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## Nurse Practitioner Autonomy in Georgia: Exploring Barriers to Full Practice Authority

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**Nurse Practitioner Autonomy in Georgia: Exploring Barriers to Full Practice Authority**

Claudette Johnson

Georgia State University

### **Abstract**

**Background:** There is a significant shortage of primary care physicians in Georgia, with the greatest needs in rural communities. The evidence suggests that nurse practitioners (NPs) improve the quality of care for patients with chronic diseases and may be the solution to the physician shortage. However, the scope of practice for Georgia NPs is among the most restricted in the United States.

**Purpose:** This policy review project explored the barriers to full practice authority for nurse practitioners in the state of Georgia and assessed the impact of current policy on NPs opening independent practices in rural Georgia. The goal of the project was to build a consensus for legislative change to current NP scope of practice.

**Methodology:** A quantitative design was used to collect data from a large nursing organization in Georgia via convenience sampling. One hundred and seventy-nine NPs responded. However, only 135 participants (N=135) consented. Participants completed an online survey in thirty minutes or less. Some questions required free text responses. One-way ANOVA and correlational analysis were used to determine differences between variables. There were no significant differences between NP characteristics (such as race, age, education level, etc) and the likelihood of opening an independent practice.

**Results:** Most NPs (77%) reported a desire for full scope of practice, 80% believed removal of practice barriers would be an advantage to Georgia NPs, and a significant number said if autonomous practice was granted, they were likely or very likely to open an independent practice in rural Georgia.

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## **Nurse Practitioner Autonomy in Georgia: Exploring Barriers to Full Practice Authority**

### **The Clinical Problem**

The Association of American Medical Colleges (AAMC) predicts that by the year 2030, there will be a shortage of 42,600 to 121,300 physicians nationwide. Patients 65 years and older will increase by 50 percent, and the population will grow by 11 percent (Association of American Medical Colleges, 2018). The shortage of primary care physicians is attributed to lower reimbursement compared to other specialties, tedious charting, restrictive oversight from accountable care organizations (ACO) and other federal agencies, high practice expenses, student loans, complex third-party payor systems, and restrictive quality-based reimbursements (Levin & Bateman, 2012). The elderly population in Georgia is projected to increase from 9.6 percent to 15.9 percent by the year 2030. Elderly physicians in Georgia are retiring, and their positions are often not replaced (Senate Study Committee on the Shortage of Doctors and Nurses in Georgia, 2007). The high cost of medical school tuition and limited residency opportunities in Georgia contributes to the physician deficit in the state (Senate Study Committee on the Shortage of Doctors and Nurses in Georgia, 2007).

Medical schools in Georgia have increased enrollment, yet it is not enough to meet the increased physician demands. In 2006 the Philadelphia School of Osteopathic Medicine was opened in Suwanee, Georgia, to decrease the state's physician shortage. The most substantial physician needs in Georgia are in the rural areas. Attaining and retaining physicians in these areas remains a challenge. Approximately four percent of medical students in their final year of residency express the desire to practice in a rural setting (Senate Study Committee on the Shortage of Doctors and Nurses in Georgia, 2007). In the state of Georgia, more than 25% of primary care physicians are concentrated in Fulton and Dekalb counties (Georgia Watch, 2015).

There are many rural communities in Georgia without a primary care physician. Approximately 80% of the counties in Georgia lack regular primary care services; 129 out of 159 counties were identified as federally designated primary care health professional shortage areas (HPSA). There are 63 counties without a pediatrician, 79 without an OBGYN, and 78 without a psychiatrist. Approximately 96% of Georgia counties were identified as mental health HPSAs (Georgia Watch, 2015)

Chronic diseases are on the rise, and primary care practices have increased in size to accommodate the growing population (Bauer & Bodenheimer, 2017). The passage of the Affordable Care Act (ACA) in 2010 increased access to health insurance. However, it increased the demand for primary care providers (Moore, 2017). The number of people without insurance has significantly decreased. However, in 2014, there were still 33 million Americans without health insurance (Syed, 2019). According to the Committee for a Responsible Federal Budget, the United States spent approximately \$3.5 trillion on healthcare in 2017, with the federal government contributing about \$1.5 trillion of that amount. This number is more than twice the average in developed countries, making the United States healthcare system the most expensive in the world (Committee for a Responsible Federal Budget, 2018).

In 2019, Georgia allocated \$4.8 billion, which is approximately 19 percent of the total budget to state-funded health care programs. Funding for these programs increased by \$305 million from 2018 to 2019 (Harker, 2018). The cost for Medicaid and Medicare services is predicted to increase more than private insurance (Syed, 2019). The aging baby boomer population is one of the main reasons for this increase. Research has shown that nurse practitioners improve the quality of care for patients with chronic diseases and maybe the answer to the physician shortage (Bauer & Bodenheimer, 2017). The Bureau of Labor Statistics predicts

that by 2026, NP growth will increase by 36 percent, compared to physician growth of 13 percent (American Association of Nurse Practitioners, 2019). Despite this information, the medical profession resists legislation that supports autonomous practice for nurse practitioners (Morgan et al., 2011).

According to the U.S. Bureau of Labor Statistics (2019), there were 7,690 nurse practitioners actively employed in Georgia in 2019 (U.S. Bureau of Labor Statistics, 2020). There were no data for primary care physicians in the state of Georgia. However, the Georgia Board of Health Care Workforce (2019), reported there were a total of 2,782 family medicine physician and 3,531 internal medicine physicians actively employed in Georgia on their 2017-2018 physician renewal survey (Georgia Board of Health Care Workforce, 2019). Internal medicine was the largest primary care group, accounting for 15.7% of the workforce, while family medicine was the second largest group at 12.4%. Approximately 12% of physicians verbalized the desire to retire within five years (Georgia Board of Health Care Workforce, 2019). The number of nurse practitioners in Georgia (7,690), exceeds primary care physicians (6,313). Therefore, nurse practitioners should be allowed to practice autonomously to compensate for the current physician deficit, and future loss of physicians due to retirement.

The state of Minnesota has full scope of practice for all advanced practice registered nurses (APRNs), while Florida has full scope of practice for nurse practitioners. These states were chosen as comparison to Georgia because of their geographical location; northern versus southern, and years since full practice authority; 1-6 yrs. Florida is a part of the nurse licensure compact states, and the American Association of Nurse Practitioners (AANP) region eleven. If Georgia collaborates with Florida, it may increase healthcare access, and improve regional health outcomes for patients with chronic diseases.



## **APRN Scope of Practice Regulation**

### **Georgia**

Georgia is among the 12 states with the most restricted APRN scope of practice regulations. The other states are Florida, California, Massachusetts, Michigan, Missouri, North Carolina, South Carolina, Oklahoma, Tennessee, Texas, and Virginia. Georgia requires all APRNs to have a protocol agreement with a supervisory physician. The supervisory physician delegates authority to perform specific medical tasks such as ordering diagnostic tests and prescribing medications (Georgia Watch, 2015). A significant APRN barrier was the inability to order imaging studies except in life-threatening emergencies. Senate bill 321 (SB321) was proposed by Georgia legislators to allow APRNs to order routine imaging studies as delegated by the supervising physician. The American Medical Association (AMA) and the Medical Association of Georgia (MAG) resisted the passage of SB321 upon the argument that APRNs would order unnecessary tests, ultimately increasing healthcare costs. However, the bill was passed by both the Georgia house and the senate and signed into law by Governor Brian Kemp on August fourth, 2020 and became effective on January first, 2021. The Georgia Coalition of Advanced Practice Registered Nurses (CAPRN) and the United Advanced Practice Registered Nurses of Georgia (UAPRN) were instrumental in the passage of SB321 (Baez Diaz, 2020). Georgia was the last state to remove this practice barrier.

In 2006 APRNs were granted prescriptive authority for schedule II-V controlled substances; Georgia was among the last states to pass this law. APRNs with prescriptive authority must have their charts reviewed by the delegating physician and their patients seen quarterly. Delegating physicians are not permitted to supervise more than four APRNs with prescriptive authority in Georgia, limiting the number of APRNs who can prescribe drugs

(Georgia Watch, 2015). The Georgia Board of Nursing (GBN) and the Georgia Composite Medical Board (GCMB) regulate APRN practice in the state. The GBN regulates nursing licensure, discipline, and accreditation. However, the GCMB dictates the supervisory terms for physicians who delegate prescriptive authority. The medical board consists primarily of physicians who restrict APRN scope of practice for financial gain and market dominance (Georgia Watch, 2015).

On October third, 2019, President Donald Trump signed an executive order (EO), instructing the Department of Health and Human Services (HHS) to propose a Medicare reform plan which would remove several practice barriers for NPs and physician assistants (PAs). Section 5 of the EO includes provisions such as equal reimbursement for APRNs delivering the same services as physicians, allowing APRNs to practice to their full scope of training and clinical competence, and removing restrictive physician oversight (Hewitt, 2019). The department of Veteran Affairs (VA) granted full practice authority to APRNs in 2016 (Mack, 2018). This means a NP employed at a Georgia VA facility can practice to the full scope of their education and clinical competency. However, that same NP has restricted scope of practice if he/she changes employment to a non-VA facility in Georgia. Despite the federal government's recommendation's for reducing practice barriers, Georgia has not proposed any new legislations to expand the scope of practice for NPs.

