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Full Practice Authority: Determining Readiness Among Nurse Practitioner Students in Mississippi

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FULL PRACTICE AUTHORITY: DETERMINING READINESS AMONG NURSE PRACTITIONER STUDENTS IN MISSISSIPPI

by

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ABSTRACT

Full practice authority has been granted to nurse practitioners by many states. These practitioners are educated and trained as full primary providers of health care. Full practice authority for nurse practitioners is not granted in Mississippi, which currently ranks in the lowest positions for health care in the United States. The low ranking can be attributed to a lack of providers and access to services.

This project seeks to explore attitudes and understanding of nurse practitioner students in the State of Mississippi regarding full practice authority. A survey will be electronically distributed to determine what is already known and understood about full practice authority. Educational information will be presented to bring a uniform understanding of full practice authority. Finally, a post-education survey will be electronically distributed to gather data about how opinions and understanding have changed with the educational intervention. Survey data will then be processed through statistical analysis for both qualitative and quantitative values.

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DEDICATION

This project is dedicated to the LORD for His grace, mercy, longsuffering, and everlasting kindness. Also, to my family – Pop, Mom, Julie, Yvette, Elizabeth, and Alex. To Patty Amsden, who picked me up again and again, after every fall.

For An Unnamed Nurse:

If you were able to get the help you so desperately needed,

we would still have you today. Rest in peace.

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LIST OF ABBREVIATIONS

APRN	Advanced Practice Registered Nurse
ACA	Affordable Care Act
BMJ	British Medical Journal
CMS	Centers for Medicare & Medicaid Services
DKA	Diabetic Ketoacidosis
DNP	Doctor of Nursing Practice
D.O.	Doctor of Osteopathic Medicine
FPA	Full Practice Authority
HPSA	Health Professional Shortage Area
IOM	Institute of Medicine
M.D.	Doctor of Medicine
MSBML	Mississippi State Board of Medical Licensure
NP	Nurse Practitioner
U.S.	United States
USM	The University of Southern Mississippi
WHO	World Health Organization

CHAPTER I - INTRODUCTION

Health care in the United States today has inherited and is plagued by many issues which hinder what is known as the Quadruple Aim of health care – better care, better health, lower healthcare costs, and job satisfaction (Manchanda, 2016). Even before COVID-19 presented the known world with the force of a global pandemic in our modern age, there was a known problem with access to good, solid healthcare for both acute and chronic conditions that require medical assistance. Now, the healthcare access issue is more relevant than ever before. People need help managing their conditions and although telemedicine is helpful, it does not replace a thorough, in-person assessment (Blumenthal, 2020). The problem is now compounded.

Full practice authority (FPA) for nurse practitioners (NP) is a viable resource for the problems faced in today's healthcare setting, especially when considering the dire situation of healthcare in the State of Mississippi. FPA provides greater access to better healthcare, supports holistic and timely care, and is cost-efficient for both individuals and the general healthcare system. A system-wide change involving FPA is very large for the healthcare setting in an environment that is as traditional and rural as Mississippi, but such change can be managed one step at a time. The first steps would be determining if NPs understand what is meant by FPA, where NPs stand regarding supportiveness, and assessing the readiness of the system in Mississippi for such a change.

Problem Statement

Mississippi is a state that ranks poorly regarding healthcare in the United States. The U.S. News and World Report (2019) has Mississippi ranking 48th in healthcare overall, 50th in access as well as quality, and 48th in public health. One prominent

example of why Mississippi is so low in these rankings is reflected in the following factual recount of legislation in the state. Hattiesburg is a city that has been sued recently by the U.S. government and the State of Mississippi for violations of the nation's Clean Water Act and the Mississippi Air and Water Pollution Control Law, which greatly affects public health (Beveridge, 2020). The violations are just one example of a city that is mostly considered to be progressive and modern for Mississippi, and yet contains so many issues that have the potential to become public health threats. Another, more recent example involves the state's capital city, Jackson. After severe winter weather in February 2021, the city did not have clean water for a month, related to problems with the infrastructure that had not been addressed (McLellan, 2021).

For Mississippi's healthcare in general, there is a lack of primary care providers (U.S. Department of Health & Human Services [HHS], 2020), a situation that has been partially addressed through the opening of another school of medicine and schools for advanced nursing practice. The situation, however, continues to worsen. Because of the lack of primary care providers, there is decreased efficiency, which keeps appointment schedules backlogged for weeks and in some areas, months. A useful analogy would be a grocery store where only two or three registers were open, with people continually lining up and waiting to check out. The groceries would be in danger of spoiling because of the wait. Healthcare without proper access creates a nearly identical scenario and people who are not treated either worsen or die.

Available Knowledge

The COVID-19 pandemic has highlighted the lack of available personnel. No real relief of pressure on the Mississippi healthcare system from the measures that have been

implemented since the COVID-19 pandemic began, has occurred. When one considers the risks versus the benefits of FPA for NPs, Mississippi could gain an advantage in this struggle. A good place to begin would be the prudent exploration of changes that have been experienced by states which have already implemented FPA for NPs. Exploration would open dialogue and data gathering from the other states including the financing of healthcare, improvement of processes and efficiency, and the change in the general healthcare setting overall.

In the event of a lack of data, the dialogue would at least spur thought and action into necessary directions to explore advantages, pitfalls, and overall progress in the wake of granting FPA. Such exploration will provide a standard by which advanced nursing practice overall can be measured. Such information also necessitates exploring issues that are unique to Mississippi's healthcare landscape as well as how those issues would potentially be addressed through FPA.

Needs Assessment

Context of the Needs Assessment

The needs assessment for this project was performed with the goal of the project in view. The goal of this project was to determine knowledge, understanding, opinion, and support of Mississippi NP students toward FPA utilizing an educational, informative quasi-pilot survey study to potentially bring to the wider NP community in Mississippi. The project relevance is that FPA was debated and partially approved in the Mississippi state legislature for this session, which means that the topic is open for discussion with Mississippi lawmakers.

Needs Assessment for this Project

A needs assessment first begins with knowledge of what a good ratio of provider to patients would be. The World Health Organization (WHO, 2016) has utilized its Sustainable Development Goals in conjunction with the United Nations to determine an appropriate necessary ratio that will work toward decreasing poverty, hunger, and disease by the year 2030. The determination was that there are 4.45 Skilled Health Workers, defined as physicians, nurses (practitioners), and midwives, necessary per 1000 persons in population to achieve 80% coverage by 2030 (WHO, 2016). The WHO (2016) admits this ratio is only for communicable diseases, not counting non-communicable disease provider coverage (such as diabetes, cardiovascular disease, cancer, etc.). A different standard was discussed in the Harvard Business Review (Kerns & Willis, 2020) of at least one physician provider per 2000 patients as an average. The Harvard Business Review ratio is quite different from the WHO ratio. For purposes of this project, a practical ratio could be described as 1 care provider for 1000 persons in the population. While there is some room between the Harvard Business Review and the WHO provider ratios, the 1:1000 ratio is an attempt to give a guideline for necessary providers in a population.

The Mississippi State Department of Health (Office of Rural Health and Primary Care, 2016) has provided a primary care needs assessment for public access. The assessment states that federally designated Health Professional Shortage Areas (HPSAs) for Mississippi include the primary care of 75 single county designations (Office of Rural Health and Primary Care [ORHPC], 2016). Seventy-five counties is quite an alarming

number, because there are only a total of 82 counties in Mississippi. The percentage of HPSAs by county in Mississippi is shown to be 91.5%.

Further subclassification of HPSAs in Mississippi requires a more in-depth discussion of health professional distribution in the state. Approximately 2,304 active medical doctors were serving as primary care physicians in Mississippi in 2016 (ORHPC, 2016). The population of Mississippi at that time was 2,987,938, making the simple statistically determined ratio to be 1 provider per 1,297 persons (U.S. Census Bureau, 2020). Such a ratio does not account for distribution. Fifty-eight percent of the primary care providers are practicing in the counties which are federally designated as Metropolitan Statistical Areas in Mississippi (ORHPC, 2016), so the distribution is clearly problematic.

In 2016 there were 27 counties with 5 or fewer providers (ORHPC, 2016). The total population of these counties was 321,985 (U.S. Census Bureau, 2020) and the number of total providers was 83 (ORHPC, 2016). Utilizing this county number and population calculates to a ratio of 1 provider per 3,879.3 persons. This is a ratio much higher than is acceptable in either the WHO, the Harvard Business Review, or the ratio provided by this study as discussed above. The need for more providers in the State of Mississippi is clear. Giving FPA to NPs would increase the numbers of primary care providers in Mississippi, working toward decreasing HPSAs and perhaps leaning toward the 1:1000 provider to patient ratio.

Needs Assessment for the Educational Intervention

As previously discussed, Mississippi is among the lowest of all the United States in terms of healthcare ranking. The educational intervention that was included as part of

this project is based on full practice authority as a topic on the legislative table at this time and the accompanying necessity to determine knowledge, understanding, opinion, and support for such a change in the State of Mississippi. Determination should first occur among NPs, and as such should begin with determining the adequacy of this survey and educational intervention, beginning with NP students.

