclined to simply accept the physician’s recommendations, including purchase, reimbursement, and patient out-of-pocket payment decisions (Scott and Vick, 1999, p. 128). The significance of the Scott and Vick (1999) research findings to the ACA is that under health reform the volume of physician-patient interactions are limited through cost containment measures and may possibly create a gap between the services a physician is willing to provide and actually engaging patients in their own care.

Green, Ottoson, Garcia, and Hiatt (2009, p. 153) investigated a “gap between research and practice” related to health policy and physician behavior in care delivery. This gap is observed quite dramatically when physician decisions about standards of care are over-ruled by payers’ based on practice guidelines where cost and not the patient is the focus of care delivery. For example during reimbursement adjudication payers will often “audit” practice transactions

that appear, at least on paper, to be outside of allowed services. An example of this gap is the case where a physician prescribes daily monitoring of blood glucose levels and the payer specifies weekly monitoring as being adequate (Centers for Medicare and Medicaid Services, 2013). Often, the physician disputes the adjudication decision without reimbursement for the time spent regardless of outcome. In the end such practice guidelines are frequently not used or recognized as valid by physicians in their decision-making process and the patient becomes the payer of those services (Green, Ottoson, Garcia, and Hiatt, 2009). Physicians sometimes establish “barriers to dissemination” with their patients by ignoring regulations they perceive to be narrowly focused or improperly validated by research and that do not mirror their individual practice style (Green, Ottoson, Garcia, and Hiatt, 2009, p. 153).

Barriers to dissemination may also influence physician opinions about broad policy issues. The result may produce motivation for to take advantage of the situation and promote their own perspective to patients (Shanahan, Jones, McBeth, and Lane, 2013; Stone, 1999). Such self-promotion that influences physician opinions about health policy may further bias the presentation of information to patients about treatment options in the policy arena (National Institutes of Health, 2014). Green, Ottoson, Garcia, and Hiatt (2009, p. 154) blame “tradition-bound practitioners who insist on practicing their way ...” for attempting to maintain the care delivery status quo. In their study conclusion, Green Ottoson, Garcia, and Hiatt (2009, p.166) state that “scientific” evidence resulting in health policy is meant to be “practice-based” from the patients’ perspective, reflecting the reality of individual patient and population needs rather than the self-interest of healthcare providers. In this sense “practice-based” is interpreted to be evidence-based medicine that integrates collective choice rules with physicians’ clinical expertise (Sackett, Rosenberg, Gray, Haynes, Richardson, 1996). Without such an objective

basis for decision-making at the point of care, it is likely that the self-interests of stakeholders will continue to be a hindrance in meeting reform policy goals.

Influences on physician opinions about changing the status quo are challenges to overcome in the traditional care delivery system. Closing the gap between the reality of day-to-day care delivery and the effectiveness of reform intended to mediate physician self-interest may not simply be a matter of new rule-making. The influences on physicians' opinions about reform are broad-based and intertwined with an array of physician self-interests. A starting point for health reform adoption may be to positively shift physicians' self-interest in support of reform.

### **Physician Support of the Affordable Care Act**

The ACA was the first significant health reform legislation to challenge the care delivery status quo since the passage of Medicare legislation in 1965. The ACA changes the status quo of care delivery and physician behavior away from acute care toward preventative care. It includes endorsements for non-physician primary care delivery. The ACA mandates a greater role for IA APRNs as part of collaborative care models using capitation<sup>2</sup> as the associated financial model in lieu of fee-for-service reimbursement (Angood and Birk, 2014; Connors and Gostin, 2010; Lathrop and Hodnicki, 2014). Reform of the primary care delivery model and access to primary care services through the chronic care management model is also legislated under the ACA. Four of the key goals of ACA care delivery reform are: 1) to increase the utilization of basic primary care services, 2) to include mechanisms for preventative services, 3) to deliver long-term chronic care management through primary care, previously in the purview of specialist physicians, and

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<sup>2</sup> Capitation is a form of pre-payment for services. Fixed payments are provided that encourage pro-active care in order to avoid the costs associated with acute care delivery. Physicians and/or their practices may also receive periodic bonus payments for sustaining low overall cost outlays.

4) to provide cost controls in the traditional care delivery status quo (Lathrop and Hodnicki, 2014). These and other objectives from the ACA are dependent on an adequate supply of PCPs, or their equivalent, in the care delivery system (Yee, Boukus, Cross, and Samuel, 2013).

Collaborative care and/or so-called “patient-centric” care delivery models are integral cost-saving components of health system reform under the ACA. There are two newly sanctioned delivery models, Accountable Care Organizations (ACO) and Patient Centered Medical Homes (PCMH), which specify care delivery with and without physicians as sole decision-makers (Bodenheimer and Grumbach, 2012). Both of these new ACA delivery models rely on APRNs and other non-physicians to deliver and coordinate primary care services directly to patients (Angood and Birk, 2014; Auerbach, Chen, Friedberg, Reid, Lau, Buerhaus, and Mehrotra, 2013; Nielsen, Olayiwola, Grundy, and Grumbach, 2014). The transformation of the healthcare delivery system under reform requires the participation of physicians to provide professional and policy leadership and drive the operational change necessary to reform the traditional care delivery models (Angood and Birk, 2014; Bodenheimer and Grumbach, 2012; Zismer, 2013).

Studies that assess physician support of the ACA are most often presented in terms of physician clinical behaviors during the day-to-day practice of medicine (Berwick, Nolan, and Whittington, 2008, p. 759; Friedberg, et al., 2015). Point-of-care behaviors are responses by physicians to implementations of the ACA in their license jurisdictions. Frequently how physicians deliver care is heavily influenced by their self-interest in preserving the status quo rather than conforming to provisions of reform legislation (Friedberg, Chen, Van Busum, Aunon, Pham, Caloyeras, Mattke, Pitchforth, Quigley, Brook, Crosson, and Tutty, 2013; Robertson, Rose, and Kesselheim, 2012). Health policy to improve the US healthcare system

requires that the delivery system focus on "... improving the experience of care, improving the health of populations, and reducing the per capita costs of health care" (Berwick, Nolan, and Whittington, 2008, p. 759; Friedberg, et al., 2015). Policymakers generally intend to motivate healthcare providers through financial incentives and disincentives that meet the "rational common needs" of US society and includes the goal of improving the quality of the life of all Americans (Berwick, Nolan, and Whittington, 2008, p. 761). Physicians may see the changes under the ACA as challenges to their legal medical authority rather than a means to control costs and spending on care.

Fundamentally, if health policy is able to effectively regulate spending controls at the point-of-purchase and improve the patient-provider interaction, then, equitable social benefits between the costs paid by government, the self-interest from reimbursement received by providers, and the best interests of patients can be optimally accomplished (Enthoven and Singer, 1999). Health policy, such as the ACA, that impacts the distribution of money through delivery system reform risks an increase in provider self-interest over public interest. This risk is especially salient if the policy challenges the opinions of physicians about what is proper care and for whom it should be provided (Enthoven and Singer, 1999; Hill, Wilkinson, and Holahan, 2014; Mintrom, 1997).

Friedberg et al. (2013, p. xvi-xvii) found that physicians viewed the imposition of rules through national legislation to be "... obstacles to providing high quality care" and not in their individual or collective interests. As a result, they would probably not abide by the rules in practice. As the legislative constraints increase the impact on physician clinical practice patterns, they are likely exit private practice and move their practices into different business models (Friedberg et al., 2013; Physicians Foundation, 2012). A newer study by Friedberg et al. (2015)

confirmed that changes in clinical practice patterns were related to physicians' opinions about the ACA and are projected to continue to impact clinical practices through the near future.

As implementation of the ACA continues through the decade, these type actions by physicians that change their relationships with patients may be further exacerbated through an increasing focus on cost containment from private payers. Private payers, while not impacted by the ACA the same as public payers, are following the lead of government in regulating reimbursable procedures over the objections of physicians' clinical expertise (Physicians Foundation, 2012). Friedberg et al.'s study (2013, p. xviii) also noted that as physicians exit private practice and become employees in care delivery systems such as ACOs and hospital systems, there is "... increased pressure to provide greater quantities of services" from those organization. The system demand for more services is about using system provided services to the degree they are horizontally integrated throughout the patient care continuum. The significance of this emerging trend may be an over-utilization of lower cost non-reimbursable services on a more frequent basis as a mechanism of cost recovery through direct payments from patients. This cost-shifting to patients and away from payers occurs in the form of higher insurance deductibles, co-insurance, and co-pays (Patel and Rushefsky, 2014). Thus, while cost containment goals may reduce federal spending on healthcare, the actual cost will remain the same or rise higher as reform policy shifts physicians from one care delivery system to another.

The role of care delivery systems, for instance ACOs, is increasingly influential upon physician opinions as they transition from business owners in private practice to employees (Merritt Hawkins, 2014). While typically self-interest is a personal characteristic, self-interest from a central organizational perspective can also be reinforced through collective membership and polycentric governance relationships enabled through employment (Ostrom, 2005). In this



case, the self-interest of the physician, keeping a satisfactory employment relationship for instance, is removed from the forefront of care delivery decisions, but is still a driving force in decision-making as collective choice is exercised (Ostrom, 1990). Integrating physician self-interest into palatable community/public interest is key to gaining policy support by physician stakeholders who are still the primary appropriators of the community's healthcare resources under the ACA (Friedberg, et al., 2013; Ostrom, 1990).

Physicians through their non-clinical roles shape policy in their participation, or lack thereof, in the political system by assisting and supporting legislators in setting the healthcare agenda in their state jurisdictions (Bonica, Rosenthal, and Rothman, 2014). It is unlikely that meaningful health system reform can occur by either passing legislation or public advocacy alone without physician support, given the relationship of state-licensed physicians to spending, quality, and cost of healthcare (Kumar, Sherwood, and Sutaria, 2013). Kumar, Sherwood, and Sutaria (2013) looked at the engagement of physicians' behavior about expected changes in the healthcare system under the ACA. Their study surveyed 1,400 physicians in an investigation of the alignment of day-to-day operations in physicians' practice environments with the physician's attitudes toward making changes in their traditional care delivery system (Kumar, Sherwood, and Sutaria, 2013, p. 5). The study's conclusion suggests that physician motivation under at least some of the ACA provisions was less about improving the care delivery system or patient health status and more about increasing revenue. Physicians, the investigators concluded, seem more concerned with compensation, followed by their desire to practice autonomously as part of the status quo (Kumar, Sherwood, and Sutaria, 2013, p. 5). The findings by Kumar, Sherwood, and Sutaria should not be surprising to policy-makers. Providing healthcare services, especially at the primary care provider level, is, by and large, a commodity business, meaning, "... there is little

difference in the quality of service between providers ...” especially as policy continues to focus on costs rather than patient experience (Burney, 2012, p. 2).

Since the passage of the ACA and through its mandate to insure the masses and increase primary care services while cutting reimbursement, the relationship between independent primary care physicians and the care delivery system has not been completely beneficial to physicians’ independent autonomous status (Jackson Healthcare, 2013). In 2000, about 57% of physician practices were independently owned rather than practicing physicians being engaged in an employment relationship (Accenture, 2012, p. 2; Elliott, 2012, p. 2). In 2012, the independent ownership of physician practices declined to 39% and is expected to fall further through 2020 as a consequence of health policy under current ACA legislation (Physicians Foundation, 2010; Accenture, 2012, p. 2; Elliott, 2012, p. 2, Jackson Healthcare, 2013, p.6).

The shift in the management and ownership of physician practices as influenced by the ACA may signal an environment where APRNs are accepted as equivalent practitioners to their PCP counterparts (Kirchoff, 2013; FTC, 2014). According to Jackson Healthcare (2013, p. 6) 39% of physicians under the age of 45 have never worked in private practice, with 32% of that group choosing an employment relationship to avoid direct involvement in the management of a medical practice. Younger PCPs may be inclined to be more supportive of IA APRNs due to their choices of employment over practice business ownership. Jackson & Coker (2013, p. 10-15) and also Zismer, (2011) found that physicians’ attitudes were overwhelmingly negative about the impact of the ACA on their compensation (71%), their workload (61%), their ability to continue to make independent treatment decisions (57%), their practice’s revenue per patient (69%), and the amount of professional time lost to administrative requirements under the ACA

(66%). These data and employment preference by younger physicians seem to suggest that physician attrition out of private practice may be important to successful adoption of the ACA.

Antiel, Curlin, James, and Tilburt (2009) and Antiel, James, Egginton, Sheeler, Liebow, Goold, and Tilburt (2014) found that physician doubts about the benefits to them from health reform is not a motivation to become active in national policy-making arenas. Physicians in general do agree that their professional responsibility includes influencing how care is delivered in their local practice areas. Interested physicians assist in writing state and local legislation, champion state health policy legislation, and support performance changes in the physician-patient policy arena all the while making care delivery purchase decisions enabled or sanctioned by that same health policy (Federation of State Medical Boards, 2012; Jones, 2013; Kumar, Sherwood, and Sutaria, 2013). The lack of involvement in national health policy development means that physician involvement in state policy efforts is after the fact of mandated reform. As such, the physician collective may not support health reform simply by not engaging in its adoption in their local practice jurisdictions.