The AMA and the MAG have maintained their position that expanded APRN scope of practice will increase healthcare costs and compromise patient safety. They alluded that APRNs have fewer years of training, clinical hours requirement, and lack of residency experience compared to physicians who complete four years of medical school, three to seven years of residency training, and 10,000 to 16,000 clinical hours. NPs complete two to three years of

education and 500-720 hours of clinical training. The AANP has counteracted this argument by highlighting that APRNs have approximately seven years of total training. Four years of undergraduate registered nurse training and an additional three years of APRN training. Additionally, NPs must be nationally board-certified and state-licensed (Heath, 2020).

NPs are not allowed to employ a physician to supervise them in Georgia (American Medical Association, 2017). This practice is deemed illegal and punishable by law. This could be a significant concern for nurse practitioners desiring to own their own practice as NPs would have to use another individual as the hiring personnel, even though they are the owner of the practice. The lack of financial incentive may dissuade physicians from entering into a collaborative agreement. This may force NPs to find creative ways to compensate their collaborative physician, outside the parameters of the agreement, jeopardizing their licenses.

There are currently collaborating physicians for hire in all 50 states on the career website Indeed with fees ranging from \$750-\$3,000 per month (Indeed, 2021). The evidence suggests that financial incentives may be the driving force for some physicians. Therefore, restricting APRN practice ensures that benefit remains undisturbed. Physicians may also see nurse practitioners as their competition if full scope of practice were granted. Regulating APRN practice would lessen the competition. In the end, the people who are affected the most by these decisions are the underprivileged and underserved residents in rural communities. According to the Centers for Disease Control and Prevention (CDC), rural Americans are more likely to die from heart disease, cancer, stroke, unintentional injury, and chronic lower respiratory disease, which are the five leading causes of death in the United States (Centers for Disease Control and Prevention, 2020). Rural Georgians are less likely to have health insurance through their employer, travel longer distances to access healthcare, and have more chronic conditions

compared to residents living in urban and suburban communities (Georgians for a Healthy Future, 2020).

### **Minnesota**

Minnesota was used as an exemplar for Georgia because it received full practice authority, with transition to practice hours within the last six years. On May 13, 2014, former governor of Minnesota Mark Dayton signed legislation to remove collaborative and prescriptive agreement for APRNs, which became effective January 1, 2015. Licensing for clinical nurse specialists (CNS) and nurse practitioners (NPs) requires a current RN license, proof of graduation from an accredited APRN program, APRN certification specialty, and 2,080 hours of practice in a collaborative practice agreement with a licensed Minnesota certified NP, CNS, or Physician (Minnesota Board of Nursing, n.d.). The four advanced practice roles recognized by the Minnesota Board of Nursing are certified nurse practitioners, nurse anesthetists, clinical nurse specialists, and nurse midwives (Nursing Licensure, 2020). All APRNs must be certified in one or more of the following: family, adult-gerontology, psychiatry, neonatal, pediatrics, and women's health (Nursing Licensure, 2020). Nurse practitioners in Minnesota can autonomously prescribe drugs, schedule II-V controlled substances, and medical devices among other functions. They are also acknowledged as primary care providers (Scope of Practice Policy, 2020).

APRN workforce data obtained from the 2017-2018 Minnesota Department of Health survey in May 2019, showed there were 8,849 APRNs with active licenses in Minnesota (Minnesota Department of Health, 2019). The number of licensed APRNs increased from 6,100 in 2014 to 8,849 in 2019 after full practice authority was granted in 2015. Certified registered nurse practitioners (CNRPs) make up 66% of the APRN workforce, followed by certified nurse

anesthetists (CRNAs) at 24%. In 2015, 25% of physicians reported they intend to retire within five years. Seventy percent of APRNs revealed they plan to practice for greater than ten years. This number reflects a six percent increase since 2014, suggesting growth in the amount of APRNs entering the profession. There are 277 patients to APRNs in the metropolitan area, compared to 1987 in the rural areas. The cluster of APRNs in the city may be related to the presence of larger hospital systems and the Mayo clinic. The most frequently reported specialties were Adult/Family CNPs and CRNAs at 24%.

In general, 4.8% of APRNs reported they owned an individual or group practice; 25% in rural communities, and 75% in the metropolitan areas. Fifty five percent of independently owned rural practices are from CRNAs, 37% CNPs, 8% certified nurse specialists (CNSs), and 3% certified nurse midwives (CNMs). The median age of APRNs in Minnesota is 44, while the median age for physicians is 50. The median age for the state's health workforce, in general, is 41. Female APRNs in Minnesota is 85%, compared to 15% males. The influx of new, and younger APRNs entering practice is projected to fill the gap created by retiring physicians (Minnesota Department of Health, 2019)

## **Florida**

Effective July 2020, Florida APRNs except for CRNAs received full practice authority with transition to practice hours (Daily Nurse, 2020). Prior to this, the Florida medical board and the Senate resisted legislation that supported autonomous APRN practice. Nurse Practitioners with at least 3,000 hours of clinical practice under a supervising physician, who meets educational and certification requirements will be allowed to open independent practices in the state of Florida. CRNAs were not included in this bill (Daily Nurse, 2020). Passage of this bill

was the first step towards restructuring the health care delivery model to increase access to health care in the state (Daily Nurse, 2020).

### **Clinical Question**

If barriers to full scope of practice for advanced practice registered nurses were removed in Georgia, would nurse practitioners be more likely to open independent practices in rural communities?

### **Review and Synthesis of the Literature**

#### **Search Strategy**

An electronic literature search was carried out using CINAHL, Science Direct, and Advanced Placement Source databases. Regulatory bodies such as the American Association of Nurse Practitioners (AANP) and the Association of American Medical Colleges were also searched. An additional search was done from a manual journal subscription. The search terms used included: Advanced practice nurse, APRN, NP, nurse practitioner, scope of practice, Georgia, United States, physician shortage, healthcare access, practice authority, independent practice, health policy, rural healthcare, and primary care physician. Search criteria was done between 2010-2019. Inclusion criteria included studies published in the English language, peer-reviewed journals, and studies done only in the United States. Studies done in other countries were disregarded. The search engines used were google scholar and google because of the ease of use and responsiveness.

#### **Search Results**

The literature search initially yielded 87 articles. However, 55 articles were disregarded because they focused on other professional groups, such as physician assistants and specialty physicians. They were also expert opinions which is a lower quality evidence. The remaining 33

articles were scrutinized based on the search criteria, and an additional 23 articles were discarded because they did not meet the inclusion criteria. The GRADE criteria was used to critically appraise the remaining 10 articles. The GRADE criteria is a universal appraisal system used to assess and grade the quality of the evidence in research studies (Schmidt & Brown, 2015). It is used in healthcare to determine the best evidence for practice based on the level of recommendation. The quality and strength of the evidence is ranked into four main categories; high, moderate, low, and very low, while the recommendation of interventions is rated strong or weak (Schmidt & Brown, 2015).

The evidence hierarchy categorizes research studies on a pyramid from one to seven, with one being the highest level of evidence and strongly recommended, while seven is the lowest, regarded as low-level evidence, with weak recommendation (Schmidt & Brown, 2015). Evidence from highest to lowest are: level 1: systematic review of randomized and non-randomized trials, level two: single randomized or non-randomized trial such as clinical drug trials, level three: systematic review of correlational/observational studies, level four: single correlational/observational study, level five: systematic review of descriptive/qualitative studies, level six: single descriptive qualitative study, and level seven: opinions of expert committees, authorities, or reports (Schmidt & Brown, 2015).

The goal of the literature review was to acquire high-quality evidence based on the GRADE criteria and the evidence hierarchy. The articles appraised were synthesized into three main categories to assess if there is a shortage of primary care providers in Georgia, determine if nurse practitioners improve access to healthcare, and explore the barriers to full practice authority for nurse practitioners in Georgia.

### *Primary Care Physician Shortage*

To determine if there was a shortage of physicians and nurses in Georgia, and a need for legislative change to the health workforce, a study was conducted by the Senate Study Committee on the Shortage of Doctors and Nurses in Georgia in 2007 (Senate Study Committee on the Shortage of Doctors and Nurses in Georgia, 2007). The committee consisted of senators, legislators, nursing leaders, physicians, professors of nursing and medicine, university deans, public health officials, researchers, and economists. Testimony from the experts was done over a period of five meetings across the state of Georgia (Senate Study Committee on the Shortage of Doctors and Nurses in Georgia, 2007).

The committee determined there was a shortage of primary care physicians in Georgia, due to the aging baby boomer population. The most significant physician shortage was in the rural areas. Physician retirement, high cost of medical school education, decreased enrollment, and limited physician residency opportunities contributed to the primary care physician shortage in the state. It was also noted; younger physicians and women physicians worked fewer hours than older physicians because of their desire for better work-life balance. The primary care physician shortage resulted in decreased healthcare access for Georgia residents (Senate Study Committee on the Shortage of Doctors and Nurses in Georgia, 2007).

