National APRN Workforce: Strengths and Challenges in an Emerging Post-Pandemic "New Normal"

National Council State Boards of Nursing
APRN Roundtable
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Virtual

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Agenda

1. Strengths of the APRN workforce, with particular emphasis on NPs

   In the years leading up to the Pandemic, there were many developments that have significantly strengthened the APRN workforce ... Will talk about 5 of them

2. Challenges facing the NP workforce in addressing the post-pandemic health needs of society

   Some of the 6 challenges I will discuss are not new, yet others are becoming more pressing and important in shaping the future of the APRN workforce

3. Discussion

Disclosures

Past and current funders

- Gordon & Betty Moore Foundation (current)
- Johnson & Johnson (current)
- Robert Wood Johnson Foundation (current)
- John Hartford Foundation (current)
- UnitedHealth Group (current)
- American Association of Nurse Practitioners (recent)

Board and related memberships

- Chair, National Health Care Workforce Commission *(still unfunded)*
- Board of directors: AcademyHealth (recent past)
- Bozeman Health Delivery System (recent past),
- Member, National Academy of Medicine Future of Nursing 2020-2030 (very recent past)

Research Program on Nurses and Physicians

Four Interdisciplinary teams

1. Economics and workforce: Employment, earnings, forecasting nurse and physician supply
   - Doug Staiger, Dartmouth College & National Bureau Economic Research
   - Dave Auerbach, Boston, Massachusetts Health Reform Commission
   - Max Yates, Cambridge University

2. Quality of care : Constructing, testing & refining quality of care measures associated with nurses; advocating for value-informed nursing practice
   - Jack Needleman, UCLA
   - Olga Yakusheva, University of Michigan School of Nursing

3. Survey research: Knowledge, attitudes and behaviors toward nurses, impact of changes in health care delivery
   - Karen Donelan, Harvard Medical School and Massachusetts General Hospital
   - Catherine DesRoches, Harvard and Beth Israel Hospital
   - Linda Norman, Vanderbilt University School of Nursing

4. Assessing contributions of nurse practitioners: Quantities, types, costs, & quality of NP services
   - Jennifer Perloff, Brandeis University
   - Monica O'Reilly Jacob, Boston College
   - Karen Donelan, Harvard Medical School and Massachusetts General Hospital
   - Catherine DesRoches, Harvard and Beth Israel Hospital
   - Lisa Iezzoni, Harvard Medical School and Mongan Institute of Health Policy
   - Sean Clarke, NYU
   - Robert Dittus, Vanderbilt University Medical Center

1. **Strengths** of the APRN workforce, with particular emphasis on NPs

1. Increasing numbers, current and projected
2. Growing employment and real (inflation-adjusted) earnings
3. Providing care to vulnerable populations
4. Increasing evidence of NPs' impact on expanding access, lowering costs, and providing high quality health care … and other impacts
5. NPs comparative advantage in value-based payment systems

1st Strength: Increasing numbers of ARPNs, 2008-2018

	2008	2018
All APRNS prepared in a single role	205,074	347,861
Prepared in more than one APRN role	18,015	25,968
Total	223,089	373,829
Prepared in the role of an NP only	125,264	258,241
Prepared in the role of a CNS only	34,987	55,111
Prepared in the role of a CRNA only	31,156	29,869

NPs: Primary care 24%, amb care 15%, general Med/Surg 9%, psych/mental health 9%, critical care 6%

