

# Minnesota State University Moorhead **RED: a Repository of Digital Collections**

### **Dissertations, Theses, and Projects**

**Graduate Studies** 

Fall 12-20-2018

# The Role of an Advanced Practice Provider (APP) and its Relation to Physician Shortages and Rural Healthcare Survival: A State-By-State Analysis

Allen Anderson andersall@mnstate.edu

Follow this and additional works at: https://red.mnstate.edu/thesis

Part of the Family Medicine Commons, Family Practice Nursing Commons, and the Health and **Medical Administration Commons** 

Researchers wishing to request an accessible version of this PDF may complete this form.

### **Recommended Citation**

Anderson, Allen, "The Role of an Advanced Practice Provider (APP) and its Relation to Physician Shortages and Rural Healthcare Survival: A State-By-State Analysis" (2018). Dissertations, Theses, and Projects. 152.

https://red.mnstate.edu/thesis/152

This Project (696 or 796 registration) is brought to you for free and open access by the Graduate Studies at RED: a Repository of Digital Collections. It has been accepted for inclusion in Dissertations, Theses, and Projects by an authorized administrator of RED: a Repository of Digital Collections. For more information, please contact RED@mnstate.edu.

The Role of an Advanced Practice Provider (APP) and its Relation to Physician Shortages and Rural Healthcare Survival: A State-By-State Analysis

> A Project Presented to The Graduate Faculty of Minnesota State University Moorhead

> > By

Allen Kenneth Anderson

In Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

> December 2018 Moorhead, MN

# The Role of an Advanced Practice Provider (APP) and its Relation to Physician Shortages and Rural Healthcare Survival: A State-By-State Analysis

#### Abstract

The extent that Advanced Practice Providers (APPs) are able to practice independently with a full scope of practice varies state-by-state. The purpose of this paper was to review how APPs could help in a number of different areas of healthcare. This analysis examines the state of rural healthcare and reviews physician shortage statistics and hospital closures by state. In the examination, it also evaluates which states have full scope, reduced scope, and restricted scope of practice laws and cross-references that with states that have experienced a hospital closure. Through case studies, this research finds that APPs can be an alternative in combating the physician shortage and patients would not experience a decrease in quality of care, but would actually experience an increase in satisfaction. Results of this research identify opportunities for a consistent and increased scope of practice for APPs to assist rural healthcare facilities in maintaining access to the patients they serve and to ensure economic vitality.

# **Table of Contents**

Abstract ii
Introduction1
The Future of Rural Healthcare and Critical Access
Table 1: States with rural hospital closures
The Physician Shortage
Table 2: Global physician numbers
Table 3: State-by-state analysis of the physician shortage
Advanced Practice Providers (APPs) and Their Role 11
Table 4: State-by-state scope of practice with hospital closures
Resolving the Physician Shortage14
Table 5: APP case studies on quality and outcomes
Conclusion
Appendix A 19
References

### Introduction

Evidenced by rural hospital closures and the potential for future closures, the future of rural healthcare and critical access for patients is at risk. This has been magnified by the crisis reported as the physician shortage. Advanced Practice Providers (APPs) can play a role in mitigating the physician shortage if their scope of practice allows. In its current status, these regulations are governed at the state level. Ultimately, there is evidence to the correlation of states that have experienced a hospital closure, the physician shortage, and its relation to the utilization of APPs. One solution to this growing problem is to promote advocacy for state legislatures and the federal government to assist in an intervention to the physician shortage and for healthcare leaders to assist healthcare providers to embrace the utilization of APPs. This change to scope of practice law is crucial to the survival of rural healthcare.

#### The Future of Rural Healthcare and Critical Access

Rural healthcare is a vital component of rural communities because it ensures access to basic healthcare services in the communities or regions served. Because of the basic types of services provided in these rural settings, like access to primary and emergency care, the Centers for Medicare and Medicaid Services (CMS) define these healthcare facilities as critical access. The advantage of being given the designation of critical access is in the method of reimbursement to favor economic vitality. To be given the status of critical access hospitals means those designated hospitals are reimbursed around 100% of their allowable costs.