Another study examined the best practices for statewide workforce assessments of nurse practitioners and physician assistants (Morgan et al. 2011). The study was conducted secondary to the projected physician shortage. A review of workforce assessments from the year 2002-2008 was analyzed. The sample consisted of nurse practitioners, physician assistants, and physicians in 40 states. The assessments were obtained from the Association of American Medical Colleges, web search, Medline, telephone calls, and emails to state and other healthcare



agencies. The study revealed several states did not include nurse practitioners and physician assistants in their workforce assessment despite the recommendation to include them, creating an inaccurate reflection of the total workforce (Morgan et al., 2011).

The third article by Levin and Bateman (2012) examined the reasons for the primary care physician shortage in the United States through the analysis of systematic descriptive studies (Levin & Bateman, 2012). A review of the literature revealed significant primary care physician shortage in the urban and rural areas throughout the United States. Among the reasons for the primary care physician shortage were retirement and death of older physicians, reduction in the number of physicians choosing primary care as a specialty, closure of primary care practices due to unprofitability, lower salary compared to other specialties, high medical school debts, restrictive oversight from insurance companies and third-party payors, increased regulation with the advent of clinical practice guidelines, and tedious paperwork (Levin & Bateman, 2012). Recommendations to decrease the gap in care created by the physician shortage included allowing nurse practitioners to open independent clinics, interprofessional collaboration to improve efficiency, investor and government-supplied business capital, and dedicated practice support teams.

The evidence from these studies suggests there is a primary care physician shortage in Georgia and the entire United States with the greatest needs in rural communities. Among the reasons for the shortage are, the death and retirement of older physicians, closure of primary care practices due to high operating costs, decreased medical school enrollment and residency opportunities, decreased practice hours by female and younger physicians, fewer physicians specializing in primary care, restrictive oversight from payors, and inconsistent medical workforce reporting.

### *Healthcare Access*

Healthcare access has been under national scrutiny since the 1960s. The Affordable Care Act (ACA) was implemented to improve healthcare access (Gentili et al., 2016). The first study by Buerhaus et al. (2015) compared the characteristics of primary care physicians and nurse practitioners (Buerhaus et al., 2015). A quantitative descriptive study was conducted by surveying 467 primary nurse practitioners and 505 physicians. The study concluded nurse practitioners were more likely to practice in a rural and urban setting and provide care to vulnerable populations such as Hispanics, African Americans, and Medicare patients. Both groups spend most of their time with direct patient care, including patient teaching, and documentation. However, nurse practitioners dedicated more time during the week for patient and family teaching (Buerhaus et al., 2015).

Another descriptive study by Buerhaus (2019) examined the NPs role in improving healthcare access created by the primary care physician (PCMD) shortage. Among the reasons for the PCMD shortage were the aging baby boomer population, retiring physicians, increased demand for services with the expansion of the ACA, and the reduction of primary care physicians in rural underserved areas (Buerhaus, 2019). The research showed that the growth among NPs outnumbered the slow growth of PCMDs. A national survey of PCMDs revealed that one-third believe, removing NP restrictions would result in inferior care for patients. However, the evidence shows that there was no difference in the care provided by both groups (Buerhaus, 2019).

NPs are reimbursed less by Medicare and private payors for delivering the same care as PCMDs. Medicare reimbursement for NPs is 85% of the physician rate. The research showed that the cost of care provided by NPs was 11-29% less than that of PCMDs, states with restricted

NP practice had significantly less access to medical care, and there were 40% fewer NPs practicing in states with restricted scope of practice compared to states with full practice authority. (Buerhaus, 2019). Recommendations to improve healthcare access included, allowing NPs to practice to their full level of training and competence, promoting engagement between physicians and NPs to better understand their roles and functions, and removing scope of practice state restrictions (Buerhaus, 2019).

A third study by Gentili et al. (2016) evaluated the availability and accessibility of primary healthcare for Georgia residents ages 19-64 with the implementation of the ACA (Gentili et al., 2016). A systematic review of data from national and state enumeration systems was conducted. The study revealed the ACA increased the accessibility of healthcare. However, Medicaid expansion could reduce the availability of services (Gentili et al., 2016).

The final quantitative descriptive study by Leszinsky and Candon (2019), was conducted to ascertain if there was an increase in the number of Medicaid patients scheduled with nurse practitioners since the implementation of the Affordable Care Act (Leszinsky & Candon, 2019). A total of 3,742 primary care practices in Arkansas, Georgia, Illinois, Iowa, Massachusetts, Montana, New Jersey, Oregon, Pennsylvania, and Texas were randomly selected between 2012-2016 to receive phone calls from simulated Medicaid patients. Initially, 12,070 phone calls were made. However, more than half the calls were excluded due to unavailability among other restrictions making the final sample (N=5651).

Findings showed simulated Medicaid patients scheduled more appointments with nurse practitioners after the implementation of the ACA, the number of primary care appointments scheduled with nurse practitioners increased by 4% from 2012-2014, and by 1.2% from 2014-2016. There were more appointments made with nurse practitioners among lower-income

counties with a predominantly white population. In addition, the number of appointments made with nurse practitioners in three states with prescriptive authority; Oregon, Iowa, and Montana, was twice the rate in other states (18.8% vs. 9.1%). This data suggested the increase was due to less restrictive scope of practice in those states (Leszinsky & Candon, 2019). The findings from these studies suggests the implementation of the Affordable Care Act increased access to healthcare, but it also increased the demand for primary care providers. Nurse practitioners were more likely to work with vulnerable populations than primary care physicians and are therefore essential, to increasing access to healthcare.

### ***APRN Practice Barriers***

How do APRNs differ from physicians? An ethnographic qualitative study by Peterson and Shell (2018) was done to gain a deeper understanding of the relationship between APRNs and physicians practicing in a rural, northwestern state, and ascertain if physician supervision limited the APRN's scope of practice (Peterson & Schell, 2018). A convenience sample of (N=11) APRNs practicing in a rural setting were interviewed. Findings suggested physician oversight restricted the APRN's ability to operate to their full scope of practice, which contributed to the shortage of providers in the rural communities (Peterson & Shell, 2018). Another article by Hain and Fleck (2014) explored barriers to APRN's full scope of practice by analyzing systematic descriptive studies (Hain & Fleck, 2014). A review of the literature revealed the following barriers to full practice authority: Restrictive state practice and licensure, resistance from physicians and medical groups, restrictive payor policies, and denial of APRN admitting privileges in acute care facilities (Hain & Fleck, 2014).

A third article by Mack (2018) evaluated the efficacy of the consensus model in

states with full practice authority (Mack, 2018). The consensus model was implemented by the APRN Consensus Work Group to standardize education, accreditation, licensure, and certification of APRNs and increase APRN access throughout the United States (Mack, 2018). Findings from the systematic review of the literature revealed the 23 states who implemented the consensus model had fewer practice barriers, higher patient satisfaction, less expensive medical care, and improved access to healthcare, particularly in the underserved rural communities (Mack, 2018). Barriers to implementation of the consensus model included legislative policies, including strict physician oversight, organizational imposed restrictions, payor policies, and reimbursement concerns. The study concluded nurse practitioners provided equal and at times, superior care to physicians (Mack, 2018).

The fourth article examined the regulatory practices for APRNs to determine if they prevented primary care nurse practitioners from practicing to their full scope of training and competency (Moore, 2017). The evidence suggested inconsistent, non-standardized APRN regulation among states resulted in inconsistent NP scope of practice, restrictive physician supervision in several states resulted in underutilization of NPs in primary care, there was no significant difference in the quality of care provided by primary care physicians and NPs, expansion of the nurse practitioner role could significantly reduce healthcare costs, and patients were more concerned with receiving quality medical care than with the credentials of the provider (Moore, 2017).

The final retrospective cross-sectional study was conducted to increase understanding of the relationship between NP scope of practice and state level healthcare access (Patel et al., 2019). The study concluded the scope of practice policies among NPs affected access to healthcare. The researchers acknowledged more information was needed to assess the

relationship between scope of practice policies and characteristics of the vulnerable population, and patient satisfaction (Patel et al., 2019). The central theme in the studies was physician oversight and inconsistent APRN regulation throughout the United States. There was no significant difference in the quality of care provided by primary care nurse practitioners compared to primary care physicians.

### **Change Theory: Andersen-Aday Model of Access to Medical Care**

Aday and Andersen (1974), developed a theoretical framework to evaluate a patient's access to medical care (Aday & Andersen, 1974). They determined multiple factors affected access to healthcare, including behavioral, cultural, socioeconomic, geographical, and healthcare policies. Healthcare policy was the most significant determinant to the access and utilization of healthcare services because it adapted to the healthcare needs of the population (Aday & Andersen, 1974). According to Aday and Andersen (1974), a major reason for the limited healthcare access was a decline in the availability and accessibility of primary care physicians (Aday & Andersen, 1974).