Kumar, Sherwood, and Sutaria (2013, p. 3) found in a survey of 1400 practicing physicians that 84% were willing to make changes in the way they practice medicine. However, when asked specifically what ACA changes they had implemented only 17% of their respondents indicated they had actually made changes in their practice (Kumar, Sherwood, and Sutaria, 2013, p. 4). These “disconnects” between what is said and actually done in support of the ACA seem to suggest that the physician collective is not being adequately engaged to follow through to make the changes necessary for reform (Kumar, Sherwood, and Sutaria, 2013). In 2014, only 11 out of 50 states had implemented Medicaid expansion which is a keystone provision of the ACA intended to increase access to care for previously uninsured citizens (Keith

and Lucia, 2014, p. 7). One problem for physicians with the Medicaid expansion is that Medicaid reimbursement is typically the lowest rate of reimbursement in their practice (Decker, 2012). In a study of 1460 PCPs, more than one-third of physician practices indicated they would not provide services to patients under Medicaid expansion (Kaiser Family Foundation, 2011, p. 7). With inadequate physician participation in the Medicaid expansion which is projected to provide subsidized insurance to 32 million new patients, the traditional care delivery system will be virtually unchanged under reform provisions of the ACA (Decker, 2012; Kaiser Family Foundation, 2011, p. 1).

Physician opinions about supporting health reform seem to favor no change to the status quo based on the actions many physicians have taken so far (Jackson Coker, 2013; Keith and Lucia, 2014). Physicians indicate the care delivery system needs to be modified, but there is evidence to suggest they are not willing to make changes under the ACA (Kumar, Sherwood, and Sutaria, 2013). Not engaging in national policy initiatives and not supporting state adoption of many parts of the ACA appears to be a statement from physicians about their entitlement in the business of healthcare. Whether physicians support the ACA and the lack of successful implementation of key parts of the act seems to suggest that reform of the care delivery system is dependent on physician engagement (Keith and Lucia, 2014). Engagement in policy processes may be a matter of reconciling physician attitudes about the ACA with their beliefs about how the care delivery system should be changed. Physician attitudes seem to be oriented toward interests associated with clinical factors rather than the cost containment interests of payers. Understanding the core beliefs of the physician collective that reinforce their opinions about reform may be important for successful adoption of IA APRN health policy in their states' jurisdiction (Sabatier, 1988).

## **Ideology as a Mechanism of Influence on Physician Opinions**

Ideology is a system of shared attitudes and opinions based on beliefs that are context specific and generally symbolic in attribution (Conover and Feldman, 1981; Shanahan, Jones, McBeth, and Lane, 2013). Ideology is best understood as a symbolic representation of individual beliefs and opinions about a position or an issue. A person's ideology guides how they behave in context of an issue or position. Ideology also serves as a mechanism for individuals to self-identify with a group of like-minded individuals who take sides on an issue in opposition to others (Cobb and Elder, 1973; Shanahan, Jones, McBeth, and Lane, 2013). Conover and Feldman (1981) suggested that the public, presumably most individuals included, does not have an understanding of the meanings of ideological labels such as liberal and conservative, but still makes fairly consistent choices about which side of an issue to join. Accordingly, the ideology labels of conservative and liberal are the basis of political discourse of all types and serve to alienate or disenfranchise people who do not or cannot share similar attitudes and opinions (Federico, 2009). It is the similarity of individuals' beliefs and/or opinions that may influence an individual to support or oppose an issue based simply on group affiliation (Bandura, 2000; Federico, 2009; Lewis, Dowe, and Franklin, 2013).

Ideology serves to assist individuals in evaluating their position about an issue by blending together multiple points of view on a range of topics into a common perspective rather than being strictly evaluative about the single topic or issue (Conover and Feldman, 1981; Federico, 2009). Ideology is often represented as a polar scale with conservative at one end and liberal at the other end. Ideology is a symbolic representation that is tied to the groups an individual identifies with through membership or affiliation and becomes part of an individual's belief system (Jost, Federico, and Napier, 2009). For instance, liberals as a group tend to believe

that government should solve problems, such as healthcare costs, while conservatives tend to believe that individual empowerment is the means of problem-solving and social stability (Conover and Feldman, 1981; Jost, 2006). Ideologies both bring people and interests together and at times drives them apart with vehemence. Throughout history ideologies have been vilified as cultural phenomena that pit one set of peoples against another such as polarizing Marxist socialism in comparison to capitalism (Jost, 2006).

Jost (2006, p. 654) characterizes ideology as a contrast of attitudes about "... social change versus tradition" which is simply the conflict between innovation and the status quo. Jost (2006) establishes that ideology provides meaning to the behaviors people engage and gives others a way to gravitate toward like-mindedness. Jost (2006) also states that while ideology seemingly is related to self-interest(s), it is also the case that ideology is related to group identification rather than being simply an internalized behavioral construct. As individuals become part of a collective there is a tendency to "engage in system justification" even when such behaviors are counter-productive with rational social change (Jost, 2006, p. 655).

Conservatives tend to exhibit behaviors that are related to self-interest while liberals tend to exhibit behaviors toward the common good which is also a "classic" distinction between support for hierarchy and individual equality (Jost, Federico, and Napier, 2009, p. 310). Individual behaviors are not mutually exclusive to a particular ideology, but are displayed as a tendency to "be" ideologically conservative or liberal in terms of an individual's beliefs through symbolic meaning (Cobb and Elder, 1973). Sabatier (1988, p. 145; Heintz and Jenkins-Smith, 1988, p. 266) refers to ideology as being a part of the set of "deep (normative) core beliefs" that are firmly entrenched and difficult to change and which establishes the sides of issues related to differences in opinions about policy. The core beliefs represent the strength of association for a

policy topic/issue by agents in a policy arena (Weible, Heikkila, deLeon, and Sabatier, 2011). The liberal perspective tends to be associated with willingness to accept or stimulate political change, while the conservative perspective tends toward the status quo and the need to maintain order and familiar social structure (Jost, Federico, and Napier, 2009).

Since the passage of the ACA, the U.S. Congress and the public alike are nearly evenly divided along ideological and political party lines about the benefits, value, and usefulness of the ACA which favors strong federal control over healthcare delivery (Doherty and Tyson, 2014). In fact, when the ACA was passed there was not a single Republican vote for passage of the Act, even though the legislation was modeled after a Republican-authored health reform in Massachusetts (Gruber, 2011a; Joyce, 2010). Republicans tend toward a conservative ideology while Democrats exhibit a liberal ideology. The implications of such party line voting are that reactions to policy such as the ACA may be more about group-based ideological identification rather than the substance of the policy per se (Bonica, Rosenthal, and Rothman, 2014). Zschirnt (2011) in fact suggests that it is not the specific policy that elicits negative support from the public and professionals, but rather the fact that the policy was promoted by a single political group/party with a divergent ideology to those who oppose or support it.

Zschirnt (2011, p. 692) evaluated ideological self-identity and views on politically charged issues through analysis of the 2004 National Election Study. Zschirnt confirms previous studies that suggest that “feelings” toward an issue is really about which group(s), labor, business, religion, or APRNs, symbolize support for or opposition to a policy rather than the meaningfulness of the policy (Zschirnt, 2011). Tesler (2012) studied group influences surrounding the ACA by looking at cross-sectional data from the American National Election Study (ANES) and the Cooperative Campaign Analysis Project (CCAP). Tesler’s (2012, p. 693)

mixed method approach that included interview observations of 3,147 CCAP participants in addition to the ANES data suggested that there was a grouping of individual opinions about the ACA around racial affiliation. One conclusion based on the Tesler study "... whether using ANES or CCAP panel data ..." is that "... racial attitudes became more important in white Americans' beliefs about health care ..." rather other related groups or legislation alone (Tesler, 2012, p. 696). Lewis, Dowe, and Franklin (2013) looking at different data sets similarly found that white Americans as a group were less supportive of the ACA than were blacks or other groups of Americans. These findings in terms of support for the ACA are possibly more associated with in/out group affiliation as a result of racial membership rather than racial bias per se (Jost, 2006; Tesler, 2015).

According to the Association of American Medical Colleges (2010, p. 17), 75% of physicians practicing medicine in the US are white, well educated, and affluent. If indeed the racial spillover effects from policy advocacy for the ACA as described by Tesler and Lewis, Dowe, and Franklin are consistent throughout the US population (Tesler, 2012; Lewis, Dowe, and Franklin, 2013), physicians as a group may have de facto difficulty supporting the ACA or any meaningful efforts to change the traditional care system simply because of the supporting groups associated with the health policy rather than the meaningfulness, benefits, or incentives to be derived from the policy (Knowles, Lowery, and Schaumberg, 2010; Zschirnt, 2011). The PCP collective as an exclusive group of individuals through the nature of its limited membership may perceive non-members who advocate change to the collective's exclusive membership rules as a challenge to the beliefs and opinions of individual members (Cobb and Elder, 1973). In the face of evidence to the contrary individual group members may espouse the messages of the group



and deny the legitimacy of the desired change simply based on individuals or groups who support the change (Shanahan, Jones, McBeth, and Lane, 2013; Stone, 1989).

A Pew Research study in 2014 found that there are cohesive groups that form out of influences from ideology. Group opinions and attitudes are likely to be shared among group members irrespective of individual member opinions and attitudes (Dimock, Doherty, Kiley, and Krishnamurthy, 2014, p.2). Business conservatives, as one such group, tend to have beliefs and attitudes that are steadfast conservative in political value orientation, tend to prefer free markets, and overwhelmingly oppose the Obama administration and its policies (Dimock et al, 2014, p. 6). Business conservatives, about 27% of registered voters, tend to be overwhelmingly white and male, well educated, affluent, and tend to be politically active. As a group they are similar in makeup to that of the US physician community (American Association of Medical Colleges, 2010, p. 17; American Association of Medical Colleges, 2013; Dimock et al, 2014, p. 6). Business conservatives who are also physicians predictably would tend to support the models of care delivery that reward increases in services utilization through the status quo fee-for-service care delivery system rather than expanding the delivery system with IA APRNs (Berwick and Hackbarth, 2012).

Through the status quo/traditional care delivery system, physicians unilaterally determine how many patients to add or maintain in their practice in response to legislation and regulation such as the ACA (Jacobson, Earle, and Newhouse, 2011). The ability of physicians to claim reimbursement in a self-beneficial manner shapes the business of healthcare and related treatment decisions as well as influencing patient decisions about access to care services and their treatment (Berwick, 2013). It is plausible, therefore, that ideologically conflicting legislation that attempts to modify or eliminate the traditional the status quo would be perceived

as a negative value to individual physicians in some instances. The negative valuation by physicians would likely result in a bias toward reform and possibly extend their bias to positive features of reform legislation even in the face of evidence to the contrary.

### **Summary of the Chapter**

This chapter outlined a review of scholarly literature that is representative of the state of knowledge about the possible influences on physicians' opinions about IA APRNs. The scope of potential influences was narrowed for study through a critical review of relevant literature to identify the most likely associations with physician opinions. The value proposition of APRNs in primary care was presented as a confirmation of why IA APRNs are a reasonable solution for reform of the care delivery system. From that basis the purpose for the research question of why do some PCPs support IA APRNs while others do not was established. Assessing the research question fills a gap in the literature about why there is not broad acceptance of IA APRNs by PCPs. Collective choice theory was rationalized as the study's theoretical orientation in the context of care delivery. It was observed that challenges to the status quo may cause physician opinions to be biased against a broad range of mandated reform including support for IA APRNs.

Through the review of literature several potential influences on physician opinions were identified and are included as independent variables in the study. Physician gender and race are observed to be possible differentiators for their opinions about APRNs. The restrictions from state scope-of-practice laws was found to suggest a possible alignment with physician opinions about APRNs. Some states that permit IA APRN practice demonstrated positive cost and access outcomes and general support by physicians in those jurisdictions (Conover and Richards, 2015; Oliver, Pennington, and Reville, 2015).

Based on the review of literature, several personal factors of physicians may be influences on their opinions about APRNs. The two key concepts of this study: 1) ideology and, 2) support of the ACA are seen as likely potential influences on physicians' opinions (Jost, 2006; Keith and Lucia, 2014). Physicians' length of time in practice is a possible influence on their opinions about APRNs (Jackson Coker, 2013). The relative age of physicians' practicing primary care is seen as a potential association with physicians' opinions about APRNs. Changes in physicians' support of the ACA over time was identified as a possible factor in physicians' support of APRNs in the literature review (Jackson Coker, 2013). The physician's non-clinical role in their medical practice is recognized as a possible influence on their opinions about APRNs in several prior studies (Zismer, 2013). The working relationship physicians have with APRNs is also a likely influence on physicians' opinions (Street and Cossman, 2010).

