

# **Senate Public Health & Welfare Committee**

**Senator Hob Bryan, Chairman**

**November 10, 2021**

**1:15pm**

**State Capitol, Room 216**

## **Hearing – Scope of Practice for Nurse Practitioners**

**Dr. Melissa Temple – Director of Nursing Education, Mississippi Institutions of Higher Learning**

### **Mississippi Board of Nursing:**

**Dr. Phyllis Johnson – Executive Director, Mississippi Board of Nursing**

**Dr. Priscilla Burks – Director of Practical Nursing Education, Mississippi Board of Nursing**

### **Mississippi Association of Nurse Practitioners:**

**Beverly Ann Glasgow, DNP – President of the Mississippi Association of Nurse Practitioners**

**Robert Ware, DNP – Treasurer of the Mississippi Association of Nurse Practitioners**

**Nicole Livanos – Associate Director, State Advocacy and Legislative Affairs of the National Council of State Boards of Nursing**

### **Mississippi State Medical Association:**

**Teresa Camp-Rogers, MD, MS – Emergency Physician and Chief Quality Officer, South Central Regional Medical Center**

**Claude Brunson, MD, MS, CPE, FASA – Executive Director, Mississippi State Medical Association; Professor Emeritus, Department of Anesthesiology, UMMC**

**Katherine Pannel, DO – Chair, Mississippi State Medical Association Board of Trustees; Medical Director, RightTrack Medical Group**



**STATE OF MISSISSIPPI  
INSTITUTIONS OF HIGHER LEARNING  
OFFICE OF ACADEMIC AND STUDENT AFFAIRS**

**Nursing Education in Mississippi**  
Senate Public Health and Welfare Committee Hearing  
November 10, 2021

**I. Regulatory Authority for Nursing Education Programs**

According to state statute (Miss. Code Ann. §37-129-1), the Board of Trustees for Mississippi Institutions of Higher Learning (IHL) is empowered with the regulatory authority of Mississippi registered nursing degree programs which includes (1) annual program approval/accreditation, (2) new program approval/accreditation, and (3) student nurse scholarship program or other program of assistance now existing or hereafter established by legislative enactment.

All Schools of Nursing in MS are required to achieve and maintain national nursing accreditation through the Accreditation Commission for Education in Nursing (ACEN); Commission on Collegiate Nursing Education (CCNE); National League for Nursing Commission for Nursing Education Accreditation (NLN CNEA); or The Council on Accreditation of Nurse Anesthesia Educational Programs (COA).

IHL does not have program oversight of Practical Nursing (PN) programs in Mississippi. The MS Board of Nursing (BON) is the state accrediting authority for PN programs.

**II. IHL is the regulatory authority for all 23 registered nursing and higher Schools of Nursing in Mississippi including community colleges, public, and private universities**

- A. 17 Associate Degree (ADN/ASN)
- B. 8 Baccalaureate Degree (BSN)
- C. 6 Masters Degree (MSN)
- D. 5 Doctor of Nursing Practice Degree (DNP)
- E. 3 Doctor of Philosophy Degree (PhD)

\*Refer to Attachment One (1) Mississippi Schools of Nursing and Degree Programs Fall 2021

A detailed Annual Report for MS Nursing Degree Programs is published annually in May once approved by the IHL Board of Trustees. The recent (May 2021) Annual Report as well as the reports from previous years may be accessed on the IHL website: <http://www.mississippi.edu/nursing/>

- Academic Year 2019/2020- 2,757 graduates across all degree types
- Fall 2020- 5,937 students enrolled in schools of nursing in Mississippi

### III. Overview of IHL State Specific Requirements and other Requirements

Detailed IHL State Specific Requirements may be found in the Mississippi Nursing Degree Programs Accreditation Standards (2020) located on the IHL website [http://www.mississippi.edu/nursing/downloads/nursing\\_standards\\_2020.pdf](http://www.mississippi.edu/nursing/downloads/nursing_standards_2020.pdf)

- A. IHL State Specific Minimal requirements specify requirements for Associate, Baccalaureate, and Graduate programs for
  - 1. Nursing Administrators
  - 2. Students
  - 3. Faculty
  - 4. Curriculum
  - 5. Evaluation
- B. Additional Admission Criteria are required by each institution
- C. National Nursing Accreditation Requirements

### IV. Becoming a registered nurse (RN) in the state of Mississippi

- A. There are two (2) nursing degree programs offered that once successfully completed, the graduate is eligible to take the National Council Licensure Examination (NCLEX-RN®) through the MS Board of Nursing to become a registered nurse.
  - 1. Associate Degree
  - 2. Baccalaureate Degree
- B. Curriculum and training in registered nursing degree programs

Curriculum Concepts & Competencies	Skills Laboratory Practice Training	Simulation Training	Direct Patient Care Training
Patient Safety, Infection Control, Medication Administration, Dosage Calculation, Pharmacology, Legal/Ethical, Mental Health, Maternal Child, Pediatric, Medical, Surgical, Research, Pathophysiology, Medical Terminology, Public Health, Leadership, Clinical Judgment, Decision Making, Professionalism	Students practice skills in a skills lab setting equipped with mannequins, trainers, and hospital equipment with faculty supervision and must first demonstrate competency of nursing skills in the lab setting before performing skills during direct patient care clinical experiences  **students in MS spend an average of 126 hours in the skills lab	Schools of nursing are limited in the number of simulation hours that may be utilized as a replacement of direct patient care clinical practicum hours  **students in MS spend an average of 49 hours in simulated clinical experiences	Students participate in direct patient care with faculty supervision  ** students in MS spend an average of 381 hours in Associate Degree Programs and 516 hours in Baccalaureate Degree Programs providing direct patient care

**V. Registered nurse wanting to advance their education and earn a higher degree in the state of Mississippi**

- A. Graduate Degree Programs in Mississippi Schools of Nursing educate students in the roles of Clinical Nurse Leader, Nurse Anesthetist, Nurse Educator, Nurse Healthcare Administrator, Nursing Leadership, and Nurse Practitioner.
- B. The Nurse Anesthetist and Nurse Practitioner programs are program degrees in which the graduate is eligible to be certified as an Advanced Practice Registered Nurse (APRN). An APRN refers to a registered nurse educated at the masters or post masters level in a specific role and patient population. APRNs are prepared by education and certification to assess, diagnose, and manage patient problems, order tests, and prescribe medications.
- C. Advanced Practice Registered Nursing (APRN) programs in Mississippi:  
As of Fall 2021, there are five (5) schools of nursing in MS that prepare APRNs at the masters and/or doctoral level: Alcorn State University (ASU), Delta State University (DSU), Mississippi University for Women (MUW), University of Mississippi Medical Center (UMMC), and University of Southern Mississippi (USM)

**Role Specific Advanced Practice Degree Programs in Mississippi**

<b>University</b>	<b>Role Specific APRN program</b>	<b>Description</b>
ASU	Family Nurse Practitioner	Online
DSU	Family Nurse Practitioner	Online
MUW	Family Nurse Practitioner	Face-to-Face
UMMC	Acute Care Adult-Gerontology Nurse Practitioner	Online
UMMC	Acute Primary Care Pediatric Nurse Practitioner	Online
UMMC	Adult Gerontology-Primary Care Nurse Practitioner	Online
UMMC	Family Nurse Practitioner	Online
UMMC	Neonatal Nurse Practitioner	Online
UMMC	Psychiatric/Mental Health Nurse Practitioner	Online
USM	Nursing (Nurse Anesthesia)	Hybrid
USM	Nursing (Family Nurse Practitioner)	Hybrid
USM	Nursing (Psychiatric Mental Health Nurse Practitioner)	Hybrid

- A face-to-face program is the traditional classroom style learning with no portion of the program being offered online.
- Hybrid is used to describe the education delivery method of courses in which instruction occurs using both distance/online and traditional/face-to-face education methods of delivery.
- The description of the advanced practice registered nursing program degree options as online is also used to describe a program that offers courses required to graduate from the program online, but students must complete a clinical training practicum that requires direct patient care.

- D. Curriculum requirements and training for graduate programs are role specific. All graduates must successfully complete core graduate courses, content specific to advanced physiology/pathophysiology, advanced health assessment, and advanced pharmacology as well as content that is role specific. In addition, students enrolled in a graduate program, must participate in lab skills, simulation, and clinical practicum hours providing direct patient care in medical facilities specific to the role preparation program in which they are enrolled.

**When a program is described as online, does that mean the student can complete the curriculum and clinical practicum training entirely online without ever participating in any direct patient care?**

All advanced practice registered nursing (APRN) programs require supervised direct patient care clinical practicum hours by an APRN, certified registered nurse anesthetist (CRNA), or physician.

The average number of direct patient care hours in advanced practice nurse practitioner graduate degree programs in Mississippi is 745 and 2000 for the nurse anesthesia program.

- E. Advanced Practice Registered Nurse (APRN) Certification is Role Specific, and Graduates must meet Certain Requirements
1. Examinations are competency-based examinations that reflect their knowledge and expertise in the role and population area of education
  2. Must meet minimum of faculty supervised direct patient care hours for eligibility
  3. APRN regulation includes education, examination and certification, and licensure. Licensure in MS is governed by the MS Board of Nursing (BON). The BON verifies eligibility to take the national certification exam for nurse practitioner and nurse anesthesia graduates.

\*\*Refer to Attachment Two (2) Graduate Program Enrollment by Clinical Practice Role Fall 2020

\*\*Refer to Attachment Three (3) Masters and Doctoral Graduates Academic Year 2019-2020

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## Attachment One (1)

### Mississippi Schools of Nursing and Degree Programs Fall 2021

School of Nursing	Associate	Baccalaureate	Masters	DNP	PhD
Alcorn State University	✓	✓	✓	✓	
Coahoma Community College	✓				
Copiah-Lincoln Community College	✓				
East Central Community College	✓				
East Mississippi Community College	✓				
Hinds Community College	✓				
Holmes Community College	✓				
Itawamba Community College	✓				
Jones County Junior College	✓				
Meridian Community College	✓				
Mississippi Delta Community College	✓				
Mississippi Gulf Coast Community College	✓				
Mississippi University for Women	✓	✓	✓	✓	
Northeast Mississippi Community College	✓				
Northwest Mississippi Community College	✓				
Pearl River Community College	✓				
Southwest Mississippi Community College	✓				
Belhaven University		✓			
Delta State University		✓	✓	✓	
Mississippi College		✓	✓		
University of Mississippi Medical Center		✓	✓	✓	✓
University of Southern Mississippi		✓		✓	✓
William Carey University		✓	✓		✓

**Attachment Two (2)**  
**Graduate Program Enrollment by Clinical Practice Role**  
**Fall 2020**

Institution	Doctoral Enrollment		Masters Enrollment		Total Graduate Enrollment
	DNP	PhD	Role		
Alcorn State University <sup>1</sup>	13		Family NP Post-Masters Family NP Education	12 1 1	27
Delta State University	15		Family NP Post-Masters Family NP	16 1	32
Mississippi College <sup>2</sup>			Clinical Nurse Leader	17	17
Mississippi University for Women	17		Family NP	29	46
University of Mississippi Medical Center	39	11	Administration/Executive Education Post-Masters Education Family NP Post-Masters Family NP Acute Care Adult Geri NP Post-Masters Acute Care Adult Geri NP Adult Geri NP Post-Masters Adult Geri NP Family Psych MH NP Post-Masters Family Psych MH NP Neonatal NP Pediatric Acute/Primary NP Post-Masters Pediatric Acute/Primary NP	34 31 1 99 6 10 13 14 3 36 12 5 12 2	328
University of Southern Mississippi <sup>3</sup>	112	32	Family NP Post-Masters Family NP Family Psych MH NP Post-Masters Family Psych MH NP	38 8 8 39	237
William Carey University		83	Education	30	113
<b>Total Graduate Enrollment Fall 2020</b>	<b>196</b>	<b>126</b>		<b>478</b>	<b>800</b>
<b>Total Graduate Enrollment Fall 2019</b>	<b>149</b>	<b>118</b>		<b>409</b>	<b>676</b>
<b>Total Graduate Enrollment Fall 2018</b>	<b>123</b>	<b>118</b>		<b>438</b>	<b>679</b>
<b>Total Graduate Enrollment Fall 2017</b>	<b>140</b>	<b>114</b>		<b>554</b>	<b>808</b>
<b>Total Graduate Enrollment Fall 2016</b>	<b>142</b>	<b>121</b>		<b>636</b>	<b>899</b>

- \*Other – students with special circumstances or non-degree seeking
- <sup>1</sup>ASU – admitted first Doctor of Nursing Practice (DNP) class August 2019.
- <sup>2</sup>Mississippi College – admitted first MSN class August 2019.
- <sup>3</sup>USM – DNP enrollment includes Nurse Anesthesia Program (Post-BSN to DNP).