Aday and Andersen (1974) alluded, data collection is important to measure the utilization and effectiveness of healthcare services, so policymakers and healthcare officials can make informed decisions regarding accessibility of care for the most vulnerable population (Aday & Andersen, 1974). Georgia's APRN scope of practice policy is a barrier to improving healthcare access in the state. This theoretical framework requires data collection to measure the effectiveness of healthcare utilization. Therefore, the data collected from this project is the initial step to assessing the barriers to full practice authority, and determining what changes are needed to bring about a policy change. The project findings will be disseminated to Georgia Lawmakers as support for legislative change to current APRN scope of practice.

## **Methodology**

### **Implementation/Evaluation: Subjects**

The target population was nurse practitioners obtained through convenience sampling via a large non-profit nursing organization. The initial sample size was 100 participants, determined by comparing to previously done studies. However, to accommodate for incomplete responses that target was increased to 150. An Institutional Review Board (IRB) amendment was submitted to reflect the change. Inclusion criteria: English speaking, Georgia Board of Nursing certified nurse practitioners, living and practicing in Georgia. Participants were required to be greater than 18 years old and able to consent voluntarily. Exclusion criteria: Non-English speaking nurse practitioners, less than 18 years old, non- Georgia Board of Nursing certified, and do not live and practice in Georgia.

### **Implementation/Evaluation: Setting**

A quantitative design was used to implement the project at a large non-profit nursing organization in Georgia. The organization represents APRNs and residents of Georgia through public education, healthcare advocacy, nursing research, mentorship, and political activism. The organization's political action committee was founded in 2006 to unite local and national APRNs. It receives voluntary contributions from members to fund state and local legislation and policies, which aligns with the organization's goals. Communication within the organization is done via the company's website and email. There are different tiers of paid memberships for nurses and nursing students. The organization has 15 local chapters throughout Georgia with hundreds of members, making it an ideal recruitment site for the target population.

**Implementation/Evaluation: Instrument/ Tools**

One instrument used was the National Survey of Primary Care Nurse Practitioners and Physicians. The instrument was created by Dr. Karen Donelan in collaboration with Dr. Peter Buerhaus, who is an expert on nursing workforce policies. He has published several policy-related peer-reviewed nursing studies, some of which are referenced in the project. He currently works as a professor of nursing at Montana State University and is also the chairman of the National Healthcare Workforce Commission. Dr Buerhaus counsels the United States Congress, among other organizations, on national health workforce policies (Montana State University, n.d.). Dr. Donelan is a survey scientist who specializes in national and international workforce (Center for Interdisciplinary Health Workforce Studies n.d). Formal permission was granted to use and adapt the tool. The original survey was mailed to the study participants, who received monetary compensation in the form of a gift card for their participation. The modified questionnaire was converted to an online version using Qualtrics software. Qualtrics is an online survey tool which enables the user to create, distribute, and analyze surveys. The survey was conducted in an online only format.

There were four major categories and a total of thirty-eight questions on the survey. Section A assessed the participant's perception of the health workforce. It contained five main questions (A1-A5) with sub-questions on varying Likert scales. Each subset had different Likert responses. Section B had twelve questions relating to the participant's current employment. There was a combination of multiple-choice, varying Likert scales, and open and closed-ended responses. Section C had twelve questions pertaining to clinical practice. There was a combination of multiple-choice, open-ended questions, and one Likert response on a 1-4 scale: 1=less than 10%, 2=10% to less than 25%, 3= 25% to less than 50%, 4= 50% or more. In this



section, the participants could share their perspectives on the current and future scope of APRN practice in Georgia. Section D collected demographic information such as gender, age, ethnicity, and income using multiple-choice options and numeric boxes. There were nine questions in this category.

The creators of the tool developed the original instrument using standard content validation. The measure of people's perceptions and attitudes were validated by self-report. Psychometric analysis of the scales was not previously conducted. The items were analyzed and used independently. There was no numeric scoring for the questionnaire, neither was a reliability analysis done.

### **Implementation/Evaluation: Intervention and Data Collection**

A description of the project, with a participation invitation, was displayed on the home page of the recruiting website. Participants had a direct access link to the Qualtrics survey, which took thirty minutes or less to complete. The contact information for the student investigator (SI) and the principal investigator (PI) was displayed on the consent form. At the end of the consent form, there were two check boxes, which denied or accepted the terms of the informed consent. The survey was designed to accept only one response. There was a hard stop attached to the consent form, which prevented progression to the survey unless the "I consent" box was checked. All participants read at or above an 8th-grade level. The Flesch-Kincaid reading level for this consent was 7.9. There was no compensation for participating in the study.

Qualtrics TM uses Transport Layer Security (TLS) encryption (also known as HTTPS) for all circulating data. Qualtrics TM utilizes trusted data centers that are independently audited using the high-quality SSAE-18 method (Qualtrics, 2020). All survey responses were protected using this security feature. Personal identifiable data, such as names, telephone numbers, and

addresses were not obtained. All data were de-identified, and responses coded. Data is stored on a password-protected laptop. The only personnel with access to the data are those directly involved in the study. Multiple testing of the survey was done prior to distribution. The data was exported from Qualtrics TM as a Microsoft Excel file. The raw data was entered into the Statistical Package for the Social Sciences (SPSS) version 27 for data analysis.

### **Components of Analysis**

Post data collection the SI exported the de-identified data from Qualtrics into a Microsoft Excel spreadsheet, which was transferred into the Statistical Package for the Social Sciences (SPSS) version 27 for data analysis. A biostatistician was consulted to assist with data analysis.

## **Results**

### **Demographics**

One hundred seventy-nine participants responded to the survey. However, only 135 participants consented, resulting in a final sample size (N=135). There were 29 (22%) missing data in the sample. The mean age was 49.40 years old (SD=11.52). Most respondents self-identified as White (50%), Blacks was the second largest racial group (20%), Asian (5%), Mixed race (4%), and Other race (2%). Of the total sample 68% identified as female, and 10% identified as male (10%). Seventy-five percent of participants were non-Hispanic, and 3% were Hispanic. On average, participants had 8.71 years of experience (SD=7.98), worked 33.38 hours per week (SD=18.84), and saw 54.55 patients per week (SD=38.45).

The most frequently reported income category in 2019 before taxes was \$100,000-\$124,999 (24.4%), and the second was \$75,000-\$99,999 (23%). The highest reported income of \$200,000 or greater accounted for 1.5% of the sample, the second highest reported income was \$150,000-\$200,000 (7.4%), while the third highest income was \$125,000-\$149,999 (11.1%).

Lower income categories of \$50,000-\$74,999 accounted for 8.9%, while 1.5% of the sample reported income of between \$25,000-\$49,000. Approximately 59% of NPs reported they held a Master of Science (MSN) degree in nursing, while 18% reported a Doctor of Nursing Practice (DNP). NP practice by geographic location was 30.4% suburban, 33.3% urban, and 17% rural.

NP work setting by specialty were as follows: Ambulatory care (42.2%), acute care (24%), other (8.9%), walk-in or retail clinic (5.2%), specialty hospital (example psychiatry), subacute/long-term care, and home/community care (4.4%), and school health/student health (0.7%). When asked preference for an ideal practice setting 61.5% of NPs said they preferred a team practice with both physicians and nurse practitioners, 20% preferred team practice with only NPs (no physicians), 4.4% favored a solo practice in primary care (no other physicians, or NPs), 1.5% was for other category not mentioned.

Participants were asked their career intention within the next five years: Most did not have any intentions of changing (23%), a significant number of NPs would like to open their own practice (21.5%), 11.9% plan to leave their current position and change to a new position, 8.1% planned to retire, 6.7% plan to reduce their hours, 2.2% planned to increase their hours, and a small percentage reported having other career plans (4.4%).

### **Statistical Tests**

A one-way ANOVA was conducted to determine if there was an association between demographics and the likelihood of opening an independent NP practice in rural Georgia. There were no significant differences between NP characteristics (such as race, age, education level, etc) and the likelihood of opening an independent practice (Table 2). There were no statistically significant difference between years as a practitioner and the likelihood of opening an independent practice  $F(4,96) = .48, p = .21$ . There was no statistically significant difference

between gender and the likelihood of opening an independent practice  $F(4,85) = .96, p = .43$ . There was no statistically significant difference between Hispanic status and the likelihood of opening an independent practice  $F(4,104) = .64, p = .64$ . There was no statistically significant difference between race and the likelihood of opening an independent practice  $F(4,107) = 1.23, p = .30$ . There was no statistically significant difference between age and the likelihood of opening an independent practice  $F(4,85) = 1.21, p = .31$ . There was no statistically significant difference between employment hours and the likelihood of opening an independent practice  $F(4,102) = .42, p = .79$ . There was no statistically significant difference between number of patients per week and the likelihood of opening an independent practice  $F(4,98) = .36, p = .84$ .