Typically, the rural healthcare profile is not that of just a hospital, a clinic, or in some cases a long-term care facility, but rather a combination of two, or all three of these disciplines. A majority of these facilities include a mix of physicians and APPs, typically labeled as primary care providers. Often, these facilities are represented as health practice shortage areas because of the challenge to recruit and retain primary care providers. This is being compounded by the reported physician shortage.

It is evident that rural healthcare is at risk and for a variety of reasons. First and foremost, that risk includes physician shortages and the challenge of recruiting new ones. In fact, rural areas of the United States employ 10% of physicians and represent 20% of the total population (National Rural Health Association Policy Brief: The Future of Rural Health, 2013). Other risk factors facing rural healthcare include: (a) changing reimbursement models; (b) transportation; (c) declining and aging population; (d) slower growth to the economy and higher unemployment; (e) low education and health literacy levels; (f) and a lack of access to basic life needs. Since 2010, 87 rural hospitals have closed nationwide, and many more are at risk of closure (Rural Hospital Closures\*: 87 Closures from January 2010 – Present, 2018).

Hospitals in rural areas are at a higher risk and have been closing their doors more frequently than those in metro areas. This is an issue because rural residents rely upon these hospitals, and the rural population is characterized by lower incomes and more chronic and complex health conditions. The southern part of the United States, particularly in Florida, Alabama, Tennessee, Arkansas, Virginia, and Texas, has been more affected than other areas (Hospital Closings Likely to Increase, October 2017). For some insight regarding the location of hospitals that have closed, the 87 reported rural hospital closures are listed in Table 1.

## Table 1

## States with rural hospital closures

State	Number of Closures
Alabama	5
Arizona	3
California	3
Florida	1
Georgia	7
Illinois	1
Kansas	2
Kentucky	4
Maine	3
Massachusetts	1
Michigan	1
Minnesota	2
Mississippi	5
Missouri	4
Nebraska	1
Nevada	1
North Carolina	5
Ohio	2
Oklahoma	3
Pennsylvania	2
South Carolina	3
South Dakota	1
Tennessee	9
Texas	15
Virginia	2
Wisconsin	1
Total:	87

Note. Adapted from "Rural Hospital Closures\*: 87 Closures from January 2010 – Present, 2018)", 2018.

For rural communities, hospital closures result in people having to travel longer distances for their primary, urgent, or emergency care services. Jobs are also at risk. Often, rural facilities offer a large number of jobs within the communities. Lastly, federal and state legislatures along with healthcare providers, are aiming for the overreaching goal of the Triple Aim (The IHI Triple Aim, 2018). This healthcare initiative is a three-pronged approach that supports better population health, better health quality, and lower healthcare costs. As hospital closures increase, Triple Aim becomes a more distant possibility by limiting access to primary healthcare services.

#### The Physician Shortage

The physician shortage has long been debated regarding whether we are actually facing one or will face one in the future. The date 2030 is a date that is reported as an important date for the future of the crisis. The reason 2030 is important is because it takes 10 years on average to train a physician. In order to attempt to affect the physician shortage with the current model of medical school and residencies, the initial training of physicians that will practice in 2030 is just beginning. However, it is proven that the current model is not going to affect the shortage of physicians. We are already experiencing a physician shortage. The total number of physicians finishing medical school and residency programs today will not improve upon the supply needed to reduce the shortage. Some facts in relation to the physician shortage include:

- Thirty-three percent of current physicians in the U.S. are over the age of 65 and 43% are 55 and older.
- Population growth impacts the shortage and 66% of people age 65 and older have at least one chronic disease.
- Forty-four percent of rural areas in the U.S. experience a shortage (based on a 3,500-to-1 ratio for primary care providers).
- One out of four physicians regrets their career choice and one out of three would not encourage young people to enter the field.

Source: 15 things to know about the physician shortage, 2014.