### Attachment Three (3)

## Masters and Doctoral Graduates Academic Year 2019-2020

Institution	Doctoral Graduates		Masters Graduates		Total Graduates
	DNP	PhD	Role		
Alcorn State University			Family NP	7	7
Delta State University	2		Family NP	5	7
Mississippi University for Women	7		Family NP	27	34
University of Mississippi Medical Center	3	5	Administration/Executive Education Family NP Post-Masters Family NP Acute Care Adult Geri NP Adult Geri NP Family Psych MH NP Post-Masters Family Psych MH NP Neonatal NP Acute Primary Care Pediatric NP	10 6 35 3 1 9 8 10 8 6	104
University of Southern Mississippi	28	2	Family NP Post-Masters Family NP Family Psych MH NP Post-Masters Family Psych MH NP	36 4 8 15	93
William Carey University		22	Education	13	35
<b>Total Graduates AY 2019/2020</b>	<b>40</b>	<b>29</b>		<b>211</b>	<b>280</b>
<b>Total Graduates AY 2018/2019</b>	<b>44</b>	<b>35</b>		<b>253</b>	<b>332</b>
<b>Total Graduates AY 2017/2018</b>	<b>42</b>	<b>25</b>		<b>249</b>	<b>316</b>
<b>Total Graduates AY 2016/2017</b>	<b>40</b>	<b>44</b>		<b>330</b>	<b>414</b>
<b>Total Graduates AY 2015/2016</b>	<b>30</b>	<b>28</b>		<b>288</b>	<b>346</b>



# Mississippi Board of Nursing

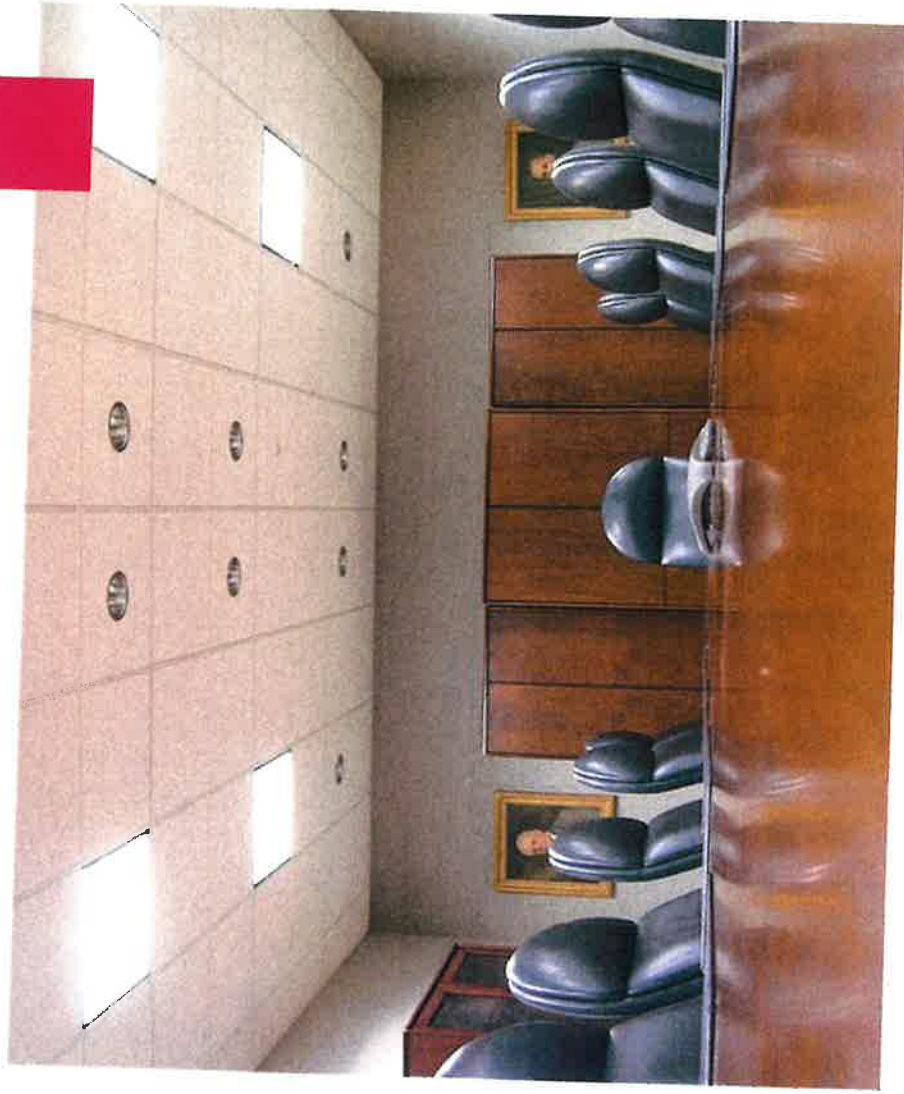


The Mississippi Board of Nursing is a consumer protection agency with authority to regulate the practice of nursing through licensure as provided for by the Mississippi State Code.

# MISSION

**BOARD COMPOSITION**  
(Miss. Code Ann. §  
73-15-9)

- ▶ **COMPOSED OF THIRTEEN MEMBERS APPOINTED BY THE GOVERNOR**
- ▶ **SEVEN RNS**
- ▶ **FOUR LPNS**
- ▶ **ONE PHYSICIAN (not appointed by Governor)**
- ▶ **ONE CONSUMER**



# MS BOARD OF NURSING

Largest Regulatory agency in the state

Responsible for issuance of 78,060 licenses

Regulates practice of RNs, LPNs, and APRNs

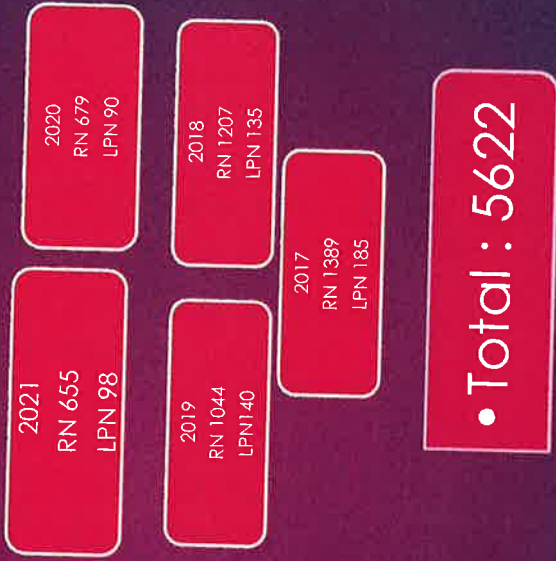
RNs: 50,028

LPNs: 14,029



# What is an endorsement application?

- ▶ Application used to obtain licensure in Mississippi if a currently licensed registered nurse or licensed practical nurse from another state has never held a Mississippi license.



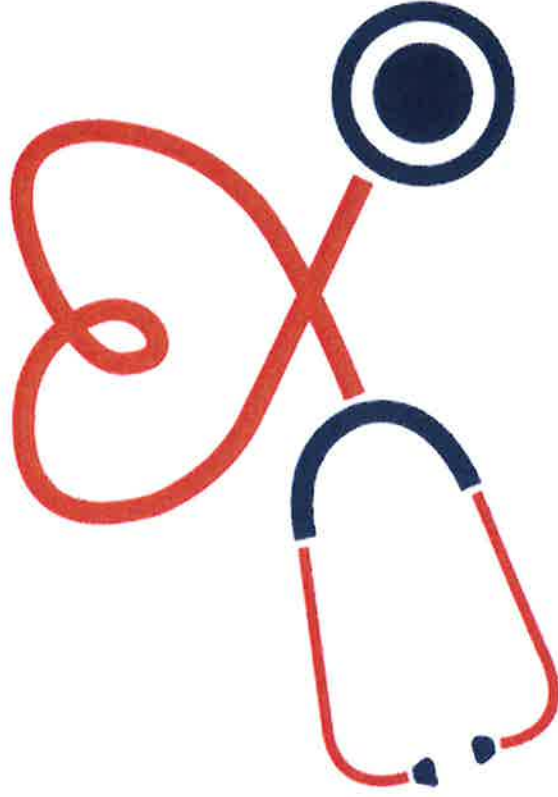
# Advanced Practice Nursing

APRNs:  
7,135

NPs:  
6,142

CRNAs:  
966

CNMs:  
27



# BOARD OF NURSING

Source: Miss. Code  
Ann. § 73-15-  
1 through 37 (1972,  
as amended)

Administrative  
Code

Board promulgates  
rules and  
regulations specific  
to practice

# LAW VS. ADMINISTRATIVE CODE

- ▶ MS Nursing Practice Law
  - ▶ Miss. Code Ann § 73-15-1, et seq.
  - ▶ Legislative
  - ▶ Defines terms, Establishes Criteria for Licensure and Provides Authority for Disciplinary Process
- 30 Miss. Admin. Code Pt. 2801, et seq.
  - ▶ Authored by the Board of Nursing
  - ▶ Secretary of State Process
  - ▶ Expounds upon Law





# REGULATION

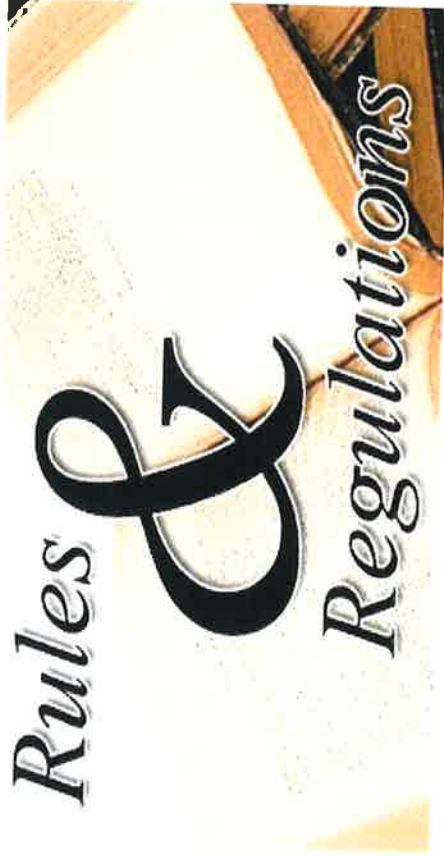
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- ▶ CMMS REQUIREMENTS
- ▶ MSDH
- ▶ NURSE PRACTICE ACT
- ▶ ADMINISTRATIVE CODE
- ▶ DEA
- ▶ NPDB

# HOW DOES THE BOARD PROTECT THE PUBLIC?

## LICENSURE REQUIREMENTS

- ▶ ENSURE ONLY DULY QUALIFIED APPLICANTS ARE ISSUED NURSING LICENSES



## REGULATION & ENFORCEMENT

- ▶ MAINTAIN UP-TO-DATE REGULATIONS OF THE PROFESSION BY DETERMINING SCOPE OF PRACTICE AND SETTING STANDARDS
- ▶ ENFORCE SANCTIONS ON THOSE WHO FAIL TO ABIDE

License Type	Active	Expired	Total
Certified Nurse Midwife	27	27	54
Nurse Practitioner	6150	931	7081
Certified Registered Nurse Anesthetist	967	311	1278

State	County	NP	CRNA	CNM
AK		1		1
AL		177	27	2
AR		27	17	
AZ		13	1	
CA		20		
CO		7	3	
CT		2		
FL		48	9	
GA		27	3	
HI		3		
IL		6	3	
IN		2	1	
KS		4		
KY		7	1	
LA		170	60	1
MA		1		
MD		8	1	
ME		1		
MI		4		
MO		11	2	
MT		1		
NC		9	4	1
ND		1		
NE		1		
NJ		4		
NM		2	2	
NV		4		
NY		15	1	
OH		7	2	
OK		3		
OR		5		
PA		5		
SC		6	5	
SD		2		
TN		385	119	
TX		50	5	
UT		3		
VA		6		
VI		1		
WA		6		

State	County	NP	CRNA	CNM
WI		5		
MS		5085	701	22
	Adams	70	6	
	Alcorn	85	13	
	Amite	44	3	
	Attala	36	3	
	Benton	50	2	
	Bolivar	99	3	
	Calhoun	19	2	
	Carroll	69	6	
	Chickasaw	24	2	
	Choctaw	30		
	Claiborne	11		
	Clarke	93	5	3
	Clay	84	3	
	Coahoma	7	2	
	Copiah	75	6	
	Covington	235	47	
	De Soto	354	43	
	Forrest	150	23	
	Franklin	57	11	
	George	30	7	
	Greene	16		
	Grenada	40	1	1
	Hancock	503	24	1
	Harrison	340	56	3
	Hinds	280	35	3
	Holmes	16	2	
	Humphreys	11	1	
	Issaquena	21	2	
	Itawamba	127	24	
	Jackson	159	41	
	Jasper	61	10	
	Jefferson	5		
	Jefferson Davis	27	3	
	Jones	27	3	
	Kemper	96	23	3
	Lafayette	157	29	2
	Lamar	8	3	
	Lauderdale	74	18	4
	Lawrence	10		
	Leake	20		
	Lee	197	30	
	Leflore	3		
	Lincoln	21		
	Lowndes	99	10	