In the literature review, particular attention was paid to the physician-patient policy arena in order to understand the role of non-physician stakeholders on physician opinions about APRNs. Several influences in the physician-patient policy arena were reviewed as foundation for the study's independent variables ideology and support for the ACA. The ACA's recommendation of IA APRNs as peers to physicians in primary care was established as a representative component of the ACA. As such, physicians' opinions about APRNs in clinical practice is identified as the study's dependent variable. The relative level of physician ideology and support for the ACA are promising as indicators of physician support of APRNs.

## **Chapter Three - Research Design**

### **Introduction**

This chapter describes the study's research question, hypotheses about the research question, and methods of analysis, measurement, survey instrument, data collection, and variables of interest in the study. The study poses ten (10) hypotheses that may lead to insights about the research question. The dependent variable in the study is PCP opinions about APRNs. The study investigates the direction of ideology and support for the ACA as independent variables on PCPs' opinions about IA APRNs. Characteristics of the respondents are included as independent variables describing demographics and their clinical practice. The demographic variables are: age, gender and race. Variables related to physicians' clinical practice are: length of time in practice, state of practice/licensure, non-clinical role in the medical practice, and whether the respondent works with APRNs. PCPs in the regionally adjoining states of Alabama, Arkansas, Louisiana, Mississippi, and Oklahoma are the population of PCPs from which the study sample was drawn. All of these states currently restrict APRN practice.

### **Institutional Review Board Approval**

An online survey, described later, is used to gather data about the study variables. The survey instrument and solicitation messages were submitted to and approved by the University of Arkansas Institutional Review Board (IRB). A copy of the IRB approval letter to conduct the study is included in Appendix A. The text of the initial and follow-up solicitation emails is included in Appendix B. The complete survey instrument is included in Appendix C.

### **Research Question**

The study's research question is: Why do some primary care physicians support independent autonomous practice for advanced practice registered nurses while others do not?

## Hypotheses

The hypotheses about the research question are presented in Table 3.1. The table outlines each of the study's hypotheses and identifies the independent variables to be tested. The groups to be compared through analysis are also identified in Table 3.1. Additional details describing the independent variables appear in succeeding sections of this chapter.

*Table 3. 1 Hypotheses, Independent Variables, and Comparison Groups*

Hypothesis	Independent Variable	Comparison Groups
1. PCPs who are more ideologically conservative are less supportive of IA APRNs than PCPs who are more ideologically liberal.	Ideology Composite $\sum$ Q36-Q41	(Min 6-Max 30) Conservative < 16 Liberal > 20
2. PCPs who support the ACA are more supportive of IA APRNs than PCPs who do not support the ACA.	ACA Composite $\sum$ Q20-Q29	(Min 10-Max 50) Support < 29 Oppose > 31
3. PCPs who have been practicing longer than 20 years are less likely to support IA APRNs than PCPs who have been practicing less than 20 years.	Q34 Time in Practice	> 20 years $\leq$ 20 years
4. PCPs who practice medicine as employees are more likely to support IA APRNs than PCPs who do not.	Q44 Role in Practice	Employees Non-employees
5. PCPs who are younger than 60 years of age are more likely to support IA APRNs than those PCPs who are older.	Q30 Age	< 60 years of age $\geq$ 60 years of age
6. PCPs in AR with less restrictive scope-of-practice laws are more likely to support IA APRNs than PCPs in OK with more restrictive scope-of-practice laws.	Q43 State of Licensure	Arkansas (least) Oklahoma (most)
7. PCPs who work with APRNs are more likely to support IA APRNs than PCPs who do not work with APRNs	Q46 Work with APRN	Work with APRN No work with APRN
8. PCPs whose opinions have changed to be more supportive of the ACA are more likely to support IA APRNs than PCPs whose opinions have changed to be less supportive of the ACA.	Q3 ACA Opinion Change	More Supportive Less Supportive
9. Female PCPs are more likely to support IA APRNs than male PCPs.	Q31 Gender	Male Female
10. Non-Caucasian PCPs are more likely to support IA APRNs than Caucasian PCPs	Q32 Race	Non-Caucasian Caucasian

Note: See Appendix C for question wording.

## Variables and Measures

Table 3.2 is a summary describing the survey's question set characteristics. In the sections following Table 3.2 are detailed explanations of the questions associated with each variable in the study, the response categories of each variable type, and relevant variable scoring.

*Table 3. 2 Summary of Question Set Construction*

Question Set	Question List	Question Type	Range of Response
PCP Opinion about APRNs (Dependent Variable)	Q5-Q16	Dependent Variable (Continuous)	Min. 12 Max 60 Composite Score
Support for ACA	Q20-Q29	Independent Variable (Continuous)	Min 10 Max 50 Composite Score
Ideology	Q36-Q41	Independent Variable (Continuous)	Min 6 Max 30 Composite Score
Respondent Characteristics	Q3, Q30-Q34 Q43, Q44, Q46	Independent Variable (Primarily Ordinal; Nominal as appropriate)	Yes/No Select a Group Likert Item

### Dependent Variable

The dependent variable, PCP Opinions about IA APRNs, is derived from a set of twelve (12) statements about APRNs working in the primary care practice setting. Each statement is intended to elicit a respondent's level of agreement or disagreement. The statements were originally developed by Acquilino et al (1999) and were also used by Street and Cossman (2010). Respondents are asked to choose their response to each statement from five Likert items scaled as strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. The items are scored on a five point scale from 1 to 5. A score of 1 is most supportive of APRNs and 5 is least supportive of APRNs. Three (3) is a neutral score. A composite Likert score is calculated by summing the response score for each of the 12 statements. The larger the composite score, the less supportive the response is toward APRNs. The minimum score, most

supportive of APRNs, is 12. The maximum score, least supportive of APRNs, is 60. The composite response score suggests the strength and direction of the respondent's opinion about APRNs. A "no response" or missing value to any statement in the 12 item set excludes that respondent/case from any analysis involving the dependent variable. No composite score is computed for a case with a missing value on any statement relating to the dependent variable. The dependent variable statements in the current study's instrument are numbered continuously from Q5 to Q16.

### **Primary Independent Variables – Support for the ACA and Ideology**

One of the two primary independent variables in the study is support for the Affordable Care Act (ACA). The ACA independent variable is a Likert composite score derived from ten (10) statements for each respondent. Statements Q20 through Q29 in the study instrument are intended to measure the direction and support for the ACA. The set of statements was assembled from statements developed by Huntoon, McCluney, Scannell, et al (2011) and Jackson Health Care (2012). Respondents are asked to choose their response about each statement from five Likert items scaled as strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. The Likert items were scored from 1 to 5 with 3 being a neutral response. The composite Likert score ranges from 10, least supportive, to 50 more supportive of the ACA. A "no response" or missing value to any question in the set excludes that respondent's case from any analysis involving this independent variable and no composite score for that case is produced.

Three groups are created based on the distribution of respondents' Likert scores for this variable. The groups, support the ACA, neutral on the ACA, and do not support the ACA, are created using approximately equal class intervals from the range of response scores. Support for the ACA and do not support the ACA were included in the analysis. The "neutral on the ACA"

group was created to account for the likelihood that not all respondents are likely to either support or not support the ACA. The interval cut-points from the composite score are calculated from actual responses.<sup>3</sup>

The second primary independent variable of interest is a measure suggesting the respondent's ideological leaning. Ideology is represented on a polar scale of conservative to liberal. There are six (6) statements in the study instrument that are summed to produce an ideology Likert/composite score for each respondent. Statements Q36 to Q41 are statements measuring the ideological leaning of the respondent. The item set for ideology was derived from a Pew Research (2014) study. Respondents are asked to choose their response about the statement from five Likert items scaled as strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. The Likert items were scored from 1, conservative, to 5, liberal. The composite score ranges from 6 to 30 with smaller relative scores representing conservatism and larger scores representing a liberalism. A "no response" to any question in the set excluded that respondent from any analysis involving this independent variable and no composite score for that case was produced.

Three groups are created based on the range of the composite score in the respondent population. The groups, conservative, moderate, and liberal are derived from approximately equal class intervals of respondents. The respondent groups conservative and liberal are included in the analysis. The "moderate" group is created to accommodate the likelihood that not all

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<sup>3</sup> For this study the cut-points derived post-analysis are: support the ACA  $< 29$ , neutral  $\geq 29 \leq 31$ , and do not support the ACA  $> 31$ . Details for the computation of the cut-points are explained below in Chapter 4, Univariate Data Analysis.



respondents are likely to be either conservative or liberal. The interval cut-points from the composite score are calculated from actual responses.<sup>4</sup>

### **Respondent Characteristics Variables**

There are eight independent variables that represent characteristics of individual respondents. The independent variables describing respondents include three demographic characteristics and five practice characteristics. The items use a variety of question formats including: yes or no responses, choose a category, or Likert items. Demographic variables include: age (Q30), gender (Q31), and race (Q32). The items describing the respondent's practice include: support of the ACA over time (Q3), years in practice (Q34), state of licensure (Q43), practice organization role (Q44), and the respondent's work relationship with APRNs (Q46).

The response categories for age, race, years in practice, and practice organization role were collapsed from five categories into two categories for analysis. The resulting categories relate to the study hypotheses and are determined as relevant for the study from the literature review.

### **Method of Data Analysis**

The study uses a between-subject design. The study is designed to answer the research question by testing group differences in the study respondents. Responses to survey items occurred in two or more independent groups. A univariate analysis of the dependent variable and each of the independent variables is completed to describe the response characteristics of the associated variable. Bivariate testing is completed for each of ten (10) hypothesis. The bivariate

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<sup>4</sup> For this study the cut-points derived post-analysis are: conservative  $< 16$ , moderate  $\geq 16 \leq 20$ , and liberal  $> 20$ . Details for the computation of the cut-points are explained below in Chapter 4, Univariate Data Analysis.

method used to test hypotheses about the research question's group differences is the *t* test for independent sample means. The p-value is set at  $p \leq 05$ .

### **Survey Instrument**

A survey instrument was designed to capture responses related to the dependent and independent variables in four (4) groupings or sections of question, see Table 3.2. The survey instrument was constructed for delivery over the internet. The survey was designed with a target completion time of under the (10) minutes with the average expected time to complete the survey of seven (7) minutes. The survey questions are organized for presentation in the instrument so that individual questions relating to a particular question grouping appear continuously in the instrument. The eight questions relating to respondent characteristics are split into sub-groups in no particular order. The sub-groups of respondent characteristics questions are interspersed between the other question sets as a convenience in the design of the survey instrument. There is no intended relationship in the order of presentation for the question groupings except that questions sets other than respondent characteristics questions appeared together in their relevant question group. The design of the survey instrument and techniques for administering the web survey are based on "The Tailored Design Method" of Dillman, Smythe, and Christian (2014).

### **Study Population**

The study sampled physicians from a population of PCPs practicing adult primary care in five regionally adjoining states: Alabama, Arkansas, Louisiana, Mississippi, and Oklahoma. States were selected to assure as much as possible that market and PCP practice influences were similar in terms of access and services demand for primary care services. Tables 3.3 and 3.4 summarize the state population characteristics.

Table 3. 3 PCP Population Characteristics - Part 1

State	PCP Sample N	PCP per 100,000 Population	Medicaid Enrollment Percent of Population	Medicare Enrollment Percent of Population	Per Capita Healthcare Spending
Alabama (AL)	602	77.5	18.1%	18.3%	\$6272
Arkansas (AR)	483	79.7	28.0%	18.7%	\$6167
Louisiana (LA)	724	81.6	22.9%	15.6%	\$6795
Mississippi (MS)	469	71.0	23.9%	17.3%	\$6571
Oklahoma (OK)	861	82.8	21.2%	16.4%	\$6532

Note: Study states' PCPs per 100,000 population in primarily adult practice, average 78.5 range 77.5-82.8 (Kaiser Family Foundation, 2014). Percentage of Medicaid enrollment in the population, average 22.8% range 18.1-27.9 (Kaiser Family Foundation, 2011). Percentage of Medicare enrollment in the population, average 17.3% range 16.4-18.7 (Kaiser Family Foundation, 2012). Per capita combined public and private healthcare spending, average \$6467 range \$6167-\$6785 (Kaiser Family Foundation, 2009).

First, the state selection considered states' regional proximity to one another. Regional proximity was a consideration because of the likelihood of similarity between states' health policy including APRN scope-of-practice laws (Berry and Berry, 2007). Secondly, states were selected if their APRN scope-of-practice regulations were restrictive. Restricted APRN scope-of-practice was used to assure that the resulting PCP sample is similar in their clinical relationships with APRNs. Other selection factors included: PCPs per 100,000 population, Medicaid and Medicare population as a percent of the total state population, per capita healthcare spending, and health ranking. Finally, the similarity between all study states' political ideology was considered. AL, AR, LA, and MS are part of the conservative "Solid South" political voting bloc (Buchanan and Kapeluck, 2014). OK is typically not considered to be a part of that descriptive voting bloc when characterizing population based politics. However, OK is very similar in

conservative voting behavior to the other states selected for the respondent population (Buchanan and Kapeluck, 2014; Savage, Min, Beasley, Pilcher, 2013).