Synthesis of Evidence

Search

Overall, forty-seven articles were found that explore the role of the nurse practitioner, full practice authority, and related issues. From these articles, eleven were chosen as the focus for this review, and one legislative regulation citation. Six articles were placed in the cost-effectiveness and increased access category, two articles were placed in the regulations and outcomes category along with the original six which discussed outcomes/regulations as well, and four articles were placed in the specific examples' category. The synthesis of evidence was broken down into three categories: 1. cost-effectiveness, increased access, and nurse practitioner care, 2. regulations and outcomes, and 3. specific state and Veterans Affairs examples.

Cost-Effectiveness, Increased Access, and Nurse Practitioner Care

In terms of cost-effectiveness, three articles were found that directly addressed the subject. One was through a systematic review of randomized controlled trials. Martin-Misener et al. (2015) concluded that the cost-effectiveness for Nurse Practitioners as alternate ambulatory care providers is promising but needs more investigation. Anderson and Ferguson (2020) cite that their study, in which an NP-led medication reconciliation process in a skilled nursing facility was implemented, led to a 29.7% decrease in hospital

readmissions in a 30-day period – which is a cost-effective measure. Another article that covered cost-effectiveness was a pilot study performed by Coppa et al. (2018) that established an academic-clinic partnership that assigned nurse practitioner faculty to deliver home-based primary care services to complex patients in hopes of decreasing rehospitalizations and emergency department visits. The results showed 20-30% decreases in both, with continued decreases in 6 months, and this is because the NPs had full practice authority to deliver home-based primary care. These results led to the implications that allowing nurse practitioners to have FPA can "decrease costs" (cost-effectiveness) (Coppa et al., 2018, p. 335).

Increased access had three main articles. The first is Kippenbrock et al. (2015) who performed a questionnaire to NPs in 12 states in the Southern area of the United States, focusing on rural and underserved populations. The results showed that there has been some increase in access due to NPs from planning that occurred decades ago, but demand is still very high with major gaps in service. Kippenbrock et al. further advocate for NPs being allowed to practice to the fullest extent of their educational training. Next, Ortiz et al. (2018) stated that healthcare access and utilization can be improved through the increased scope of practice. Last, was a systematic review by Yang et al. (2020) of 33 studies published between 2000 and 2019. Yang et al. (2020) concluded that expanded regulations for NPs led to increased rural access for underserved areas.

Regulations and Outcomes

Eight articles were found that directly addressed the relationship between regulations and outcomes. Outcomes were addressed by Martin-Misener et al. (2015) who found that "nurse practitioners in alternative provider ambulatory primary care roles

have equivalent or better patient outcomes than comparators…" (p. 1). Anderson and Ferguson (2020) also concluded that increased utilization of NPs improved quality measures, which in turn affected outcomes through decreased hospital readmissions rates. Also, Coppa and colleagues (2018) stated in their pilot study that allowing NPs to have FPA promoted optimum health care which improves outcomes. Lowery et al. (2015) conducted interviews and surveys of NPs, discovering that physician oversight was seen as deterring trust in providers as well as increasing confusion for patients, with NPs citing physician oversight as merely a formality with no real basis in practice since the physicians were rarely onsite and had their own practices to attend and most questions were directed to other nurse practitioners. Due to these opinions, Lowery et al. (2015) concluded that outcomes are negatively affected by physician oversight. Ortiz et al. (2018, Conclusions section) found that "…the quality of patient outcomes is not reduced when the scope of practice is expanded." Yang et al. (2021) found in their study that improved access through expanded state NP regulations did not decrease care quality.

Regulations were addressed by two articles. Kippenbrock et al. (2015, p. 707), previously cited in the Cost-Effectiveness, Increased Access, and Nurse Practitioner Care section of this discourse, did not focus on regulations, but did state "To optimize their effectiveness, NPs need to practice to the full extent of their education." Kippenbrock et al. (2015) further stated that there has been an increase in access to care through the utilization of NPs in rural and underserved settings and such improvement can be continued by allowing full practice authority. Kuo et al. (2013) demonstrated through an assessment of the impact of state regulations between 1998 and 2010 that the number of Medicare patients who received NP care increased fifteenfold and they concluded that

expanding the scope of NP practice in restricted states would reduce the shortage of primary care providers.

Veterans Affairs and Specific State Examples

Regulations were addressed by two articles. Kippenbrock et al. (2015, p. 707), previously cited in the Cost-Effectiveness, Increased Access, and Nurse Practitioner Care section of this discourse, did not focus on regulations, but did state "To optimize their effectiveness, NPs need to practice to the full extent of their education." Kippenbrock et al. (2015) further stated that there has been an increase in access to care through the utilization of NPs in rural and underserved settings and such improvement can be continued by allowing full practice authority. Kuo et al. (2013) demonstrated through an assessment of the impact of state regulations between 1998 and 2010 that the number of Medicare patients who received NP care increased fifteenfold and they concluded that expanding the scope of NP practice in restricted states would reduce the shortage of primary care providers.

The Department of Veteran Affairs granted FPA to three roles of APRNs in 2016: the roles of Certified Nurse Practitioner, Clinical Nurse Specialist, and Certified Nurse-Midwife (Advanced Practice Registered Nurses [APRN], 2016). Under this ruling, Certified Registered Nurse Anesthetists were not included. The ruling stated that the new policy "…permits three roles of the APRNs to practice to the full extent of their education, training, and certification, without the clinical supervision or mandatory collaboration of physicians." (APRN, 2016, p. 90199).

There were two articles in the literature review which focused on states that have granted NPs full practice authority, namely Nebraska and North Dakota. Lazure et al.

(2016) published a case study examining the NP policy changes in Nebraska, to help others better prepare themselves and present information which is useful for decision-makers in the policy change petitioning process. Lazure et al. state:

> …advocates can more effectively participate in the change process by (a) having `a thorough understanding of the statutory and regulatory processes, (b) being aware of the goals for each stage of the process in order to consider *what* is to be communicated, and (c) planning ahead for *how* the information is communicated. (2016, p. 94)

Madler et al. (2014) performed the other case study and described its purpose as reporting how nurse practitioners in North Dakota were able to engage legislation to bring about practice changes.

Rationale and Framework Theory

Both the synthesis of literary evidence and the information gathered from other states was compiled and presented in alignment with the Meaningful Measures Framework (Centers for Medicare & Medicaid Services [CMMS], 2021) and juxtaposed with the situation of healthcare in Mississippi as a framework for the educational intervention. This is based on the theory that FPA in other states has improved the healthcare landscape for those states and that it has been more beneficial than problematic. The Meaningful Measures Framework, created by the Centers for Medicare and Medicaid Services, identifies areas for quality measurement and improvement. Bringing Meaningful Measures into the picture, allows federal guidelines to enter as well as shows Mississippi healthcare shortcomings and how the expansion of NP authority to full practice can help to bridge the healthcare gap.

The educational intervention highlighted this framework and utilized the framework as a tool to increase the understanding of FPA as well as the potential benefits/pitfalls for the State of Mississippi. Along with a pre- and post-survey, the entire process was designed to inform the knowledge of and measure support for FPA among Mississippi nurse practitioner students. If this intervention proved successful, it was hoped that this project may be adapted to the wider, practicing Mississippi NP population as a guide to determine where the profession stands in the state on the issue of FPA: ready or reluctant?

Specific Aims

The first aim of this project was to explore the potential advantages of FPA for the State of Mississippi and for APRNs who are practicing in Mississippi. Potential advantages include cost-effectiveness, increased access to healthcare in shortage areas, and utilization of NPs to the fullest extent of their training. These potential advantages are beneficial not only to the State of Mississippi on the governmental level and APRNs of Mississippi but also to the very people who reside and work in Mississippi and those who choose to make Mississippi their home.

The second aim was to reveal and troubleshoot the disadvantages of FPA through researching specific issues that other states faced on their respective journeys. Projective troubleshooting helps to efficiently create change by anticipating challenges. When challenges are addressed and overcome before they occur, future problems may be avoided. In healthcare, we know what an ounce of prevention is worth.

Finally, the third aim was to determine the understanding, attitudes, and readiness of students in nurse practitioner programs in the State of Mississippi. Working toward the

implementation of FPA involves examining obstacles such as ignorance of relevant healthcare issues vs the number of treated patients and population per provider; attitudes of hierarchical structure within healthcare vs a needs-based, lateral teamwork structure with appropriate leadership; the lack of vision toward positive outcomes for the healthcare system in general vs the potential of the healthcare system with adequate changes; and viewing evidence-based outcomes from other states as restrictive rules vs the view of outcomes as guidance which will allow progression toward better outcomes for Mississippi. Full Practice Authority implementation will work to fulfill the Quadruple Aim of healthcare: better care, better health, lower healthcare costs, and job satisfaction (Manchanda, 2016) for the State of Mississippi.

Expected Outcomes

There were two expected outcomes associated with this project. The first outcome involves determining through survey data if Mississippi's student NPs understand FPA are ready or reluctant to support such a legislative measure in Mississippi. If the survey data determines that the student NPs are ready, then the implications and next potential steps will be explored. If the survey data determines that the student NPs are reluctant, then the reasons and potential strategies to overcome reluctance will be explored as well.