State	County	NP	CRNA	CNM
	Madison	432	94	1
	Marion	27		
	Marshall	3		
	Monroe	48	5	
	Montgomery	0		
	Neshoba	7		
	Newton	26	1	
	Noxubee	1		
	Oktibbeha	2	8	
	Panola	43	2	
	Pearl River	3		
	Perry	3		
	Pike	29	6	
	Pontotoc	42	6	
	Prentiss	48	5	
	Quitman	3		
	Rankin	499	52	1
	Scott	23		
	Sharkey	5		
	Simpson	6		
	Smith	7	2	
	Stone	6		
	Sunflower	37	1	
	Tallahatchie	15		
	Tate	3		
	Tippah	6	1	
	Tishomingo	30	3	
	Tunica	0		
	Union	5	2	
	Walthall	0		
	Warren	33	6	
	Washington	37	2	
	Wayne	7		
	Webster	1		
	Wilkinson	4	1	
	Winston	33	1	
	Yalobusha	0		
	Yazoo	10		

<b>Gender</b>	<b>NP</b>	<b>CNM</b>	<b>CRNA</b>	<b>Total</b>
Ambulatory Care	617	2	183	802
Assisted Living Facility	52	0	0	52
Community Health	390	3	2	395
Correctional	67	0	0	67
Dialysis Center	43	0	0	43
Home Health	64	0	0	64
Hospice	47	0	2	49
Hospital	1108	6	467	1581
Insurance Claims/Benefits	9	0	0	9
Mobile Unit	16	0	0	16
Nursing Home/Assisted Living	133	0	0	133
Nursing Home/Extended Care	180	0	0	180
Occupational	34	0	1	35
Other	1069	6	109	1184
Primary Care	2260	6	1	2267
Public Health	84	0	0	84
School Health	125	0	0	125
School of Nursing	1	0	0	1
TeleHealth	52	0	0	52
	6351	23	765	7139

<b>MS</b>	<b>Lic &lt;5 years</b>	<b>Lic 5-10 yrs</b>	<b>lic 10-15 yrs</b>	<b>lic 15-20yrs</b>	<b>lic over 20 yrs</b>
NP	2535	1222	616	301	411
CRNA	162	174	133	112	120
CNM	9	3	1	2	7

## Mississippi Approved Practical Nursing Programs

Nursing Program/Address	Contact	Accreditation Status	Date of Last Accreditation	Next Accreditation Visit	Campus Locations
Coahoma Community College 3240 Friars Point Road Clarksdale, MS 38614	Dr. Chequita Dixon Asst. Dean of Health Sciences cmdixon@coahomacc.edu 662-621-4691	Full Accreditation	October 27-28, 2016	Fall 2024	
Copiah Lincoln Community College 1028 JC Redd Drive Wesson, MS 39191	Mrs. Ann Brumfield Director, Practical Nursing Ann.Brumfield@colin.edu 601-643-8390	Full Accreditation	17-Aug-16	Summer 2024	Wesson Simpson County Natchez
East Central Community College 15738 Hwy 15 South Decatur, MS 39327	Mrs. Theresa Cole Director, Practical Nursing tcole@eccc.edu 601-635-6131	Full Accreditation	May 23 - 24, 2017	Spring 2025	
East Mississippi Community College P.O. Box 100 Mayhew, MS 39753	Dr. Tonsha Emerson Dir of Nursing and Allied Health temerson@eastms.edu 662-243-2664	Full Accreditation	23-Apr-17	Spring 2025	Mayhew Scooba
Hinds Community College 1750 Chadwick Drive Jackson, MS 39204	Mrs. Chris (Andrea) Pittman District Director of PN chris.pittman@hindscc.edu 601-376-4850	Full Accreditation	October 31- November 1, 2017	Fall 2025	Rankin Vicksburg Jackson NAHC
Holmes Community College 1 Hill Street Goodman, MS 39079	Dr. Christi Blair Division Chair, Practical Nsg cblair@holmescc.edu 662-472-9173	Full Accreditation	November 28 - 29, 2017	Fall 2025	Ridgeland Kosciusko Grenada
Itawamba Community College 602 W. Hill Street Fulton, MS 38843	Dr. Lisa Pearson PN Director lpearson@iccms.edu 662-620-5230	Full Accreditation	August 16 - 17, 2016	Fall 2024	
Jones Community College 1200 Erwin Road Stonewall, MS 39363	Mrs. Amy Myers PN Director amy.myers@jcjc.edu 601-477-4101	Full Accreditation	October 18-19, 2017	Fall 2025	
**Meridian Community College 910 Highway 19 North Meridian, MS 39307	Mrs. Bethany Files Program Coordinator bfiles@meridiancc.edu 601-484-8711	Full Accreditation	September 26-27, 2016	Fall 2024	
**Mississippi Gulf Coast Community College 19330 Highway 67 Biloxi, MS 39452	Dr. Joan Hendrix Dean, Health Sciences Division joan.hendrix@mgccc.edu 228-267-8643	Full Accreditation	April 29 - 30, 2021	Spring 2029	
Mississippi Delta Community College P.O. Box 668 Moorhead, MS 38761	Mrs. Veronica Caradine PN Chair/Assist DON vcaradine@msdelta.edu 662-246-6513	Full Accreditation	Spring 2016	Spring 2024	
Northeast Community College 101 Cunningham Boulevard Booneville, MS 38829	Dr. Kristi Dempsey Program Director khdempsey@nemcc.edu 662-720-7288	Full Accreditation	September 7-8, 2016	Fall 2024	
Northwest Mississippi Community College 4975 Highway 51 North Senatobia, MS 38668	Mrs. Summer McBride PN Chair smcbride@northwestms.edu 662-560-1119	Full Accreditation	Fall 2018	Spring 2026	Senatobia Ashland DeSoto Oxford
Pearl River Community College 101 Highway 11 North Poplarville, MS 39470	Dr. Melissa Bryant District Wide PN Chair mbryant@prcc.edu 601-554-4697	Full Accreditation	November 8-9, 2017	Fall 2025	
Southwest Community College 1156 College Drive Summit, MS 39666	Ms. Stephanie Greer Associate VP sgreer@smcc.edu 601-276-2437	Full Accreditation	April 18-19, 2018	Spring 2026	Hattiesburg Poplarville

\*\*Nursing Accreditation by Accreditation Commission for Education in Nursing (ACEN)



**Mississippi Practical Nursing Programs  
Statewide Curriculum**

<b>Course</b>	<b>Lecture</b>	<b>Lab</b>	<b>Clinical Training</b>	<b>Total hours</b>
<b>1<sup>st</sup> semester courses</b>				
Body Structure and Function	45 hours	0 hours	0 hours	<b>45 hours</b>
Fundamentals of Nursing Theory	90 hours	0 hours	0 hours	<b>90 hours</b>
Fundamentals of Nursing Theory Lab/Clinical Training	0 hours	150 hours	90 hours	<b>240 hours</b>
<b>2<sup>nd</sup> semester courses</b>				
IV Therapy & Pharmacology	45 hours	30 hours	0 hours	<b>75 hours</b>
Maternal-Child Nursing	55 hours	0 hours	15 hours	<b>70 hours</b>
Mental Health Nursing	55 hours	0 hours	15 hours	<b>70 hours</b>
<b>3<sup>rd</sup> semester courses</b>				
Medical Surgical Nursing Theory	60 hours	0 hours	0 hours	<b>60 hours</b>
Medical Surgical Nursing Clinical Training	0 hours	0 hours	90 hours	<b>90 hours</b>
Alterations in Adult Health Theory	60 hours	0 hours	0 hours	<b>60 hours</b>
Alterations in Adult Health Theory Clinical Training	0 hours	0 hours	90 hours	<b>90 hours</b>
Nursing Transition	45 hours	0 hours	45 hours	<b>90 hours</b>
<b>Total Program Hours</b>	<b>455 hours</b>	<b>180 hours</b>	<b>345 hours</b>	<b>980 hours</b>

**PN Programs Applicants and Admissions 2021**

	Number of Applicants	Number of Students Admitted
Coahoma Community College	131	30
Copiah-Lincoln Community College		
• Simpson County	64	15
• Wesson	93	15
• Natchez	36	15
East Central Community College	59	57
East MS Community College	137	45
Hinds Community College	270	119
Holmes Community College		
• Grenada	209	30
• Kosciusko	120	30
• Ridgeland	419	30
Itawamba Community College	455	55
Jones County Junior College	100	82
Meridian Community College	237	90
Mississippi Delta Community College	164	30
Mississippi Gulf Coast Community College	100	83
Northeast Mississippi Community College	152	33
Northwest Mississippi Community College	472	129

**PN Program Applicants and Admissions 2021**

	<b>Number of Applicants</b>	<b>Number of Students Admitted</b>
Pearl River Community College	<b>1016</b>	<b>135</b>
• Forrest County Center		45 days/15 nights
• Poplarville Campus		45 days/15 nights
• Hancock Center		15 nights
Southwest Community College	94	44

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# MISSISSIPPI SENATE HEARINGS NURSE PRACTITIONER 2021



NOVEMBER 10

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 **MISSISSIPPI ASSOCIATION  
NURSE PRACTITIONERS**



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## **HISTORY OF NURSE PRACTITIONERS**

### **Specialization Source:**

**During the late 1950s and early 1960s, specialization in medicine expanded, and this resulted in a shortage of primary care physicians. Rural areas were impacted the most by this shift. Primary care physicians who decided not to specialize in a particular area of medicine, recruited Registered Nurses with clinical expertise and began collaborating with them to identify and treat the primary care needs of children and families.**

### **Creation of Medicare and Medicaid Source:**

**The Social Security Amendments of 1965 spurred the development of the Medicare and Medicaid programs. Under these programs, low-income children, women, the elderly, and people with disabilities gained new access to health care. This increased the need for primary care throughout the United States, and nurses naturally stepped in to educate families about health promotion and prevention.**

### **First NP Education Program Source:**

**Throughout the country, a consensus formed among nursing leaders that nurses were experienced and knowledgeable about the health care needs of children and families. This led to an expansion of their roles to parallel the roles and responsibilities of a primary care physician. In 1965, one of these leaders, Loretta Ford, partnered with a physician, Henry Silver, to create the very first training program for Nurse Practitioners. Their program, offered at the University of Colorado, focused on family health, disease prevention, and the promotion of health.**

### **Reactions to NPs Source:**

**The introduction of the first Nurse Practitioner program was met with resistance. Ford, Silver, and their students faced opposition from nurses who worried that the title "Nurse Practitioner" was misleading and would be misinterpreted by both the medical and nursing community as well as the public. Health care professionals were concerned that NPs were not qualified to provide medical care that physicians usually delivered without the supervision of a physician.**



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### **Drive for Legitimacy Source:**

During the 1970s and 1980s, Nurse Practitioners took up the task of validating their profession. The lack of a credentialing process and training paired with the improvements in health care put pressure on NPs to showcase their abilities and their overall benefit to health care. NPs used this time to document patient satisfaction with their care and create criteria and standards of practice. They also monitored the overall increase of the availability of primary care to patients throughout the country via evidence-based studies.

### **Coordinated Organization Source:**

As time went on, Nurse Practitioners became a more valuable and essential part of health care, and they began to work for economic and professional acknowledgement. Between 1973 and 1985, more than 11 NP organizations were created in the United States. Through these organizations, NPs took certification examinations to earn credentials and adhere to federal regulations and reimbursement policies

### **Numbers Swell Source:**

In 1974, the American Nurses Association created the Council of Primary Care Nurse Practitioners, a move that helped solidify the role of Nurse Practitioners in the United States health care system. By 1979, there were approximately 15,000 Nurse Practitioners across the country. The National Council of State Boards of Nursing also set licensure as a Registered Nurse as the standard for pursuing an advanced degree in nursing. Just six years later in 1985, the American Academy of Nurse Practitioners was established.

### **Certification Status Source:**

During the late 1980s, Nurse Practitioners did not have provider status in the eyes of the government. This meant their services had no designated monetary value and were not reimbursable. Lacking this status, NPs were not viewed as autonomous health care providers, making the utilization of their services difficult. During this time, reimbursement typically came via a paycheck from a physician or hospital.

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### **Legislation Solidified Source:**

Very much accustomed to fighting to legitimize their profession, nurse leaders throughout the country worked with members of Congress and lobbyists to achieve reimbursement and provider status. Their hard work paid off when the Omnibus Reconciliation Act of 1989 was signed into law by President George H. W. Bush. The act created limited reimbursement for Nurse Practitioners.

### **Professional Identity Source:**

In 1993, Nurse Practitioner leaders throughout the country gathered at a leadership summit to develop a unified approach for all NP objectives — including policy and advocacy development. Soon after, the National Nurse Practitioner Coalition (NNPC) was formed, which later became the American College of Nurse Practitioners (ACNP). The NP community strengthened their identity and made it easier for NP advocates to support the profession's causes.