*Table 3. 4 PCP Population Characteristics - Part 2*

State	State Political Structure (Governor/House/Senate)	APRN Scope-of-Practice Restriction Tasks (1= most - 7=least)	National Health Status Rank (Out of 50 states with 1 = best)
Alabama	Repub/Repub/Repub	1	47
Arkansas	Repub/Repub/Repub	6	49
Louisiana	Repub/Repub/Repub	4	48
Mississippi	Repub/Repub/Repub	4	50
Oklahoma	Repub/Repub/Repub	2	44

Note: National health status rankings are compiled by America's Health Ranking, 2013. APRN scope-of-practice restriction rating compiled by Barton Associates (2015) based on seven typical scope-of-practice criteria ranking from most restrictive (0 out of 7) to least restrictive (7 out of 7 items).

### **Respondent Sample**

The study sample is 3139 licensed primary care physicians. The individual physicians included in the study population are a subset of an expert panel of physicians maintained for various types of healthcare research by SK&A Information Systems of Irvine California (SK&A). SK&A is a commercial healthcare marketing firm that maintains a national panel of physicians who agree to periodically participate in marketing research. SK&A procured their initial physician list from the American Medical Association and other proprietary sources.<sup>5</sup> They contacted each member of the list to additional personal information, including email address, and asked the physician contact to volunteer as a member of their expert panel.

Members of the SK&A expert panel are contacted at least two times each year by the list owner. On each contact, the list owner verifies the physician's personal and practice

<sup>5</sup> Additional details concerning the list maintenance are available on the SK&A web site at [www.skainfo.com](http://www.skainfo.com).

characteristics and confirms each individual's willingness to receive or continue to receive email solicitations. Physicians in the SK&A list are not compensated for being members of the expert panel. However, according to SK&A, more often than not, individual solicitations of the panel involve some sort of compensation incentive for participation. The current study did not offer any type of incentive to be a member of the study sample. The list was purchased/rented for a two time use in this study, the initial survey solicitation and one follow-up solicitation.

Selection criteria for the study's physician sample are physicians who practice mostly adult primary care. Physicians who are certified to practice in the sub-specialties of family medicine, internal medicine, or general medicine and licensed in at least one of the study states met the criteria as adult primary care physicians. The primary discriminator in the sample of PCPs was the willingness to be solicited for participation by email.

The physicians in the study sample represent a pseudo-random cross-section of PCPs in the study states. The sample of adult PCPs is a 20-30% subset of PCPs practicing in the five study states (Kaiser Family Foundation, 2014). Allopathic, osteopathic, pediatric, and obstetrics and gynecology primary care physicians were excluded from the study population.

### **Data Collection**

Each physician in the study sample received an initial email solicitation with a personal message from the study's investigator requesting their participation in the study. If there was no response to the initial solicitation, a follow-up email request was sent ten days later. In both solicitations, the respondent could immediately click an active link in the solicitation email that would spawn the survey to their device or cut and paste the link directly into their browser of preference. A respondent could complete the survey on a PC, tablet, or smartphone. All functionality of the survey was presented in a format appropriate for the device. Respondents

were allowed to skip any questions they choose and/or exit the survey at any time. There are no risks or benefits to respondents participating in the confidential study. Each response received is only used in aggregate with other responses.

The internet/online survey was created and administered using the Qualtrics electronic survey system. Qualtrics is a commercial firm that manages various types of survey research through a shared services tool. The University of Arkansas licenses the use of the Qualtrics system for use by faculty, staff, and students. Qualtrics manages the mailing of survey solicitations consistent with best practices identified in the CAN-SPAM Act of 2003, which specifies rules for bulk emailing. The Qualtrics system tracks the email addresses of the survey's panel(s) with an encrypted response ID to maintain the confidentiality of active and potential respondents. While survey responses are confidential, they are not anonymous. The survey management tools keep track of email addresses for distribution and response tracking. Data, such as name and title, are associated with individual email addresses in order to personalize the solicitation email message. Other respondent data automatically captured in the Qualtrics system include: time to complete the survey, date and time of day the survey was started and completed, whether the potential respondent opened the email solicitation, whether the email solicitation was bounced by the recipient email server, and geo-coordinates of the internet service provider where the survey was started. Best practices for data management, such as restricted access to the PCP sample and response items, was used to assure confidentiality of the data collected during the study (Dillman, Smythe, and Christian, 2014).

### **Data Management**

Valid responses to the survey were captured and initially stored in the Qualtrics system. Access to the Qualtrics system is secured through username and password validation. Response

data in the Qualtrics system is organized in a spreadsheet like manner; rows corresponding to a unique individual and columns corresponding to the individual questions in the survey. The data from the Qualtrics system was downloaded in a common text-delimited file to the investigator's computer. The data file was opened in Excel and scrubbed of personal data incidental to the study including the respondent's email address, location, etc. The resulting Excel file was then imported into SPSS V22 for data analysis.

### **Summary of the Chapter**

This chapter described the research design and methods used to answer the study's research question. Ten hypotheses related to the research question are proposed. The population and sample is described along with the criteria that are used to select the population panel. The survey instrument construction is explained as well as the method of administration and data management of responses. Each variable is described, including method of measurement. The techniques used to calculate the scores for each variable is explained. Each statistical test to be used is also explained. The goal of the study is to address the primary research question and gather insights into the influences on PCP opinions about APRNs. The results of the study appear in the next chapter.

## Chapter Four - Results

### Introduction

This chapter presents the findings from the study. The research question is: Why do some adult primary care physicians support independent autonomous provider status for advanced practice registered nurses while others do not? The study evaluates the relationship between the dependent variable, physicians' opinions about supporting IA APRNs, and ideology, support for the ACA, and several respondent characteristics. The respondent characteristics are reported and univariate statistics are presented for the dependent variable and each independent variable. The independent-sample *t* test is used to evaluate each of the study's ten (10) hypotheses about the dependent variable, using dichotomized groups from the study's independent variables. The outcome for each bivariate test is presented. The analysis generated significant results for three of ten hypotheses at  $p \leq .05$ . The level of support for the ACA on PCP opinions about APRNs was a significant finding as were physicians' ideology and whether they work with APRNs in their medical practice.

### Response Rate

Two solicitations were sent through email inviting PCPs in five (5) states to participate in a survey about health policy. The sample panel was 2995. Table 4.1 presents the response rates and distribution of respondents by state for the study sample panel. Two potential respondent subsets for each state were arbitrarily constructed by the investigator for the convenience of managing the solicitation distribution. Approximately half of the potential respondents from each state sample were allocated to each "convenience" subset prior to distribution.



*Table 4. 1 Sample Panel Response Rates*

State	Sample N	Rejected	Valid Responses	State Response Rate	Panel Response Rate
Alabama	583	19	5	0.86%	0.17%
Arkansas	467	13	19	4.07%	0.63%
Louisiana	671	51	6	0.89%	0.20%
Mississippi	456	13	6	1.32%	0.20%
Oklahoma	818	41	16	1.96%	0.53%
Total	2995	137	52		1.74%

Note: Individual response rates are rounded and do not sum to the total. An outlier analysis was completed to assure consistency in the raw dataset. Case 6 was eliminated. Visual examination of Case 6 noted a pattern of extreme alternating responses throughout the response set. The final usable number of response sets with more than 75% of questions completed is 51 cases.

One-hundred thirty-seven (137) of the initial sample email solicitations were undeliverable leaving a revised sample of 2995 out of the initial sample of 3139 (Table 4.1). The initial rate of respondent's contact from the solicitation is 2.4% or 71 contacts. Of these, six (6) respondents indicated they were no longer in PCP roles and declined to participate in the survey. Thirteen (13) surveys were started and abandoned. Partial results from the abandoned surveys were discarded. As a result, there were 52 usable surveys for a final panel response rate of 1.7%. Thirty-seven percent (37%) of the usable response sets were completed by respondents in the state of Arkansas. Thirty-one percent (31%) of the respondents are from Oklahoma, with 12% each from Louisiana and Mississippi, and 10% from Alabama.

### **Univariate Data Analysis**

Table 4.2 is a univariate analysis of the dependent variable. The dependent variable, PCP opinions about APRNs, is represented as a composite score. The composite score is created by summing the score across twelve individual statements, Q5 to Q16 inclusive, for each case/respondent. Higher scores of the dependent variable's composite score signifies relatively

less agreement with the statement set and less support for APRNs. The average score for the dependent variable is 34.4 (SD 6.91) for all respondents. The mid-point of the possible range is 36, suggesting a tendency to support IA APRNs in the sample.

*Table 4. 2 Dependent Variable Univariate Analysis Results*

	Support of APRN $\sum$ Q5-Q16
N Cases	48
Mean	34.4
Median	34.0
SD	6.91
Min Response	20.0
Max Response	46.0
Possible Response Range	12 - 60

Note: Larger values denote less supportive opinions of APRNs

Table 4.3 presents the univariate analysis for the composite scores of the two primary independent variables, ideology and support for the ACA. The composite scores for these independent variables were transformed into groups for comparison using bivariate analysis. Three response categories/groups are created for testing group differences from the range of respondent scores. Details of the bivariate analysis appear below.

Ideology is one of the study's primary independent variables. It is represented as a composite score calculated through the sum of questions Q36 to Q41 inclusive (Table 4.3). The range of possible scores is 6 to 30. The average ideology score is 16.5 (SD 5.07) suggesting a more conservative response pattern in the sample. The minimum response score is 7 and the maximum is 26. Three response categories for ideology are created. First, a frequency distribution of the scores for the appropriate variable was produced. The mid-point of the possible range was identified (18). The SD of responses (5.07) was rounded to the nearest integer

and divided in half and rounded (3) to produce the number of intervals to include with the midpoint (16, 17, 18) and (18, 19, 20). The resulting class interval, for moderates, including the midpoint is 16-20.

*Table 4. 3 Primary Independent Variable Univariate Analysis Results*

	Ideology Composite Score $\sum$ Q20-Q29	Support of ACA Composite Score $\sum$ Q36-Q41
N Cases	48	47
Mean	16.5	31.5
Median	16.5	32.0
SD	5.07	4.44
Min Response	7.0	23.0
Max Response	26	40.0
Possible Response Range	6 – 30	10 - 50

Note: Larger ACA composite score is more supportive of ACA.  
Larger Ideology composite score is liberal leaning.

The second primary independent variable is support of the ACA. Support of the ACA is a composite variable created by summing the individual responses to Q20 through Q29 (Table 4.3). Three response categories for support of the ACA are created. The categories are established using approximately equal response classes including the midpoint. First, a frequency distribution of the scores was produced. The mid-point of the possible range was identified (30) and is included in the new class. The SD of responses (4.4) was divided in half and rounded to nearest integer (2) to produce the number of intervals to include with the midpoint (29, 30) and (30, 31). The resulting class interval, neutral on ACA, including the midpoint is 29-31.

Table 4.4 indicates that 46% of respondents completed responses determined to be ideologically conservative. Thirty percent (30%) of the respondents are moderates with 25% ideologically liberal leaning. Responses derived from the “Support of ACA” composite score

suggest that 51% of respondents support the ACA, 32% do not support the ACA, and 17% are neutral. Sixty-four percent (64%) of respondents work with APRNs three days or more per week (Table 4.4).

*Table 4. 4 Significant Independent Variable Univariate Analyses*

Variable	N <sub>T</sub>	Response 1 Label – % (N)	Response 2 Label – (% - N)	Response 3 Label – (% - N)
Ideology	48	Conservative 46% (N=22)	Moderate 29% (N=14)	Liberal 25% (N=12)
Support of ACA	47	Do Not Support 32% (N=15)	Neutral 17% (N=8)	Support 51% (N=24)
Work with APRNs	50	Yes 64% (N=32)	No 36% (N=18)	

Note: Some numbers do not sum to the totals due to rounding

As seen in Table 4.5, 84% of the study respondents are male. Forty-six percent (46%) of respondents are aged 60 years or older and 78% of respondents are Caucasian (Table 4.5).

*Table 4. 5 Respondent Demographic Characteristics – Not Significant*

Variable	N <sub>T</sub>	Response 1	Response 2	Response3	Response 4	Response 5
Gender	50	Male 84% (N=42)	Female 16% (N=8)			
Age	50	35 or less 8% (N=4)	Age 36 – 45 16% (N=8)	Age 46 – 54 22% (N=11)	Age 55 – 59 8% (N=4)	Age 60 + 46% (N=23)
Race	50	Native Amer. 4% (N=2)	Asian 4% (N=2)	Black 8% (N=4)	Caucasian 78% (N=39)	Other 6% (N=3)

Note: Some numbers do not sum to the totals due to rounding

From Table 4.6, when asked if their opinions about the ACA had changed, 49% of the respondents reported their current opinion is the same as it was in 2010. Twenty-five percent (25%) of the respondents are less supportive of the ACA currently compared with their opinion in 2010 and 27% respondents are now more supportive of the ACA.