The second outcome involves the educational intervention itself. All the information gathered from the different states who have FPA was compiled. Compiling this information aided in determining the potential impact of FPA on the health of patients and the healthcare systems of the states which implement it. Such a compilation can prove quite useful for other studies concerning FPA in the future.

DNP Essential Priorities

Essential I: Scientific Underpinnings of nursing practice are recognized as encompassing both the natural sciences and the social sciences (American Association of Colleges of Nursing [AACN], 2006). This project meets Essential I through the discipline of political and social science. Political science is addressed through the legislative part which is involved because FPA is currently being debated in the State of Mississippi. Political science is also addressed through governance and politics at the multi-state level due to the information garnered for the educational intervention. Student support and readiness can easily become a vehicle for change in the political landscape. Social sciences are addressed due to the unique socio-cultural challenges presented in rural settings that affect healthcare access, such as a lack of understanding regarding FPA and how it could be beneficial.

Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking is addressed because this project deals with healthcare systems for entire states and the change that is required in the healthcare system to correct for lack of coverage. Such change requires leaders who direct the thinking of the medical field toward a progressive future. Leading in this direction addresses some major access and financial issues faced by the healthcare system of not only Mississippi but the entire United States.

Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice is addressed through the research, compilation, and analysis of evidence-based data from multi-state sources. Compiling and analyzing the information of the states which have incorporated FPA into their legislative structure as well as determining the

post-incorporation changes, fulfills the role of scholar. Applying the same potential changes to the State of Mississippi will also be explored in a theoretical context. Applying the potential changes will determine the possible usefulness of FPA legislation for Mississippi. All of the listed actions involve a level of scholarship and analysis appropriate for the academic setting.

Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care is addressed using internet contact resources for information gathering, research of information, the web-based educational intervention, and obtaining statistical survey data. None of this is obtainable without the use of information systems and up-to-date technology. The survey will utilize Qualtrics. The survey and educational intervention presentation will rely upon email and internet distribution, respectively. The information researched and gathered from the states will be presented through a PowerPoint video format and distributed via an internet-based video platform.

Essential V: Health Care Policy for Advocacy in Health Care is addressed due to the legislation of FPA at this stage in Mississippi. The role of advocate requires bringing up questions and providing answers concerning strategies that will potentially improve healthcare access. FPA contains the potential to transform healthcare in Mississippi via stimulating new ideas for the practice and state in general as well as increasing healthcare access.

Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes has the potential to be addressed through the utilization of educational intervention. The gathered and analyzed information can be used as a tool to

open dialogue with the Mississippi Board of Medical Examiners and the Mississippi Board of Pharmacy. In the role of collaborator with other health professionals, the information obtained can help reveal the potential healthcare system benefits and the benefits for patients via increasing access to healthcare through FPA.

Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health, will be addressed simply in that FPA will bolster the state's medical system allowing clinical prevention to become more widespread as healthcare access increases. The role of the clinician would be enhanced with FPA and increase opportunities for further study concerning the practice of NPs and how to effectively utilize FPA. Full utilization would yield better healthcare results for Mississippi and improve healthcare outcomes.

Essential VIII: Advanced Practice Nursing will be addressed as is specified by the AACN (2006, p. 16) as this essential "specifies the foundational practice competencies that cut across specialties and are seen as requisite for DNP practice." Further, it is stated that practice is based on the application of several factors, which include sociopolitical, cultural, and economic. Such factors are different and difficult in areas with decreased healthcare access which leads to disparities. Essential VIII describes how the DNP prepares the APRN to address this in that APRNs "educate and guide individuals and groups through complex health and situational transitions" (AACN, 2006, p. 17), such as information and ideology concerning FPA. Additionally, Essential VIII describes the "use of conceptual and analytical skills in evaluating the links among practice, organizational, population, fiscal, and policy issues" (AACN, 2006, p. 17)

which this project addresses through the potential for interprofessional collaboration and legislative changes of FPA.

Priority Essentials for this project are Essential II, Essential III, and Essential V. Essential II is a priority because this project addressed a subject that directly involves systems thinking and organizational leadership at the broadest level, and that level is on the state practice level. Essential III is a priority because it was directly addressed through primary research involving outcomes that affect the states which have already initiated FPA. Also, since FPA is in place with these other states, any outcomes would be considered evidence based. Finally, Essential V directly deals with health care policy and advocacy which is a priority because this project topic deals with an issue currently involved in the legislative session. See Appendix D for the DNP Essential Priorities table.

Summary

Considering the issues currently faced by Mississippi's healthcare system, the viable solution of FPA for NPs is a strong way in which many healthcare needs can be fulfilled. Certainly, FPA is not the answer to all of Mississippi's healthcare problems and will bring some of its own, but the pros should outweigh the cons. Cross-referencing the evidence with the Meaningful Measures brings a sense of federal and national alignment so that the issue becomes about solving healthcare dilemmas and working toward Quadruple Aim. The next step was performing this project, considering all aspects, and determining where to start.

CHAPTER II -METHODS

Methods for this project included an educational intervention as well as both pre- and post-education surveys. Also, the educational intervention took shape surrounding the synthesis of literary evidence, the informational analysis gathered from other states, and the contrast against the healthcare situation in Mississippi. The surveys were focused on gathering information and data to determine understanding, support, and readiness for change. The design was both qualitative and quantitative on some level, with qualitative thematic analysis, collected statistical data analysis, and comparative analysis.

Context

The context for this project involved several elements. Population context was centered around NP students who are not already practicing as NPs within the State of Mississippi and who are enrolled in The University of Southern Mississippi, the University of Mississippi Medical Center, Alcorn State University, Delta State University, and the Mississippi University for Women. The program directors for each school's nursing program were contacted via email or telephone and were requested to electronically distribute the surveys through email to their enrolled students. A minimum of twenty student participants were necessary for statistical analysis.

Project context began by determining the advantage of FPA in other states and comparing the before and after the status of their healthcare systems, which provided more information for analysis. Next, the needs of Mississippi's population were considered, such as the high levels of obesity, type II diabetes mellitus, cardiovascular disease, hypertension, etc. This incorporated and addressed what specifically pertained to Mississippi. Such context brought insight into the rationale behind the change. The third

contextual step involves Mississippi's current state of healthcare compared to normative levels for the rest of the nation as well as the utilization of the Meaningful Measures Framework which brought a level of federal context and alignment within the wider national healthcare objectives. Finally the end context provided, through the project process, hindsight for limitations and greater expansion for further studies.

Intervention

The intervention was educational in origin, directed to NP students in Mississippi, as established above. An initial pre-survey was conducted to determine the understanding, concept, and necessity of FPA. Then the educational material was presented, based, and tailored to the initial survey results. Tailoring means that whatever the initial results show to be lacking, perhaps through a trend, would be covered in the educational material along with general information and the FPA models implemented in other states. The changes in the healthcare system status was included to show how beneficial FPA has become. All examples and models were appropriately documented for fact-checking. The pre-surveys, educational intervention, and post-surveys occurred through email or other internet resources to help improve participation during this time of social distancing and quarantine.

Study of the Intervention

The intervention was sandwiched in the second of three parts for this project. Part one was a pre-education survey by Qualtrics designed to collect data before the educational intervention. Part two was the educational intervention itself. Part three was the post-education survey by Qualtrics, the results of which were measured in comparison with the pre-education survey.

Part 1: Pre-Education Survey by Qualtrics

The pre-education survey was designed with seven questions that are of mixed type including qualitative and quantitative. The first question was designed to ascertain knowledge of FPA before the educational intervention, and stated, "As a student nurse practitioner, are you aware of what is meant by 'full practice authority'? A yes or no answer format was present, and the second question continued "If you answered 'yes' to question 1, please briefly describe 'full practice authority' in your own words". The third question was designed to determine if the respondent was generally supportive of FPA and stated, "Are you in support of 'full practice authority' for the State of Mississippi"? A yes or no answer format was present, and the fourth question continued, "Please briefly state why you are or are not in support of 'full practice authority' for the State of Mississippi". The fifth question was designed to identify any perceived barriers to FPA on the part of the respondent and stated, "Please briefly state what barriers you perceive to the passage and acceptance of 'full practice authority' in the State of Mississippi." The sixth question was designed to determine if the respondent was proactively supportive of FPA and stated, "Are you willing to proactively support 'full practice authority' in the State of Mississippi through lobbying and legislation?" A yes or no answer format was present. The seventh and final question continued, "Briefly state why you are or are not willing to proactively support 'full practice authority' in the State of Mississippi through lobbying and legislation."

Part 2: Educational Intervention

The educational intervention was a voice-over PowerPoint presentation which was converted to a video and uploaded to YouTube. The video was to be presented

through email as a link for viewing. The information addressed two of the Specific Aims of this project, including the advantages of FPA and troubleshooting disadvantages of FPA in Mississippi. Additionally, obstacles involving understanding and attitude toward FPA were explored involving alternative viewpoints with a revolutionary view of the future of healthcare in Mississippi.