### **Meeting a New Need Source:**

Nurse Practitioners gained direct reimbursement through the Balanced Budget Act of 1997, which was signed into law by President Bill Clinton. More recently, the Affordable Care Act was passed, and millions of Americans gained new access to health care. The need for primary care throughout the country increased immensely, and current NPs are poised to meet this demand. The scope of practice for NPs varies throughout the country by state.

### **FULL PRACTICE AUTHORITY PURSUIT:**

As of November 2014, 19 states have a full scope of practice, 19 states have a reduced scope of practice, and 12 states have a restricted scope of practice.

\*\*\*Simmons University, History of Nurse Practitioners in US, prepared National Nurse Practitioner Week, 2014.



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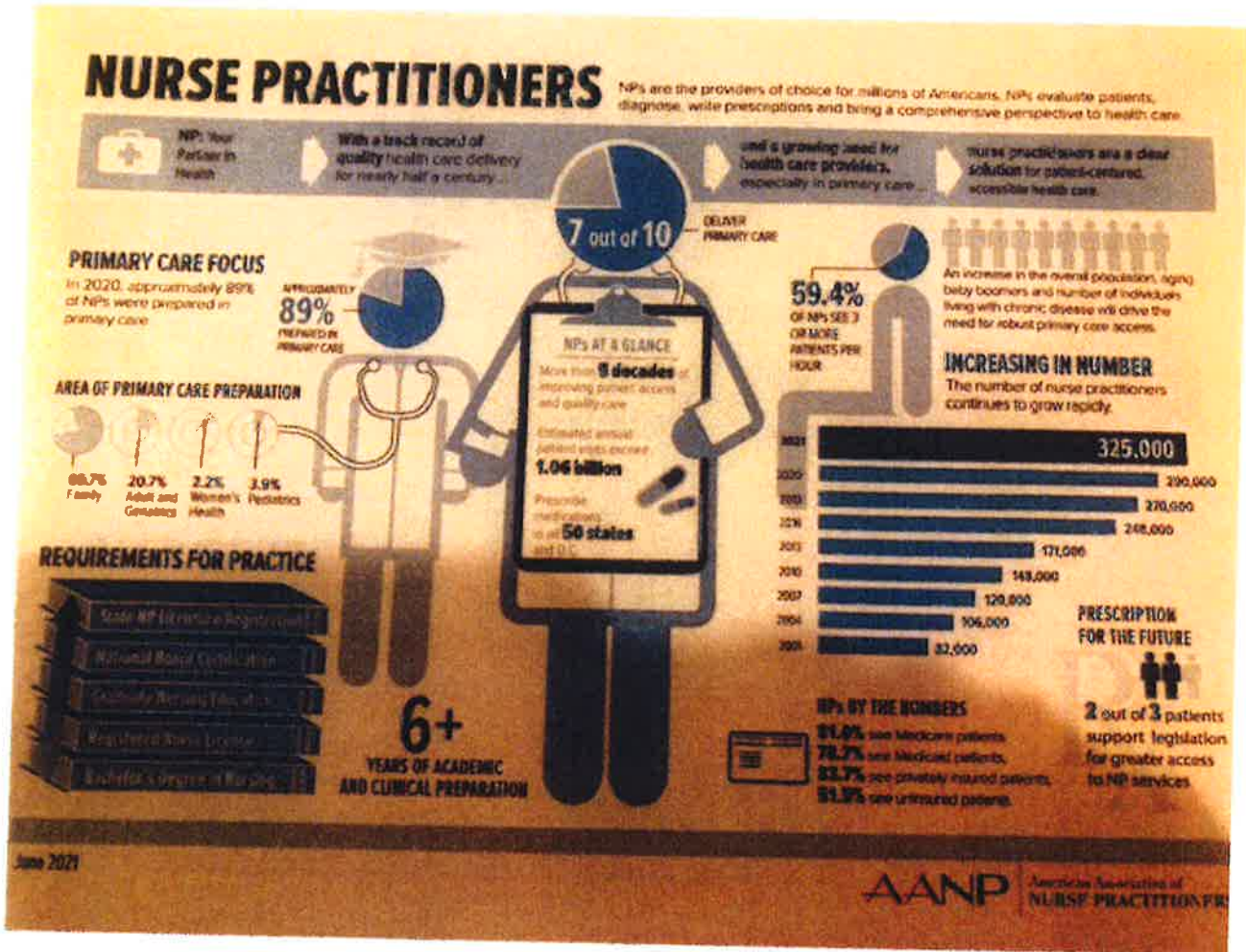
Today, there are more than 325,000 NPs in the United States WITH 2019 update demonstrating 28 states with full practice authority. Nurse practitioners gained further recognition to providing increase access to care with the CARES Act of 2020 signed by President Donald Trump during the COVID Pandemic.

## **“NURSE PRACTITIONER APPOINTED ACTING SURGEON GENERAL”**



**Biden Administration Appoints Nurse Practitioner Rear Admiral Susan Orsega as Acting U.S. Surgeon General!**

# AANP NURSE PRACTITIONER UPDATE:





# NURSE PRACTITIONERS

NPs are the providers of choice for millions of Americans. NPs evaluate patients, diagnose, write prescriptions and bring a comprehensive perspective to health care.



**NP: Your Partner in Health**

With a track record of quality health care delivery for nearly half a century ...



and a growing need for health care providers, especially in primary care ...



nurse practitioners are a clear solution for patient-centered, accessible health care.

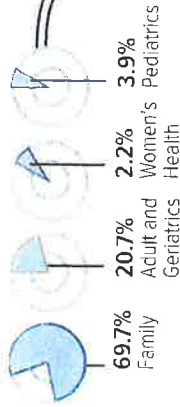
**7 out of 10** DELIVER PRIMARY CARE

## PRIMARY CARE FOCUS

In 2020, approximately 89% of NPs were prepared in primary care.



## AREA OF PRIMARY CARE PREPARATION



## REQUIREMENTS FOR PRACTICE



**6+**

YEARS OF ACADEMIC AND CLINICAL PREPARATION

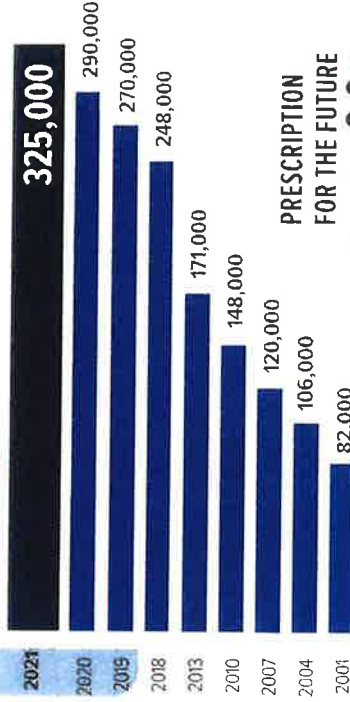
**59.4%** OF NPs SEE 3 OR MORE PATIENTS PER HOUR



An increase in the overall population, aging baby boomers and number of individuals living with chronic disease will drive the need for robust primary care access.

## INCREASING IN NUMBER

The number of nurse practitioners continues to grow rapidly.



## PRESCRIPTION FOR THE FUTURE



**2** out of **3** patients support legislation for greater access to NP services

## NPs BY THE NUMBERS

**81.0%** see Medicare patients.  
**78.7%** see Medicaid patients.  
**83.7%** see privately insured patients.  
**51.5%** see uninsured patients.



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**Mississippi Nurse Practitioner Workforce update:**

Currently, we have around 6000 Nurse Practitioners.

**Mississippi Physician Workforce Stats update:**

There are 5,714 active physicians in the state. Mississippi has 65.9 per 100,000 population active primary care physicians, with a U.S. state median of 90.8. The state is currently 50th in physician to population ratio in overall physicians.

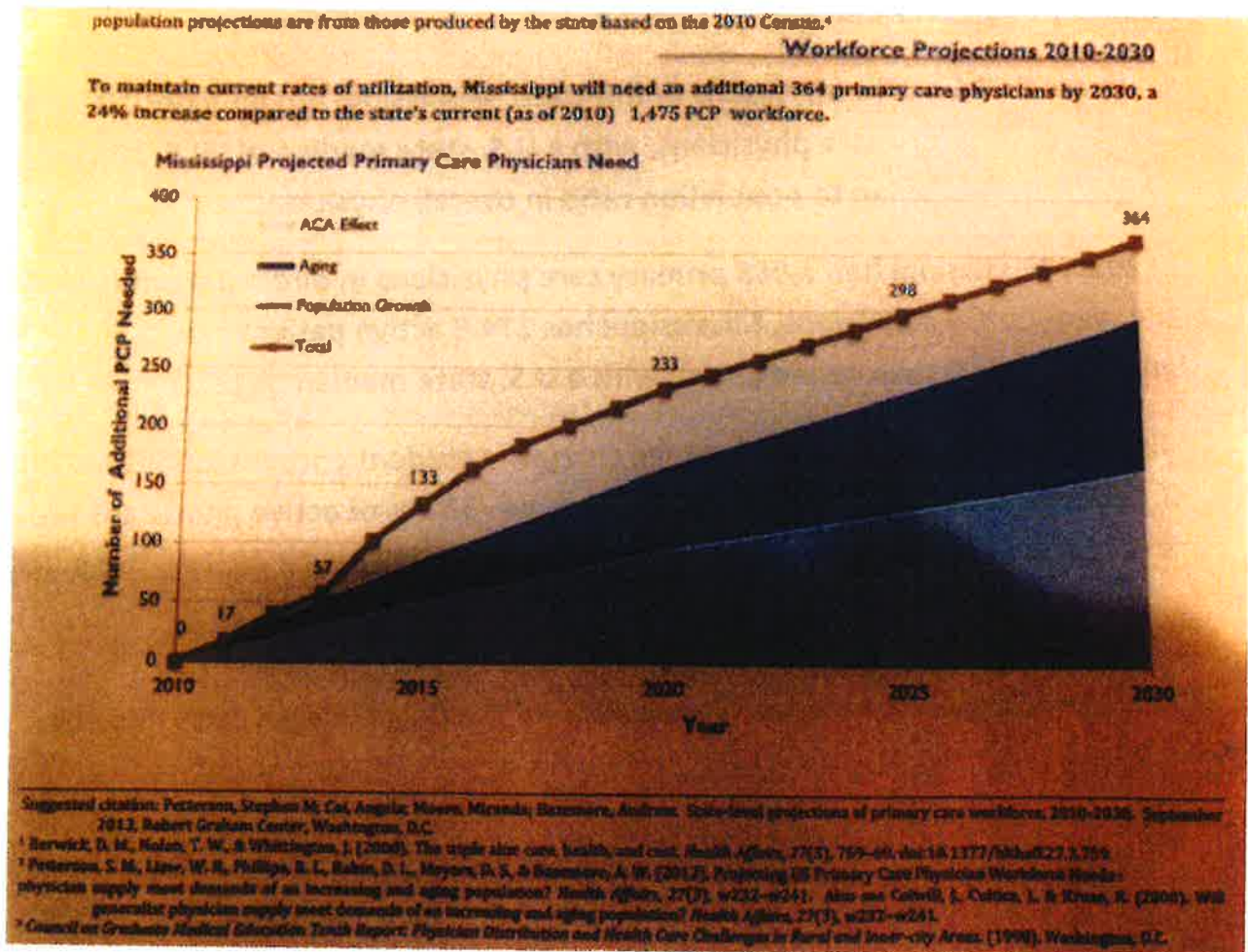
In 2019, Mississippi had 1,968 primary care physicians in direct patient care, of which 884 were family physicians. Mississippi has 174.8 active patient care physicians per 100,000 population (2018) with a U.S. state median of 227.2

Mississippi ranks third for percentage change in student enrollment at M.D. and D.O. Schools (2018-2019) with a 135.1% increase. 33.7% of active physicians are 60 years or older. 50% of primary care physicians are 60 older.

**\*\*Statistics based on American Association of Medical Colleges 2019 Physician Workforce Data.**

## Mississippi: Projecting Primary Care Physician Workforce Demand

by Robert Graham Center



The 2030 projection stands below the South overall and below the nation overall. Components of Mississippi's increased need for PCPs include 36% (132 PCPs) from increased utilization due to aging, 45% (165 PCPs) due to population growth, and 18% (67 PCPs) due to a greater insured population following the Affordable Care Act (ACA).