A Pearson correlation on the perception of the health work force (A-section items of the survey), and the likelihood of opening an independent practice in rural Georgia was done. There was a statistically significant correlation between participants who agreed the number of primary care nurse practitioners were greater than the demand and reporting being more likely to open an independent practice in rural Georgia ( $r = -.206, p < .05$ ). There was also a statistically significant association between participants who agreed that a practice led by a nurse should be eligible for certification as a medical home and reporting a likelihood to open an independent practice in rural Georgia ( $p = .195, p < .05$ ).

A Pearson correlation was done to determine if there was an association between the current employment variables (B-section variables of survey) and the likelihood of opening an independent practice in rural Georgia. Lower quality work relationships between primary care nurse practitioners and physician assistants was associated with the likelihood of opening an independent practice ( $r = .324, p < .05$ ).

A chi-square analysis was conducted, and there were significant differences among the work setting and the likelihood of opening an independent practice in rural Georgia. Individuals working in ambulatory settings were more likely to open an independent NP practice in rural Georgia. A series of chi-square analysis were run to examine differences in work status, compensation method, ideal primary care setting, and various services offered on the likelihood of opening an independent NP practice in rural Georgia. There were no significant differences on these variables and the likelihood of opening an independent practice.

A reliability analysis was done on the adapted tool on 3 subsets of the A section questions. The other items on the questionnaire did not measure underlying construct. The Cronbach's alpha for the A1 scale is .71 with 4 items. This reflects an adequate reliability showing that these items may produce a reliable scale to adequately reflect the numbers of physicians in practice. The Cronbach's alpha for the A4 scale is .82 with 8 items. This reflects a good reliability to measure the impact of increasing the supply of primary care nurse practitioners. Lastly, the Cronbach's alpha for the A5 scale is .65 with 4 items. This is a slightly low reliability which means that this scale may not be reliable in measuring the perception of NP scope of practice.

### **Employment/Clinical Practice**

There were no significant differences in the services provided by NPs and physicians in the following areas: Annual physicals, screenings, immunizations, complex chronic disease management, follow up visits for controlled chronic conditions such as hypertension, CHF, asthma, and diabetes, acute illnesses such as urinary tract infection, upper respiratory infections, pharyngitis, and otitis media. NPs were also asked what type of services were deferred to physicians. Their responses included, newly diagnosed patients, uncontrolled diabetes or

insulin-controlled diabetes, complex chronic conditions, pain management, IUD placement, controlled substances, joint injections, ordering diagnostics tests, suturing, epidural injections, certain Botox injections, invasive procedures such as central line placement, thoracentesis, and lumbar puncture.

### **Scope of Practice**

NPs were asked if they desired full scope of practice 77% said yes, 2.2% wanted it for others but not for themselves, while only 1.5% of NPs said no. When asked if the physicians in their practice supported restrictions on NP scope of practice, 14.8% strongly agreed, 12.6% agreed, 18.5% disagreed, 25.9% neither agreed nor disagreed, and 11.1% strongly disagreed. When asked if the physicians in their practice supported full practice authority, 14.1% strongly agreed, 18.5% agreed, 25.9% neither agreed or disagreed, 17% disagreed, and 0.7 % strongly disagreed.

NPs were asked how likely they were to open an independent nurse practitioner practice in rural Georgia, if granted full scope of practice? Twenty seven percent said they were very likely, 10.4% responded they were likely, 17% said they were unlikely, 16.3% said they were very unlikely, and 8.9% said they were not sure. They were also asked specific questions regarding the use of a collaborative physician if they owned their own practice. The majority responded they would use a physician as a resource (45.9%), 22.2% said they would continue a collaborative agreement though not required, and 11.9% said they would not use a physician.

Eighty percent (80%) of NPs believe that the removal of APRN practice barriers would be an advantage to nurse practitioners, as it would increase access to care, expand services in rural Georgia, improve quality of care, and health outcomes, promote entrepreneurship, attract NPs from other states, decrease the health disparity for the underserved population, provide more

cost-effective care, enhance reimbursements, increase income, improve patient satisfaction, and advance the profession.

### **Open Response Questions**

Most NPs agreed they should be allowed to practice to their full scope of practice but are limited by state regulations. Some common practice barriers cited by the participants were restrictive collaborative physician agreement, restricted prescriptive authority, inability to order schedule two, and ADHD drugs, employer restrictions, inability to order home health, diabetic shoes, and imaging studies, restricted from performing certain procedures, excessive physician co-signature, and chart reviews, and inability to sign death certificate.

### ***Practice Barriers***

Some NPs responded to scope of practice barriers by stating the following: “The facility I work at does not allow NPs to function as independent providers. I essentially am allowed to operate in the same capacity as medical students”. “Georgia, and the hospital system where we work, still requires nurse protocol agreements, and physician signatures on orders for radiology”. “I would love to have a small practice on the side, providing women's health care, but I would have to have a separate nurse protocol agreement to do that”. “I work in a personal injury functional medicine clinic, so I treat patients for pain/injury. Sometimes I do have to diagnose and treat. I work for a chiropractor, and they basically have control”. “The barriers placed by Georgia does not allow me to work independently to serve rural areas in which I live”. “The state of GA is very restrictive for NPs. I came from IL, CO, IA, and NPs can do much more. I work to the extent I can practice in GA, but it is limited from my previous experience”.

I am required to have a collaborating agreement with an MD which limits my ability to execute actions, orders, and prescriptive authority. This is in general, and it also affects

my ability to provide care in a timely manner while waiting on permission to carry out time sensitive actions.

I used to have my own practice, and the physician who functioned as my supervising physician had too many CNMs (I am a FNP and CNM) that he was signing protocol agreements with. He declined to continue renewing with me, which meant I could no longer continue to practice.

The physicians in my practice prohibit APPs from performing certain procedures/services as their income is based on RUVs and they want to make as much money as possible. I am paid hourly, regardless of services rendered. I am losing certain skills as a result. It is very frustrating. When I bring it up in meetings, I am shushed.

GA just allowed NPs to order radiology exams! I had to pay the GA Medical Board to get permission to work with physicians in GA. That is not right. It should go through the GA Board of Nursing at the very least.

### ***Physician Collaboration***

Most NPs responded that they would continue a collaborative agreement or use a physician as a resource. Some of their responses were: “I love having physicians as a resource as their knowledge and experience often times help us to both increase patient well-being and outcomes”. “Good to have access to MD, or expert source for consultation”. “The physician on my team is currently used as a resource and enjoys that role very much”.

I have great working relationships with my physician colleagues. A lot of what we do overlaps, but some of it does not, and our background and education afford us different strengths. It is a collaborative relationship, not a competing one.



The goal is to lean on one another's areas of clinical expertise and years of care to provide best practice and advise to our patients. This comes with removing the stigma that we cannot talk and collaborate with one another unless it is under contractual agreement. NP's want balance, not a hostile takeover.

### **Discussion**

The project answered the clinical question as a significant number of NPs responded they were very likely or likely to open an independent practice in rural Georgia if practice barriers were removed. According to Buerhaus et al. (2015) NPs are more likely to practice in a rural underserved setting, compared to physicians (Buerhaus et al., 2015). The evidence suggests there is a greater physician deficit in rural communities compared to urban and suburban communities. More than 25% of physicians in Georgia, are concentrated in Fulton and Dekalb counties, and 80% of Georgia counties lack regular primary care services (Georgia Watch, 2015). This finding was consistent in the project, as Fulton and Dekalb counties were the most widely reported NP practice locations. Only 17% of the participants reported they practiced in a rural setting. A qualitative study of NPs in a rural northwestern state reported restrictive scope of practice policy contributed to the provider shortage in the rural areas (Peterson & Shell, 2018). Based on these findings, it appears that if NPs are given full practice authority it may reduce the primary provider shortage in rural Georgia.

There were similar patterns in NP scope of practice in the project and the literature review. Many NPs reported they did not practice to their full scope of training and clinical competency because of restrictive physician oversight, state regulations, and organizational imposed restrictions. They also reported, no significant differences in the services they provide compared to primary care physicians. The most frequently reported barrier to full scope of

practice in the literature review was restrictive physician oversight, and state policies, which resulted in underutilization of NPs in the clinical setting. The evidence suggests the care provided by NPs is equal to the care provided by physicians and may produce better health outcomes.

Seventy seven percent of NPs said they desire full practice authority, and 80% agreed, removing of practice barriers would be an advantage to the profession, as it would increase access to care especially in the rural counties, improve health outcomes, reduce health disparities, promote entrepreneurship, and attract out of state NPs among other reasons. This is a consistent finding in the literature review. According to Buerhaus (2019), patients in states with restricted NP scope of practice had less access to care, and 40% less NPs compared to states with full practice authority (Buerhaus, 2019).

While the literature review suggests that most NPs desire full scope of practice, it did not address their attitudes towards physician collaboration, if given autonomous practice. Nursing training supports multidisciplinary, collaborative patient care approach. Therefore, it was not alarming that 45.9% of NPs stated they would use a physician as a resource. Only 11.9% of NPs stated they would not use a physician, suggesting further education is needed on the importance of inter-professional collaboration. I anticipated most NPs would seize the opportunity to dissolve a collaborative agreement if no longer required by the state. However, 22.2% of NPs said they would continue a physician collaborative agreement. The project findings suggest NPs are not trying to replace physicians. On the contrary, they embrace physician's expertise and skills and welcome the opportunity at partnership and collaboration to take 21<sup>st</sup> century healthcare to the next level of patient-centered, evidence-based care. Its win-win situation for both groups, and patients get to benefit from a dynamic multi-disciplinary team approach.