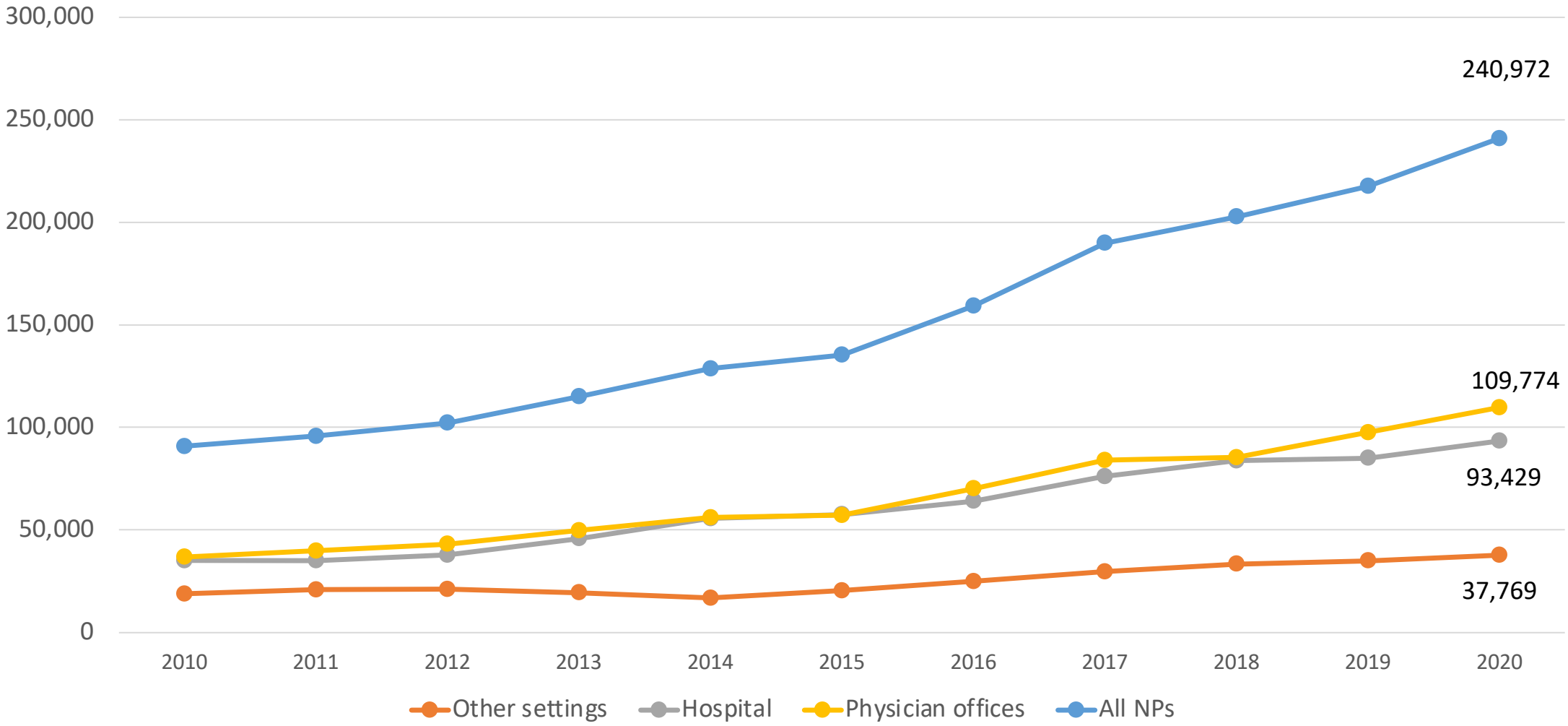
Source: National Academies of Sciences, Engineering, and Medicine. *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity*. Tables 3-4 & 3-5. Washington, DC: National Academies of Medicine Press.

NP workforce projected to grow rapidly through 2030

	2001	2010	2016	2030 (Projected)	Ave growth rate 2016 to 2030 (Projected)
Physicians	711,357	862,698	920,397	1,076,360	1.1%
NPs	64,800	91,697	157,025	396,546	6.8%
PAs	44,282	88,097	102,084	183,991	4.3%
NPs & PAs per 100 MDs	15.3	20.8	28.2	53.9	

Auerbach, D., Staiger, D., Buerhaus, P. Growing ranks of advanced practice clinicians — Implications for the physician workforce. *The New England Journal of Medicine*. June 21, 2018. 378;25:2358-2360.