Pressures from a growing, aging, increasingly insured population call on Mississippi to address current and growing demand for PCPs to adequately meet health care



## Background

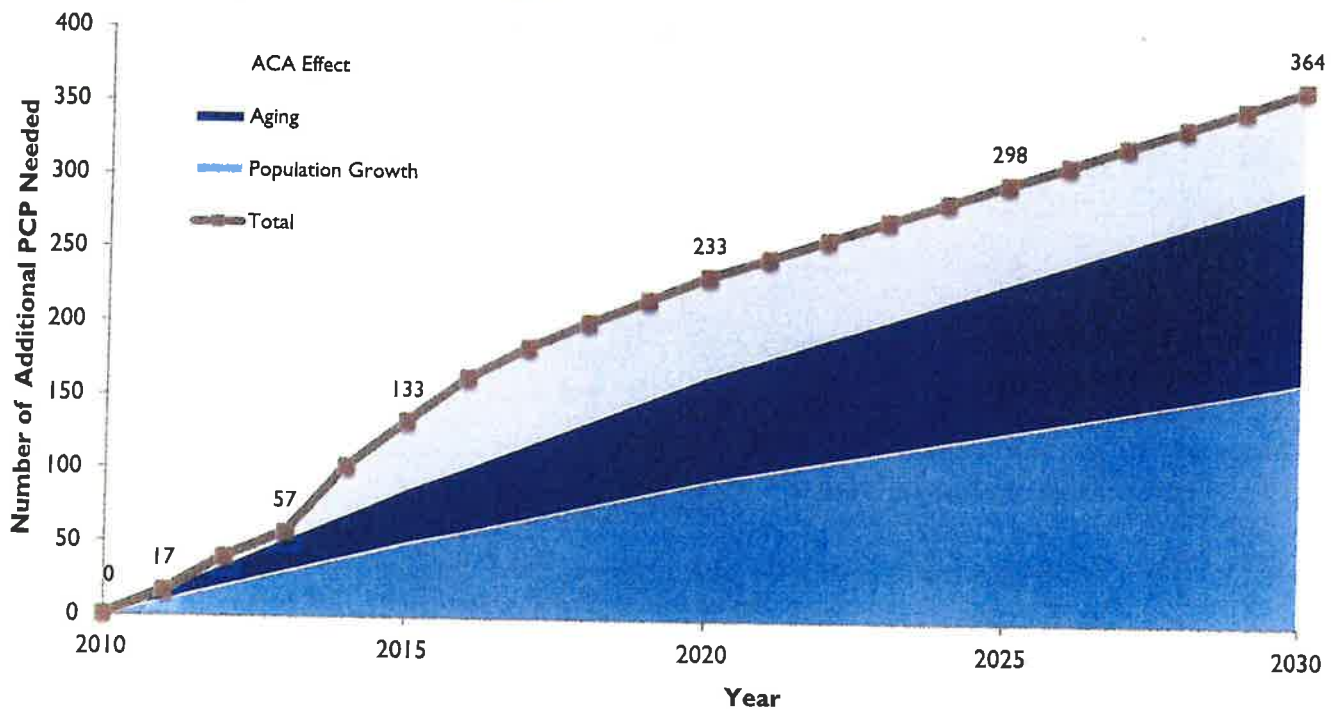
Primary care physicians (PCP) workforce shortages challenge the long term viability of U.S. primary care, a foundation of the Triple Aim for U.S. health care. The Triple Aim envisions primary care as an integrating component working across its three goals of improving the quality of care, improving health of populations, and reducing per capita health care costs.<sup>1</sup> Studies of the future need for primary care providers indicate that demographic and policy trends will only strain a workforce already struggling to meet national needs.<sup>2</sup> Other analyses document geographic maldistribution of PCPs, within states as well as across states.<sup>3</sup> Addressing both physician shortages and maldistribution requires analysis and action on the state level.

**Methods.** The Robert Graham Center projected the Mississippi PCP workforce necessary to maintain current primary care utilization rates, accounting for increased demand due to aging, population growth, and an increasingly insured population due to the Affordable Care Act (ACA). Primary care use was estimated with 2010 Medical Expenditure Panel Survey (MEPS) data. Current active PCPs within Mississippi were identified using the 2010 American Medical Association (AMA) Masterfile, adjusting for retirees and physicians with a primary care specialty but not practicing in primary care settings. Mississippi population projections are from those produced by the state based on the 2010 Census.<sup>4</sup>

## Workforce Projections 2010-2030

To maintain current rates of utilization, Mississippi will need an additional 364 primary care physicians by 2030, a 24% increase compared to the state's current (as of 2010) 1,475 PCP workforce.

Mississippi Projected Primary Care Physicians Need



Suggested citation: Petterson, Stephen M; Cai, Angela; Moore, Miranda; Bazemore, Andrew. State-level projections of primary care workforce, 2010-2030. September 2013, Robert Graham Center, Washington, D.C.

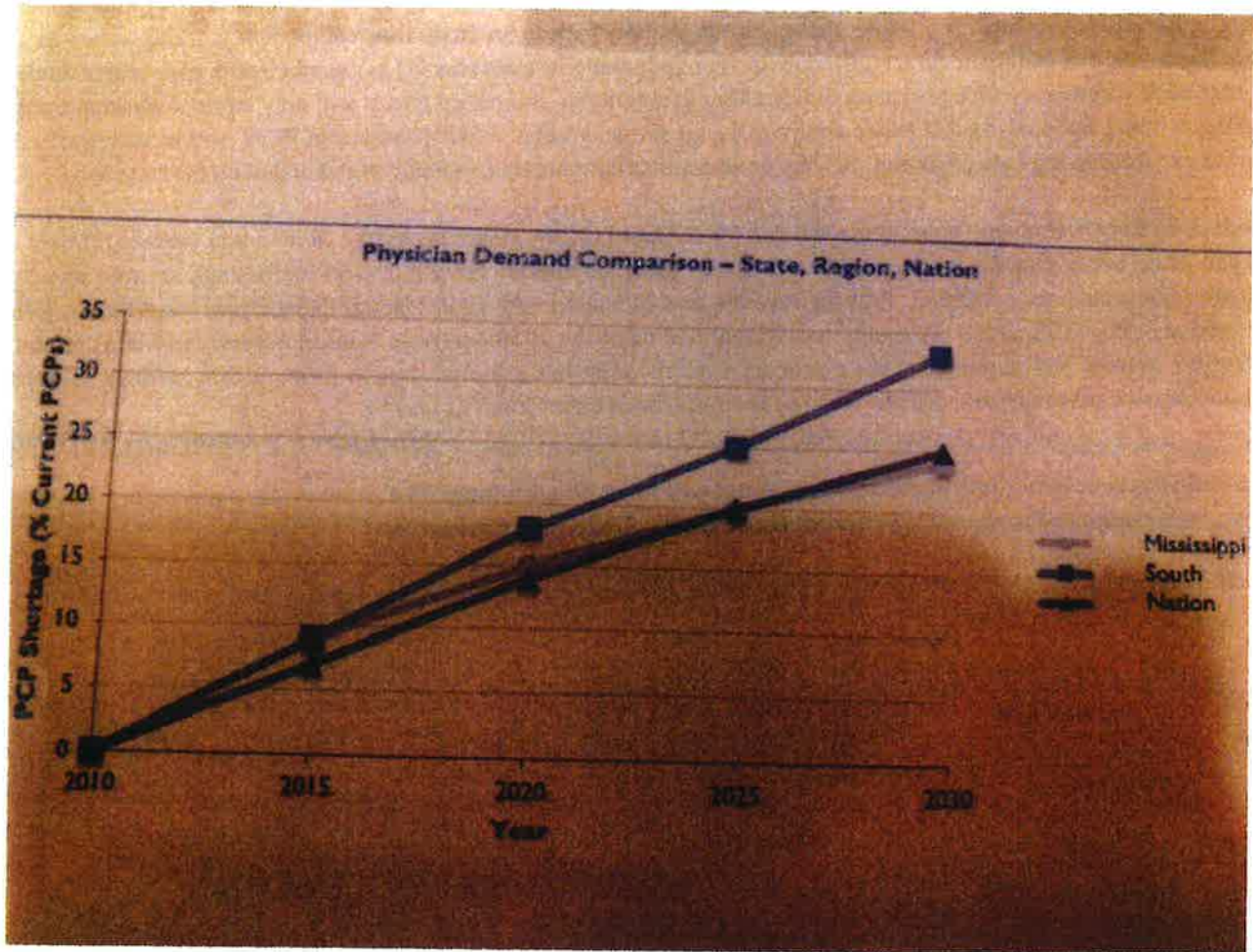
<sup>1</sup> Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The triple aim: care, health, and cost. *Health Affairs*, 27(3), 759-69. doi:10.1377/hlthaff.27.3.759

<sup>2</sup> Petterson, S. M., Liaw, W. R., Phillips, R. L., Rabin, D. L., Meyers, D. S., & Bazemore, A. W. (2012). Projecting US Primary Care Physician Workforce Needs: physician supply meet demands of an increasing and aging population? *Health Affairs*, 27(3), w232-w241. Also see Colwill, J., Cultice, J., & Kruse, R. (2008). Will generalist physician supply meet demands of an increasing and aging population? *Health Affairs*, 27(3), w232-w241.

<sup>3</sup> Council on Graduate Medical Education Tenth Report: *Physician Distribution and Health Care Challenges in Rural and Inner-city Areas*. (1998). Washington, D.C.

<sup>4</sup> <http://www.ihl.state.ms.us/urc/publications.asp>. For full description of the methodology, see <http://www.graham-center.org/tools-resources/state-projections.htm>.

needs. Policymakers in Mississippi should consider strategies to bolster the primary care pipeline



**\*\*To maintain the status quo, Mississippi will require:**

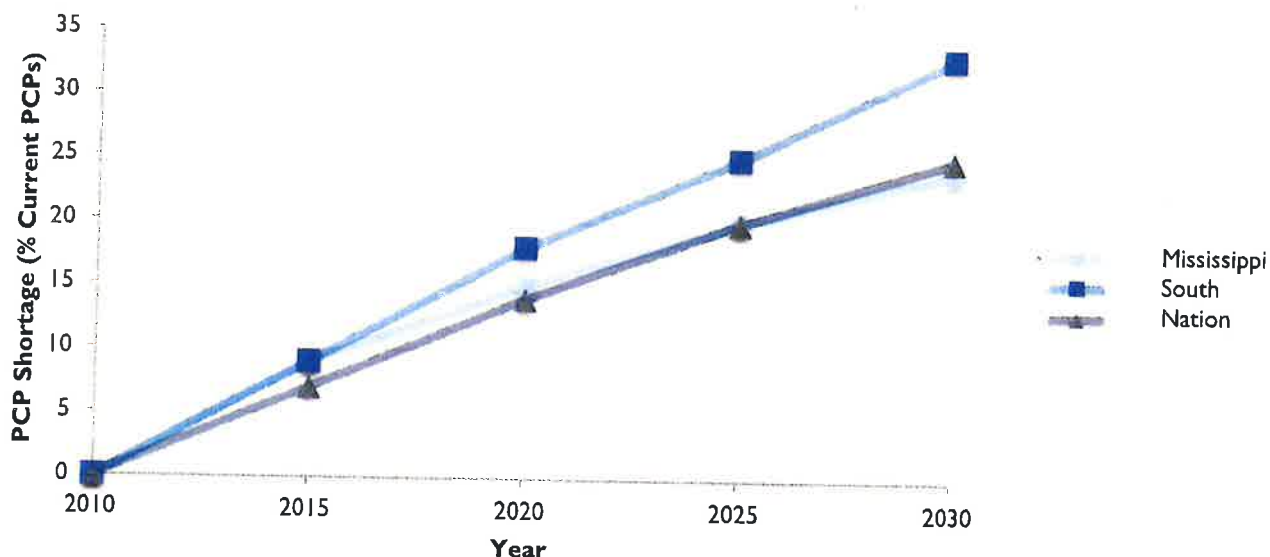
**\*\*\* an additional 364 primary care physicians by 2030**

**\*\*\* a 24% increase of the state's current (as of 2010) 1,475 practicing PCPs.**

**The current population to PCP ratio of 2011:1 is greater than the national average of 1463:1.**



## Physician Demand Comparison – State, Region, Nation



### Implications for Mississippi

To maintain the status quo, Mississippi will require an additional 364 primary care physicians by 2030, a 24% increase of the state's current (as of 2010) 1,475 practicing PCPs. The current population to PCP ratio of 2011:1 is greater than the national average of 1463:1. The 2030 projection stands below the South overall and below the nation overall. Components of Mississippi's increased need for PCPs include 36% (132 PCPs) from increased utilization due to aging, 45% (165 PCPs) due to population growth, and 18% (67 PCPs) due to a greater insured population following the Affordable Care Act (ACA).

Pressures from a growing, aging, increasingly insured population call on Mississippi to address current and growing demand for PCPs to adequately meet health care needs. Policymakers in Mississippi should consider strategies to bolster the primary care pipeline including reimbursement reform, dedicated funding for primary care Graduate Medical Education (GME), increased funding for primary care training and medical school debt relief.

### Highlights: Mississippi's Projected Primary Care Physician Demand

Additional PCPs Required by 2030

**364**

Or, **24%** of current workforce, due to an aging, growing and increasingly insured population.