There has been little traction at the federal policy level to affect the physician shortage either. A bill called the Resident Physician Shortage Reduction Act and a similar bill in the House were introduced recently in 2017. The introduced bills would create 15,000 Medicarefunded residency positions distributed based on need and confirmed shortages (Factsheet: The Resident Physician Shortage Reduction Act of 2017, 2018). There have been others aimed at removing the federal cap on graduate medical education (GME) spending that limits the number of residency programs (GME Funding and Its Role in Addressing the Physician Shortage, 2018). This is because medical school graduates have increased by almost 30% since 2006, but the number of residency slots has not because of the spending cap. There is little support at the congressional level for any of the bills introduced.

There is no debate that the United States is facing a physician shortage or will very soon face a physician shortage. The only real consideration is if we are already in a shortage or if its effects will surface soon. The side of the debate one falls on is a matter of perspective and often relates to the ability to recruit physicians. Challenges associated with serving rural populations include location, call requirements, amenities, schools, resources, and so on. What the rural locations lack in the factors highlighted, they usually make up for in terms of salary, often paying much higher wages than their urban counterparts According to Merritt Hawkins, a national physician recruitment firm recent primary care physician placements are significantly higher in rural facilities versus their urban counterparts (Miller, P., 2018). Merritt Hawkins also stated that past requests for rural recruitment efforts quadrupled the request to assist urban physician openings because urban healthcare centers were more likely to fill those spots internally.

Although never easy, recruiting in metro areas has always been an easier task because of resources and amenities, although these positions typically pay less than similar positions in rural

areas. However, Merritt Hawkins recently stated that for the first time in 22 years, they are conducting more searches in metro areas than they are in rural areas, denoting that it is becoming more challenging to recruit in all markets. In fact, in the 2017-2018 recruiting year, 62% of Merritt Hawkins' searches were in communities of 100,000 or more (2018 Review of Physician and Advanced Practitioner Recruiting Incentives, 2018). This is signaling the fact that the metro areas are also starting to experience a shortages.

Recruiting physicians is often a very time and labor-intensive endeavor, and this is truer in rural areas where there are fewer resources to do so. Regardless of policy and policymakers' conclusions, there are factual challenges reported by many governmental agencies to consider when discussing physician shortages including:

- More than 70% of adults in the United States engage in one or more unhealthy behaviors including: smoking, too much drinking, inadequate sleep, obesity and a lack of physical activity (America's Health Rankings, United Health Foundation).
- By 2030, the population of people ages 65 and over will grow by 55% (U.S. Census Bureau).
- People ages 65 and over comprise 14% of the population, but account for 34% of inpatient procedures and 37% of diagnostic testing and treatments (CDC).
- Fifty-seven percent of today's children will be obese by the time they reach the age of 35 (New England Journal of Medicine/USA Today. November 11, 2017).
- Increases in suicide rates, living cancer survivors, diagnosed Alzheimer's cases, and individuals consuming total hip replacements, increase the need for providers (CDC).

These facts raise concerns in the ability of rural areas to care for its future patients if they are not able to recruit and retain physicians. The physician shortage will create access issues for these future patients and force them to drive considerable distances for care that was previously provided locally.

Globally, the United States is behind much of the world in regards to the number of physicians per population. The U.S. has fewer physicians per 1,000 people than 23 of 28 countries reporting such data (Carroll, 2016). According to the Carroll report, distribution of physicians per 1,000 people in global countries is shown in Table 2.

Table 2

Global physician	numbers
------------------	---------

Country	Physicians per 1,000 people
South Korea	2.17
Mexico	2.17
Poland	2.24
Canada	2.46
United States	2.56
Germany	4.04
Switzerland	4.04
Sweden	4.12
Norway	4.31
Austria	4.99

Note. Adapted from "A Doctor Shortage? Let's Take a Closer Look ", by A.E. Carroll, 2016. Correspondingly, the United States ranks 30 out of 35 countries in number of medical school graduates. This means the U.S. does not have a supply of current or future physicians. A stateby-state comparison echoes that the supply of physicians is low relative to strong demand. To examine the local level of the physician shortage, Table 3 shows state-by-state data in the United States as it relates to the number of primary care physicians, the number of medical students and residents, and states that have experienced a closure.