Financial gain and control by the medical community, was highlighted in the project as suggestive statements such as “NPs would no longer be required to pay physicians” and, “the availability of NP jobs right now is directly controlled by physicians who do not see our value” were made by participants when asked why removal of practice barriers would be an advantage to Georgia NPs. The AMA and the MAG have alluded that full practice authority would compromise patient safety. However, the literature review contradicts these statements. It appears NP scope of practice barriers in Georgia are maintained in the name of insurance safety. However, there is a lack of evidence substantiating these claims. There is an emergence of companies, some led by physicians, advertising collaborative physician services for substantial monetary fees on the internet. If patient safety were a concern, physicians would not solicit their services as their licenses would be in jeopardy of suspension or termination.

I expected a greater response for the number of NPs who agreed that physicians in their practice supported restricted practice compared to those who support full practice authority. However, there was only a small difference in both groups. This finding may suggest that physicians in clinical practice may not be as resistant to full scope of practice as the literature review suggest. Possibly because they see the day-to-day value of the NPs contribution to the practice. It is also possible that the push back is from executive leadership and not from physicians in the clinical setting.

### **Project Limitations**

The project did not outline geographical boundaries for “rural” Georgia. It was also limited to NPs in Georgia; therefore, a generalized assumption should not be made for NPs in other states, as each state is governed by different regulations. There were some missing data in the sample, which may have impacted the findings. Reliability analysis was limited to the A-

section of the questionnaire, while validity was based on self-report. A significant number of questions were based on the NPs perception. As a result, there may be some introduction of biases and subjectivity. Overall, there was good representation and quality responses from the NPs which should not be discredited or minimized.

### **Practice Implications**

#### **Nursing**

The first nurse practitioner certification program was started in 1965 by Loretta Ford and Henry Silver to address the growing healthcare needs of the underserved population (Hain & Fleck, 2014). Today, the nurse practitioner role has expanded across multiple settings and diverse patient populations (Hain & Fleck, 2014). There has been significant advancement in healthcare delivery models, and nursing innovation since the first NP program began. However, the scope of practice policies still lags. The project findings suggest that NPs in ambulatory settings which was the largest practice group represented, were more likely to open an independent practice in rural Georgia, compared to NPs who work in other settings. Additionally, 21.5% of NPs desire to open their own practice within the next five years. This is significant, as there is a current need for primary healthcare services in rural Georgia. With the recent COVID-19 pandemic there is an even greater need to relax the laws to increase healthcare access, reduce mortality and morbidity, and lessen the economic burden to the state. Entrepreneurship may allow NPs greater financial freedom, and increased satisfaction from ownership compared to an employee status. It may also increase commerce in Georgia.

The evidence suggests that NPs provide the same quality of care as primary care physicians, yet their skills are underutilized in primary care. This may lead to an unstimulated, NP workforce. One participant stated, “the facility I work at does not allow NPs to function as

independent providers, I essentially am allowed to operate in the same capacity as medical students”. NPs in Georgia desire full practice authority, but the practice barriers are disproportionately higher than the policy advancements. If barriers are not reduced, NPs will migrate to states with full practice authority, depleting an already compromised health workforce. Georgia will not be able to attract new talent and remain relevant. Minnesota APRN workforce increased by 2,749 in four years after they received full practice authority. This may have resulted from APRN migration from other states or more nurses entering the profession. A NP in the neighboring state of Florida, established an independent practice with hospital privileges since receiving full practice authority in 2020 (NP Family Practice & Midwifery Care, 2018) There is hope for Georgia NPs. But it will require unity, persistence, and ongoing advocacy until our voices are heard.

It was noted in the project that other health professionals such as PAs and chiropractors had greater practice autonomy than NPs. Participants who reported lower quality of work relationship with PAs also said they were more likely to open an independent practice in rural Georgia if granted full practice authority. Interprofessional collaboration is essential to patient-centered care. However, the scope of practice discrepancies among the different health workforce groups may result in unnecessary workplace tension. While a NP is among the fastest growing careers, restrictive practice policies may deter prospective students from pursuing this path and gravitate to other healthcare professions with less practice barriers.

NPs who already own their own practices are also impacted by the project findings. One participant said she had to close her practice because her collaborative physician terminated the agreement. Other NPs in Georgia are also experiencing this issue. An independently owned NP practice should not be dependent on a physician’s discretion. The physician’s action whether

positive or negative should not dictate whether a business stays opened or closed. Employees may be left without a job, patients may have to find a new medical home, and insurance companies may terminate contracts. The evidence suggests that NP provide more cost-effective care compared to physicians. According to Mack (2018), decreased emergency room visits, shorter hospital stays, and lower medication costs occurred among patients managed by a primary care nurse practitioner (Mack, 2018). Despite the overwhelming evidence, Georgia is slow to make policy changes because of bureaucracy.

### **Patients**

Patients are probably affected the most by restricted scope of practice policies in Georgia. Most NPs felt practice barriers limited their abilities to manage their patients effectively. One participant commented “can’t order diabetes shoes for my diabetic patient”. According to the Centers for Disease Control and Prevention (CDC), rural Georgians have a greater health disparity, and more chronic conditions compared to residents in urban and suburban communities (Centers for Disease Control and Prevention, 2020). According to the Georgia Department of Public Health (2018) greater than one out of ten adults living in Georgia has diabetes. It is the sixth cause of death in Georgia and the seventh cause of death in the United States (Georgia Department of Public Health, 2018).

Many NPs also reported they were restricted from ordering imaging studies. These policy deficits may present serious health consequences for patients. There has been some advancement in this area with the passing of SB 321, which allows APRNs to order routine radiographic imaging as delegated by the supervising physician. However, it may take time for this amendment to be reflected at the institutional level. The evidence shows that NPs are clinically competent in health promotion, disease prevention, and chronic disease management

(Mack, 2018). The evidence also suggests that NPs are more likely to work with vulnerable groups. Policy makers should, therefore, remove state regulated practice barriers to improve population health. Full practice authority may reduce the health disparity, improve patient outcomes, provide cost-effective, evidence-based care, increase availability of primary care services, improve healthcare access, and reduce mortality and morbidity from chronic diseases.

### **Practice Policy**

The project findings strongly suggest the current APRN scope of practice in Georgia limits NPs from practicing to their full scope of training and clinical competency. This was a consistent finding in the literature review. The collaborative agreement instituted by the GCMB places a limit of four APRNs to one supervising or delegating physician. This is impractical as there are more practicing APRNs than primary care physicians. An interim solution would be to increase this number to at least six to eight NP per supervising physician. Many NPs desiring entrepreneurship struggle to find quality collaborating physicians due to demand and supply. This may predispose NPs to predatory practices from physicians. The board of nursing should dictate the terms of nursing practice, not the Georgia Medical Board. States should also provide suitable incentives such as tax breaks to supervising physicians, as NPs with independent practices are not allowed to pay their supervisory physicians. Incentivizing the supervisory process may avoid illegal monetary transactions.

### **Recommendations**

Recommendations to improve NP scope of practice in Georgia States is to implement the APRN Consensus Model, which standardizes APRN education, accreditation, licensure, and certification (Mack, 2018). States who implemented the Consensus Model had fewer practice barriers, and improved healthcare access, especially in the underserved rural population (Mack,

2018). It is illogical for APRNs employed at a Georgia VA facility, to have full practice authority at the federal level, yet have restricted scope of practice at the state level. This reflects a policy deficit that creates confusion of the APRN role. Future scholarships are needed to assess the impact of restricted scope of practice policy on patient outcomes in Georgia, compare patient and financial outcomes post implementation of full practice authority in the comparison states of Minnesota and Florida, and assess the impact of the COVID-19 pandemic on healthcare access in Georgia. Replication of this project on a larger scale is necessary to determine if the claims made by the GCMB and the MAG are valid. If APRN practice barriers are removed in Georgia, a longitudinal study would be appropriate to show the efficacy of lifting the restrictions.

### **Conclusion**

The project revealed that restrictive scope of practice regulation is a major barrier to NP practice in Georgia. Most NPs verbalized they desired full practice authority, and a significant number agreed they were likely to open independent NP practices in rural Georgia if granted full scope of practice. Most NPs also agreed full practice authority would be a benefit to Georgia NPs and patients while increasing access to care. It is an opportune time for the laws to be revisited and policies changed to reflect the growing needs of Georgia's population. Stakeholders, including policymakers, should support and embrace this change as patients, especially those in vulnerable groups are depending on their leaders to make the right decisions concerning their health.