*Table 4. 6 Respondent Univariate Practice Characteristics – Not Significant*

Variable	N <sub>T</sub>	Response 1	Response 2	Response3	Response 4	Response 5
Change in ACA Support over time	49	Less Supportive 25% (N=12)	Same Support 49% (N=24)	More Supportive 27% (N=13)		
Time in Practice	50	1 - 5 Years 10% (N=5)	6 - 10 Years 10% (N=5)	11 - 15 Years 14% (N=7)	16 -19 Years 8% (N=4)	≥ 20 Years 58% (N=29)
Role in Practice	50	Owner/Solo 8% (N=4)	Partner/P.A. 18% (N=9)	Employee 64% (N=32)	Contractor 4% (N=2)	Other 6% (N=3)
State of License	50	Alabama 10% (N=5)	Arkansas 36% (N=18)	Louisiana 12% (N=6)	Mississippi 12% (N=6)	Oklahoma 30% (N=15)

Note: Some numbers do not sum to the totals due to rounding

Fifty-seven percent (58%) of the completed surveys are from respondents who had practiced medicine post-residency for 20 or more years. Fourteen percent (14%) report being in practice for 11-15 years, 8% for 16-19 years, and 10% report practicing medicine for 1-5 years or 6-10 years. Sixty-four percent (64%) of the respondents indicate they are employees in their practice. Thirty-six percent (36%) of respondents are from Arkansas, a least restrictive scope-of-practice state, with 30% from Oklahoma, a most restrictive scope-of-practice state (Table 4.6).

Tables 4.7 and 4.8 summarize the results of difference of bivariate means tests for the study's ten hypotheses.

### **Bivariate Data Analysis/Hypothesis Testing**

Table 4.7 presents results for the hypotheses that were statistically significant and the research hypothesis accepted ( $p \leq .05$ ). Table 4.8 summarizes the results that were not statistically significant and the null hypotheses could not be rejected. For each hypothesis, test groups were dichotomized from responses to individual questions or derived from composite

scores as appropriate to the specific independent variable. Independent samples *t* test were then used to compare mean PCP levels of support of APRNs across groups.

Hypothesis 1: PCPs who are more ideologically conservative are less supportive of IA APRNs than PCPs who are more ideologically liberal. Mean for support of IA APRNs by conservative PCPs is 35.6 (SD 7.50) and by liberal PCPs is 30.8 (SD 7.38). The difference in means test indicates that the difference is statistically significant ( $t(30) = 1.68$ ) at  $p \leq .05$ , confirming Hypothesis 1 (Table 4.7).

*Table 4. 7 Significant Difference in Support of APRN Means Test Results  $p \leq .05$*

Hypothesis (Grp 1 - Grp 2)	N <sub>T</sub>	Group 1	Group 2	P Value 1-Tailed	<i>t</i> Test
Hypothesis 1 Ideology (Cons < Lib)	32	M=35.6 SD=7.50 N=22	M=30.8 SD=7.38 N=10	p=.050	$t(30) = 1.68 *$
Hypothesis 2 ACA Support (More > Less)	38	M=31.2 SD=6.27 N=23	M=40.3 SD=4.92 N=15	p=.000	$t(36) = - 4.71 *$
Hypothesis 7 Work With APRN (Yes > No)	47	M=33.1 SD=6.83 N=30	M=36.6 SD=6.87 N=17	p=.049	$t(45) = - 1.69 *$

Note: \* $p \leq .05$ . Distribution is normal with equal variances.

Hypothesis 2: PCPs who support the ACA are more supportive of IA APRNs than PCPs who do not support the ACA. Mean support of IA APRNs by PCPs who support the ACA is 31.2 (SD 6.27), in contrast with a mean of 40.3 (SD 4.92) for PCPs who do not support the ACA (Table 4.7). The difference in means is statistically significant with  $t(36) = -4.71$  at  $p \leq .05$ . The null hypothesis is rejected and the research hypothesis is accepted.

Hypothesis 7: PCPs who work with APRNs are more likely to support IA APRNs than PCPs who do not work with APRNs. The results reported in Table 4.7 indicate that the mean for support of IA APRNs is 33.1 (SD 6.83) for PCPs who work with APRNs and 36.6 (SD 6.87) for

PCPs who do not work with APRNs. The difference in means test indicates the difference is statistically significant ( $t(45) = -1.69$ ). The null hypothesis is rejected and the research hypothesis is accepted (Table 4.7).

Table 4. 8 No Difference in Support of APRN Means Test Results  $p \leq .05$

Hypothesis (Grp 1-Grp 2)	N <sub>T</sub>	Group 1	Group 2	P Value 1-Tailed	t Test
Hypothesis 3 Time in Practice ( $\geq 20y$ ) > (< 20y)	47	M=35.3 SD=7.20 N=26	M=33.0 SD=6.60 N=21	p=.108	t(45) = 1.25
Hypothesis 4 Role in Practice (Empl > NonE)	47	M=34.8 SD=6.68 N=30	M=33.8 SD=7.65 N=17	p=.320	t(45) = .47
Hypothesis 5 Age (< 60 yo) > ( $\geq 60$ yo)	47	M=34.0 SD=7.07 N=26	M=34.9 SD=7.02 N=21	p=.694	t(45) = -.40
Hypothesis 6 Restrictive SOP (AR > OK)	33	M=36.1 SD=5.87 N=18	M=33.4 SD=9.23 N=15	p=.161	t(31) = 1.00
Hypothesis 8 Changed ACA Opinion (More > Less)	24	M=32.4 SD=7.73 N=12	M=36.0 SD=8.42 N=12	p=.144	t(22) = -1.09
Hypothesis 9 Gender (Female > Male)	47	M=31.8 SD=6.07 N=8	M=34.9 SD=7.10 N=39	p=.121	t(45) = -1.19
Hypothesis 10 Race (Noncauc > Cauc)	47	M=34.4 SD=6.55 N=10	M=34.4 SD=4.18 N=37	p=.499	t(45) = -.00

Note: \* $p \leq .05$ . Distribution is normal with equal variances.

Hypothesis 3: PCPs who have been practicing longer than 20 years are less likely to support IA APRNs than PCPs who have been practicing less than 20 years. The results presented in Table 4.8 indicate that the null hypothesis cannot be rejected. PCPs practicing 20 years or

longer had a mean for support of IA APRNs of 35.3 (SD 7.20). PCPs in practice for less than 20 years produced a mean of 33.0 (SD 6.60). The  $t$  value is  $t(45) = 1.25$  (Table 4.8).

Hypothesis 4: PCPs who practice medicine as employees are more likely to support IA APRNs than PCPs who do not. Table 4.8 indicates that the mean support for IA APRNs for PCP employees is 33.83 (SD 6.68) and for PCP non-employees is 33.8 (SD 7.65). The difference in means test did not produce a statistically significant difference,  $t(45) = 0.47$ . There is insufficient evidence to reject the null hypothesis (Table 4.8).

Hypothesis 5: PCPs who are younger than 60 years of age are more likely to support IA APRNs than those PCPs who are older. The mean for support of IA APRNs by PCPs younger than 60 years of age is 34.0 (SD 7.07). The mean for support of IA APRNs by PCPs 60 years of age and older is 34.9 (SD 7.02). The results of the difference in means test reported in Table 4.8 suggest that there is no difference in the group means. The null hypothesis cannot be rejected with  $t(45) = -0.40$  (Table 4.8).

Hypothesis 6: PCPs in states with less restrictive scope-of-practice laws are more likely to support IA APRNs than PCPs in states with more restrictive scope-of-practice laws. The support for IA APRNs in Arkansas, a least restrictive scope-of-practice law state, has a group mean of 36.1 (SD 5.87). The support of IA APRN mean for Oklahoma, a more restrictive scope-of-practice state, is 33.4 (SD 9.23). The results of the difference in means test (Table 4.8) indicates no statistical difference of means ( $t(31) = 1.00$ ). The null hypothesis cannot be rejected.

Hypothesis 8: PCPs whose opinions have changed to be more supportive of the ACA are more likely to support IA APRNs than PCPs whose opinions have changed to be less supportive of the ACA. Table 4.8 indicates the means for support of IA APRNs is 32.4 (SD 7.73) for PCPs whose support for the ACA has increased and is 36.0 (SD 8.42) for PCPs whose support for the



ACA has decreased. The difference of means test,  $t(22) = -1.09$ , indicates the difference is not statistically significant. The null hypothesis cannot be rejected from this evidence (Table 4.8).

Hypothesis 9: Female PCPs are more likely to support IA APRNs than male PCPs. The means for support of IA APRNs in Table 4.8 for females is 31.8 (SD 6.07) and for males is 34.9 (SD 7.10). According to the difference of means test the result is not statistically significant ( $t(45) = -1.19$ ). There is insufficient evidence to reject the null hypothesis (Table 4.8).

Hypothesis 10: Non-Caucasian PCPs are more likely to support IA APRNs than Caucasian PCPs. The results in Table 4.8 indicate that the means for support of IA APRNs is 34.4 (SD 6.65) for non-Caucasians and is 34.4 (SD 4.18) for Caucasians. The difference of means test indicates that the difference in means is not statistically significant. According to the t-value of  $t(45) = -0.00$  the null hypothesis cannot be rejected (Table 4.8).

### **Summary of the Chapter.**

An internet survey was administered to a sample of physicians practicing adult primary care in five states. The research hypotheses was accepted for three of the study's hypotheses about the research question. The null hypotheses could not be rejected in 7 out of 10 hypotheses. This chapter presented the results of univariate analyses followed by bivariate analyses of PCP support for IA APRNs associated with selected independent variables. In bivariate analysis none of the physicians' demographic or practice characteristics measured are statistically related to their support of IA APRNs. However, ideology, support for the ACA, and working with APRNs do suggest a significant association with PCPs opinions about IA APRNs, all in the expected direction. In the next chapter possible meanings of these findings is offered.

## Chapter 5 – Summary and Discussion

### Introduction

This study examined PCPs' ideologies and their support for the ACA as influences on their opinions about APRNs practicing independently and autonomously in primary care. The primary care market is traditionally restricted to services provided exclusively by physicians and as such, physician opinions about care delivery changes may be reinforced through belief systems about traditional care (Weible and Sabatier, 2009). Ideology in the study sample is found to be related to PCP opinions about IA APRNs practicing in primary care with conservative PCPs less supportive. Similarly, PCP support of the ACA is also related to opinions about APRNs with PCPs who are less supportive also less supportive of APRNs. These findings may be of interest to state policy-makers as they consider IA APRNs as means of health reform in their jurisdictions (Gilman and Koslov, 2014; Isaacs and Jellinek, 2012).

APRN care can fill a void in demand for healthcare services and access to primary care at a reasonable cost which are pressing issues for state legislatures in the physician-directed primary care system (National Conference of State Legislatures, 2013a; Yee, Boukus, Cross, and Samuel, 2013). IA APRN delivered primary care, permitted through state scope-of-practice laws, is a preferred response to needed healthcare reform in 19 states (American Association of Nurse Practitioners, 2014; Safriet, 2011; Yee, Boukus, Cross, and Samuel, 2013). In other jurisdictions, the decision to support scope-of-practice change may be perceived by PCPs as a repudiation of their interests and deeply-held beliefs about the role of government and/or professional responsibilities in care delivery (Keeter and Weisel, 2014; Weible and Sabatier, 2009). A scope-of-practice change to permit IA APRNs may be a challenge to accomplish in some states and

without insight into how physicians can be convinced to support IA APRNs may not be successful.

Health reform policy in the US is supposed to be about assuring the right treatment at the right time for a cost that patients can afford to pay (Berwick, Nolan, Whittington, 2008). However, the national debate surrounding how health policy can meet this challenge appears to have denigrated to a stalemate of opinions between payers and lobby groups about whether institutions or physicians should control decision-making authority at the point-of care (Deloitte, 2015b; Gilman and Koslov, 2014; Thompson, 2013). Discussions about care delivery seemingly should include representation of “rank and file” PCPs to ensure their participation and leadership in cost containment at the point of care, including supporting IA APRN care (Gerber, Patashnik, Doherty, and Dowling, 2014; Heib, 2012). The implication from engaging PCPs in the APRN change process is that physician leadership is needed to endorse IA APRNs as part of a durable state-level health policy strategy (Angood and Birk, 2014; Link, Perry, and Cesarotti, 2014). The consequences of not considering the unique roles of all professionals in reform of the care delivery system may include a return to the gross inefficiencies that spawned the ACA in the first place (Kaiser Family Foundation, 2011a; Link, Perry, and Cesarotti, 2014; National Conference of State Legislatures, 2011).