# Table 3

State-by-state	analysis	of the	physician	shortage
2		0,	proporeiter	5.10.10.00

				Primary	Primary	
			Medical	Care	Care	
		Primary	Students	Physicians	Physicians	
		Care	and	per 1,000	per 3,500	Experienced
State-by-state	Population	Physicians	Residents	population	population	a Closure
Alabama	4,863,300	3,713	3,412	0.76	2.67	X
Arizona	6,931,071	5,396	3,973	0.78	2.72	X
Alaska	741,894	806	32	1.09	3.80	
Arkansas	2,988,248	2,377	1,470	0.80	2.78	
California	39,250,017	36,700	17,816	0.94	3.27	Х
Colorado	5,540,545	5,218	2,786	0.94	3.30	
Connecticut	3,576,452	3,786	3,652	1.06	3.71	
Delaware	952,065	904	357	0.95	3.32	
District of						
Columbia	681,170	1,614	3,709	2.37	8.29	
Florida	20,612,439	17,851	10,328	0.87	3.03	X
Georgia	10,310,371	8,123	5,286	0.79	2.76	Х
Hawaii	1,428,557	1,660	670	1.16	4.07	
Idaho	1,683,140	1,231	113	0.73	2.56	
Illinois	12,801,539	12,808	11,741	1.00	3.50	Х
Indiana	6,633,053	5,301	3,502	0.80	2.80	
Iowa	3,134,693	2,597	2,431	0.83	2.90	
Kansas	2,907,289	2,467	1,702	0.85	2.97	Х
Kentucky	4,436,974	3,467	2,917	0.78	2.73	Х
Louisiana	4,681,666	3,873	4,195	0.83	2.90	
Maine	1,331,479	1,731	1,024	1.30	4.55	Х
Maryland	6,116,447	6,955	4,764	1.14	3.98	
Massachusetts	6,811,779	9,156	8,718	1.34	4.70	Х
Michigan	9,928,300	9,701	10,824	0.98	3.42	Х
Minnesota	5,519,952	5,806	3,500	1.05	3.68	Х
Mississippi	2,988,726	1,925	1,648	0.64	2.25	Х
Missouri	6,093,000	5,301	6,904	0.87	3.05	Х
Montana	1,042,520	903	80	0.87	3.03	
Nebraska	1,907,116	1,673	1,939	0.88	3.07	Х
Nevada	2,940,058	2,060	1,281	0.70	2.45	Х
New Hampshire	1,334,795	1,407	802	1.05	3.69	
New Jersey	8,944,469	8,613	5,294	0.96	3.37	
New Mexico	2,081,015	1,892	1,186	0.91	3.18	

New York	19,745,289	21,949	27,019	1.11	3.89	
North Carolina	10,146,788	8,644	6,149	0.85	2.98	Х
North Dakota	757,952	647	432	0.85	2.99	
Ohio	11,614,373	10,842	11,216	0.93	3.27	Х
Oklahoma	3,923,561	2,954	1,989	0.75	2.64	Х
Oregon	4,093,465	4,397	1,574	1.07	3.76	
Pennsylvania	12,784,227	12,744	16,345	1.00	3.49	Х
Puerto Rico	3,411,307	3,985	2,176	1.17	4.09	
Rhode Island	1,056,426	1,230	1,409	1.16	4.08	
South Carolina	4,961,119	3,976	3,461	0.80	2.81	Х
South Dakota	865,454	784	405	0.91	3.17	Х
Tennessee	6,651,194	5,706	5,338	0.86	3.00	Х
Texas	27,862,596	20,076	15,629	0.72	2.52	Х
Utah	3,051,217	1,974	1,242	0.65	2.26	
Vermont	624,594	823	790	1.32	4.61	
Virginia	8,411,808	7,692	5,720	0.91	3.20	Х
Washington	7,288,000	7,113	3,632	0.98	3.42	
West Virginia	1,831,102	1,830	2,366	1.00	3.50	
Wisconsin	5,778,708	5,477	3,584	0.95	3.32	X
Wyoming	585,501	453	40	0.77	2.71	

Note. Adapted from "2017 State Physician Workforce Data Book", 2017.