Part 3: Post-Education Survey by Qualtrics

The post-education survey was also designed with seven questions, and they included both quantitative and qualitative types as well. The first question was designed to determine intervention efficacy and stated, "Did the educational material presented broaden your understanding of 'full practice authority'?" A yes or no answer format was present, and the second question continued, "If you answered yes to question 1, please briefly state what you learned." The third question was designed to determine if the intervention garnered more general support toward the idea of FPA and stated, "Has the presented material engaged you to become more supportive of 'full practice authority' for the State of Mississippi?" A yes or no answer format was presented, and the fourth question continued, "Briefly state why the material has or has not engaged you to become more supportive of 'full practice authority' for the State of Mississippi." The fifth question was designed to determine if the intervention had the potential to address barriers and benefits stating, "Do you feel that the educational material can help to eliminate barriers or work to highlight the beneficial aspects of 'full practice authority' for the State of Mississippi?" A yes or no answer format was presented. The sixth question was designed to determine if there were more respondents willing to be proactively supportive of FPA than were willing in the pre-education survey and stated,

"Are you willing to proactively support 'full practice authority' in the State of Mississippi through lobbying and legislation?" A yes or no answer format was present, and the seventh question continued, "Briefly state why you are or are not willing to proactively support 'full practice authority' in the State of Mississippi through lobbying and legislation."

The surveys were then statistically examined via comparative analysis for any trends or common themes that could have been addressed through changes in educational material. Barriers that are identified were researched and ideas for overcoming were explored or accounted for in the limitations section. Also, areas for further study were identified and discussed with projected usefulness for the current Mississippi healthcare landscape.

Intervention Implementation Procedure

The Institutional Review Board for the University of Southern Mississippi granted permission for the proposed project with protocol number IRB-21-335. The electronic survey was distributed with the verbal permission of the respective program directors to each participating university for distribution to the students. Each participating university then sent out emails with a link to the electronic survey, which first documented the students decision to participate in the survey or to opt out of survey participation.

Students who chose not to participate were redirected to the end page, and students who chose to participate were forwarded to the pre-education survey. Once the pre-education survey was completed, the participant was directed to a page which contained a hyperlink to the video platform where the educational intervention was able to be viewed. After viewing, the participant proceeded to the post-education survey to

complete the process. Answers and number of respondents were recorded and tallied by the survey platform, Qualtrics.

Measures

Both survey responses and responsiveness provided a measurement to determine knowledge of FPA, attitudes toward FPA, the success of the educational intervention, and the willingness of the participants to be surveyed and publicly support FPA. The survey responses and responsiveness provided the data to measure the outcomes and success of the intervention. If this survey and educational intervention proved successful, then utilization of survey data would be helpful to open a professional dialogue with the Mississippi State Board of Medical Examiners, the Board of Pharmacy, the Board of Nursing, as well as other official, professional channels. Opening professional dialogue can bring more feedback from other medical disciplines which are helpful to determine the next steps of further studies and future implications. The survey data itself determined readiness versus reluctance, and insight into the reasons for either.

Statistical Analysis

The analyses performed were both qualitative and quantitative. Qualitative analysis were thematic with the responses of the participants to open-ended questions and will ultimately depend on any trending themes noticed in participant answers. Quantitative analysis included descriptive statistics and comparative analysis for the questions with yes or no responses.

Additional examination of the survey results came from the consideration of the number of respondents. Responsiveness toward the idea of FPA and willingness to participate were utilized as measures for this analysis. The analysis would be qualitative

in providing needed information regarding potential barriers to, interest in, and support of FPA. The analysis was also be quantitative in determining percentages of educational success and how that affected post-survey responses and support. Variation is a factor that could have examined from the perspective of the respondents, comparing answers from students at different universities. Also, survey results revealed knowledge deficits among NP students in Mississippi.

Ethical Considerations

Ethical considerations included obtaining university Institutional Review Board approval and maintaining the survey respondents' confidentiality which was achieved through an online survey forum. Surveys will be reported with de-identified data. Qualtrics will be utilized for all pre- and post-education surveys, with data being saved on a password-protected personal computer and deleted six months after all graduation requirements have been met. Each set of surveys and the educational material was open for a minimum of two weeks, with the option to extend with a second wave depending on the number of respondents. Also, results, interpretations, and limitations will be made accessible to all interested parties, including the other states involved. Other disciplines as well as nursing officials helped to create an atmosphere of accountability and truthfulness regarding intentions and results.

Timeline

The timeline for this project was estimated to be six to twelve weeks. A with minimum of two rounds of surveys sent out was anticipated. More rounds were potentially necessary in the event of a lack of sufficient respondents. As previously mentioned, the number of sufficient respondents was placed at twenty.

Summary

There were several focal points of the outcomes for this project. First was an increase of information regarding the knowledge, understanding, attitudes, and support for the idea of FPA among NP students in Mississippi. Next, there was knowledge of the transition process of other states and how they have been affected since the change. Third, was the determination of readiness versus reluctance for NP students in Mississippi. Also, what were the areas needing to be addressed to work toward improving readiness in the State of Mississippi? The final focus of the outcome included the impact on current and future Mississippi NPs and NP students.

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CHAPTER III – RESULTS

Obtaining and Utilization of States' Information

Each state that has implemented FPA was contacted via email, telephone, or online meeting forums to request information specific to their state regarding FPA legislation and implementation. Not all FPA states chose to respond/participate. The participating states included: Alaska, Connecticut, Idaho, Illinois, Maryland, Minnesota, Massachusetts, North Dakota, Oregon, South Dakota, and Washington State. The purpose of contacting the states was to show that FPA was not simply a measure that some have chosen to implement, but that FPA has had major hurdles to overcome and has proven to be effective and successful as well as working to identify potentially problematic issues associated with FPA.

Questions for the States

A list of questions pertinent to States with FPA implementation was created and presented to participating states. The questions included: 1. Have you published anything regarding your state and the journey to FPA? Any statistical analyses? 2. What specific barriers did your state encounter during the journey to FPA? How did you overcome them? 3. Have patient care or outcomes improved since the change? If so, how? 4. Have NP job satisfaction and patient satisfaction improved? 5. Has care access increased? 6. Has cost-effectiveness increased? 7. Compare the before and after status of your state's health care system. 8. Have there been any negative outcomes so far? How have they been addressed? Each participating state was presented with these questions. The date, time, person, and method of communication were also documented

for sourcing and backtracking if necessary. Appendix E shows the question form in its formatting and entirety.

Answers to States' Questions

The answers given to the first question regarding publications of specific states which included quantitative data was mostly "no", but more than one state noted that such works were in progress. Specific barriers mostly revolved around opposition efforts from the states' Medical Associations, as noted by Massachusetts (McKinnon-Howe & McKinnon, 2021), North Dakota (C. Rising, personal communication, August 19, 2021), and Washington State (B. Smithing, personal communication, August 12, 2021). Also, working out the language for legislation to create a viable solution for FPA was noted as a barrier that could only be overcome by time and dialogue as noted by Idaho (Henbest et al., 2016), Illinois (Barton et al., 2020), Massachusetts (McKinnon-Howe & McKinnon, 2021), Maryland (Lang & Nettina, 2015), and nearly all the states.

Improvement of care, outcomes, access, and cost-effectiveness was noted by North Dakota (C. Rising, personal communication, August 12, 2021), South Dakota (R. Arends, personal communication, August 21, 2021), Washington State (B. Smithing, personal communication, August 12, 2021), Alaska (C. Logan, personal communication, February 22, 2021), and Idaho (C. Shackelford, personal communication, April 8, 2021). Improvement of NP job satisfaction was noted by Idaho (C. Shackelford, personal communication, February 22, 2021) and Washington State (B. Smithing, personal communication, August 12, 2021). Before and after statuses have not been explored by any of the states and so far, no states have noted any negative outcomes of FPA implementation.

Common Themes and Story Selection

Common themes noted and utilized in states' stories involved the use of real and true, documented patient cases for legislative perusal from the legislator's own districts. North Dakota (C. Rising, personal communication, August 12, 2021) and Washington State (B. Smithing, personal communication, August 12, 2021) utilized this method and Maryland's NP organization visited the districts personally (Lang & Nettina, 2015). Also, several states noted the need for education and advocacy, for either the legislators specifically or the general public. These measures were necessary for Idaho (Henbest et al., 2016), Washington State (B. Smithing, personal communication, August 12, 2021), Massachusetts (McKinnon-Howe & McKinnon, 2021), Illinois (Barton et al., 2020), Maryland (Lang & Nettina, 2015), and likely many others.

Selecting individual state stories for utilization depended on the applicability to legislative change as is common in the United States, regardless of which state is in question. Also, inclusion involved areas in which APRNs can be a part such as legislative advocacy. Such participation shows support through a united front regarding FPA and the necessity of implementation and maximizes resources and efficiency toward a common goal. Quality control measures were also addressed by other states' stories to highlight that FPA does take quality into account and has multiple, systematic ways of objectively and quantitatively determining if standards of care are being met. National alignment with the National Council of the State Boards of Nursing, local boards of nursing, state nursing organizations, and nurse practitioner organizations' stories were added to show professional unity and accountability as FPA has been implemented in other states.