2nd **Strength**: Growing NP employment and earnings



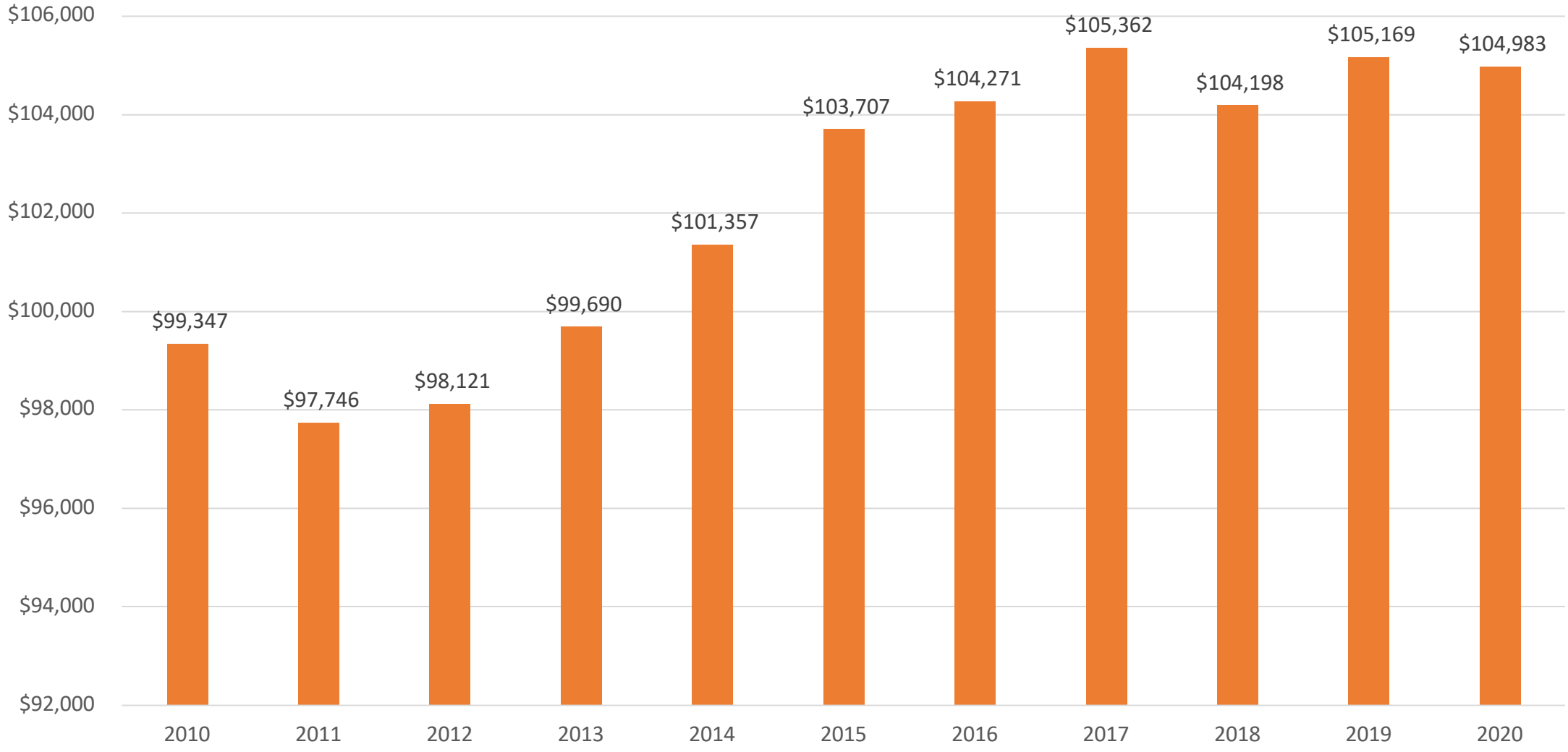
Source: Auerbach, Buerhaus, Staiger. Analysis of American Community Survey data

NP employment in hospital-centered and other settings, 2018

Hospital-centered	Number and (percent)	Other Settings	Number and (percent)
Inpatient unit	28,855 (15%)	Home health	4,118 (2%)
Emergency Dept	6,077 (3%)	Occupational health	1,459 (0.8%)
Inpatient mental health	2,502 (1.3%)	Government agency	3,558 (1.8%)
Hospital ambulatory care	21,464 (11%)	University/academic	2,021 (1%
Critical care hospitals	7,971 (4%)	Nursing home	2,687 (1.4%)
		Rehab/Long term care	3,705 (2%)

Source: National Academies of Sciences, Engineering, and Medicine. *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity*. Table 3-5. Washington, DC: National Academies of Medicine Press

Average NP inflation-adjusted earnings, 2010-2020



Source: Auerbach, Buerhaus, Staiger. Analysis of American Community Survey data

3rd **Strength**: Providing care to vulnerable populations

Primary care NPs are more likely than physicians to practice in rural areas – precisely where there are more uninsured and increasingly fewer physicians

Primary care NPs are more likely than physicians to take care of vulnerable populations – women, people of color, American Indians, poor, disabled, under/no insurance, and those dual eligibles

NOTE: See slides at end of presentation for references

Providing care to vulnerable populations (Con't)

People of color:

71% reported at least 25% of patient panel "racial/ethnic minority groups"

20% said at least 75% of patient panel "racial/ethnic minority groups"

People with limited proficiency speaking English:

26% reported 25% or more of patient panel had limited proficiency

Source: National Academies of Sciences, Engineering, and Medicine. *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity*. Chapter 3, Page 17. Washington, DC: National Academies of Medicine Press

4th Strength: Increasing evidence of NPs' systemic impact on expanding access, lowering costs, and providing high quality health care … tell this to detractors!*

1. Decrease in the number of payments made by physician for malpractice
2. Lower rate of increase in ED use in states with expanded authority following the Affordable Care Acts' Medicaid expansion
3. Decrease cesarian rates!
4. Increased access to care for rural and vulnerable populations, including people dually eligible for Medicare and Medicaid (dual eligibles)
5. Lower costs explained by NPs lower use of services and use of less expensive services (controlling for severity)
6. Improvement in mental health, mental health-related mortality, including suicide

*NOTE: See slides 32-35 for list of references

5th **Strength:** Primary care nurse practitioners have developed a comparative advantage over many primary care physicians

- Value = Health *outcome* achieved by patients taking into account the *costs* of achieving the outcome

- Think of Value as the ratio of $\frac{\text{Outcomes}}{\text{Cost}}$

- NPs provide as good, or better, outcomes at lower costs than physicians -- this is a tremendous economic comparative advantage … and helps explains strong NP employment growth