Based on the data in Table 3, there is not a direct correlation between states experiencing a larger physician shortage and states that have experienced a hospital closure. Rather, Table 3 notes that many states are underserved in the number of physicians per population. Overall, lower physician numbers per population does not directly relate to states that have experienced a hospital closure. However, in states that reported hospital closure there is a relationship with the number of employed physicians per population being below a certain level. Using 1.0 physician's per 1,000 per population as a benchmark, there were five hospitals that have experienced a closure with a number greater than or equal to 1.0 and 21 with a number less than 1.0. Physician shortages, or the inability to recruit physicians, can be related to poor financial performance which is a main driver of hospital closures.

#### **Advanced Practice Providers (APPs) and Their Role**

The number of APPs is on the rise and will continue to trend that way. In fact, the number of nurse practitioners has increased dramatically since 2001, nearly doubling in that time (5 creative solutions to the physician shortage, 2014). Increasing the role of an APP allows facilities to restructure their resources in ways to allow physicians to delegate some of their responsibilities to the APP. This is advantageous for many economic reasons, including resource allocation and increased efficiency.

The role, responsibilities, and utilization of an Advanced Practice Provider (APP) has transformed and increased over the years. In order for rural facilities to survive the risk of closure reported, they must adapt in their utilization of APPs to supplement the physician shortage. By allowing APPs to work to the top of their license and without regulatory restrictions, the physician shortage can be mitigated, if not eliminated. By allowing them to work to the full scope of their license, access to providers will remain or improve from the present state. Appendix A is a letter to Minnesota United States Senator Tina Smith, member of the Senate Committee on Health, Education, Labor, and Pensions. This committee has jurisdiction over the agencies and programs of the Department of Health and Human Services (Senate Committee on Health, Education, Labor, and Pensions, n.d.). Currently a state issue in regards to determining APP scope, attention needs to shift to the federal level to improve and resolve the physician shortage.

One resource that supports the increased utilization of APPs is an improvement in the state and use of telehealth services. Currently, 52% of hospitals report using telehealth and an additional 10% is beginning the process of implementing telehealth services (Balestra, 2018). As rules and regulations evolve with telehealth, research and clarity on how APPs can use telehealth

as a resource are needed. When deployed with healthcare best practices like ensuring HIPAA requirements, avoiding EMTALA violations, and adhering to an individual facility's medical staff bylaws, amongst others, telehealth can act as a resource to enhance patient experience and reduce the limits set upon APPs.

With fewer limits in APP training programs, these practitioners are becoming more prevalent in primary care practice settings. The limiting factor in APPs becoming a solution to the physician shortage is APP practice laws since they are state-by-state specific in defining practice scope. This exhibits inconsistency in how each state can utilize APPs. The scope of practice is limited to full practice, reduced practice, and restricted practice, depending on state law (State Practice Environment, n.d.). The nuances of the three scope types include:

- **Full practice**: allows for an APP to evaluate, diagnose, order, and interpret diagnostic tests, and treat patients, which includes prescribing medications and controlled substances
- **Reduced practice**: reduces ability of an APP to engage in at least one element of a practice and requires a career-long collaborative agreement with a physician
- **Restricted practice**: restricts ability of an APP to engage in at least one element of a practice and requires career-long supervision, delegation, or teammanagement with a physician

The state-by-state breakdown of scope of practice is displayed in Table 4 and cross-referenced with the number of rural hospital closures by state.

# Table 4

State-by-State	scope	of pra	ctice	with	hospital	closures
5.0.00 0 5.0.00	seepe	<i>cj p</i> · <i>ci</i>	01100			010011.00

State	Practice Restrictions	Number of Closures
Arizona	Full	3
Maine	Full	3
Minnesota	Full	2
Nebraska	Full	1
Nevada	Full	1
South Dakota	Full	1
Alabama	Reduced	5
Illinois	Reduced	1
Kansas	Reduced	2
Kentucky	Reduced	4
Mississippi	Reduced	5
Ohio	Reduced	2
Pennsylvania	Reduced	2
Wisconsin	Reduced	1
California	Restricted	3
Florida	Restricted	1
Georgia	Restricted	7
Massachusetts	Restricted	1
Michigan	Restricted	1
Missouri	Restricted	4
North Carolina	Restricted	5
Oklahoma	Restricted	3
South Carolina	Restricted	3
Tennessee	Restricted	9
Texas	Restricted	15
Virginia	Restricted	2
		Percentage of
Practice Scope	Total Closures	closures
Full Practice =	11	12.64%
Reduced Practice =	22	25.29%
Restricted Practice =	54	62.07%
Total =	87	100.00%

Note. Adapted from "State Practice Environment", n.d.