Findings from the study are presented in the next section followed by a discussion of the study’s limitations. Possible implications of the findings are suggested next. A recommendation for future research is considered in the context of gaining support from physicians for IA APRNs. The chapter ends with a perspective on how to engage PCP stakeholders in decisions about IA APRN health reform at the point-of-care.

## Findings

The findings provide a perspective on the antagonistic nature of health policy in conservative-majority jurisdictions or policy sub-systems (Weible and Sabatier, 2009). Liberal-leaning PCPs have a tendency to support IA APRNS (Table 4.7) that shows their conservative-leaning counterparts are more likely to oppose them in the face of evidence (Cassidy, 2012; Conover and Richards, 2015; Liu, Finkelstein, and Poghosyan, 2014; Oliver, Pennington and Reville, 2014; Tillett, 2011). Similarly, PCPs who support the ACA are more likely to have favorable opinions of IA APRNs while those PCPs who are less supportive of the ACA are less likely to have positive opinions about IA APRNs (Table 4.7). PCPs who work with APRNs three or more times per week are also more likely to express positive opinions about IA APRNs than PCPs who do not (Table 4.7). These three factors were found to show significant differences between the tests groups measuring PCPs' generalized opinions about APRNs. Individual PCP characteristics including age, years in practice, race, non-clinical role in the practice, and gender are not related to PCP opinions about APRNs (Table 4.8).

The findings are similar to those from previous studies that examine the influences of ideology on opinions, attitudes, and/or behaviors (Antiel et al., 2014; Dimock, Kiley, Keeter, and Doherty, 2014; Jost, Federico, and Napier, 2009; Schlager, 1995). Jost, Glaser, Kruglanski, and Sulloway (2003, p. 339) suggest that "... conservatism stresses resistance to change and justification of inequality ..." for the sake of conservatism. Dimock, Kiley, Keeter, and Doherty (2014, p 7) similarly suggest that conservatives who are steadfast in their opinions tend to be "... critics of the government and the social safety net ..." which might add some credence to the study sample's less supportive nature for IA APRNs by conservatives. Keeter and Weisel (2014, p. 6) suggest that conservatives, more so than liberals, are likely to exhibit highly

polarized views simply due to an issue's support by groups in opposition to the conservative perspective/viewpoint.

Considering PCPs' support of the ACA and PCPs' ideology may be important distinctions for state policy-makers looking to gain clinician, public, and legislator support for IA APRN policy programs and regulations. This suggestion is not unreasonable in light of cost and spending goals related to national health policy. Reform strategies that are focused on costs over physicians' clinical decisions challenge traditional clinical roles in the performance of day-to-day patient care delivery and services consumption (Gruber, 2011b; Gruen, Campbell, and Blumenthal, 2006; Office of the President, 2013).

Ideology is a personal characteristic representative of deep-core beliefs that are difficult to change because of the role of pre-existing beliefs to "simplify the world" for individuals (Weible and Sabatier, 2009, p. 196). Ideology also appears to be very much linked with group identification, peer, policy, and political affiliation among others, which have been shown to be influenced by opinions and attitudes especially as they are in contrast to groups with opposing viewpoints (Lewis, Dowe, and Franklin, 2013; Merelman, 1969; Poteete, Janssen, and Ostrom, 2010; Weible, Hiekkila, deLeon, and Sabatier, 2012). There is evidence in the literature to suggest that physicians' opinions about the ACA should be considerations when determining the incentives and/or disincentives related to IA APRN policy to assure an orderly transition of the traditional care system to include IA APRN care (Angood and Birk, 2014; Federico, 2009; Jost, Glaser, Kruglanski, and Sulloway, 2003; Matthews and Brown, 2013; Weible and Sabatier, 2009).

Factors influencing physicians' opinions and interests are, at minimum, also likely associated with care delivery issues motivating the need for reform such as cost and induced

demand. The interests of physicians typically include a balanced workload based on their clinical judgement, fair compensation for services provided, autonomous decision authority, and independent practice environment among others (Deloitte, 2015; Friedberg, et al., 2015; Gruber, 2011a; Merritt Hawkins, 2014). Public interests related to IA APRNs include access to care for newly insureds under the ACA, low out-of-pocket payments for patients, lower rates of reimbursements for state budgets, job creation, support of state and community programs through tax revenues they create, and payments for services based on care outcomes rather than fee-for-service transactions among others (Friedberg, et al., 2015; Gilman and Koslov, 2014; Gruber, 2011a; National Conference of State Legislatures, 2011). With a predicted increase in demand and combined cost increases through the foreseeable future, it is not unreasonable for state policy-makers to focus on cost containment over issues of access and demand in care delivery and miss the opportunity to improve the root cause of their escalating healthcare expenditures (National Association of State Legislatures, 2011; 30 Million New Patients, 2013).

The current study brought together previously independent insights, motivations, and/or influences from other studies on physician opinions and APRNs and, addressed a gap in research. The gap is the relationship of ideology and support for the ACA as influences that manifest PCPs' opinions about IA APRNs (Table 4.7). It follows from these findings that PCP ideology and support of reform may be the result of deeply-held beliefs about the benefits of traditional care delivery that does not include IA APRNs, even in the face of objective evidence to the contrary (Cassidy, 2012; Conover and Richards, 2015; Liu, Finkelstein, and Poghosyan, 2014; Oliver, Pennington and Reville, 2014; Tillett, 2011). Knowing these influences, state policy-makers may be served by involving rank and file PCPs collaboratively about IA APRN policy. Engaging PCPs throughout the policy process as practice reform is considered may be a

beneficial strategy in meeting care delivery goals of state policy rather than asymmetrically constraining their profession with legislation that potentially affronts physician self-interests and beliefs (Berwick, 2013; Berwick and Hackbarth, 2012; Gerber, Patashnik, Doherty, and Dowling, 2014; Heib, 2012 Ostrom, 2005; Sabatier, 1986; Weible and Sabatier, 2009).

### **Implications**

Ideology and support for the ACA are found to be related to PCPs' opinions about IA APRNs (Table 4.7). These influences on PCP opinions about IA APRNs may help to explain why some PCPs support changes to scope-of-practice laws to expand care delivery services in primary care with IA APRN providers while others do not. More to the point of the study, ideology and support of the ACA may be aligned with particularly salient underlying core beliefs that may distort PCPs' opinions about IA APRNs (Jost, 2006). Examples of core beliefs include, but are not limited to: individual views on the role of government, beliefs about human nature, priorities regarding who should participate in government, the way business should be conducted, the role of central government, and the importance of the regulatory environment among others (Weible, Sabatier, and Flowers, 2008).

PCPs' endorsement of scope-of-practice changes is needed by state policy-makers to assure the public and legislators alike that the transition from traditional physician care services is reasonable to meet health policy needs in their jurisdictions (Gerber, Patashnik, Doherty, and Dowling (2014). The health policy imperative for state policy-makers is to control the projected growth in demand and costs for services as a consequence of "insurance for everyone" provisions of the ACA and an aging high service demand population (National Association of State Legislatures, 2013a; Naylor and Kurtzman, 2010; Safriet, 2011). These objectives can be achieved through IA APRN policy if there is sufficient physician leadership to support a change

in the status quo of care delivery (Angood, 2014). An understanding of the influences on PCP opinions about IA APRNs can be used by state policy-makers to encourage acceptance of IA APRN reform in the primary care system (May, 1992). Addressing core beliefs as heuristics in opinion formation with physicians may be necessary, although likely not sufficient, for state policy-makers to effect change in the traditional care delivery system to allow IA APRNs to practice primary care (May, 1992; Sabatier, 1988; Weible, Sabatier, and Flowers, 2008). There is also a suggestion that in some situations core beliefs may be modifiable through opportunities to present related scientific evidence with a policy-learning approach illustrating potential policy improvement impacts (May, 1992; McGinnis, 2013; Sabatier 1988; Weible, Heikkila, deLeon, and Sabatier, 2012).

Core beliefs as basic constructs of PCP opinions may need to be modified in the context of IA APRN policy. Given the historical roots of care delivery (Agnew, 1890; Stone, 1993, 1997; Warrington, 1839; Wildavsky, 1997), concepts of governance including one or more forms of federalism, such as downward, upward, fractious, fiscal, catalytic, and dynamic among other forms, may exacerbate attempts to change physician beliefs (Calaghan and Jacobs, 2013; Shanahan, Jones, McBeth, and Lane, 2013; Thompson and Gusmano, 2014). Federalism in its various forms relates to the sharing of authority for the public good between central government and states. As such, federalism may affirm physicians' deeply-held beliefs in the face of mandated and/or optional policy that is handed down to states through national legislation (Calaghan and Jacobs, 2013, p. 4; Thompson, 2013; Thompson and Gusmano, 2014, p. 2). This sort of policy interaction between states and the federal government is often referred to as "downward federalism" when policy is used to stimulate state actions on national policy (Calaghan and Jacobs, 2013, p. 4; Thompson and Gusmano, 2014). Often, downward federalism



may be perceived as a partisan “take-it-or-leave-it” action in state jurisdictions, perhaps more or less so when ideological differences exist between state and federal partisanship (Calaghan and Jacobs, 2013, p. 1).

Physician stakeholders may form defensive opinions and attitudes about policy through their core beliefs especially if the federal partisan ideology is different from that of the state and/or the individual (Federico, 2009). The current liberal-leaning federal administration may be a confounding factor for state policy-makers’ attempting to influence physicians’ opinions about IA APRNs (Lewis, Dowe, and Franklin, 2013; Ripberger, Song, Nowlin, Jones, Jenkins-Smith, 2012; Thompson and Gusmano, 2014). There has been a tendency in the Obama administration to use its administrative authority to bypass the U.S. Legislature when regulating care delivery under the ACA which is a contentious form of “downward federalism” to many conservative leaning stakeholders (Thompson and Gusmano, 2014). Whether the policy handed-down to states is optional, such as with IA APRNs, or mandated, such as with the use of CPT<sup>6</sup> and ICD coding to receive reimbursement, it is not unreasonable to project the perception by rank and file physicians in some jurisdictions that supporting IA APRNs is an endorsement of federal intrusion in local care delivery issues (Clark, 2013; Conover and Feldman, 1981).

State bureaucracies, including state medical boards which are staffed mostly by physicians through states’ political appointments, may logically seem to be representative of PCPs’ interests and should mediate concerns, but, in reality those entities have been shown to represent the interests of the states’ political environment more so than the interests of rank and

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<sup>6</sup> CPT and ICD codes identify procedures, services, and intensity of care. The use of CPT and ICD code are required on claims for any healthcare reimbursement from the Federal government and private payers. CPT codes are owned by the AMA and ICD codes are owned by the World Health Organization (WHO). The AMA licenses distribution rights for the information content of ICD coding in the US from WHO.

file physicians in some jurisdictions (Calaghan and Jacobs, 2013, p. 7; Federation of State Medical Boards, 2005). Calaghan and Jacobs (2013, p. 8) suggest that a better predictor of stakeholder acquiesce to policy adoption/legitimization at the state level is through “...longstanding experiences with the federal government” which is a form of policy learning. Policy learning is a type of education approach where intergovernmental interactions as one element increase knowledge about benefits of particular policy (Calaghan and Jacobs, 2013; May, 1992).

In states that are politically polarized with the federal government around a specific policy or policy component, there may not be adequate engagement or interest on behalf of state resources, including relevant stakeholders, to influence or be influenced in the adoption of federal policy (Berwick, 2013; Calaghan and Jacobs, 2013; Thompson and Gusmano, 2014). Such a situation may be at least some of the reason, but not all that many conservative states did not engage in the ACA’s Medicaid expansion programs, which like IA APRN policy is an optional component of the ACA (Thompson, 2012; Thompson and Gusmano, 2014). As stated earlier, ideological stimulated indifference toward federal policy adoption/legitimization at the state level may be a missed opportunity to support health reform needs in their jurisdiction. Knowing some of the influences on PCPs’ opinions may enable state policy-makers charged with legitimizing federal policy in their jurisdiction to effectively engage legislators, the public, and rank and file physicians in support of IA APRNs.

State policy-makers who consider the findings of this study as factors to be addressed during health policy adoption actions may be able to identify policy instruments, incentives or disincentives, to assure physician participation in meeting public interests over self-interest (Ostrom, 1990). Physician self-interest is associated with ideology as a core belief for

conservative physicians (Federico, 2009; Hardin, 1965). Core beliefs may be steadfastly reinforced when the corpus of those deeply-held beliefs are challenged (Gruen, Campbell, and Blumenthal, 2006; Keeter and Weisel, 2014; Ostrom, 2005; Weible, Hiekkila, deLeon, and Sabatier, 2012). Merelman's (1969) suggestion that cognitive factors related to ideology assist in the development of partisanship through a process of political socialization is in line with this reasoning. Jost (2006) posited a similar argument that ideology is related to the maintenance of status quo contexts which may be the case suggested by physicians' unwillingness to support IA APRNs in the face of evidence that indicates: 1) lower cost of care delivery than physicians for equivalent services, 2) increased access to care services, 3) jobs creation, and 4) equivalent quality of care with physician care (Cassidy, 2012; Institute of Medicine, 2011; National Conference of State Legislatures, 2011; Wiysonge and Chopra, 200). Federico (2009) also suggested that ideology is a defining factor in opinion and belief formation and maintenance of core beliefs which in the case of physician self-interest include: 1) sole decision-making authority for care services, 2) ability to be "fairly" reimbursed for services, and, 3) discretion to choose which patients they treat (Accenture, 2012; Deloitte, 2015a; Jackson & Coker, 2013; Zismer, 2011).