Five Major Strengths of the APRN workforce, with particular emphasis on NPs

1. Increasing numbers, current and projected
2. Growing employment and real (inflation-adjusted) earnings
3. Providing care to vulnerable populations
4. Increasing evidence of NPs' systemic impact on expanding access, lowering costs, and providing high quality health care
5. NPs comparative advantage in value-based payment systems

2. Challenges facing the APRN/NP workforce in addressing the post-pandemic health needs of society

(Some not new, others are becoming more pressing)

1. Create a more racially diverse workforce
2. Close gaps in preparation
3. Fill gaps in rural health care
4. Find different and more effective approaches to overcome scope and other practice barriers
5. Narrow the gaps between growing societal demand for health care and inadequate numbers of APRNs in the specialties needed to address demand
6. Wisely use comparative advantage

1st **Challenge:** Create a more racially diverse APRN workforce

Compared to RNs, APRNS are not as racially diverse

Defer to upcoming presentation by Margo Brooks Carthon

2nd **Challenge**: Close gaps in preparation

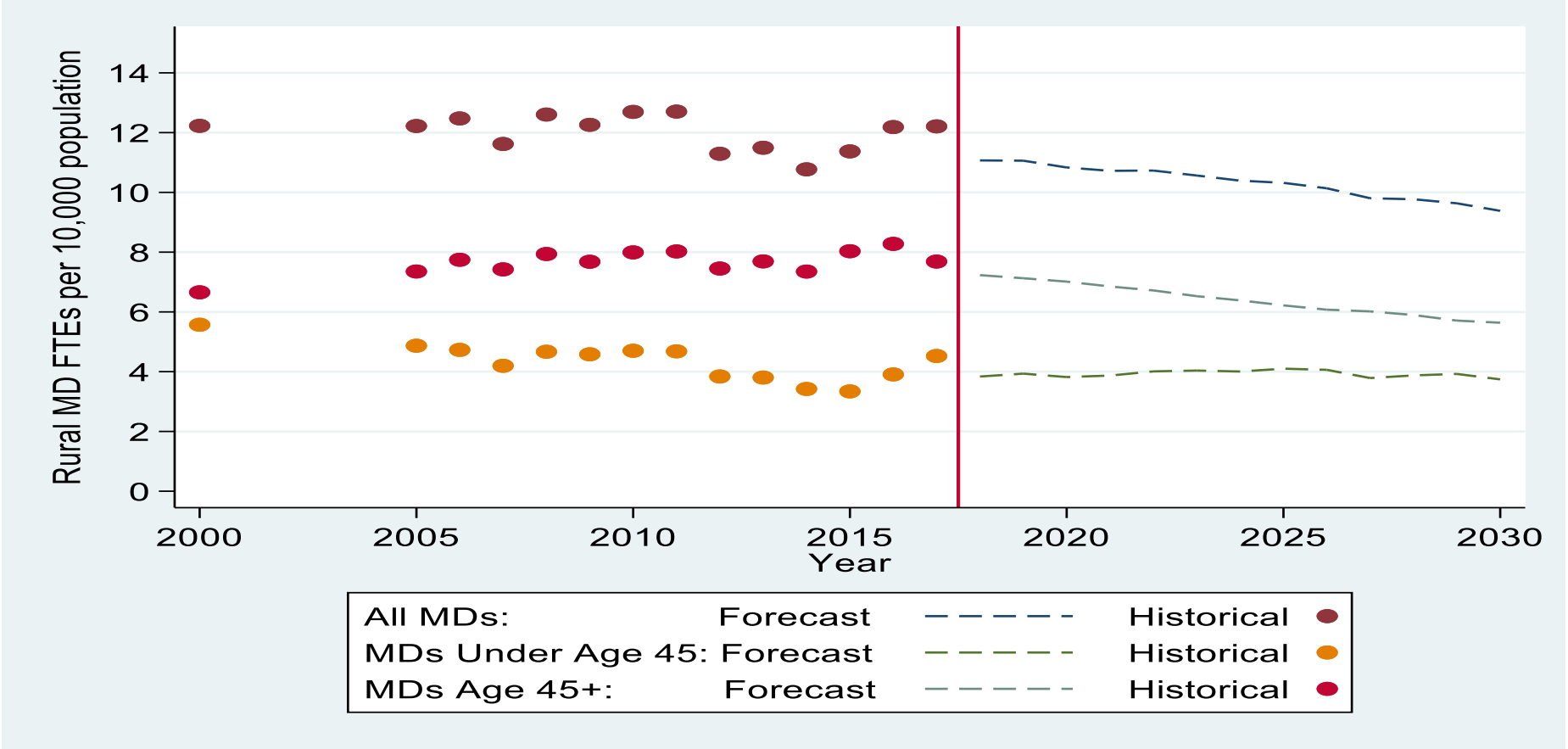
NPs working in public and community health, ED and urgent care, education, and LTC settings said they could have done their jobs better if they had received training in:

- SDOH
- Mental health
- Working in underserved communities
- Providing care for medically complex/special needs patients

Source: Analysis of 2018 National Sample Survey of Registered Nurses reported in National Academies of Sciences, Engineering, and Medicine. *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity*. Chapter 3, Figure 7-2. Washington, DC: National Academies of Medicine Press.