Among the 87 rural hospitals reporting closures, 12.64% (11 of 87) occurred in states that allow full practice scope of APPs. Furthermore, the closure percentages increase dramatically to

25.29% (22 of 87) of states that allow reduced practice scope and to 62.07% (54 of 87) of states that sanction scope of practice to a restricted practice. Although a singular solution will not fix the physician shortage, the supply of APPs can be a part of the solution.

#### **Resolving the Physician Shortage**

One part of the physician shortage solution is to continue to transform the utilization of APPs. Research shows states allowing full practice scope have experienced lower rates of closure. Eliminating inconsistencies in scope of practice for APPs would shorten the physician shortage gap while modernizing and streamlining the care delivery model. The decision to allow APPs to work to the top of their license is supported by the National Governors Association, the Institute of Medicine, the Federal Trade Commission, the American Association of Retired Persons, the Robert Wood Johnson Foundation, and others (Three Years Later, Institute of Medicine Report is Fueling Innovations in Nursing Practice and Education, 2013). Even with opposition from groups such as the American Medical Association, the Brookings Institution found that limiting laws restrict competition, add administrative complexities, and serve a major contributor to increased healthcare costs, amidst limited benefits (Schmitt, K., 2018).

One of the advantages to allowing APPs more autonomy in their practice is in its costeffectiveness. Considerable evidence demonstrates that utilization of APPs is cost-effective, without sacrificing high quality care (Nurse Practitioner Cost-Effectiveness, 2013). Initially, the cost of educating APPs is 20-25% of physicians. There is also evidence that there are comparable savings in regards to compensation. These advantages combined drive a huge economic impact to employing APPs and reducing labor costs.

Cost-effectiveness has been well analyzed beyond that of the academic preparation and labor costs of employing APPs to that of total cost of care. Accountable Care Organizations

(ACOs) are a common CMS initiative aimed at lowering the total cost of care through care coordination. A study in Tennessee's managed care initiatives found that healthcare was delivered at 23% below the average cost by utilizing APPs over other providers. This was achieved with the help of a 21% reduction in hospital inpatient rates and 24% lower lab utilization. Other factors to consider in healthcare cost effectiveness include illness prevention, health promotion, and outcomes, which APPs have proven to impact positively.

In a similar vein, there have been numerous studies on clinical outcomes of APPs as opposed to physicians. After analyzing many of the cases, there are significant advantages to utilizing APPs to the top of their licensure from a quality standpoint. It is worth noting that APP education is competency-based, rather than time-based (Clinical Outcomes: The Yardstick of Educational Effectiveness, 2017). These students must be able to demonstrate that they have assimilated knowledge and skill in order to provide quality, safe patient care. If they are not able to show this assimilation, they do not progress until they are able to do so. The key measure in assessing the effectiveness of this model is analyzing patient outcomes. This is done at the educational level to continue to transform the model to graduate successful APPs that are equipped with the tools to work in a multitude of settings and at the top of their licensure.

Beyond the educational analysis of APPs in regards to effectiveness and quality, these practitioners are analyzed with respect to quality and outcomes. Table 5 displays a number of studies that have been done that analyze the delivery of safe, effective, patient-centered, timely, efficient, equitable, and evidenced-based care (Quality of Nurse Practitioner Practice, 2015). These case studies have examined the utilization of APPs on a number of different levels and have noted different outcomes.