Two states stood out for their unique journey to FPA. Those states were Oregon and Alaska. Oregon cited that independent practice was written into statute as NP practice evolved over time (L. Dunsmuir, personal communication, February 23, 2021). Oregon's situation likely made political problems such as "turf-battles" a non-issue, since the collaboration was never in play as a practice requirement. Alaska stated that FPA was already in practice and that state statutes just needed to be updated to reflect this fact (C. Logan, personal communication, February 22, 2021).

All state information was compiled and utilized, with references, for the educational intervention. The data as gleaned was examined for common themes and issues that were determined to be problematic for Mississippi as well. The commonalities were then utilized for the intervention in addition to some state specifics to give an inside look regarding the politics of change in healthcare. While FPA will not "fix" everything that is wrong with the healthcare system, it will make an impact to improve the situation for the state.

The questions posed to the states then apply to Mississippi as well. Opposition efforts have been identified in Mississippi by Pender (2017). This also points to the necessity of legislative and public education on the topic of FPA in general and how it would apply and improve the healthcare situation for Mississippi. Since 91.5% of Mississippi has been designated as Healthcare Professional Shortage Areas on the federal level, increased healthcare access is certainly a subject that is impacting the state. Due to the ever-increasing aspect of healthcare expense, cost-effectiveness also impacts Mississippi. Since Mississippi also has a low ranking in healthcare overall, outcomes are especially relevant.

Intervention Development and Order

The original project plan had been to adapt the intervention to the responses of the pre-intervention survey. Ultimately, the decision to wholly create the intervention from the beginning and present the survey altogether in one sitting was made. It was thought that by decreasing the required timeframe for participation respondent numbers would increase. Additionally, the survey did not include any questions about which university was being attended to allow for increased anonymity and thereby potentially increase participation.

The intervention consisted of a voice-over PowerPoint presentation that had been converted to video format, which began with basic information about full practice authority. This included FPA as defined by the American Association of Nurse Practitioners, the first recommendation of the Institute of Medicine's 2010 consensus study report titled, "The Future of Nursing: Leading Change, Advancing Health" which suggested that APRNs be allowed to "practice to the fullest extent of their education and training", and a list of which states currently have FPA in their current practice landscape. Mississippi's rankings for healthcare in the United States were then given as listed in U.S. News and World Report (2019) for general clarity.

Needs assessment data concerning HPSAs and provider distribution, as outlined and discussed earlier, was incorporated to show the drastic need for primary providers in Mississippi. Current examples of healthcare issues in Mississippi, such as the catastrophic damage to the water infrastructure during the 2021 winter storms and the COVID pandemic toll for Mississippi – both public health issues, were utilized as current

examples of how healthcare in the state continues to suffer. Practice laws for APRNs in Mississippi were also discussed to show the practice environment as it exists at this time.

Scholarly studies that were listed in the available knowledge portion of this project were utilized as evidence-based outcomes to show the effectiveness of FPA. Compiled states' information was placed next to and juxtaposed with barriers to FPA in Mississippi, along with other states' stories about their FPA journey and approach to overcoming common issues. Attention in the intervention was then drawn back to FPA as working to fulfill The Quadruple Aim of healthcare.

Finally, the intervention contained a framework that showed that FPA and the Quadruple Aim, in tandem, address thirteen of the nineteen Meaningful Measures Framework items as a part of the Centers for Medicare and Medicaid Services' (2021) high priority areas for quality measurement and improvement. The framework showed that FPA implementation is in alignment with the federal response to current healthcare issues. This alignment can work to bring Mississippi closer to mainstream healthcare standards in the United States.

Intervention Implementation

Initially, two rounds of two weeks each were planned to facilitate participation in survey responses. Only one round proved necessary to obtain the minimum required twenty responses and the time for finishing the project was short, therefore no changes were made to the intervention on any level. After the two weeks, only the survey results from participants who fully completed the survey were utilized for analysis. Some participants chose not to give answers to the qualitative questions of the survey but did

answer all other questions and viewed the intervention and therefore were included in the analysis.

Responsiveness

There was a minimum of approximately 304 surveys sent out through the five major universities in Mississippi that have nurse practitioner educational programs. One university declined to release the number of students to which the survey was distributed. Out of over 304 distributed surveys, there were a total of twenty full participants. Ninety-three percent of the NP student population either did not participate or only partially participated. Not included in the total were twelve partial participants who began but did not finish the survey. Nine actively refused to participate by reading the first page and choosing the option not to participate. The rest did not respond at all.

Factors that possibly decreased responsiveness could include: lack of understanding regarding the email survey resulting in immediate deletion of the email; time constraints of students as a general population; confusion about the viewing of the intervention with post-survey since some of the students went to that point in the survey and did not complete it; a feeling of redundancy in participating if widespread understanding of FPA was assumed and a general lack of interest. Also, in determining the cause of decreased responsiveness a point that must not be ignored involves the possibility of the COVID pandemic as a large part of the lack of participation. Nursing, due to its integral incorporation into the medical system, has been driven to a frenzy of activity to keep up with the numbers of affected individuals. Nurse practitioner students, therefore, are also strongly affected making burnout and exhaustion a potential issue with survey participation.

Descriptive Statistics

Frequency Results of Quantitative Survey Questions

The numbers and percentages involved in the analyses, unless otherwise indicated, will come strictly from the twenty respondents. The pre- and post-surveys included both yes/no quantitatively measured questions as well as some subjective, qualitatively measured questions. The quantitative questions results appear in Table 1.

Table 1

Pre- and Post-Educational Intervention Survey Quantitative Question Results

	Number of Yes	**Number of No**	**% Yes**	**% No**
As a student nurse practitioner, are you aware of what is meant by "full practice authority"?	20	0	100%	0%
Are you in support of "full practice authority" for the State of Mississippi?	19	1	95%	5%
Are you willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation?	17	3	85%	15%
Did the educational material presented broaden your understanding of "full practice authority"?	14	6	70%	30%
Has the presented material engaged you to become more supportive of "full practice authority" for the State of Mississippi?	18	2	90%	10%
Do you feel that the educational material can help to eliminate barriers or work to highlight the beneficial aspects of "full practice authority" for the State of Mississippi?	18	2	90%	10%
Are you willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation?	17	3	85%	15%

Central Tendency of the Mean

The central tendency of the frequencies can be determined by utilizing the post-educational intervention survey results which directly inquired regarding the broadening of understanding, increased supportiveness, potentially eliminating barriers, and willingness to participate in proactive FPA support. Seventy percent of participants indicated that the educational intervention broadened their understanding of FPA. Ninety percent of the respondents were more supportive of FPA after having viewed the educational intervention. Again, 90% felt that the educational intervention could eliminate barriers to the passage of FPA in Mississippi.

The last questions for both the pre-educational and post-educational surveys were identical and will be treated and measured differently. This was specifically to determine whether the intervention made a difference in the participants' willingness to proactively support FPA through lobbying and legislation. This question and topic was the only one to be utilized this way. Eighty-five percent of respondents stated their willingness to proactively support FPA for the State of Mississippi for both the pre-educational and post-educational surveys. This means that there was a 0% change, making the result of this comparison a statistical outlier.

Determining the mean of the question results will not include the one outlier result, since it does not necessarily indicate support or opposition to the intervention. The mean result of the answers that showed a difference due to the intervention was 83.3%. The mean result of the answers that did not show a difference due to the intervention was 16.6%. The vast differences in the mean results indicate that the intervention may be educationally useful for informative purposes and perhaps for persuasive purposes also;

however, the response rate was only 6.6% of the total survey distribution indicating a nonresponse bias, therefore any calculation of statistical significance is not truly possible. Additionally, as would be expected, there also cannot be any measure in the variation of quantitative response or standard deviation from the mean.

Pre-Educational Survey Results of Qualitative Questions

Subjective, qualitative results will be taken individually by discourse, with highlights from answers surrounding common themes and outliers. The first subjective question was asked to describe "full practice authority" in your own words. Nineteen of twenty answered the question and one person did not respond. Thirteen answers gave some form of the phrase "to practice without collaboration." Four described practicing without "physician supervision." One answer cited "practicing independently." Please see Table 2 for the breakdown.

Table 2

Pre-Educational Intervention Survey Qualitative Question "Describe 'full practice authority' in your own words" Results

Describe "Full Practice Authority" in Your Own Words **18 responded and 2 chose not to respond**	
Answer included this term or phrase:	**Number of Respondents**
"Practice without mandatory collaboration"	13
"Practice without M.D. supervision"	4
"To practice independently"	1

The next qualitative question asked, “Please briefly state why you are or are not in support of ‘full practice authority’ for the State of Mississippi?” The answer breakdown is provided in Table 3. Of those respondents in support, nine answered that it was because Mississippi is a medically underserved state, two stated it was to stop mandatory collaboration, three cited stopping M.D. fees for collaboration, one said they supported FPA but only if oversight to transition them to practice was provided and one stated they supported FPA for Mississippi but were uncomfortable with it. One respondent was not in support of FPA and cited that he/she did not feel prepared by his/her educational program and required transition to independent practice hours were not addressed.