Current Primary Care  
Physician Workforce  
**1,475**

The state's PCP ratio  
of 2011:1 is greater  
than the national  
average of 1463:1.

### Potential Solutions –

#### Bolster the Primary Care Pipeline

- ❖ Physician reimbursement reform
- ❖ Dedicated funding for primary care Graduate Medical Education (GME)
- ❖ Increased funding for primary care training (Title VII, Section 747)
- ❖ Medical school student debt relief

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The information and opinions contained in research from the Graham Center do not necessarily reflect the views or policy of the AAFP.



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**MISSISSIPPI RANKS: 50<sup>TH</sup> OUT OF 50 – available physicians. Rural and underprivileged populations least likely to have access to medical care and most likely to have the worst outcomes especially following pandemics.**

**In 28 states nurse practitioners diagnose, treat, and medicate patients without collaborative contracts with physicians. Eight additional states have waved their requirements during the pandemic.**

**All healthcare professionals collaborate with each other to form a comprehensive team to optimize care for all patients.**

**SOLUTION:        Remove barriers!!**

**Remove collaborative contract!!**

**AANP DISCUSSION STUDIES ON NURSE PRACTITIONER QUALITY OF CARE: (Follows)**

**\*\*\*thanks to AANP for awesome info and charts.**

# ISSUES AT A GLANCE

## FULL PRACTICE AUTHORITY

AANP

American Association of  
Nurse Practitioners

### WHAT IS IT?

Full Practice Authority is the authorization of nurse practitioners (NPs) to evaluate patients; diagnose, order and interpret diagnostic tests; and initiate and manage treatments – including prescribe medications – under the exclusive licensure authority of the state board of nursing.

Across the nation, the requirements for NP education, program accreditation and board certification are consistent with national standards. To become an NP, one must hold a bachelor's degree in nursing, be licensed as a registered nurse (RN), graduate from a nationally accredited graduate NP program that meets national standards for advanced didactic and clinical education and pass a national NP board certification exam. Despite these national standards within nursing, there is inconsistency in how state laws and legislative bodies authorize (license) NP practice in states.

This variability originated during the 1970s when states began to regulate NPs beyond their registered nursing license. While initial recognition of the NP was critical, over the past decades, this patchwork of practice authorization has led to significant challenges for NPs, their patients and health care delivery.

In Full Practice Authority (FPA) states, NP licensure is not contingent on unnecessary contracts or relationships with a physician or oversight by the state medical board. As a result, studies show that in FPA states, NPs are more likely to practice in rural and underserved areas and have improved NP workforce recruitment while meeting the highest care quality and safety standards. States that restrict or reduce NPs' ability to practice according to their abilities through limiting licensure authority are more closely associated with geographic health care disparities, higher chronic disease burden, primary care shortages, higher costs of care and lower standing on national health rankings.

This is why AANP supports the Consensus Model for Advanced Practice Registered Nurses and the adoption of National Council of State Boards of Nursing Model Practice Act. NPs with FPA are required to meet educational requirements for licensure; maintain national certification; consult and refer to other health care providers, when warranted by patient needs; and remain accountable to the public and the state board of nursing for providing the high standard of care set nationally.

### WHERE IS IT?

To date, nearly half of states and U.S. territories have adopted FPA licensure laws for NPs.

These include: Alaska, Arizona, Colorado, Connecticut, Delaware, District of Columbia, Guam, Hawaii, Idaho, Iowa, Maine, Maryland, Massachusetts, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Northern Mariana Islands, Oregon, Rhode Island, South Dakota, Vermont, Washington and Wyoming.

### HOW WILL IT IMPACT MY PATIENTS AND MY PRACTICE?

Adopting FPA for NPs provides patients with full and direct access to all the services that NPs are equipped to provide. FPA:

- Improves Access – FPA creates greater access to care, especially in underserved urban and rural areas. States with FPA are more likely to have NPs working in rural and underserved areas and NP practices than states with more restrictive licensure models.
- Streamlines Care and Makes Care Delivery More Efficient – FPA provides patients with full and direct access to the NP services **at the point of care**. FPA removes delays in care that are created when dated regulations require an NP be part of an unnecessary regulatory-mandated contract with a physician as a condition of practicing their profession.
- Decreases Costs – FPA avoids duplication of services and billing costs associated with outdated physician oversight of NP practice. FPA reduces unnecessary repetition of orders, office visits and care services.
- Protects Patient Choice – FPA allows patients to see the health care provider of their choice. FPA removes anti-competitive licensing restrictions that interfere with patient-centered health care.

## LINKS TO ADDITIONAL RESOURCES

- [National Council of State Boards of Nursing \(NCSBN\) Model Nurse Practice Act language](#): Model statutes and rule language for regulating NP practice for FPA.
- [Clinical Outcomes: The Yardstick of Educational Effectiveness](#): Appropriate educational evaluation and comparison markers.
- [Nurse Practitioner Cost Effectiveness](#): An introduction to the body of evidence supporting NPs are cost-effective providers of high-quality care.
- [Quality of Nurse Practitioner Practice](#): An overview of the research supporting the value the NP brings to high-quality care.
- [Think Tank and Stakeholder Policy Statements](#): A library of statements from national think tanks and other NP stakeholders.
- Are you a state leader? Contact the AANP State Government Affairs office for more details about State Policy Resource Guides.

If NP legislation is proposed in your state, please contact the AANP State Government Affairs office at 703-740-2529 or [statepolicy@aanp.org](mailto:statepolicy@aanp.org). AANP welcomes the opportunity to work with state stakeholders to shape legislation that is beneficial and appropriate for patients, NPs and the entire health care community.

Revised August 2021



# DISCUSSION PAPER: QUALITY OF NURSE PRACTITIONER PRACTICE

Half a century of research definitively demonstrates that nurse practitioners (NPs) provide high-quality primary, acute and specialty health care services across the life span and in diverse settings, including NP-owned practices. NPs have graduate-level education, with master's or doctoral degrees, and possess the knowledge and clinical competency to provide health care beyond their initial registered nurse preparation. As clinicians that blend clinical expertise in diagnosing and treating acute and chronic health conditions with an added emphasis on disease prevention, health management and patient education, NPs bring a comprehensive perspective to health care.

Since the NP role was established in 1965, research has consistently demonstrated the excellent outcomes and high quality of care provided by NPs. The body of literature supports the position that NPs provide care that is safe, effective, patient centered, efficient, equitable and evidenced based. Furthermore, NP care is comparable in quality to that of their physician colleagues, demonstrated by numerous studies that conclude no statistically significant difference across outcome measures. Research has found that patients under the care of NPs have fewer unnecessary hospital readmissions, fewer potentially preventable hospitalizations, higher patient satisfaction and fewer unnecessary emergency room visits than patients under the care of physicians. This paper summarizes several empirical, peer-reviewed articles supporting the quality of NP practice and is presented in two sections: 1) original research and 2) systematic reviews and meta-analyses. These references are listed as an annotated bibliography.

## Section 1. Original Research

**Borgmeyer, A., Gyr, P.M., Jamerson, P.A., & Henry, L.D. (2008). Evaluation of the role of the pediatric nurse practitioner in an inpatient asthma program. *Journal of Pediatric Health Care*, 22(5), 273-281.**

Borgmeyer, et al., evaluated the perception of pediatric nurse practitioners (PNPs) as a direct patient care manager and the pediatric patient outcomes (e.g., length of stay [LOS], costs, readmission rates) between Asthma Intervention Model (AIM) PNP-managed patients, intern-managed patients and peer children's hospitals. Physicians, nurses, pediatric interns and families were surveyed about their experiences between July 1, 2003, and July 30, 2004. The authors conclude that PNPs were effective educators and managed patients appropriately. A comparison of AIM PNP-managed patients and intern-managed patients showed no significant difference in LOS or costs. None of the patients experienced readmission in either group.

**Buerhaus, P., Perloff, J., Clarke, S., O'Reilly-Jacob, M., Zolotusky, G., & DesRoches, C. M. (2018). Quality of primary care provided to Medicare beneficiaries by nurse practitioners and physicians. *Medical Care*, 56(6), 484-490.**

Quality of care administered by primary care nurse practitioners (PCNPs), primary care physicians (PCMDs) or both types of clinicians was examined using 2012 and 2013 Medicare part A and part B claims. A retrospective cohort design using standard risk-adjustment methodologies and propensity score weighting assessed 16 claims-based quality measures, which were grouped into several primary care domains: chronic disease management, preventable hospitalizations, adverse outcomes and cancer screening. Buerhaus, et al., found that PCNP beneficiaries had lower rates of hospital admissions, readmissions and inappropriate ED use, as well as low-value imaging, compared to PCMDs or jointly attributed clinicians.

**DesRoches, C. M., Clarke, S., Perloff, J., O'Reilly-Jacob, M., & Buerhaus, P. (2017). The quality of primary care provided by nurse practitioners to vulnerable Medicare beneficiaries. *Nursing Outlook*, 65(6), 679-688.**

To compare quality indicators of Medicare beneficiaries managed by PCNPs and PCMDs, DesRoches, et al., used a retrospective cohort design that examined 2012 and 2013 Medicare claims for three subpopulations amongst beneficiaries: qualifying due to disability, dually eligible for both Medicare and Medicaid and disabled and eligible for both programs. Overall, the authors found that beneficiaries managed by PCNPs had a lower risk of preventable hospitalizations, use of emergency room services and other health care resources.

# DISCUSSION PAPER:

## QUALITY OF NURSE PRACTITIONER PRACTICE

Everett, C.M., Morgan, P., Smith, V.A., Woolson, S., Edelman, D., Hendrix C.C., Berkowitz, T., White, B., & Jackson, G.L. (2019). Primary Care provider type: Are there differences in patients' intermediate diabetes outcomes? *Journal of the American Academy of Physician Assistants*, 32(6), 36-42.

Using electronic health record data from the Veterans Health Administration (VHA), Everett, et al., examined differences in diabetes outcomes among 609,668 patients being treated at primary care clinics by physicians, physician assistants (PAs) and NPs serving in both primary care provider (PCP) and supplemental provider roles. Outcomes were examined for patients that experienced care provided by medical doctor (MD) PCPs, PA PCPs, NP PCPs or combinations of PCPs with supplemental providers. Everett, et al., found no clinically significant differences in intermediate diabetes outcomes (e.g., A1C, Systolic BP, LDL-C) between provider groups regardless of their role as usual PCP or supplemental providers.

Everett, C., Thorpe, C., Palta, M., Carayon, P., Bartels, C., & Smith, M.A. (2013). Physician assistants and nurse practitioners perform effective roles on teams caring for Medicare patients with diabetes. *Health Affairs (Project Hope)*, 32(11).

To improve the delivery of care, patient-centered medical homes often rely on a team of clinicians with common goals and defined roles. Everett, et al. (2013), examined Medicare data from a large physician group to compare the outcomes of two groups of adult Medicare patients with diabetes at various levels of complexity who received primary care from PA and NP teams and physician-only teams. Everett, et al., found that most PA and NP outcome measurements were comparable or better than physician-only care.

Gracias, V. H., Sicoutris, C. P., Stawicki, S.P., Meredith, D. M., Horan, A. D., Gupta, R., Schwab, C.W. (2008). Critical care nurse practitioners improve compliance with clinical practice guidelines in "semiclosed" surgical intensive care unit. *Journal of Nursing Care Quality*, 23(4), 338-344.

This study addresses if the integration of acute care nurse practitioners (ACNPs) in a "semiclosed" critical care delivery system would increase clinical practice guidelines (CPGs) compliance. It was conducted in two phases, in which 1,380 admissions took place at the surgical intensive care unit (SICU) at the Hospital of the University of Pennsylvania: 1) patients were admitted to the "mandatory consultation"/non-ACNP team (standard care) or to the "semiclosed"/ACNP team (new model) (January-May 2003), and 2) surgical critical care service (SCCS) teams crossed over to "semiclosed"/ACNP model (June-December 2003). Critical care patients were prospectively assigned to a NP or non-NP team. Findings indicate that clinical practice guideline adherence was significantly higher among patients belonging to the NP team.

Jackson, G.L., Smith, V.A., Edelman, D., Woolson, S.L., Hendrix, C.C., Everett, C.M., Berkowitz, T.S., White, B.S., & Morgan, P.A. (2018). Intermediate diabetes outcomes in patients managed by physicians, nurse practitioners, or physician assistants: A cohort study. *Annals of Internal Medicine*, 169(12), 825-835.

Jackson, et al. (2018), wanted to examine if any differences existed in intermediate diabetes patient outcomes between physicians, NPs or PAs within a primary care setting. The authors conducted a cohort study using administrative data from the U.S. Department of Veterans Affairs (VA) electronic health record. The sample included 368,481 patients from 568 VA primary care facilities. Jackson, et al., did not find any significant differences in diabetes outcomes across provider groups, providing further evidence that NPs, PAs and MDs provide comparable care.