## Table 5

## APP case studies on quality and outcomes

Case Study Name:	Researcher:	Identified Outcome:
Evaluating nurse practitioner	Prescott, P.A.,	APPs scored higher in many areas
performance	Driscoll, L. (1980)	including time spent with patient,
		amount of advice, and listening,
		which provided a more
		completeness of a visit and better
		patient knowledge of their
		healthcare management plan.
Systematic review of whether	Horrocks, S.,	Patient satisfaction was higher
nurse practitioners working in	Anderson, E.,	with APPs and outcomes were
primary care can provide	Salisbury, C. (2002)	comparable to physicians.
equivalent care to doctors		
Substitution of doctors by nurses	Laurant, M., Reeves,	Quality of care, outcomes, and cost
in primary care	D., Hermens, R.,	were equivalent comparing nurses
	Braspenning, J.,	to physicians.
	Grol, R., Sibbald, B.	
	(2006)	
A systematic review of the impact	Carter, A.,	APPs were equally as competent
of nurse practitioners on cost,	Chochinov, A.	as physicians, often reducing wait
quality of care, satisfaction, and	(2007)	times, improving patient
wait times in the emergency		satisfaction, and outcomes.
department		
The role of nurse practitioner in	Naylor, M.D.,	APPs and physicians had
reinventing primary care	Kurtzman, E.I. $(2010)$	comparable outcomes, while APPs
	(2010)	performed better in the areas of
		ups and nationt satisfaction
The quality and effectiveness of	Stanil Hutt D	The impact on healthcare quality
are provided by purse	(2012)	safety and effectiveness of purse
practitioners	(2013)	practitioners compared to
practitioners		nhysicians was reviewed and was
		found to be comparable in all 11
		outcomes reviewed.

Note. Adapted from "Quality of Nurse Practitioner Practice", 2015.

Based on the analysis of the statistics in this project, there are many action steps and research that can be conducted in relation to the physician shortage. The first step is to be an advocate for state-by-state consistency in regards to scope of practice. This effort needs to be done at the federal and state level and would benefit from the efforts of coalitions. Another opportunity is to continue to advance the stigma of physicians versus APPs. Healthcare leadership can be a driving force in the progression of culture shift of how APPs are utilized, viewed in the medical community, and respected on medical staffs. Beyond that, there is opportunity to continue to develop research on this topic in the economics of utilizing APPs, physician stigmas, innovative provider mix models, and the improved use of telemedicine.

### Conclusion

There is evidence that the United States is experiencing a physician shortage, specifically in primary care. The effects of the physician shortage are becoming more pronounced nationwide, but are especially magnified in rural areas because of the effects on access in critical situations. Although there appears to be no singular fix to the physician shortage, the improved and increased utilization of APPs is one step to successfully decrease the current shortage. Joined with other expanded resources, allowing APPs to work to the top of their license would increase access, increase patient satisfaction without decreasing quality of care, and have an economic impact on total cost of care. Appendix A November 17, 2018

The Honorable Senator Tina Smith 309 Hart Senate Building Washington, DC 20510

Dear Senator Smith:

As a follow-up to our recent conversation regarding the state of healthcare in rural America, I am writing to request your attention to the risk of additional hospital closures in rural areas of our country. Since 2010, 87 rural hospitals have stopped doing inpatient services, and many have closed their doors altogether.

These hospitals are critical to the communities they serve by providing for vulnerable communities where residents are older and have more co-morbidities. The communities rely on their hospitals as an economic driver and for access to local healthcare. If more hospital closures come to fruition, rural America will suffer as a result and this is especially true in Minnesota.

One of the main issues rural hospitals face is their ability to recruit physicians. The country as a whole is experiencing a physician shortage. As a result, rural hospitals will be impacted in trying to maintain any sustainability. One hospital in Minnesota (Mayo Springfield) is already threatening closure as a result of not being able to recruit physicians. They have already significantly changed their care delivery model to combat their physician shortages.

The United States, as a whole, has fallen behind the rest of the world in healthcare in regards to the Triple Aim. However, one of the things people in the U.S. have enjoyed is access to care. If we do not do something about the physician shortage, access will suffer. Either it will be harder to get in to see a physician or the facility will not exist because of closure. In order to preserve the access that we enjoy today, we must act now.