Table 3

Pre-Educational Intervention Survey Qualitative Question "Please briefly state why you are or are not in support of 'full practice authority' for the State of Mississippi" Results

"Please briefly state why you are or are not in support of 'full practice authority' for the State of Mississippi?" **16 responded and 4 chose not to respond**	
16 respondents were in support of FPA	Reasons given: Because MS is underserved 9 To stop collaborative agreement 2 To stop fees for collaboration 3 Only if NPs have oversight to transition them into practice 1 Support, but uncomfortable with it 1
1 respondent was not in support of FPA	Reasons given: Respondent did not feel prepared by the educational program that they are attending. They did not address logged collaboration hours as a prerequisite.

The next qualitative question asked, "Please briefly state what barriers you perceive to the passage and acceptance of 'full practice authority' in the State of Mississippi?" The answer breakdown is provided in Table 4. Multiple answers were provided by each participant who chose to answer this question, but the majority, eleven, stated "physicians" as a barrier, followed by money/control for eight answers. Four respondents described Mississippi politics ("good ole boys", etc.) with physicians and the Mississippi State Medical Association, and the other four who responded to the question stated various reasons. Two answers did not apply to the question and one participant

chose not to answer. The major themes which were identified for this question were some forms of control and financial benefit.

Table 4
Pre-Educational Intervention Survey Qualitative Question "Please briefly state what barriers you perceive to the passage and acceptance of 'full practice authority' in the State of Mississippi" Results

"Please briefly state what barriers you perceive to the passage and acceptance of 'full practice authority' in the State of Mississippi?" **18 responded and 2 chose not to respond**	
Perceived Barriers	**Number of Respondents**
"physicians"	11
Money/control	8
Politics of MS with physicians and MSMA	4
Other healthcare professions in MS	1
Nurse Practitioners	1
Disjointed Nurses	1
Stated "None" (no barriers perceived)	1

The next qualitative question asked to briefly state why you are or are not willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation. Of the twenty respondents, seventeen chose to respond and three chose not to respond. No large majority themes were noted in the responses. The answer breakdown is provided in Table 5.

Table 5

Pre-Educational Intervention Survey Qualitative Question "Briefly state why you are or are not willing to proactively support 'full practice authority' in the State of Mississippi through lobbying and legislation" Results

Briefly state why you are or are not willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation. **16 responded and 4 chose not to respond**	
13 Respondents are willing to be proactive	Reasons cited: Increased healthcare access 4 To show unity among NPs 3 To show my viewpoint/have a voice 2 Willing, but no time now 1 NPs are trusted by the public 1 Only with a required "transition to practice" time 1 No real benefit of collaboration 1
3 Respondents are not willing to be proactive	Reasons cited: No time for lobbying and legislation 1 NP educational programs in Mississippi have low standards 1 Just not comfortable enough this early in my career 1

Post-Educational Survey Results of Qualitative Questions

The first qualitative question of the post-educational survey asked if the educational material presented broadened your understanding of "full practice authority" please briefly state what you learned. Eight participants responded to this question and 12 did not. The answer breakdown is provided in Table 6.

Table 6

Post-Educational Intervention Survey Qualitative Question "If the educational material presented broadened your understanding of 'full practice authority' please briefly state what you learned" Results

If the educational material presented broadened your understanding of "full practice authority" please briefly state what you learned. **8 responded and 12 chose not to respond**	
What was learned	**Number of Respondents**
Healthcare: costs/shortage statistics FPA information	3
Problems with access in Mississippi (did not realize access was that bad)	1
Did not know about Institute of Medicine recommendations	1
The number of states that have already implemented FPA	1
How FPA meets CMS goals for MS	1
Information about benefits of FPA in other states	1

The next qualitative question asked, "briefly state why the material has or has not engaged you to become more supportive of 'full practice authority' for the State of Mississippi. Fifteen participants chose to respond to the question, and of those six cited the need for access to healthcare as engaging, with three who replied that it was clearly beneficial to the State. Three respondents stated that they were already aware of the information in the educational material, and one does not support full practice authority

for Mississippi, regardless of the material. Two answers did not apply to the question. From the breakdown for the educational responses, there were nine positive responses, four neutral responses, and two negative responses. The answer breakdown is provided in Table 7.

Table 7

Post-Educational Intervention Survey Qualitative Question "Briefly state why the material has or has not engaged you to become more supportive of 'full practice authority' for the State of Mississippi" Results

"Briefly state why the material has or has not engaged you to become more supportive of 'full practice authority' for the State of Mississippi." **15 responded and 5 chose not to respond**	
9 participants stated that the material **had** engaged them	Reasons cited: Need for access to healthcare 6 Beneficial for MS 3
4 participants stated that the material **had not** engaged them	Reasons cited: Do not support FPA for MS 1 Already aware of information 3
2 answers did not apply to the question	----------
General Response to The Educational Intervention in Category Form:	**Number of Respondents**
Positive	9
Neutral	5
Negative	1

The last qualitative question again asked to briefly state why you are or are not willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation. Thirteen participants chose to respond to the question and seven chose not to respond. Ten of the thirteen responding participants indicated that they were willing to be proactive in their support for FPA, with the other three declining to be proactive. The breakdown of responses contains four citing increased access and increased good outcomes as the main reason for willingness. Four responses gave reasons that can be considered their personal viewpoint. One stated they were willing but very, very busy. Another stated they are already lobbying at this time. The participants who are not willing to be proactive gave their reasons like no time to be proactive; too new to the profession to feel comfortable with being proactive; and one who simply does not agree with FPA for nurse practitioners. The breakdown is shown in Table 8.

Table 8

Post-Educational Intervention Survey Qualitative Question "Briefly state why you are or are not willing to proactively support 'full practice authority' in the State of Mississippi through lobbying and legislation" Results

Briefly state why you are or are not willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation. **13 responded and 7 chose not to respond**	
10 Respondents are willing to be proactive	Reasons cited: Increase access/good outcomes 4 Viewpoint 4 Willing, but busy currently 1 Already lobbying currently 1
3 Respondents are not willing to be proactive	Reasons cited: No time for lobbying and legislation 1 NP educational programs in Mississippi have low standards 1 Just not comfortable enough this early in my career 1

It is noted again that the last qualitative question was the same as for both the pre-education and post-education surveys. The question asked whether the respondent was willing to "proactively support 'full practice authority' in the State of Mississippi through lobbying and legislation." This seeming redundancy was to determine if the educational intervention had any impact on the respondents' willingness to be proactive toward or against FPA. As has been previously shown in Table 1, there was not any change in the

respondents' willingness. Those participants who said they would not be proactive before stated the same after the intervention and utilized the same reasons.

Observed Associations

Observations between the intervention and the outcomes included the viewpoint of 83.3% of respondents that the intervention was able to make differences in terms of FPA understanding, support, and barrier elimination. This indicates an increase in knowledge. The difference in pre- versus post-educational intervention increasing proactive support for FPA through lobbying and legislation was 0%, indicating no increase in motivation. Although the answers to the pre- and post-intervention proactive questions were identical and without change, the percentages showed that 85% of respondents were willing to be proactive. This shows that the respondents were already motivated, even before viewing the intervention, and that the intervention did not affect the motivation in any negative way, since those who were not willing did not change their answers or explanations.

Another observed association involves the twelve partial participants, who answered the pre-educational survey, but did not answer the post-educational survey. Contextually, this may be due to the similarity of question content in that they may sound the same and seem redundant. Additionally, student fatigue many times manifests as apathy or indifference, and it is possible that such fatigue may have resulted in partial participation.

Unexpected Issues

Problematic issues associated with this project, in addition to nonresponse bias, included the lack of full participation from all states that already have FPA established.

There is only a small amount of statistical information regarding the efficacy of FPA since it has been in practice. There is clear data to support it – as was shown in the available knowledge section and some of the participating state data, but more is needed to strengthen the cause/effect relationship and to gain support through evidence-based, quantitative data.

Partial Survey Responses

Partial response data was not utilized for the survey results in any way. This was due to a lack of data for comparison between both pre- and post-survey responses, which is necessary to maintain statistical balance when determining intervention effectiveness. For this reason, the partial response data was summarily eliminated.

Summary

The results of this project were gathered from two places. First, the results of the states' information were thematically sifted through to determine applicability and usefulness for Mississippi as well as determining any measures of changes in outcomes, cost-effectiveness, and healthcare access. The results of the states' information were then utilized to build the educational intervention. The second set of results were gleaned from the comparison of the pre and post-educational intervention surveys. Quantitative and qualitative results were obtained and analyzed for determination of readiness versus reluctance to move toward FPA for the target population.

The target population showed a 6.6% response of 304 participants. Seventy percent felt that the knowledge of FPA was increased after the educational intervention, and 90% felt more supportive of FPA overall. Ninety percent of participants felt that the knowledge could be used to help eliminate perceived barriers to FPA. Zero percent had

any change in motivation toward lobbying an legislation, further defined this way: 85% percent of participants were already motivated to work through lobbying and legislation, but this neither increased nor decreased in response to the intervention.