Retiring physicians: Number of MDs/10,000 population in rural areas projected to decrease 23% through 2030

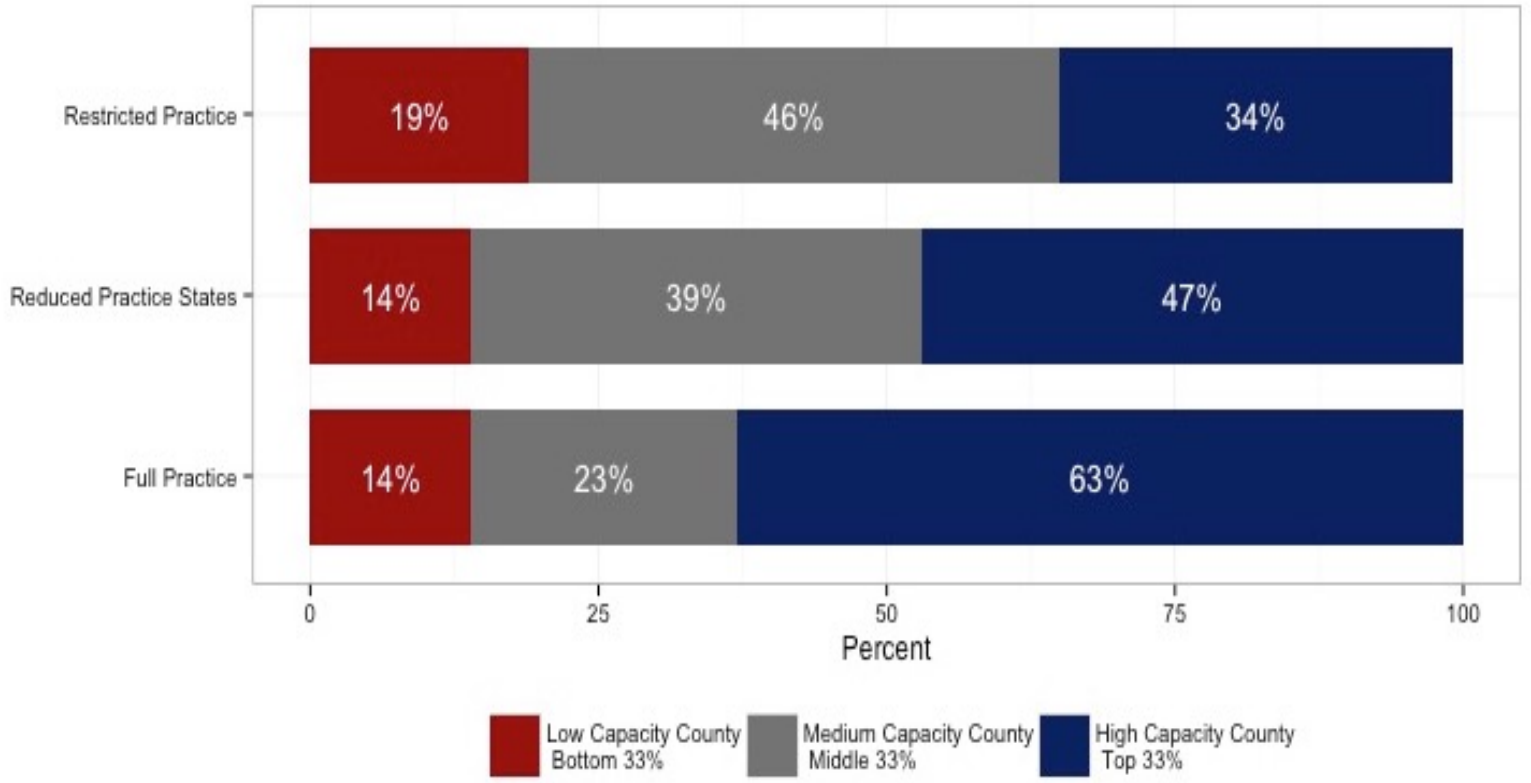
3rd Challenge: Fill gaps in providing care to rural populations



Skinner, L., Staiger, D., Auerbach, D., Buerhaus, P. Implications of an Aging Rural Physician Workforce. *The New England Journal of Medicine*. (July 25, 2019); 381(4): 299-301