A paradigm shift in healthcare is in progress. Inefficiencies are being replaced with high-quality, cost-effective, patient-centered, evidence-based models. APRNs need to educate the public regarding their roles and functions within the twenty-first-century healthcare system. Furthermore, Georgia NPs must advocate for the removal of antiquated systems and policies that



impede the profession's growth and advancement, and highlight the nurse's multifaceted attributes as a clinician, advocate, leader, educator, scholar, and entrepreneur.

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## Appendix

**Table 1**

Description of the sample (N=135), 22% missing data.

Variable	M (#)	SD (%)
Age	49.40	11.52
Race		
White	68	50%
Black	28	20%
Asian	5	4%
Mixed	4	3%
Other	2	2%
Missing	29	22%
Gender		
Male	13	10%
Female	93	68%
Missing	29	22%
Hispanic	5	3%
Non-Hispanic	104	75%
Missing	29	22%
Years as a NP	8.71	7.98
Hours work as NP	33.38	18.84
# of patient visits per week	54.55	38.45

**Table 2.**

*ANOVA of likelihood of opening an independent practice in Rural Georgia.*

<b>ANOVA</b>						
	Sum of Squares	df	Mean Square	F	Sig.	
Years as a practitioner	370.520	4	92.630	1.484	0.214	
Gender	0.422	4	0.105	0.961	0.432	
Hispanic/Latino status	0.118	4	0.030	0.637	0.637	
Race	11.952	4	2.988	1.232	0.302	
Age	618.381	4	154.595	1.218	0.310	
Employment hours	598.193	4	149.548	0.418	0.795	
Number of patients per week	2205.869	4	551.467	0.360	0.837	



**Table 3.**

*Chi-Square analysis of work setting and likelihood of opening an independent practice.*

		C10. How likely are you to open an independent nurse practitioner practice in rural Georgia, if granted full scope of practice?					Total
		Very Unlikely	Unlikely	Likely	Very Likely	Not sure	
B3. Which of the following best describes your work setting?	Acute care hospital (e.g., adult, pediatric, rehabilitation, other)	4	8	1	6	2	21
	Specialty hospital (e.g., psychiatric, rehabilitation, other)	3	1	2	0	0	6
	Subacute/Long-term care	1	1	4	0	0	6
	Home/Community care	0	1	0	4	1	6
	Ambulatory (e.g., office, surgery, dialysis, urgent care center)	11	11	6	16	7	51
	Walk in or retail-based clinic (e.g., pharmacy, grocery store, supermarket)	1	0	0	6	0	7
	School health/Student health service in secondary or college setting	0	0	0	1	0	1
	Other (please specify)	2	1	1	4	2	10
Total		22	23	14	37	12	108

$\chi^2(28) = 44.30, p = .03$

**Table 4. Literature Review Flowchart**

<b>Database</b>	<b>Search Terms</b>	<b>Results (Number &amp; Type of Studies Located)</b>	<b>Dates Searched</b>
CINAHL	APRN+ policy, shortage+ access, primary care nurse practitioner+ scope of practice. State+ Georgia+rural	6 articles accepted.  Level III: 5  Level V: 1	10/1/2010-  10/2/2019
Science Direct	Nurse practitioners+ primary physician shortage, access+rural	1 article accepted.  Level IV: 1	10/1/2010-  10/2/2019
Advanced Placement Source	Primary care+ advance practitioner+scope	1 Articles accepted.  Level IV: 1	10/1/2010-  10/2/2019
Government & Regulatory Agencies	NP+physician shortage	6 articles accepted for statistical purposes.	10/1/2015/10/2/2019
Journal subscription		1 article accepted.  Level V: 1	N/A

**Table 5. Evidence Matrix Table**

<p>Buerhaus, P., DesRoches, C. M., Dittus, R., &amp; Donelan, K. (2015, March-April). Practice characteristics of primary care nurse practitioners and physicians. <i>Nursing Outlook</i>, 63(2), 144-143. <a href="https://doi.org/https://doi.org/10.1016/j.outlook.2014.08.008">https://doi.org/https://doi.org/10.1016/j.outlook.2014.08.008</a></p>				<p><b>Grade Level of Evidence:</b> Weak recommendation; medium-quality (VI)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>What are the demographic, education, and employment characteristics of PCNPs and PCMDs?</p> <p>Are there systematic differences in the characteristics of the patients treated by these two groups of clinicians?</p> <p>What are the billing practices of PCNPs and PCMDs, and how do these practices vary by practice organization characteristics?</p> <p>Are there differences in how PCNPs and PCMDs spend their time and in the care delivery activities they provide?</p>	<p>Quantitative descriptive study</p> <p>Survey was conducted by postal mail November 23, 2011, to April 9, 2012.</p>	<p>Survey limited to primary care physicians and nurse practitioners actively involved in direct patient care.</p> <p>PCNP sample obtained from the Nurse Practitioner Masterfile.</p> <p>PCMD sample obtained from The American Medical Association Masterfile.</p> <p>Initial sample (n =1914) 957 physicians and nurse practitioners.</p> <p>Final sample 505 PCMDs</p>	<p>National Survey of Primary Care Nurse Practitioners (PCNPs) and Physicians (PCMDs). Survey developed by research team, conducted by Harris Interactive Inc.</p> <p>Survey included the following measures:</p> <ul style="list-style-type: none"> <li>• Personal and practice characteristics</li> <li>• Perceptions of primary care shortages</li> <li>• Scope of practice implications of expanding the supply of PCNPs.</li> <li>• Career and job satisfaction</li> <li>• Career recommendations</li> </ul> <p>Chi-square test used to analyze data.</p>	<p>PCNPs were more likely to practice in a rural and urban setting while PCMDs were more likely to practice in suburban areas.</p> <p>Most PCNPs report a master’s degree as highest level of education. PCMDs earn significantly higher salary than PCNPs.</p> <p>PCNPs were more likely to treat patients from diverse ethnic minorities such as African Americans and Hispanics. PCMDs who work with PCNPs accepted a greater number of new medicare patients than those who did not work with a PCNP.</p> <p>There were no major differences in practice revenue for PCNPs working with or without PCMDs. Billing practices vary among PCNPs with NPI numbers.</p> <p>Both groups spend most of their time with direct patient care, including</p>

		<p>and 467 PCNPs.</p> <p>Response rate 61.2%.</p> <p>Monetary incentive given to complete survey.</p>		<p>patient teaching, and documentation. PCNPs dedicate more time during the week for patient and family teaching.</p>
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<p>Gentili, M., Harati, P., &amp; Serban, N. (2016, August). Projecting the impact of the Affordable Care Act provisions on accessibility and availability of primary care providers for the adult population in Georgia. <i>American Journal of Public Health, 106</i>(8), 1470-1476.</p> <p><a href="https://doi.org/http://dx.doi.org/10.2105/AJPH.2016.303222">https://doi.org/http://dx.doi.org/10.2105/AJPH.2016.303222</a></p>				<p><b>Grade Level of Evidence:</b> Strong recommendation; Moderate-quality evidence (V)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>To evaluate how the Affordable Care Act (ACA) affects the met needs i.e., accessibility and availability of primary healthcare among adult patients in Georgia.</p>	<p>Systematic review of descriptive studies</p> <p>Data obtained from various national and state enumeration systems.</p>	<p>Adults 19-64 residing in Georgia.</p>	<p>Stock and flow model, regression model, and optimization model used to assess met and unmet needs of availability and accessibility of primary care.</p>	<p>ACA provision will decrease unmet needs and increase accessibility of primary healthcare.</p> <p>If Georgia elects to expand Medicaid, met needs statewide will increase from 67% to 80% by 2025. This will increase access in some communities but may reduce availability of services.</p>

<p>Hain, D., &amp; Fleck, L. M. (2014, May 31). Barriers to NP practice that impact healthcare redesign. <i>The Online Journal of issues in Nursing, 19</i>(2).   <a href="https://doi.org/10.3912/OJIN.Vol19No02Man02">https://doi.org/10.3912/OJIN.Vol19No02Man02</a></p>				<p><b>Grade Level of Evidence:</b> Strong recommendation; moderate -level (V)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>Are there barriers in the healthcare system which restricts APRN scope of practice?</p>	<p>Systematic review of descriptive studies.</p>	<p>Nurse practitioners in the United States</p>	<p>Literature review</p>	<p>The affordable care act (ACA) increased the demand for healthcare services. Aging baby boomers and population growth contribute to the primary care shortage.</p> <p>Barriers to APRN practice include restrictive state practice and licensure, resistance from physicians and medical groups, restrictive payor policies, failure of acute care facilities to grant APRNs admitting privileges, and job satisfaction and retention of primary care APRNs.</p> <p>National and state leaders must overcome these barriers to achieve “triple aim” of healthcare; better care, better health, and lower healthcare costs.</p>