My solution to the problem includes making Advanced Practice Provider (APP) scope of practice a federal regulation, rather than regulated at the state level. Currently, there is a full practice, reduced practice, and restricted practice scope. In correlation, nearly 60% of hospital closures have been in states that have a restricted practice scope and nearly 25% of closures have a reduced practice scope. If all facilities could enjoy a full practice scope, allowing APPs full reign over their practice to treat patients, we can mitigate the physician shortage crisis and reduce the risk of hospital closures in areas where access is crucial.

Again, I am asking for your attention to the physician shortage crisis as so many people depend on the availability and access to local healthcare. Attention to this effort will preserve the access prong of the Triple Aim. Should you have any questions, please do not hesitate to contact me.

Sincerely,

Allen Anderson Chief Executive Officer (507) 247-5521 allen.anderson@avera.org

#### References

15 things to know about the physician shortage. (2014, July 24). Retrieved from https://www.beckershospitalreview.com/hospital-physician-relationships/15-things-toknow-about-the-physician-shortage.html

2017 state physician workforce data book. (2018). Retrieved from

https://www.aamc.org/data/workforce/reports/484392/2017-state-physician-workforcedata-report.html

- 2018 Review of Physician and Advanced Practitioner Recruiting Incentives. [An Overview of the Salaries, Bonuses, and Other Incentives Customarily Used to Recruit Physicians, Physician Assistants and Nurse Practitioners]. (2018).
- 5 creative solutions to the physician shortage. (2014, February 18). Retrieved from https://www.bartonassociates.com/blog/5-creative-solutions-to-the-physician-shortage/
- 87 rural hospital closures: January 2010 present. (2018, September 21). Retrieved from http://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures/
- Balestra, M. (2018). Telehealth and legal implications for nurse practitioners. *The Journal for Nurse Practitioners*, *14*(1), 33-39. doi:10.1016/j.nurpra.2017.10.003
- Carroll, A. E. (2016, November 07). A doctor shortage? Let's take a closer look. Retrieved from https://www.nytimes.com/2016/11/08/upshot/a-doctor-shortage-lets-take-a-closer-look.html
- Clinical outcomes: The yardstick of educational effectiveness. (2017). Retrieved from https://www.aanp.org/advocacy/advocacy-resource/position-statements/clinicaloutcomes-the-yardstick-of-educational-effectiveness

- Factsheet: The Resident Physician Shortage reduction Act of 2017 | AHA. (2018, April 2). Retrieved from https://www.aha.org/factsheet/2018-04-02-factsheet-resident-physician-shortage-reduction-act-2017
- GME funding and its role in addressing the physician shortage. (2018, May 29). Retrieved from https://news.aamc.org/for-the-media/article/gme-funding-doctor-shortage/

Hospital closings likely to increase. (2017, October 19). Retrieved from

https://www.hrsa.gov/enews/past-issues/2017/october-19/hospitals-closing-increase.html

Miller, P. (2018). Primary Care Placements. [Merritt Hawkins].

National Rural Health Association policy brief. (2013, February). The future of rural health.

Nurse practitioner cost effectiveness. (2013). Retrieved from

https://www.aanp.org/advocacy/advocacy-resource/position-statements/position-statements

- Quality of nurse practitioner practice. (2015). Retrieved from https://www.aanp.org/advocacy/advocacy-resource/position-statements/quality-of-nursepractitioner-practice
- Schmitt, K. (2018, August 13). Can nurse practitioners solve the country's primary care shortage? Retrieved from https://www.centerforhealthjournalism.org/2018/08/07/cannurse-practitioners-solve-country-s-primary-care-shortage
- Senate Committee on Health, Education, Labor, and Pensions. (n.d.). Retrieved from https://www.govtrack.us/congress/committees/SSHR
- State practice environment. (n.d.). Retrieved from https://www.aanp.org/advocacy/state/statepractice-environment

The IHI triple aim. (2018). Retrieved from

http://www.ihi.org/engage/initiatives/TripleAim/Pages/default.aspx

Three years later, institute of medicine report is fueling innovations in nursing practice and education. (2013, October 07). Retrieved from https://www.rwjf.org/en/library/articles-and-news/2013/10/three-years-later--institute-of-medicine-report-is-fueling-innov.html