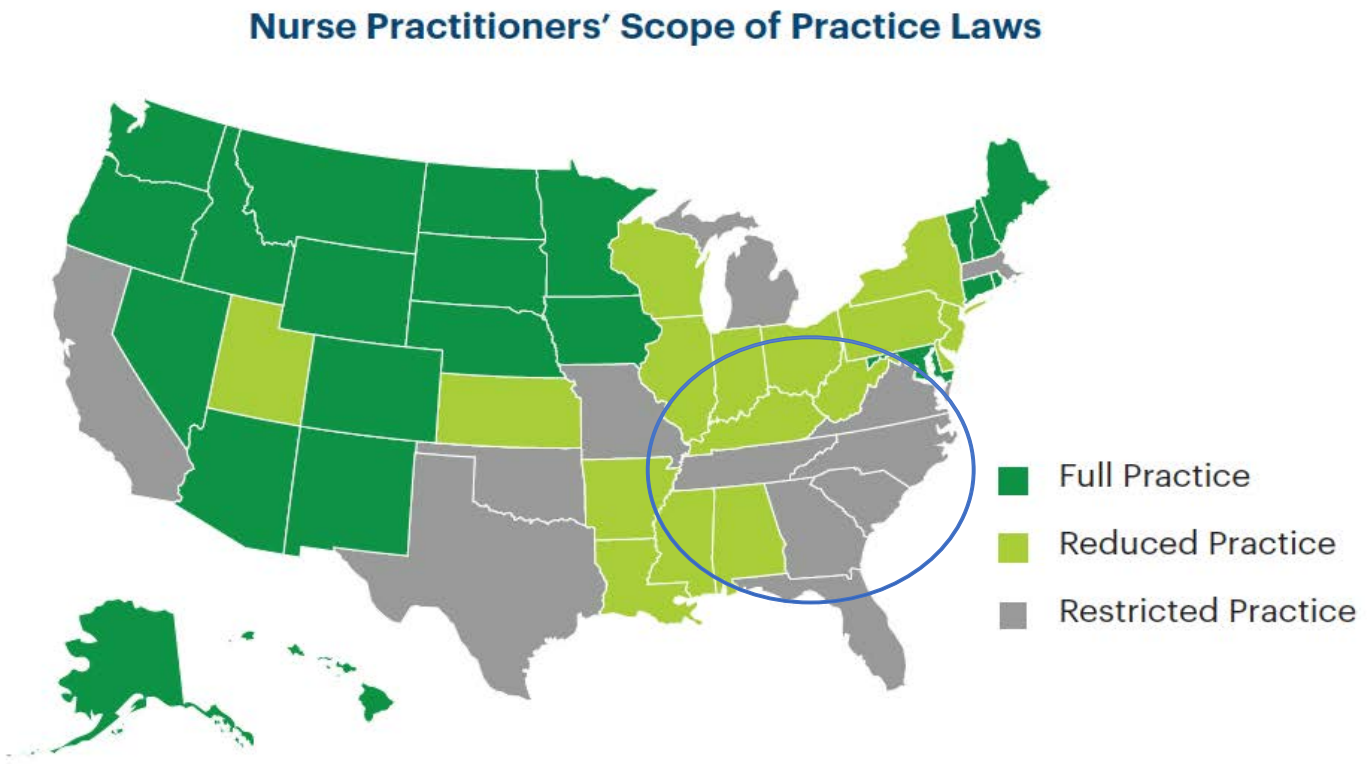
People living in restricted and reduced NP SoP states have significantly less geographic access to primary care

4th Challenge: Find more effective approaches to overcoming scope and other practice barriers



Graves, J., Mishra, P., Dittus, R., Parikh, R., Perloff, J., Buerhaus, P. Role of geography and nurse practitioner scope of practice In efforts to expand primary care system capacity. *Medical Care*. 54(1): 81-89. 2015.

NO MORE SoP MAPS LIKE THIS ONE BY WHEN?



Full practice – 23 states

Reduced practice – 16 states

Restricted practice – 12 states

https://www.unitedhealthgroup.com/content/dam/UHG/PDF/2018/UHG-Primary-Care-Report-2018.pdf?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosvitals&stream=top

We need fresh, innovative approaches to leverage the growth of NPs to create a more effective nursing workforce and to address societal needs for health care

Some of which has to do with removing barriers

- State scope of practice restrictions
- Restrictions imposed by organization and systems
- Payer restrictions

Develop new models and partnerships that use APRNs differently and more wisely

Leverage the pandemic

Sense of wanting to get rid of past ineffective practices and replace them with what we should have been doing all along

How many people were harmed when states lifted SoP on emergency basis?