<p>Leszinsky, L., &amp; Candon, M. (2019, July-August). Primary care appointments for medicaid beneficiaries with advanced practitioners. <i>Annals of Family Medicine</i>, 17(4), 363-366. Retrieved from <a href="http://www.annfammed.org/content/17/4/iii.full.pdf+html">www.annfammed.org/content/17/4/iii.full.pdf+html</a></p>				<p><b>Grade Level of Evidence:</b> Weak recommendation; medium-quality evidence (V1)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>Is there an increase of Medicaid patients scheduled with nurse practitioners since the implementation of the affordable care act (ACA)?</p>	<p>Quantitative descriptive study</p>	<p>3,742 primary care practices in Arkansas, Georgia, Illinois, Iowa, Massachusetts, Montana, New Jersey, Oregon, Pennsylvania, and Texas were randomly selected between 2012-2016 to receive phone calls from simulated Medicaid patients.</p> <p>Initial sample of 12,070 calls. More than 1/2 calls excluded due to unavailability and other restrictions. Final sample of 5651 calls made across 10 states in three phases.</p>	<p>The proportion of appointments scheduled with APRN was measured by year and state.</p> <p>Linear regression analysis of county clustered standard errors.</p> <p>Independent variables included Federally Qualified Health Centers (FQHC) accountable care organizations, and Herfindahl-Hirschman index.</p> <p>Appointment with an APRN was accepted if there was no availability with a physician.</p>	<p>Simulated Medicaid patients scheduled more appointments with APRN after the implementation of the ACA.</p> <p>The number of primary care appointments scheduled with APRNs increased from 7.7% in 2012 to 11.7% in 2014 and finally to 12.9% in 2016.</p> <p>More appointments were scheduled with APRNs in FQHC.</p> <p>There were more frequent appointments made with APRNs among lower income counties with a predominant white population.</p> <p>The number of APRN appointments scheduled in 3 states with prescriptive authority (Oregon, Iowa, and Montana) was twice the rate in other states (18.8% vs 9.1%) This data suggests that states with less restrictive scope of practice resulted in increased appointments scheduled with an APRN.</p>

<p>Levin, P. J., &amp; Bateman, R. (2012). Organizing and investing to expand primary care availability with nurse practitioners. <i>Journal of Community Health</i>, 37, 265-269. <a href="https://doi.org/10.1007/s10900-011-9537-5">https://doi.org/10.1007/s10900-011-9537-5</a></p>				<p><b>Grade Level of Evidence:</b> Strong recommendation; moderate-quality evidence (V)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>Examine the reasons for primary care physician shortage and offer solution to improve healthcare access.</p>	<p>Systematic review of descriptive studies</p>	<p>Nurse practitioners in the United States</p>	<p>Literature review</p>	<p>Nurse practitioners led primary care clinics will increase access to healthcare.</p> <p>Interprofessional collaboration will improve practice efficiency by offering comprehensive services.</p> <p>Government or Investors are needed to supply the capital necessary to establish and expand nurse practitioner led clinics.</p> <p>Management companies skilled in practice operation could support and enhance the clinics, making them more effective.</p>



<p>Mack, R. (2018, May). Increasing access to health care by implementing a consensus model for advanced practice registered nurse practice.</p> <p><i>The Journal for Nurse Practitioners, 14(5), 419-424.</i></p>				<p><b>Grade Level of Evidence:</b> Strong recommendation; moderate-quality evidence (V)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>Implementation of the consensus model in states with restrictive practice authority will remove practice barriers among APRNs and improve access to healthcare.</p>	<p>Mixed qualitative and review of descriptive studies.</p>	<p>Nurse practitioners in the United States.</p>	<p>Interviews Literature review</p>	<p>The 23 states who implemented the consensus model have less practice barriers, and improved healthcare access, particularly in the underserved rural communities.</p> <p>APRNs must be involved in political action to bring about policy change.</p> <p>APRNs can disseminate information in their communities and organizations.</p> <p>APRNs should play an active role on healthcare committees at local or state level.</p> <p>APRNs should educate the public regarding their roles and functions. This can be done via methods such as media, local newspaper, and online presence.</p>

<p>Moore, C. (2017, April). Policies that restrict full utilization of nurse practitioners in primary care. <i>Nursing Economics</i>, 35(2), 70-76.</p>				<p><b>Grade Level of Evidence:</b> Strong recommendation; moderate-level quality evidence (V)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>To determine if APRN regulatory policies prevent primary care nurse practitioners from practicing to their full scope of training and competency.</p>	<p>Systematic review of descriptive studies.</p>	<p>Nurse practitioners in the United States.</p>	<p>Literature review</p>	<p>Inconsistent, non-standardized APRN regulation among each state has resulted in inconsistencies in scope of practice for nurse practitioners.</p> <p>Restrictive physician supervision in several states causes underutilization of nurse practitioners in primary care.</p> <p>There is no significant difference in the quality of care provided by primary care physicians and nurse practitioners.</p> <p>Nurse Practitioners play a significant role in increasing primary healthcare access.</p>

<p>Morgan, P., Strand De Oliveira, J., &amp; Short, N. M. (2011, July). Physician assistants and nurse practitioners: A missing component in state workforce assessments. <i>Journal of Interprofessional Care</i>, 25(4), 252-257.</p> <p><a href="https://doi.org/10.3109/13561820.2010.501917">https://doi.org/10.3109/13561820.2010.501917</a></p>				<p><b>Grade Level of Evidence:</b> Weak recommendation; low-quality evidence (V1)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>To examine best practices for statewide workforce assessments of nurse practitioners and physician assistants.</p>	<p>Quantitative descriptive study</p>	<p>Workforce assessments of nurse practitioners, physician assistants, and physicians in 40 states.</p> <p>Review of workforce assessments from 2002-2008.</p> <p>Assessments obtained from the Association of American Medical Colleges, web search, Medline, telephone calls, and email to state and other healthcare agencies.</p>	<p>Assessments were inputted into a spreadsheet.</p> <p>Statistics was calculated for each component assessed.</p>	<p>Many states do not include NPs and PAs in their workforce assessment. As a result, policy makers do not have the most accurate information to make their decisions.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>• Include PAs and NPs in medical workforce planning.</li> <li>• Use data from state licensing board to ensure accuracy and reliability.</li> <li>• Collect basic information from all providers including PAs and NPs</li> <li>• Estimates for medical provider supply should include all PAs and NPs.</li> <li>• APRN license should be separate from original RN license because some states only use the RN license for both roles.</li> </ul>

<p>Patel, E. Y., Petermann, V., &amp; Mark, B. (2019, April). Does state level nurse practitioner scope of practice policy affect access to care. <i>Western Journal of Nursing Research, 41</i>(4), 488-518.</p> <p><a href="https://doi.org/http://dx.doi.org/10.1177/0193945918795168">https://doi.org/http://dx.doi.org/10.1177/0193945918795168</a></p>				<p><b>Grade Level of Evidence:</b> Strong recommendation; moderate-quality evidence (V)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>To increase understanding of the relationship between scope of practice among nurse practitioner at the state level and access to healthcare.</p>	<p>Retrospective cross-sectional study.</p>	<p>Analysis of insurance beneficiaries, provider practices, provider-patient visits, health service area.</p>	<p>Round table discussion with researcher.</p> <p>Expert librarian assisted with searching electronic databases such as CINAHL and PubMed.</p> <p>Standard data collection template used.</p> <p>Anderson and Aday model of healthcare access used.</p>	<p>Scope of practice policy among nurse practitioners affect access to healthcare.</p> <p>More information is needed to assess the relationship between scope of practice policy for nurse practitioner and characteristics of the vulnerable population and patient satisfaction with care received.</p>

<p>Senate Study Committee on the Shortage of Doctors and Nurses in Georgia. (2007). <i>Final Report of the Senate Study Committee on the Shortage of Doctors and Nurses in Georgia.</i></p> <p>Retrieved from</p> <p><a href="http://www.senate.ga.gov/sro/Documents/StudyCommRpts/07DrNurseShortageRpt.pdf">http://www.senate.ga.gov/sro/Documents/StudyCommRpts/07DrNurseShortageRpt.pdf</a></p>				<p><b>Grade Level of Evidence:</b> Weak recommendation; Low quality evidence (V11)</p>
Hypothesis/Questions	Design	Sample	Measurement	Results/Implications
<p>To investigate the shortage of physicians and nurses in the state of Georgia.</p> <p>How can legislation increase the supply of doctors and nurses in the state of Georgia?</p>	<p>Expert committee consisting of senators, legislators, nursing leaders, physicians, professors of nursing and medicine, university deans, public health officials, researchers, and economists.</p>	<p>N/A</p>	<p>Testimony of the expert committee was conducted across the state of Georgia (5 meetings total).</p>	<p>There is a shortage of primary care physicians and specialists in Georgia. Projected 20% population increase in 10 yrs. Aging baby boomers requires greater medical care.</p> <p>Access to primary care physicians and specialist is decreasing in Georgia.</p> <p>Younger physicians work less hours because they desire better work-life balance.</p> <p>There is an increase of women physicians in Georgia. However, they work fewer hours due to family obligations.</p> <p>The most significant physician shortage is in the Rural areas.</p> <p>Medical school enrollment decreased. Residents leave the state because of limited residency opportunities.</p> <p>High cost of medical school education and student loan debt impacts choice of specialty and desire to practice in a rural setting.</p>