What may be unclear to state policy-makers with respect to IA APRN policy is the benefit to PCPs or advantage(s) to be gained by physician practices from IA APRNs. A study by Antiel, et al. (2014) suggested that if physicians are unable to directly see benefits to them from policy they are less likely to support it. PCPs who oppose the ACA might be disposed to oppose APRN policy because PCP endorsement of IA APRN is part and parcel of un-realized gains to physicians through that policy or perhaps part of spillover effects from their opposition to the larger Act (Zismer, 2013). State policy-makers may be challenged when seeking physician buy-

in for reform intended to ease fiscal issues through IA APRN policy that is not viewed/understood to directly benefit physician self-interest (Wilensky, 2012).

Policy-makers could be enlightened and successful in their efforts by considering IA APRN policy adoption strategies based on “policy learning” or education/information exchange for physician and legislator stakeholders to “... understand the adequacy of government decisions” in a reformed care delivery system (Sabatier, 1988, p. 133). Policy-learning can be used as a means of understanding the dynamics of integrating stakeholder beliefs with health policy’s goals and objectives in the context of expected changes to the care delivery status quo (Weible, Hiekkila, deLeon, and Sabatier, 2012). The expected outcome from policy-learning should be a commitment by stakeholders to engage in the policy process while simultaneously determining stakeholder needs that can be integrated into a plan for policy adoption and/or implementation. Policy-learning actions with relevant data become part of the knowledge base policy-makers use when implementing other health policy features (May, 1992; Weible, Hiekkila, deLeon, and Sabatier, 2012).

Policy adoption at the state level after handoff from central authorities is accomplished much in the way that agenda-setting occurred at the national level (Thompson, 2013; Thompson and Gusmano, 2014). Interested parties, lobbyists, federal agencies, and the public express their preferences for the policy to legislators in the case of funding or regulatory requirements or directly to bureaucracies/agencies in the case of previously legislated authority (Weible and Sabatier, 2009). Agencies and bureaucracies, such as State Medical Boards, interact horizontally with other bureaucracies in their jurisdiction to gain support or opposition for the policy in question from other relevant state agencies and/or bureaucracies. Typically, too, they may interact with other states’ agencies and bureaucracies and relevant federal entities to gain further

insights into the value/meaning of the policy including economic and political considerations (Calaghan and Jacobs, 2013). To reiterate, state entities often gauge their support or opposition to specific policy based on prior interactions with central authorities and/or other states (Berry, 1994; Berry and Berry, 2007).

Policy-learning “implies improved understanding, as reflected by an ability to draw lessons about policy problems, objectives, or interventions” (May, 1992, p. 333). The outcome of such efforts is to change physician stakeholders, the public, and legislators’ perception of and opinions about IA APRNs delivering primary care in their jurisdiction. A common feature of such policy-learning efforts is to assist physician stakeholders in understanding the consequences of not supporting IA APRNs as well as the benefits of collaborative care, leveraged efficiencies in the care delivery system, and shared patient care with APRNs (Link, Perry, and Cesarotti, 2014; May, 1992; Sabatier, 1988). The bottom-line gain for states through policy learning comes from social benefits that are expected to accrue through re-positioning IA APRNs in terms of the health policy needs of the state and the self-interests of PCPs. State needs that may be addressed through IA APRN policy include: 1) lower gross reimbursements for care, 2) increased access to services by enlarging the primary care provider pool, 3) increased and appropriate utilization of care delivery resources, and 4) decreases in state payments for un-compensated care (Berwick, Nolan, and Whittington, 2008; Mathews and Brown, 2013; Oliver, Pennington, and Reville, 2015; Safriet, 2011).

May (1992) suggests that policy-learning is useful in increasing the understanding of policy objectives and re-framing/changing goals and objectives as needed to meet un-met policy needs. The goal of policy-learning in the current context is to change and/or modify PCP opinions about IA APRNs as primary care practitioners. The findings from this study suggest

that PCP support of the ACA and their ideological leaning might be considerations for engaging in policy-learning. Ultimately a collaborative approach, possibly enabled through policy-learning, between rank and file physicians and state policy-makers is more likely to increase the odds of changing scope-of-practice laws to permit IA APRNs (May, 1992; Sabatier, 1988; Weible, Heikkila, deLeon and Sabatier, 2012). However, those gains will likely not occur, or occur sub-optimally, if physician stakeholders perceive they must endure the policy change rather than participate in a mutually beneficial outcomes from IA APRN policy (May, 1992; Sabatier, 1988).

### **Study Limitations**

This study and analysis face several limitations that may challenge the generalizability of the findings to PCPs outside of the sample. Due to a low response rate, the results may not extend to populations of PCPs in other states with restrictive APRN scope-of-practice (Templeton, Deehan, Taylor, Drummond, Strang, 1997). A possible non-response bias may be the result of respondents' self-selection into the study as members of an expert panel.<sup>7</sup>

Ideally, the study sample would include a broader distribution of respondents by gender, age, years in practice, and management role in their practice organization. The independent variables could have included additional PCP self-interest factors, such as business operations and administrative considerations, to potentially expand relationships with the dependent variable. A greater depth of understanding might be gained by integrating practice performance data such as the range of services reimbursed.

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<sup>7</sup> Physicians who self-selected into this expert panel are PCPs who represent a range of viewpoints on timely reform issues including managed care, care innovation, and technology usage among others that are desired by marketing firms for evaluation of products, services, and marketing messages.

There may be sampling bias in the selection of regionally contiguous states from which the PCP samples were drawn. While the choice of states was deliberate, the logic of regional similarity may also limit the representativeness to PCPs in other states and regions (Berry and Berry, 2007).<sup>8</sup> The five states from which the study sample was selected are all politically conservative and as such findings may be sample specific. All of the study states' governing structure is bi-cameral with Republican control of state government including state senate, house of representatives, and governor. The respondents were mostly conservative, 46% compared to 25% liberal which may limit the applicability of findings to populations with different ideological compositions (Table 4.4). In future studies it may be useful to sample respondents without the constraint of regional connections.

An additional limitation of this study is that the method of deploying the survey instrument does not consider those PCPs who may not use personal technology communications such as email or smart phones and may in fact under-represent important physician groupings by age (Templeton, Deehan, Taylor, Drummond, Strang, 1997). However, this potential bias may be minimized somewhat due to the ubiquity of the internet permitting response to the survey at any convenient time using several types of devices (Dillman, Smyth, and Christian, 2014). The PCP sample itself is a self-selected expert panel who by virtue of their collective expertise may not be representative of the general population of adult practice PCPs.

The definition of primary care physician (PCP) used in the study may limit comparison of the results with studies that use a PCP classification by a different authority such as American Academy of Family Physicians (American Academy of Family Physicians, 2014). The definition

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<sup>8</sup> PCPs in the sample may be influenced by local and/or regional factors such as patient population distributions, political affiliation, and allocated budgeting for primary care that were not specifically identified in the study.

of PCPs used in the study was based on self-reported sub-specialty typically representative of PCPs rather than a distinct self-report of primary care specialty. There are no uniform standards of definitions of primary care or primary care physicians. The sample of PCPs in this study was derived from physicians classified by their sub-specialty which were then assembled into the sample of adult PCPs. While an attempt was made to distinctly identify the desired sub-population of adult PCPs, physicians by licensure and regulation are not restricted from providing any type of sub-specialty services (Federation of State Medical Boards, 2012). Adult PCPs identified in this study may in fact provide services through excluded sub-specialties or other populations of patients.

### **Recommendations for Future Study**

If indeed, scientific evidence may be useful through policy-learning as new/additional information to modify PCPs' core beliefs, then, evidence that addresses benefits, gains, and risk of economic loss to PCPs may be helpful in states' efforts to adopt IA APRN policy (May, 1992; Weible, Hiekkila, deLeon, and Sabatier, 2012). It would be interesting to perform a historical analysis of PCP reimbursement transactions to determine the scope of revenue and reimbursement costs that would be lost and gained in PCPs' practice as a result of IA APRNs. There are many APRN cost effectiveness studies (Institute of Medicine, 2011; Liu, Finkelstein, and Poghosyan, 2014; Safriet, 2011) from a service-level comparison basis as opposed to directly evaluating changes in practice economics. No studies were found that look specifically at the potential or actual reimbursement impact on primary care practice when shifting transactions from physicians to IA APRNs. As PCPs shift low(er) intensity services from their practices to lower cost APRNs, a reasonable question for state policy-makers to ask is: what is the change in reimbursement outlay if PCPs provide higher intensity services more often than in



the past? The reality of healthcare is that it is unlikely that a physician practice will see any fewer patients per day and more likely is that their patient mix will include more patients with more complex needs which are reimbursed at higher rates. Also, as more patients enter the primary care system and have access to services with IA APRNs there is necessarily an increase in reimbursement transactions through increased frequency of care.

Such a study would look at paid service codes and intensity of service delivered in the status quo policy arena. The services and the amount of reimbursement that could be shifted to APRNs from PCPs under an APRN scope-of-practice change would suggest the frequency of new opportunities PCPs gain to treat more complex patients. As PCPs are able to more consistently practice near the top of their license and reimbursement is paid for higher intensity services, the paid reimbursement costs may increase to even greater amounts than before changes to scope-of-practice laws. This analysis might also serve to illustrate potential shared business and care models between physicians and IA APRNs in non-traditional care arenas such as retail care, telemetry-based care, and continuous monitoring of chronic conditions. One cost that will certainly be additive with scope-of-practice changes is the cost for claiming reimbursement or “billing and insurance related” costs which in 2012 was approximately 13% of physicians’ practice revenue (Jiwani, Himmelstein, Woolhandler, and Kahn, 2014, p. 2).

There are a number of direct and indirect consequences that exist for states in choosing to adopt and implement specific portions of the Affordable Care Act. The IA APRN issue is one with consequences that will ripple through the care delivery continuum if non-physicians are authorized to provide primary care service. For instance, the legislative cost perspective is related to cost containment, access to care, and reduced rates of spending (National Conference of State Legislatures, 2011). The clinical perspective in primary care is related to doing what is

necessary to determine the best course of treatment for a patient (American Academy of Family Physicians, 2014; Weed and Weed, 1999). By increasing the number of providers in the primary care system through the authorization of IA APRNs, the number of transactions will necessarily increase as will the costs of those transactions (30 Million New Patients, 2013). States that rely strictly on cost perspectives as rationale to change state scope-of-practice laws may be disappointed when failing to achieve cost controls in addition to improving access during a fiscal budget cycle.

### **Summary and Conclusions**

APRN primary care services in states allowing IA APRN practice have demonstrated value to consumers and payers through increased patient access to timely and appropriate primary care services with cost savings over physician directed care (Conover and Richards, 2015; Oliver, Pennington, Revelle, and Rantz, 2014). Not all physicians support changing scope-of-practice laws to permit IA APRNs in primary care and consequently their states are often reluctant to proceed with that change (American Association of Nurse Practitioners, 2014; Safriet, 2011; Yee, Boukus, Cross, and Samuel, 2013). PCPs' opinions about APRNs in subordinate roles are shown to be generally positive (Table 4.1). PCPs that do not support IA APRNs may be motivated by perceived threats to their economic status and/or independent practice autonomy which is linked with conservative ideology and lack of support for the ACA (Jackson Coker, 2013; Jost, Glaser, Kruglanski, and Sulloway, 2003).

One problem connected with PCP opinions about APRNs and states endorsing scope-of-practice changes is related to physician collective choice. Physician collective choice is essentially the choices an individual physician makes between self-interest, collective interest (shared self-interests), and public interests (Ostrom, 1990). In the physician collective, there is

relative impunity for the decisions that are made. A decision that benefits the individual or the collective over public interests may have little negative impact on PCPs individually or as a group, except perhaps that the status quo is maintained. Simply, some physicians may not easily be motivated to support IA APRNs, perhaps because they are not aware of risks and benefits or as a reaction to beliefs that are inconsistent with their own core beliefs.