5th Challenge: Narrow the gaps between growing societal demand for health care and inadequate numbers of APRNs in the specialties needed to address demand

Bottom line:

We don't have the numbers of APRNs (or RNs) trained in the right specialties providing care where they are needed most …

and this gap will grow if we don't make some tough decisions

See Chapter 3: Future of Nursing 2020-2030. Charting a Path to Achieve Health Equity

Cohen, C., Martsolf, G., K., Barnes, H., Buerhaus, P., Clarke, S. Donelan, Tubbs-Cooley, H, Top priorities for the next decade of nursing health services research. *Nursing Outlook*.December 29, 2020. :https://doi.org/10.1016/j.outlook.2020.12.004

Gaps in Demand and Current Nurse Workforce Supply

Demand

- Population aging (77m BB)
  - 13 medical visits per year per capita vs. 7.6 in 1980
- Mental and behavioral health (40-80M)
- Inadequate access to primary care (80m)
- High maternal mortality

Supply as of 2018*

- Gerontology Nurses: <1% of US RNs, 3% in long term care; 8.2 % of NPs in gerontology
- 4% RNs (91,759); 5.3% NPs (10,173)
- 160,000 family health, adult, pediatric NPs
- Slow growth of CNMs, others

*National Academy of Medicine. The Future of Nursing 2020-2030. Charting a Path to Achieve Health Equity. Chapter 3: The Nursing Workforce

Ultimately, closing the gap between growing demand and inadequate capacity of the nurse workforce is a question about what educators' value, achieving balance, and incentives

To produce the nurse workforce needed by society, we need more nurses at all levels educated in

- Primary care
- Geriatric care, especially for frail elders
- Behavioral and mental health care
- Maternal health care
- SDOH and health equity

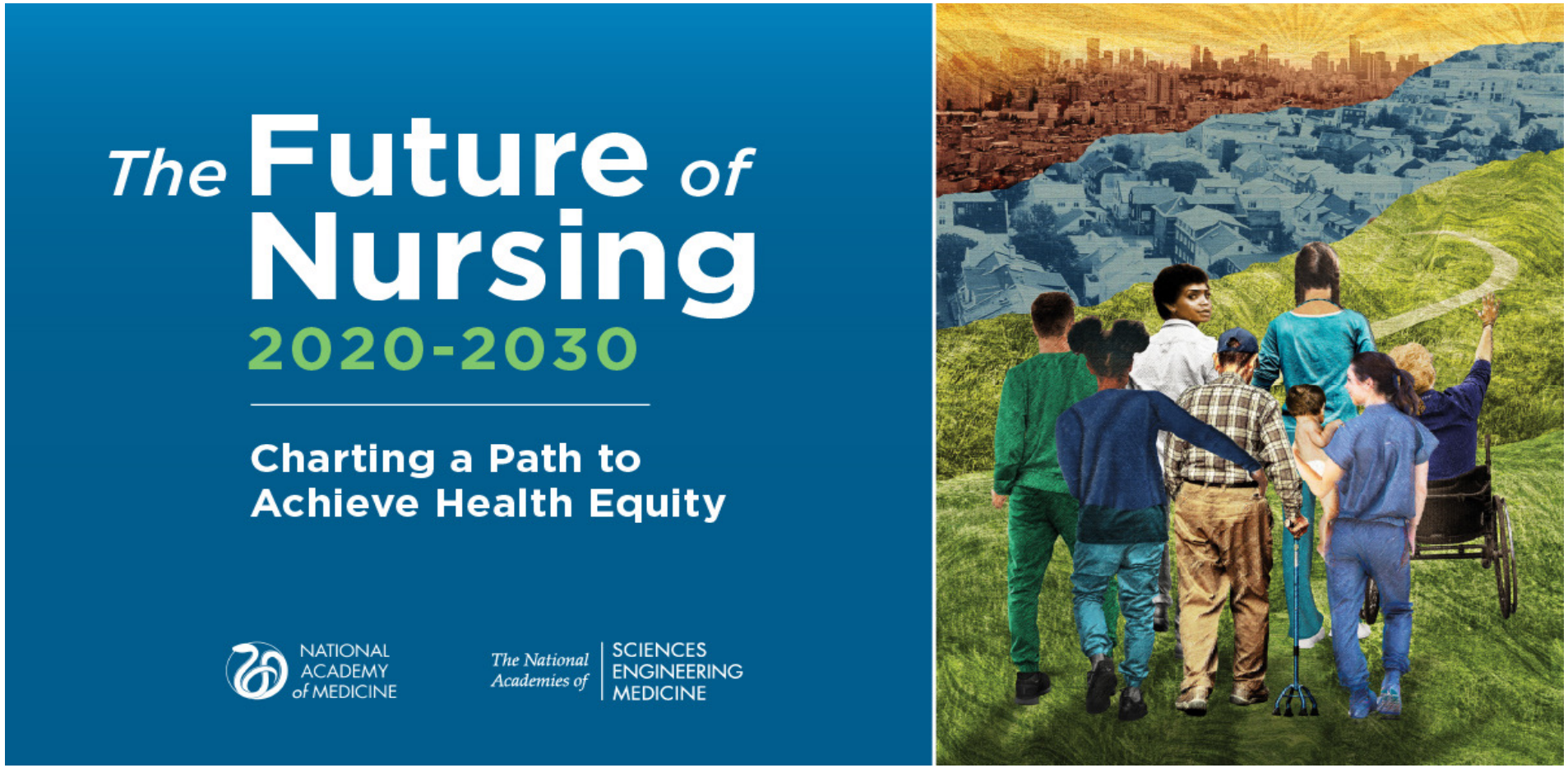
I believe we have reached the time to hold nursing education programs accountable