Kippenbrock, T., Emory, J., Lee, P., Odell, E., Buron, B., & Morrison, B. (2019). A national survey of nurse practitioners' patient satisfaction outcomes. *Nursing Outlook*, 67(6), 707-712.

To expand upon previous studies conducted that examine patient satisfaction among NPs and MDs, the authors analyzed responses from the Consumer Assessment of Healthcare Providers and Systems survey (n=53,885), which included several provider types: NP, MD, doctor of osteopathy (DO) and PA. Kippenbrock, et al., found that patient satisfaction was higher for NPs than other provider types.

Kuo, Y. F., Goodwin, J. S., Chen, N. W., Lwin, K. K., Baillargeon, J., & Raji, M. A. (2015). Diabetes mellitus care provided by nurse practitioners vs primary care physicians. *Journal of the American Geriatrics Society*, 63(10), 1980-1988.

Using data from a national sample of 64,354 Medicare beneficiaries, a retrospective cohort study was used to compare process and cost of care for patients with diabetes mellitus in 2009 who had received primary care from an NP or primary care physician. The authors conclude that low-density lipoprotein cholesterol testing and nephropathy monitoring rates were similar between both providers. Between the two provider types, there was no statistically significant difference in adjusted Medicare spending.



# DISCUSSION PAPER:

## QUALITY OF NURSE PRACTITIONER PRACTICE

Kuo, Y., Chen, N., Baillargeon, J., Raji, M. A., & Goodwin, J. S. (2015). Potentially preventable hospitalizations in Medicare patients with diabetes: A comparison of primary care provided by nurse practitioners versus physicians. *Medical Care*, 53(9), 776-783.

- The rate of potentially preventable hospitalizations of Medicare beneficiaries with a diagnosis of diabetes were compared between patients of NPs and physicians. Patients with a diagnosis of diabetes between 2007 and 2010 (n=345,819), who received all primary care from an NP only or a physician only, were selected from a sample of Medicare beneficiaries. The NP cohort and physician cohort was selected from national Medicare data using diabetes indicator data from the CMS Chronic Disease Data Warehouse, while additional data was captured by administrative claims. Several statistical methods demonstrated that receipt of care from NPs decreased the risk of potentially preventable hospitalizations. These findings suggest that NPs are exceptionally effective at treating diabetic patients.

Kurtzman, E.T. & Barnow, V.S. (2017). A comparison of nurse practitioners, physician assistants, and primary care physicians' patterns of practice and quality of care in health centers. *Medical Care*, 55(6), 615-622.

The authors compared the quality of care and practice patterns of NPs, PAs and primary care physicians within community health centers (CHCs) using data from the National Ambulatory Medical Care Survey (2006-2011). Analyses were composed of 23,704 patient visits to 1,139 practitioners within CHCs, examining nine patient-level outcomes such as smoking cessation, depression treatment, statin for hyperlipidemia and imaging services. Findings suggest that NPs were more likely to provide recommended smoking cessation counseling and more health education compared to MDs; however, no significant differences were found in any other outcome measure examined across provider groups.

Landsperger, J. S., Semler, M. W., Wang, L., Byrne, D. W., & Wheeler, A. P. (2016). Outcomes of nurse practitioner-developed critical care: A prospective cohort study. *Chest*, 149(5), 1146-1154.

A prospective cohort study of adult medical intensive care unit (ICU) admissions at an academic tertiary-care center was conducted between 2011 and 2013. Landsperger, et al., compared 90-day survival between care administered to patients by ACNPs and resident teams using Cox proportional hazards regression. Among the 9,066 admissions the study addresses that patients cared for by ACNPs had lower ICU mortality rates and shorter lengths of hospital stay. Hospital mortality and ICU length of stay was similar between the two providers.

Lenz, E.R., Mundinger, M.O., Kane, R.L., Hopkins, S.C., & Lin, S.X. (2004). Primary care outcomes in patients treated by nurse practitioners or physicians: Two-year follow-up. *Medical Care Research and Review* 61(3), 332-351.

The purpose of this study was to collect follow-up data from a randomized trial described in Mundinger, et al. (2000), that compared outcomes of patients seen by an NP versus a physician. Eligible participants were interviewed by mail, phone calls or home visits. Data was also collected from medical center billing records for the 2-year period after the initial visit. No significant differences were found in self-reported health status; satisfaction; disease-specific physiologic measures; or use of specialist, emergency room or hospital care between the two groups. However, physicians' patients had a higher average primary care utilization than NPs' patients.

Liu, C. F., Hebert, P. L., Douglas, J. H., Neely, E. L., Sulc, C. A., Reddy, A., & Wong, E. S. (2020). Outcomes of primary care delivery by nurse practitioners: Utilization, cost, and quality of care. *Health Services Research*, 55(2), 178-189.

The authors examined differences in utilization, costs and clinical outcomes between NP-assigned patients and MD-assigned patients. VA administrative data containing the characteristics, outcomes and provider assignments of 806,434 patients from 530 VA facilities assigned to an MD PCP who left their position within the VA in 2010 and 2012 was used. To compare patients reassigned to MD and NP PCPs, a difference-in-difference approach was selected. Liu, et al., found that patients assigned to NPs were less likely to utilize primary care, specialty care and inpatient services; had no difference in costs; and experienced similar chronic disease management compared to MD-assigned patients.

# DISCUSSION PAPER:

## QUALITY OF NURSE PRACTITIONER PRACTICE

**Lutfiyya, M.L., Tomai, L., Frogner, B., Cerra, F., Zismer, D., & Parente, S. (2017). Does primary care diabetes management provided to Medicare patients differ between primary care physicians and nurse practitioners? *Journal of Advanced Nursing*, 73(1), 240-252.**

Lutfiyya, et al. (2017), wanted to examine if Medicare patients who received primary care type two diabetes management differed in scope and outcomes by provider type: NP or physician. A cross-sectional quantitative analysis of 2012 U.S. Medicare National Claims History, also known as the five percent Standard Analytic File (SAF), was conducted. For patient comparison, a medical productivity index (MPI) was used to stratify Medicare DM2 patients, which was defined by least healthy and most healthy. Lower cost and better quality of care was attributed to chronic care patient management by NPs.

**Mafi, J. N., Wee, C. C., Davis, R. B., & Landon, B. E. (2016). Comparing use of low-value health care services among U.S. advanced practice clinicians and physicians. *Annals of internal medicine*, 165(4), 237-244.**

The authors used National Ambulatory Medical Care Survey (NAMCS) data and National Hospital Ambulatory Medical Care Survey (NHAMCS) data from 1997 to 2011 to compare the use of low-value services (e.g., upper respiratory infections, back pain and headache) commonly seen within the primary care setting between advanced practice providers (APPs [NPs and PAs]) and physicians. The authors found that both clinician groups provided equivalent low-value services.

**Melillo, K.D., Remington, R., Lee, A.J., Abdallah, L., Van Etten, D., Gautam, R. & Gore, R. (2015). Comparison of nurse practitioner and physician practice models in nursing facilities. *Annals of Long-Term Care*, 23(12), 19-24.**

Melillo, et al., investigated the differences in NP and physician practice models in long-term care (LTC) nursing facilities. The data for this study was taken from the Medicare Current Beneficiary Survey for the years 2006-2010, and the comparison cohorts consisted of patients who received all primary care (PC) from an MD or patients who received PC from an NP during the year reported. The reported health status of patients did not differ between comparison groups; however, the cohort with NP involvement had higher completion rates of advance directives than the MD-only cohort. The authors suggest that, "By having a higher completion rate of do not resuscitate [DNR] orders, the inclusion of NPs in LTC nursing facility care teams potentially increases resident quality of life and reduces the cost of care by minimizing the use of costly, unwanted treatments." Overall, NPs provided comparable care to that of MDs in LTC facilities.

**Muench, U., Guo, C., Thomas, C., & Perloff, J. (2019). Medication adherence, costs, and ER visits of nurse practitioner and primary care physician patients: evidence from three cohorts of Medicare beneficiaries. *Health Services Research*, 54(1), 187-197.**

Muench, et al., used weighted propensity score matching combined with logistic regression to examine differences in good medication adherence, office-based and specialty care costs and ER visits between patients seen by NPs and primary care physicians using Medicare Part A, B and D claims between 2009 and 2013. The three drug class cohorts for analysis consisted of anti-diabetics, renin-angiotensin system antagonists (RASA) and statins. Muench, Guo and Perloff found no differences in good medication adherence for anti-diabetics or RASA amongst NP and primary care physician provider type. Across all three medications, beneficiaries seeing NPs experienced lower office-based and specialty care costs and ER visits.

**Mundinger, M.O., Kane, R.L., Lenz, E.R., Totten, A.M., Tsai, W.Y., Cleary, P.D., Friedewald W.T., Siu A.L., & Shelanski, M.L. (2000). Primary care outcomes in patients treated by nurse practitioners or physicians: A randomized trial. *Journal of the American Medical Association*, 283(1), 59-68.**

The purpose of the study was to compare outcomes of primary care delivered by NPs and physicians for patients receiving follow-up care after visiting the emergency department or urgent care. Adults were recruited from an urgent care and two emergency departments that were part of the Columbia Presbyterian Medical Center system. Patients were randomly assigned to either an NP or physician clinic for care between August 1995 to October 1997. Data was collected from telephone and in-person interviews and health services utilization data. Patient satisfaction, health status, physiological tests and health service utilization had no significant differences between the two provider groups at six months. NPs' patients with hypertension had statistically significant lower diastolic values. Overall, when NPs were in the same setting and held similar authority as physicians, patient outcomes for NPs and physicians were found to be comparable.



# DISCUSSION PAPER:

## QUALITY OF NURSE PRACTITIONER PRACTICE

Ohman-Strickland, P.A., Orzano, A.J., Hudson, S.V., Solberg, L.I., DiCiccio-Bloom, B., O'Malley, D., et al. (2008). Quality of diabetes care in family medicine practices: Influence of nurse-practitioners and physician's assistants. *Annals of Family Medicine*, 6(1), 14-22. doi:10.1370/afm.758

The purpose of the study was to evaluate if the quality of diabetes care differs between physician-only practices and practices with APPs (NPs or PAs) and to identify any contributing characteristics related to differences in care. The authors conducted a cross-sectional analysis of baseline data of adult patients treated for type 1 or type 2 diabetes in the past year from 46 practices, measuring adherence to American Diabetes Association clinical guidelines. The study addresses that family medicine practices with NPs performed better than physician-only practices and significantly better than practices with PAs regarding quality measures of diabetic care (e.g., monitoring hemoglobin A1C, lipid and microalbumin levels). Practices with NPs were also more likely to have patients attain lipid targets than practices with PAs.

Rantz, M. J., Popejoy, L., Vogelsmeier, A., Galambos, C., Alexander, G., Flesner, M., & Petroski, G. (2018). Impact of advanced practice registered nurses on quality measures: The Missouri quality initiative experience. *Journal of the American Medical Directors Association*, 19(6), 541-550.

To examine the impact of advanced practice registered nurses (APRNs) on quality measure (QM) scores within the Missouri Quality Initiative (MOQI) intervention, Rantz, et al., conducted a two-group comparison analysis, in which a matched group was selected from facilities within the same county as the intervention nursing homes that were similar in QM scores, size and ownership between September 2013 and September 2016. Rantz, et al., found that QM scores for the APRN intervention group were better than the comparison group.

Ritsema, T. S., Bingenheimer, J. B., Scholting, P., & Cawley, J. F. (2014). Differences in the delivery of health education to patients with chronic disease by provider type, 2005-2009. *Preventing Chronic Disease*, 11(33).

This original Centers for Disease Control and Prevention (CDC) research evaluated the rate of health education provided by NPs/certified midwives, PAs and physicians to patients with chronic diseases. A secondary analysis was conducted using a sample of 136,432 adult patient visits (2005-2009) with chronic conditions (asthma, chronic obstructive pulmonary disease [COPD], depression, diabetes, hyperlipidemia, hypertension, ischemic heart disease and obesity) drawn from the National Hospital Ambulatory Medical Care Survey (NHAMCS). The authors found that health education delivery to patients with chronic conditions was higher among NPs and PAs than physicians.

Roblin, D.W., Becker, R., Adams, E.K., Howard, D. H., & Roberts, M.H. (2004). Patient satisfaction with primary care: Does type of practitioner matter? *Medical Care*, 42(6), 606-623.

This study evaluates the relationship between patient satisfaction and practitioner type during primary care visits at a managed-care organization. A retrospective observational study of 41,209 patient satisfaction surveys randomly sampled between 1997 and 2000 for visits by pediatric and medicine departments identified higher satisfaction with NP and/or PA interactions than those with physicians, for the overall sample and by specific conditions.

Sackett, D.L., Spitzer, W. O., Gent, M., & Roberts, M. (1974). The Burlington randomized trial of the nurse practitioner: Health outcomes of patients. *Annals of Internal Medicine*, 80(2), 137-142.