May (1992) states that policy-learning is able to accomplish several objectives related to policy issues. May's (1992, p. 333-335) research suggests: 1) "Learning implies improved understanding, as reflected by an ability to draw lessons about policy problems, objectives, or interventions," 2) "Learning can entail new or reaffirmed understanding of policy problems or objectives" and, 3) "Learning can also be about the political feasibility of a given idea or prospects for advancing a given problem." This implies that policy-learning as tool for policy-makers could be employed in some circumstances to reframe or change stakeholder expectations such as with IA APRN policy goals and addressing physician self-interests. The policy-learning process might also include an attempt to shift PCPs perception of IA APRN policy to one that is consistent with ideological beliefs of physician stakeholders. This might be accomplished by addressing arguments associated with ideology and PCP support of the ACA as a benefit and physician gain rather than one that is strictly public benefit.

The findings suggest that PCP ideology, PCP support of the ACA, and their related core beliefs may be instrumental in shaping and supporting their opinions about IA APRNs (Sabatier, 1988). While core beliefs are fairly resistant to change, they and other related beliefs may be subject to change though new information. State policy-makers might engage physician stakeholders through policy-learning approaches intended to provide new information related to supporting IA APRNs and needed changes to scope-of-practice laws (Weible and Sabatier,

2009). Part of the physician policy-learning process might include elucidation of opinions counter to their own including those that are adversarial.

Collective action problems in healthcare can be solved if and when appropriate policy solutions are presented in ways that meet, or at least address, the self-interest needs of key stakeholders (Ostrom, 1990). Gaining physician stakeholder support for IA APRN policy through a better understanding of the influences on physicians' self-interests is a meaningful reason why the influences of ideology and support for the ACA on PCP opinions about IA APRNs should be studied (Kumar, Sherwood, and Sutaria, 2013). It is important for national health policy that its state jurisdictions understand collective actions about reform of the traditional healthcare system. As healthcare spending approaches 25% of US gross domestic product (GDP) the differences between policy-mediated physician takeaways and public benefit must be adequately balanced (Kumar, Sherwood, and Sutaria, 2013, p. 1). In the current policy environment, as long as appropriators of community health resources can operate collectively to circumvent potentially beneficially health policy solutions, the negative consequences of those actions will continue to compound to the detriment of patients and payers alike.

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## Appendix A

## IRB Approval Letter



UNIVERSITY OF  
ARKANSAS

Office of Research Compliance  
Institutional Review Board

March 25, 2015

## MEMORANDUM

TO: James Flanigan  
Brinck Kerr

FROM: Ro Windwalker  
IRB Coordinator

RE: PROJECT MODIFICATION

IRB Protocol #: 15-02-561

Protocol Title: *PCP (Primary Care Physician) Opinions on Health Policy 2015*

Review Type:  EXEMPT  EXPEDITED  FULL IRB

Approved Project Period: Start Date: 03/25/2015 Expiration Date: 03/09/2016

Your request to modify the referenced protocol has been approved by the IRB. **This protocol is currently approved for 3,139 total participants.** If you wish to make any further modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

Please note that this approval does not extend the Approved Project Period. Should you wish to extend your project beyond the current expiration date, you must submit a request for continuation using the UAF IRB form "Continuing Review for IRB Approved Projects." The request should be sent to the IRB Coordinator, 109 MLKG Building.

For protocols requiring FULL IRB review, please submit your request at least one month prior to the current expiration date. (High-risk protocols may require even more time for approval.) For protocols requiring an EXPEDITED or EXEMPT review, submit your request at least two weeks prior to the current expiration date. Failure to obtain approval for a continuation *on or prior to* the currently approved expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or [irb@uark.edu](mailto:irb@uark.edu).

## Appendix B

### E-Mail Solicitation

Flanigan Revised IRB Protocol Item 9 – 031015- Two of Three Required Items

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**Initial survey email solicitation – PCP Opinions on Health Policy 2015**

From: University of Arkansas - Michael Flanigan [mailto:surveys@uark.edu]

Sent: Saturday, March 07, 2015 6:50 AM

To: Dr. FirstName LastName

Subject: New Research: PCP Opinions About Health Policy

Dear Doctor LastName,

My name is Michael Flanigan and I am a Ph.D. candidate in Public Policy at the University of Arkansas, Fayetteville. I am conducting research with PCPs in several states to understand how physicians value nurse practitioners and health reform in the primary care delivery system.

You have been asked to participate in this study, because as a PCP your opinions can provide valuable information to policy makers for drafting health policy that is meaningful to the interests of primary care providers.

The survey will take less than 10 minutes to complete and it is confidential. Neither your name nor that of your practice will be published and I will report only aggregate data.

The survey will close on March XXth, so please voice your opinion now by clicking the link below.

**Click this link to take the survey** [Take the Survey](#)

Or copy and paste the URL below into your internet browser:

[https://qtrial2014.az1.qualtrics.com/WRQualtricsSurveyEngine/?SID=SV\\_6SIFqzm99jpPa3b&Preview=Survey&\\_=1](https://qtrial2014.az1.qualtrics.com/WRQualtricsSurveyEngine/?SID=SV_6SIFqzm99jpPa3b&Preview=Survey&_=1)

Thank you for your time and participation.

If you would like to see the results when the study is completed, please contact me at the address below.

Sincerely,

To verify research compliance, contact: University of Arkansas IRB - irb@uark.edu - 479-575-2208.



**Follow-up survey email solicitation – PCP Opinions on Health Policy 2015**

From: University of Arkansas - Michael Flanigan [mailto:surveys@uark.edu]  
Sent: Saturday, March 07, 2015 6:50 AM  
To: Dr. FirstName LastName  
Subject: Last call on our New Research: PCP Opinions about Health Policy

Dear Doctor LastName,

I would really like to hear your opinions on health policy, nurse practitioners, and health reform in the primary care delivery system. The study is set to close today and I am hoping to include your input in the results.

The survey will take less than 10 minutes to complete and it is confidential. Neither your name nor that of your practice will be published and I will report only aggregate data.

Please voice your opinion now by clicking the link below.

**Click this link to take the survey** [Take the Survey](#)

Or copy and paste the URL below into your internet browser:

[https://qtrial2014.az1.qualtrics.com/WRQualtricsSurveyEngine/?SID=SV\\_6Sifqzm99jpPa3b&Preview=Survey&\\_=1](https://qtrial2014.az1.qualtrics.com/WRQualtricsSurveyEngine/?SID=SV_6Sifqzm99jpPa3b&Preview=Survey&_=1)

Thank you for your time and participation.

If would like to see the results when the study is completed, please contact me at the address below.

Sincerely,

To verify research compliance, contact: University of Arkansas IRB - irb@uark.edu - 479-575-2208.

## Appendix C

### Survey Instrument

Survey Instrument: PCP Opinions on Health Policy - April 2015

Q1 Required Information About my study: PCP Opinions on Health Policy - 2015"

My name is Michael Flanigan and I am a PhD candidate in Public Policy at the University of Arkansas Fayetteville. I am requesting your assistance in completing a survey entitled PCP Opinions on Health Policy – 2015 as part of my dissertation research.

Purpose: The purpose of this study is to survey Primary Care Physicians' (PCP) opinions on health policy and legislated changes to the traditional care delivery system in Alabama, Arkansas, Louisiana, Mississippi, and Oklahoma.

Risks and Benefits of Being in the Study: There are no risks or benefits to you by participating in this study.

Participation in this study is voluntary. This study will ask questions about health policy, including politics, nurse practitioners, current policy, and the Affordable Care Act of 2010. In the unlikely event that any of these questions make you uncomfortable, please skip that question and continue with the survey. You can also quit the survey at any time.

Confidentiality: No identifying information about you personally or your medical practice is collected in this survey. Research records will be stored securely, and all records will be kept confidential to the extent allowed by law and University policy. Your responses to the survey questions will only be used in conjunction with other responses in this survey.

Contacts, Concerns, Complaints, and Questions:

Principal Investigator: J Michael Flanigan, MA, MPH

Research Advisors: Dr. Brinck Kerr

Dr. Barbara Shadden

Institutional Research Board: IRB@Uark.Edu

By completing and submitting this questionnaire, you are agreeing to participate in this study. Click "Next" to begin.

Q2 Which of the following best described your opinion of the ACA when it was passed in 2010.

- I opposed the ACA in 2010
- I supported the ACA in 2010
- I was neutral on the ACA in 2010

Q3 How supportive of the ACA are you currently compared to where you were in 2010?

- Less supportive
- About the same
- More supportive

Q4 Which statement best describes your opinion about the ACA?

- The ACA should be repealed in its entirety
- Some portions of the ACA should be repealed
- The ACA should stand as it was enacted

Q5 Employing a nurse practitioner to provide primary care increases a physician's chance of being sued for malpractice more than hiring a staff nurse.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q6 Hiring a nurse practitioner can attract new patients to a practice.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q7 Use of a low-cost nurse practitioner is unfair to other physicians in the area.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q8 Patients are willing to see a nurse practitioner for some of their primary care.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q9 Nurse Practitioners bring a different yet positive dimension of care to a physician's practice.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q10 Nurse Practitioners should be allowed to practice independently in under-served areas.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q11 Nurse Practitioners can provide 80% or more of the primary care services of a physician.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q12 Nurse Practitioners should be allowed to prescribe commonly used drugs.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q13 Nurse Practitioners are not needed to improve access to primary care services in rural areas.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q14 Nurse Practitioners provide lower quality primary care than physicians.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q15 Employing a nurse practitioner would increase a physician's time for activities other than patient care.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q16 Nurse Practitioners are practical as physician extenders when immediate supervision is provided by a physician.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q17 In the last year I volunteered to assist in a national, state, and/or local candidate's election campaign.

- Yes
- No

Q18 In the last year, I contributed money to a national, state, and/or local candidate, political group, or political party.

- Yes
- No

Q19 From an ideology perspective, I view myself as .....

- Consistently Conservative
- Mostly Conservative
- Moderate
- Mostly Liberal
- Consistently Liberal

Q20 I understand the major provisions of the ACA.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q21 The ACA will address many of the problems in the current healthcare system.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q22 In the next 3-5 years, capitation payments will replace fee-for-service payments.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q23 In the next 3-5 years, most primary care services will be delivered through hospital systems.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q24 The use of "direct to physician" remote care services should be expanded.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q25 Retail clinics should be allowed to provide chronic care management services after a physician has provided a diagnosis.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q26 Since the ACA was implemented; my practice has stopped accepting new patients with Medicare and Medicaid insurance.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q27 As a result of the ACA, it is necessary to practice defensive medicine.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q28 The US Healthcare System under fee-for-service is flawed and under-performing.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q29 Successful cost containment will occur when patients fully comply with their treatment plans.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q30 Select your current age in years from the selections below. (Choose one please)

- age 35 and younger
- age 36-45
- age 46-54
- age 55-59
- age 60 and older

Q31 What is your gender?

- Male
- Female

Q32 Would you describe yourself as ..... (Choose one please)

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

Q33 What type of medicine do you primarily practice? (Choose one please)

- Family Practice
- General Medicine
- Internal Medicine
- Geriatrics
- Other

Q34 How long have you been practicing medicine post-residency?

- 1-5 years in practice
- 6-10 years in practice
- 11-15 years in practice
- 16-20 years in practice
- More than 20 years in practice

Q35 How many years until you STOP practicing medicine?

- 1-5 years until I stop practicing medicine on a daily basis
- 6-10 years until I stop practicing medicine on a daily basis
- 10-15 years until I stop practicing medicine on a daily basis
- 16-20 years until I stop practicing medicine on a daily basis
- More than 20 years until I stop practicing medicine on a daily basis

Q36 Do you approve or disapprove of the way Barack Obama is handling his job as President?

- Strongly Disapprove
- Disapprove
- Neither Approve or Disapprove
- Approve
- Strongly Approve

Q37 All in all, are you satisfied or dissatisfied with the way things are going in this country today?

- Strongly Dissatisfied
- Dissatisfied
- Neither Satisfied or Dissatisfied
- Satisfied
- Strongly Satisfied

Q38 Government regulation of business usually does more harm than good

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree



Q39 Government is almost always wasteful and inefficient.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q40 Most corporations make a fair and reasonable amount of profit.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q41 Poor people today have it easy because they can get government benefits without doing anything in return.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q42 Scope of practice laws in my state should be changed to allow independent autonomous practice by nurse practitioners.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Q43 In which state do you most often practice medicine?

- Alabama
- Arkansas
- Louisiana
- Mississippi
- Oklahoma

Q44 What is your place in the business structure of your practice?

- Sole Proprietor or Owner
- Partner or PA
- Employee
- Contractor or locum tenens
- Other

If Employee Is Selected, Then Skip To On average, do you work with Nurse Pr...If Other Is Selected, Then Skip To On average, do you work with Nurse Pr...If Contractor or locum tenens Is Selected, Then Skip To On average, do you work with Nurse Pr...

Q45 Does your practice employ Nurse Practitioners?

- Yes
- No
- Don't know

Q46 On average, do you work with Nurse Practitioners at least three (3) or more days per week?

- Yes
- No
- Don't know