CHAPTER IV – DISCUSSION

Summary

Key Findings

This project had several key findings which were noted from the development of the intervention and the survey results. First, there was limited quantitative data that was directly available from states with FPA implementation which addressed efficacy or impact. Common barriers were noted among several FPA states, which were also noted for Mississippi both in the educational intervention and in the answers provided directly from survey participants. There was a general increase in knowledge through an understanding of FPA. Next, an increase in motivation through support toward FPA due to the educational intervention was noted. The project also identified opinions regarding potential barriers to FPA in Mississippi and the potential of the intervention to eliminate some of those barriers. This was largely supported, as 90% of respondents felt that the information could be useful for barrier elimination, which is a great amount where persuasion and influence are concerned. Finally, it is noted that 85% of respondents were willing to support FPA through lobbying and legislation before the educational intervention and that the intervention did not change this willingness, hence it is assumed that the target population is well on their way to readiness.

Relevance to the Rationale

The rationale of this project was based on the theory that FPA has improved healthcare in other states and has the potential to bring Mississippi's healthcare into alignment on a federal level through the Quadruple Aim of Healthcare and The Centers for Medicare & Medicaid Services Meaningful Measures Framework. This alignment

was supposed to inform the NP students' knowledge of and support for FPA. Additionally, the potential to adapt the project to increase dialogue among Mississippi's APRNs, other healthcare professionals, medical board, and the legislature was also in view.

Although the key findings showed that there was limited quantitative data available regarding FPA efficacy or impact, it is still noted that the increase of access to healthcare alone does create an impact. However, the impact is not yet measured, and such a measurement would prove helpful for updates to this project or for future projects involving impact and efficacy summary data of FPA implementation. The findings also showed an admitted increase in FPA knowledge and understanding by 70% of respondents' answers and showed an increase in support by 90%, indicating that this portion of the rationale was on target. Finally, the potential to open dialogue at the APRN, professional, and legislative tables show promise through the identification of potentially common barriers noted among several FPA states which were also noted for Mississippi. It was also noted that 90% of respondents felt that the knowledge and data presented in the educational intervention were able to address and eliminate some of the perceived barriers to FPA in Mississippi.

Relevance to Specific Aims

The specific aims as originally noted were to explore the potential advantages of FPA for Mississippi as well as to explore and/or troubleshoot disadvantages and to determine understanding, attitudes, and readiness among the target population for FPA implementation. The findings show emerging evidence that leans toward greater advantages for Mississippi with FPA implementation, related to the vast health

professional shortages in the state as outlined in the needs assessment. Also, the advantages included increased access and decreased costs which were noted by other FPA states. The FPA states did not note any disadvantages thus far. Key findings also showed that the intervention increased understanding and support for the target population which therefore improved the readiness aspect.

Project Strengths

Strengths of the project included the low-cost aspect of obtaining project and intervention information both scholarly and interview information via the internet, telephone, and teleconference venues. The timeliness of the project cannot be emphasized due to the topic being current in the Mississippi State Legislative session for 2021 and 2022. Last, the relevance of the project for Mississippi given the dire situation that exists with the health professional shortage creates a vast amount of strength given to any project with a potential proposed solution.

Interpretation

Nature of the Association Between the Intervention and the Outcomes

Associations observed included the perceived increase in knowledge that was noted by 83.3% of the participants, given that several participants, 16.6%, felt already fully informed of FPA and that the educational intervention did not bring any new information to the table. This shows a positive, direct nature of the association between the intervention and the increase in knowledge as an outcome. Also, no increase in motivation was noted, since pre-survey results indicated an already high level of motivation, however, motivation was not negatively impacted as an outcome; therefore, there was no negative, direct nature of the association between the intervention and

motivation level of the participant. The outcome of twelve partial responses was not entirely unexpected due to the nature of the electronic survey, and since it was noted that none of the partial participants viewed the educational intervention, no association existed between the intervention and this outcome.

Impact of the Project on People and Systems

The project has the potential to impact the healthcare system for the State of Mississippi and its workforce, citizens, and overall well-being. The difference in the variety of impacts involves the target population that the survey is directed toward. Bob Smithing, executive director of the ARNPs United of Washington State (personal communication, August 12, 2021) stated that the target for this survey should be the APRNs and the general public initially, to increase interest and general understanding preemptively, and then work toward opening dialogue. Since this was a pilot survey, geared toward educational intervention development and survey responses, once necessary adjustments are made the potential impact could prove useful for an area that truly needs better access to healthcare.

Differences Between Observed and Expected Outcomes

Observed outcomes included: the increase of knowledge, the understanding that motivation was already at high levels respective to the number of participants, the identification of perceived barriers as well as the potential to eliminate those barriers, and finally the conclusion that from the small sample of participants students lean more toward readiness rather than reluctance, with only one person adamantly against FPA. There were two expected outcomes. The first was the determination of readiness versus reluctance for FPA and the second was the compilation of data from the different FPA

states. Since the participation was only 6.6% of the NP student population for Mississippi, the results were affected by a strong nonresponse bias, which could indicate reluctance overall but that would be an assumption since reasons for nonparticipation have the propensity to be complex and multifactorial. Those who did respond indicated a strong readiness, and if it were assumed that their responses are an accurate representation of the whole, then readiness would be indicated. Problematically, this too would be just an assumption. Without survey participation, the question of readiness cannot truly be answered in any accurate way.

The compilation of data from the states was, in part, to help determine how much data compilation of FPA implementation outcomes exists and how it could be strengthened. Very little data from individual states of this sort exists currently. Any quantitative data is either already published or in process for some states and other states cited a lack of time due to clinical responsibilities to gather such data. This is an area that could be strengthened for APRN practice simply through gathering information on outcomes, perhaps from Medicare or Medicaid data. The subjective responses from the participating states indicated a universality that exists between their lived experiences and Mississippi's current practice environment struggles. This would suggest some headway is possible through the technique of "story sharing" (Hayman et al., 2011) which was utilized for the intervention through the state's qualitative data.

Although neither expected outcome was fully realized, each was able to be at least partially addressed. Contextually, rectifying the anticipated and observed outcomes would necessitate increasing survey responsiveness and participation. It would also

include gaining more quantitative data regarding patient outcomes, cost-effectiveness, and increased access to determine the impact of FPA implementation.

Costs and Trade-offs

This project included a great deal of time investment to obtain contact information for FPA states' nurse practitioner associations or those people who were able to answer questions. Although much of this can be performed by email, for most states the emails were never answered, and attempts at following up with phone calls were made. Finding the right phone number can be difficult with very few returned calls and multiple attempts including state APRN associations, some of the state boards of nursing, or general state nurses' associations for contact information inquiries.

Time obtaining the research information from the participating states was somewhat time-consuming. Some state contacts returned emails and attached electronic files for perusal, and others set up video conferences to which interviews could be performed, and still, others chose simply to communicate the necessary information in an email only or text messaging and telephone. Once the information from the other states was obtained, time was invested in organizing and reformatting the commonalities from the information into usable, working knowledge that was appropriate for the project.

Other costs included the basic computer necessities for the slide presentation video development, the word processing software, email communications, video conferencing, and utilization of the necessary web-based platforms for survey distribution/results and video. All other costs mentioned to this point can be performed by the ordinary laptop computer. The voice-over work for the video has different options since it can be self-performed, but for this project, a professional vocalist was

commissioned. A printer was necessary to print the articles involved in the literature review and any other information that is difficult to work with when viewing multiple electronic files at one time and printing is necessary. Basic office supplies of highlighters, pens, paper, staplers, etc. were also necessary but added nominal cost.

Limitations

Limitations of this project included the obvious nonresponse bias and the generalized nature of the questions involved. The simplicity of the survey was thought to decrease confusion, increase participation, and start with gleaning basic information about where nurse practitioner students stand regarding FPA and whether they are willing to support the change to the current practice environment to develop a better healthcare system for the State of Mississippi. However, the survey design did not lend itself to a broad array of statistical analyses.

Another limitation included the lack of available quantitative data regarding the efficacy of FPA in other states since implementation. This was addressed through the utilization of the information that was available through the literature review and by including information from other states concerning their journey toward implementation. Additionally, the needs analysis was performed utilizing data from the primary provider healthcare situation in Mississippi as of 2016. An updated report is pending currently but was unavailable at the time of this writing. Generalizing the intervention to adapt for other target populations would include updating the needs analysis as new information becomes available and tailoring the intervention to the stakeholders as it is presented to them.

Conclusions

The ability to utilize this work to inform, persuade and document a state's journey toward better healthcare system implementation is ultimately found in the desire of the professional and general community to follow through with the anticipated action. When the time for change comes, the usefulness of this study has the potential to exponentiate. Given the mostly electronic and technological necessities for this project, as well as low-cost requirements, it would likely be considered sustainable. The project is easily adaptable to other contexts including professional APRNs in Mississippi, other healthcare disciplines in Mississippi, interprofessional dialoguing, legislative agendas, and the general public in Mississippi if the information contained in the educational intervention is kept up to date.