A sample of 1,598 families were randomly allocated, so that two-thirds continued to receive primary care from a family physician and one-third received care from an NP. Four outcome measurements (i.e., mortality rates and physical, emotional and social function) were applied to patients in the trial to observe clinical effectiveness and safety. Results demonstrated comparable outcomes. Mortality rates had no significant differences between the two study groups. The measurements of physical, emotional and social function in both groups had similar levels after one year of care.

Spitzer, W.O., Sackett, D.L., Sibley, J.C., Roberts, M., Gent, M., Kergin, D.J., Hackett, B.D., & Olynich, A. (1974). The Burlington randomized trial of the nurse practitioner. *New England Journal of Medicine*, 290(3), 252-256.

From July 1971 to July 1972, a randomized controlled trial was conducted in two family practices in Burlington to compare the effects of utilizing NPs or physicians to provide primary care services. The purpose of this paper was to detail the study design, logistics, data and summary of results, also described in Sackett, et al. The chosen unit for randomization was families; 1,598 families were eligible for the trial, and two-thirds were assigned to standard care with a family physician and the other third to care with NPs. A household survey was conducted before and after the experimental period to collect health status and medical services utilization. During this one-year period, management of preselected indicator conditions and drug prescriptions were assessed for quality of care.

# DISCUSSION PAPER:

## QUALITY OF NURSE PRACTITIONER PRACTICE

**Tapper, E. B., Hao, S., Lin, M., Mafi, J. N., McCurdy, H., Parikh, N. D., & Lok, A. S. (2020). The quality and outcomes of care provided to patients with cirrhosis by advanced practice providers. *Hepatology*, 71(1), 225-234.**

Tapper, et al., examined the effect of care quality and outcomes for adult cirrhosis patients managed by APPs (NPs or PAs). A retrospective analysis was conducted using Optum, an American commercial claims database, which yielded 389,257 unique patients. APP patients had higher rates of hepatocellular carcinoma (HCC) screening and varices screening, increased use of rifaximin after discharge for hepatic encephalopathy, lower risk of readmission within 30 days and lower risk of death. When working with gastroenterologists/hepatologists, APPs were associated with improved quality of care and patient outcomes.

**Virani, S. S., Akeroyd, J. M., Ramsey, D. J., Chan, W. J., Frazier, L., Nasir, K., & Petersen, L. A. (2016). Comparative effectiveness of outpatient cardiovascular disease and diabetes care delivery between advanced practice providers and physician providers in primary care: Implications for care under the Affordable Care Act. *American Heart Journal*, 181, 74-82.**

Virani, et al., compared the quality of care delivered by APPs (NPs or PAs) and physicians to patients with diabetes and cardiovascular disease (CVD) within a primary care setting. Clinical and administrative data was used to identify diabetes or CVD patients from all 130 VA facilities who sought care during the 2014 fiscal year (October 2013-September 2014). Quality of care for diabetes and CVD patients delivered in a primary care setting was comparable between APPs and physicians, noting no significant differences.

**Virani, S. S., Maddox, T. M., Chan, P. S., Tang, F., Akeroyd, J. M., Risch, S. A., & Petersen, L. A. (2015). Provider Type and Quality of Outpatient Cardiovascular Disease Care: Insights from the NCDR PINNACLE Registry. *Journal of the American College of Cardiology*, 66(16), 1803-1812.**

The purpose of the study was to determine if there were any clinical differences in quality of care given by APPs (NPs or PAs) versus physicians. Performance measures compared for care included: quality of coronary artery disease (CAD), heart failure (HF) and atrial fibrillation (AF) care. Patients enrolled in the registry who had an outpatient cardiology visit in 2012 were included in the study and two analyses were conducted: 1) comparing patients receiving care from APPs to patients receiving care from physicians in a practice with physicians and APPs, and 2) comparing patients receiving care in practices with physicians and APPs to patients receiving care from physician-only practices. Patient data was extracted from the American College of Cardiology's PINNACLE (Practice Innovation and Clinical Excellence) registry and National Provider Identifier (NPI) numbers were used to determine if the treating practitioner was a physician or APP. Quality measures were comparable among both groups, and smoking cessation screening intervention was higher among the APP group for CAD patients.

**Wright, W.L., Romboli, J.E., DiTulio, M.A., Wogen, J., & Belletti, D.A. (2011). Hypertension treatment and control within an independent nurse practitioner setting. *American Journal of Managed Care*, 17(1), 58-65.**

To compare the proportion of hypertensive patients with controlled blood pressure (BP) being treated by NPs to the proportion of comparable patients with controlled BP being treated by primary care physicians, Wright, et al., conducted a cross-sectional retrospective medical record review at 21 physician-based practices across the U.S. and three independent NP-based practices in northeastern U.S. between December 2007 and November 2009. Wright, et al., found comparable controlled blood pressure rates across provider groups.

**Yang, Y., Long, Q., Jackson, S. L., Rhee, M. K., Tomolo, A., Olson, D., & Phillips, L. S. (2018). Nurse practitioners, physician assistants, and physicians are comparable in managing the first five years of diabetes. *The American Journal of Medicine*, 131(3), 276-283.**

Yang, et al., examined hemoglobin A1c levels over the course of natural diabetes in patients cared for by NPs, PAs and physicians at the VHA, all of which who practice under a similar scope of practice within this integrated health care system. A retrospective cohort study was comprised of veterans who had been newly diagnosed with diabetes in 2008, experienced the continuation of primary care between 2008 and 2012 and had 75% or greater percentage of primary care visits with one of the three provider types. The authors conclude that patient care administered by NPs and PAs was comparable to physicians at diagnosis and during the four-year follow-up period.



### Section II. Systematic Reviews and Meta-Analyses

Bakerjian, D. (2008). Care of nursing home residents by advanced practice nurses: A review of the literature. *Research in Gerontological Nursing*, 1(3), 177-185. doi: 10.3928/00220124-20091301-01.

Bakerjian conducted an extensive review of the literature, particularly of NP-led care, and found that long-term care patients managed by NPs were less likely to have avoidable geriatric complications such as falls, urinary tract infections (UTIs), pressure ulcers, etc. They also had improved functional status, as well as better managed chronic conditions.

Brown, S.A. & Grimes, D.E. (1995). A meta-analysis of nurse practitioners and nurse midwives in primary care. *Nursing Research*, 44(6), 332-9.

A meta-analysis of 38 studies, comparing a total of 33 patient outcomes of NPs with those of physicians, demonstrated that NP outcomes were equivalent to or greater than those of physicians. NP patients had higher levels of compliance with recommendations in studies where provider assignments were randomized and when other means to control patient risks were used. Patient satisfaction and the resolution of pathological conditions were greatest for NPs. NP and physician outcomes were equivalent on all other outcomes.

Carter, A., Chochinov, A. (2007). A systematic review of the impact of nurse practitioners on cost, quality of care, satisfaction and wait times in the emergency department. *Canadian Journal of Emergency Medicine*, 9(4), 286-95.

This systematic review of 36 articles examines if the hiring of NPs in emergency rooms can reduce wait time, improve patient satisfaction and result in the delivery of cost-effective, quality care. Results showed that hiring NPs can result in reduced wait times, leading to higher patient satisfaction. NPs were found to be equally as competent as physicians at interpreting x-rays and more competent at following up with patients by phone, conducting physical examinations and issuing appropriate referrals.

Congressional Budget Office. (1979). *Physician extenders: Their current and future role in medical care delivery*. Washington, D.C.: US Government Printing Office.

As early as 1979, the Congressional Budget Office reviewed findings of the numerous studies of NP performance in a variety of settings and concluded that NPs performed as well as physicians with respect to patient outcomes, proper diagnosis, the management of specified medical conditions and the frequency of patient satisfaction.

Kleinpell, R. M., Grabenkort, W. R., Kapu, A. N., Constantine, R., & Sicoutris, C. (2019). Nurse practitioners and physician assistants in acute and critical care: a concise review of the literature and data 2008–2018. *Critical care medicine*, 47(10), 1442.

Kleinpell, et al., conducted a concise review of the literature published on NP and PA utilization and outcomes in intensive care units and acute care settings over the 10-year period between 2008 and 2018. More than 50 individual studies and reviews were identified including those that examined care outcomes such as LOS, mortality and decreased admission rates. The authors conclude, "Overall, the studies demonstrate impact of the APP role through improved patient flow and clinical outcomes including reducing complications and improved patient care management with reduced time on mechanical ventilation, increased use of clinical practice guidelines, improved laboratory test use and increased palliative care consultations, among other areas of impact."

Laurant, M., Reeves, D., Hermens, R., Braspenning, J., Grol, R., & Sibbald, B. (2006). Substitution of doctors by nurses in primary care. *Cochrane Database of Systematic Reviews*. Issue 1. CD001271.

This meta-analysis included 25 articles, relating to 16 studies, comparing outcomes of primary care nurses (nurses, NPs, clinical nurse specialists or other APRNs) and physicians. The quality of care provided by nurses was as high as that of the physicians. Overall, health outcomes and outcomes such as resource utilization and cost were equivalent for nurses and physicians. The satisfaction level was higher for nurses. Studies included a range of care delivery models, with nurses providing first contact, ongoing care and urgent care for many of the patient cohorts.

# DISCUSSION PAPER:

## QUALITY OF NURSE PRACTITIONER PRACTICE

**Naylor, M.D. and Kurtzman, E.T. (2010). The Role of Nurse Practitioners in Reinventing Primary Care. *Health Affairs*, (5), 893-99.**

This meta-analysis of studies comparing the quality of primary care services of physicians and NPs demonstrates the role NPs play in reinventing how primary care is delivered. The authors found that comparable outcomes are obtained by both providers, with NPs performing better in terms of time spent consulting with the patient, patient follow ups and patient satisfaction.

**Newhouse, R.P., Stanik-Hutt, J., White, K.M., Johantgen, M., Bass, E.B., Zangaro, G., Wilson, R.F., Fountain, L., Steinwachs, D.M., Heindel, L., & Weiner, J.P. (2011). Advanced practice nurse outcomes 1999-2008: A systematic review. *Nursing Economics*, 29(5), 1-22.**

The outcomes of NP care were examined through a systematic review of 37 published studies, most of which compared NP outcomes with those of physicians. Outcomes included measures such as patient satisfaction; patient perceived health status; functional status; hospitalizations; emergency department visits; and biomarkers such as blood glucose, serum lipids and blood pressure. Newhouse, et al., conclude that NP patient outcomes are comparable to those of physicians.

**Office of Technology Assessment. (1986). Nurse practitioners, physician assistants, and certified nurse midwives: A policy analysis. Washington D.C.: US Government Printing Office.**

The Office of Technology Assessment reviewed studies comparing NP and physician practice, concluding that, "NPs appear to have better communication, counseling and interviewing skills than physicians have," and that malpractice premiums and rates supported patient satisfaction with NP care, pointing out that successful malpractice rates against NPs remained extremely rare.

**Prescott, P.A. & Driscoll, L. (1980). Evaluating nurse practitioner performance. *Nurse Practitioner*, 5(4), 28-32.**

The authors reviewed 26 studies comparing NP and physician care, concluding that NPs scored higher in many areas. These included: amount/depth of discussion regarding child health care, preventative health and wellness; amount of advice, therapeutic listening and support offered to patients; completeness of history and follow up on history findings; completeness of physical examination and interviewing skills; and patient knowledge of the management plan given to them by the provider.

**Safriet, B. J. (1992). Health care dollars and regulatory sense: The role of advanced practice nursing. *Yale Journal on Regulation*, 9(2).**

The full Summer 1992 issue of this journal was devoted to the topic of advanced practice nursing (APN), including documenting the cost-effective and high-quality care provided, and to call for eliminating regulatory restrictions on their care. Safriet summarized the U.S. Office of Technology Administration study concluding that NP care was equivalent to that of physicians and pointed out that 12 of the 14 studies reviewed in this report, which showed differences in quality, reported higher quality for NP care. Reviewing a range of data on NP productivity, patient satisfaction and prescribing, Safriet concludes, "APNs are proven providers, and removing the many barriers to their practice will only increase their ability to respond to the pressing need for basic health care in our country."

**Stanik-Hutt, J., Newhouse, R., (2013). The quality and effectiveness of care provided by Nurse Practitioners. *The Journal for Nurse Practitioners*, 9(8). doi:10.1016/j.nurpra.2013.07.004**

Evidence regarding the impact of NPs compared to MDs on health care quality, safety and effectiveness was systematically reviewed. Data from 37 of 27,993 articles published from 1990-2009 were summarized into 11 aggregated outcomes. Outcomes for NPs compared to MDs are comparable or better for all 11 outcomes reviewed. A high level of evidence indicated better serum lipid levels in patients cared for by NPs in primary care settings. A high level of evidence also indicated that patient outcomes on satisfaction with care, health status, functional status, number of emergency department visits and hospitalizations, blood glucose, blood pressure and mortality are similar for NPs and MDs.



APPENDIX B1. State Scorecard Summary of Health System Performance Across Dimensions