Implications

This study was limited by a lack of survey participation. It is acknowledged that as a pilot survey utilizing a target population of nurse practitioner students, nonparticipation is a barrier that is not easily overcome with student time limitations, etc. Given the current nature of the FPA landscape in the United States, it is carefully asserted that the implications of the results should be based on what is possible through presentation and survey to other target populations – for example, other healthcare professionals or the general public.

Suggested Next Steps

Suggestions would include necessary adaptations for professional APRNs in Mississippi, and then perhaps opening to a wider group or different target population. Additionally, watching for and incorporating more quantitative data that impacts the FPA

issue as well as keeping abreast of the healthcare situation in Mississippi as it changes, could make for a stronger intervention in a future setting as well as documenting the changing practice landscape for posterity.

APPENDIX A – Pre-Educational Intervention Survey

1. As a student nurse practitioner, are you aware of what is meant by “full practice authority”?

____ Yes

____ No

2. If you answered “yes” to question 1, please briefly describe “full practice authority” in your own words:

3. Are you in support of “full practice authority” for the State of Mississippi?

____ Yes

____ No

4. Please briefly state why you are or are not in support of “full practice authority” for the State of Mississippi:

5. Please briefly state what barriers you perceive to the passage and acceptance of “full practice authority” in the State of Mississippi:

6. Are you willing to proactively support “full practice authority” in the State of Mississippi through lobbying and legislation?

____ Yes

____ No

7. Briefly state why you are or are not willing to proactively support “full practice authority” in the State of Mississippi through lobbying and legislation

APPENDIX B – Hyperlink to Educational Intervention Video

Click the Picture Below to View the Video

APPENDIX C – Post-Educational Intervention Survey

1. Did the educational material presented broaden your understanding of "full practice authority"?

____ Yes

____ No

2. If you answered yes to question 1, please briefly state what you learned:

3. Has the presented material engaged you to become more supportive of "full practice authority" for the State of Mississippi?

____ Yes

____ No

4. Briefly state why the material has or has not engaged you to become more supportive of "full practice authority" for the State of Mississippi:

5. Do you feel that the educational material can help to eliminate barriers or work to highlight the beneficial aspects of "full practice authority" for the State of Mississippi?

____ Yes

____ No

6. Are you willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation?

____ Yes

____ No

7. Briefly state why you are or are not willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation:

APPENDIX D – DNP Essential Priorities

DNP Essential Priority	**How Addressed Through This Project**
Essential I – Scientific Underpinnings for Practice	Addressed through the social sciences and political science
Essential II – Organizational and Systems Leadership for Quality Improvement and Systems Thinking	This project addresses issues that directly impact Mississippi's statewide healthcare systems for the potential to change.
Essential III – Clinical Scholarship and Analytical Methods for Evidence-Based Practice	Addressed through the compilation and analysis of educational intervention material and survey data
Essential IV – Information systems/Technology and Patient care technology	The project contained an internet-based survey through Qualtrics, utilizing PowerPoint video, uploaded to a mainstream video platform.
Essential V – Health Care Policy for Advocacy in Health Care	This project directly addresses legislative policy concerning the APRN practice environment in the State of Mississippi.
Essential VI – Interprofessional Collaboration for Improving Patient and Population Health Outcomes	The educational intervention for this project has the potential to be useful for opening interprofessional dialogue for health care professionals in the State of Mississippi
Essential VII – Clinical Prevention and Population Health for Improving the Nation's Health	The project addresses improving health care access and disparities, which lead to increased clinical prevention and improvement of population health through the utilization of FPA as a tool to increase healthcare professional access for rural and underserved areas of Mississippi
Essential VIII – Advanced Nursing Practice	This is addressed through the potential to increase legislative/policy action and open interprofessional dialogue as well as create communication among APRNs in a state-to-state setting.

APPENDIX E – Question Form for the Participating States

Questions to Ask States

State: Who I spoke with: Date/time:

1. Have you published anything regarding your state and the journey to FPA? Any statistical analyses?

2. What specific barriers did your state encounter during the journey to FPA? How did you overcome them?

3. Have patient care or outcomes improved since the change? If so, how?

4. Have NP job satisfaction and patient satisfaction improved?

5. Has care access increased?

6. Has cost-effectiveness increased?

7. Compare the before and after status of your state's health care system.

8. Have there been any negative outcomes so far? How have they been addressed?

APPENDIX F – Results Tables

Table A1.

Quantitative Survey Questions

Quantitative Survey Questions:	**Number of Yes**	**Number of No**	**% Yes**	**% No**
As a student nurse practitioner, are you aware of what is meant by "full practice authority"?	20	0	100%	0%
Are you in support of "full practice authority" for the State of Mississippi?	19	1	95%	5%
Are you willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation?	17	3	85%	15%
Did the educational material presented broaden your understanding of "full practice authority"?	14	6	70%	30%
Has the presented material engaged you to become more supportive of "full practice authority" for the State of Mississippi?	18	2	90%	10%
Do you feel that the educational material can help to eliminate barriers or work to highlight the beneficial aspects of "full practice authority" for the State of Mississippi?	18	2	90%	10%
Are you willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation?	17	3	85%	15%

Table A2.

"Full Practice Authority" Description

Describe "full practice authority" in your own words. **18 responded and 2 chose not to respond**	
Answer included this term or phrase:	**Number of Respondents**
"Practice without mandatory collaboration"	13
"Practice without M.D. supervision"	4
"To practice independently"	1

Table A3.

Reason for Support of "Full Practice Authority"

"Please briefly state why you are or are not in support of 'full practice authority for the State of Mississippi?" **16 responded and 4 chose not to respond**	
16 respondents were in support of FPA	Reasons given: Because MS is underserved 9 To stop collaborative agreement 2 To stop physician's fees for collaboration 3 Only if NPs have oversight to transition them into practice 1 Support, but uncomfortable with it 1
1 respondent was not in support of FPA	Reasons given: Respondent did not feel prepared by the educational program that they are attending. They did not address logged collaboration hours as a prerequisite.

Table A4.

Barriers to "Full Practice Authority"

"Please briefly state what barriers you perceive to the passage and acceptance of 'full practice authority in the State of Mississippi?" **18 responded and 2 chose not to respond**	
Perceived Barriers	**Number of Respondents**
"physicians"	11
Money/control	8
Politics of MS with physicians and MSMA	4
Other healthcare professions in MS	1
Nurse Practitioners	1
Disjointed Nurses	1
Stated "None" (no barriers perceived)	1
Answers did not apply to the question	2

Table A5.

Reasons for Not Supporting "Full Practice Authority"

Briefly state why you are or are not willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation. **16 responded and 4 chose not to respond**	
13 Respondents are willing to be proactive	Reasons cited: Increased healthcare access 4 To show unity among NPs 3 To show my viewpoint/have a voice 2 Willing, but no time now 1 NPs are trusted by the public 1 Only if "transition to practice" time 1 Because there is no benefit to collaboration 1
3 Respondents are not willing to be proactive	Reasons cited: No time for lobbying and legislation 1 Low standards of NP educational programs 1 Not comfortable this early in my career 1

Table A6.

Educational Material Effectiveness

If the educational material presented broadened your understanding of "full practice authority" please briefly state what you learned. **8 responded and 12 chose not to respond**	
What was learned	**Number of Respondents**
Healthcare: costs/shortage statistics FPA information	3
Problems with access in Mississippi (did not realize access was <u>that</u> bad)	1
Did not know about Institute of Medicine recommendations	1
The number of states that have already implemented FPA	1
How FPA meets CMS goals for MS	1
Information about benefits of FPA in other states	1

Table A7.

Ineffectiveness of Educational Materials

"Briefly state why the material has or has not engaged you to become more supportive of 'full practice authority for the State of Mississippi." **15 responded and 5 chose not to respond**	
9 participants stated that the material **had** engaged them	Reasons cited: Need for access to healthcare 6 Beneficial for MS 3
4 participants stated that the material **had not** engaged them	Reasons cited: Do not support FPA for MS 1 Already aware of information 3
2 answers did not apply to the question	----------
General Response to The Educational Intervention in Category Form:	**Number of Respondents**
Positive	9
Neutral	5
Negative	1

Table A8.

Willingness or Unwillingness to Support "Full Practice Authority"

Briefly state why you are or are not willing to proactively support "full practice authority" in the State of Mississippi through lobbying and legislation. **13 responded and 7 chose not to respond**	
10 Respondents are willing to be proactive	Reasons cited: Increase access/good outcomes 4 Viewpoint 4 Willing, but busy currently 1 Already lobbying currently 1
3 Respondents are not willing to be proactive	Reasons cited: No time for lobbying and legislation 1 NP educational programs in Mississippi have low standards 1 Just not comfortable enough this early in my career 1

APPENDIX G –IRB Approval Letter

Office *of*
Research Integrity

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-21-335
PROJECT TITLE: Full Practice Authority: Determining Readiness Among Nurse Practitioner Students in Mississippi
SCHOOL/PROGRAM: Leadership & Advanced Nursing
RESEARCHER(S): Betty Hoffman, Carolyn Coleman

IRB COMMITTEE ACTION: Approved
CATEGORY: Expedited
7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: August 24, 2021

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

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