Beck, A., Spetz, J., Pittman, P., Frogner, B., Fraher, E., Moore, J., Armstrong, D., Buerhaus, P. (2021). Investing In A 21st Century Health Workforce: A Call For Accountability. Health Affairs 10.1377/HBLOG20210913.133585

Addressing the gaps in demand and nursing's capacity

Will likely be more effective if we integrate social determinants of health and health equity into our education, practice, research and policy approaches

The report provides many ideas and recommendations about how nurses can address SDOH and help achieve health equity



6th Challenge: Wisely use comparative advantage

Recognize:

1. Shift away from FFS toward value-based payment will increasingly affect settings where NPs work
   - Hospitals
   - Non-hospital settings
   - Private practice

2. Meaning more providers will face increasing incentives to produce higher value
   - Higher value = higher reimbursement (higher earnings)

3. Value = Outomes / Costs
   - *Primary care NPs have a comparative advantage over many physicians because they produce desired outcomes at lower cost treating similar pts*

4. Anything that increases costs or lowers outcomes will decrease NPs' value and their comparative advantage

While it can be a touchy subject, can't afford not to think through implications of value-based payment systems

Implications:

Recognize that insisting, in all cases, to be paid the same as physicians for the same work increases NP costs and reduces comparative advantage

Not saying NPs should not be paid the same as a physician

But important to understand the forces operating in your market and, *if needed*, accept lower payment >> so you can at least be employed

Later on, when your comparative advantage is recognized, and depending on economic circumstances, then you can seek adjustments in pay

Wrapping up

Don’t forget about all the substantial strengths blowing at APRNs’ backs… leverage them

Increase racial diversity, fill gaps in preparation, increase access to care for rural and other vulnerable populations

Develop effective approaches to overcoming barriers to practice

Narrow gaps between growing societal demand for health care and the inadequate numbers of APRNs in geriatrics, mental & behavioral, primary care, and women’s health

Wisely use comparative advantage in a value-based payment world

Thank you

What should we discuss?

List of References

4th Strength: Increasing evidence of NPs' systemic impact on expanding access, lowering costs, and providing high quality health care

1. Decrease in the number of payments made by physician for malpractice

   - McMichael, B., Safriet, B., Buerhaus, P. (2017). The extra-regulatory effect of nurse practitioner scope-of-practice laws on physician malpractice rates. *Medical Care Research and Review*. https://doi.org/10.1177/1077558716686889

2. Lower rate of increase in ED use in states with expanded authority following the Affordable Care Acts' Medicaid expansion

   - McMichael, B., Spetz, J., Buerhaus, P. The association of nurse practitioner scope of practice laws with emergency department use: Evidence from Medicaid expansion. Medical Care. 57(5):362-368, May 2019

3. Decrease cesarian rates

   - McMichael, Benjamin (2020) "Healthcare Licensing and Liability," Indiana Law Journal: Vol. 95 : Iss. 3 , Article 5.

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4. Increased access to care for rural and vulnerable populations, including dual eligibles

- Xu, W., Retchin, S., Buerhaus, P. (2001). Dual-eligible beneficiaries and inadequate access to primary care providers. *American Journal of Managed Care*. 2021;27(5)

- DesRoches, CM, 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* (2017), doi:10.1016/j.outlook.2017.06.007.

- DesRoches, C, Gaudet, J, Perloff, J, Donelan, K., Iezonni, L. Buerhaus, P. (2013). Using Medicare Data to Assess Nurse Practitioner Provided Care. *Nursing Outlook*. 61(6):400-407.

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- Barnes, H, Richards, M, McHugh, M., & Martsolf, G. Rural and Nonrural Primary Care Physician Practices Increasingly Rely on Nurse Practitioners, *Health Affairs* 37, no. 6 (June 2018): 908–14, https://www.ncbi.nlm.nih.gov/pubmed/29863933.

- Ying, X, Smith, J, & Spetz, J. Primary Care Nurse Practitioners and Physicians in Low-Income and Rural Areas, 2010-2016. The *Journal of the American Medical Association* January 1/8, 2019 Volume 321, Number 1, pp 102-105

- Xu, W., Retchin, S., Buerhaus, P. (2001). Dual-eligible beneficiaries and inadequate access to primary care providers. *American Journal of Managed Care*. 2021;27(5)

- DesRoches, CM, 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* (2017), doi:10.1016/j.outlook.2017.06.007.

- DesRoches, C, Gaudet, J, Perloff, J, Donelan, K., Iezonni, L. Buerhaus, P. (2013). Using Medicare Data to Assess Nurse Practitioner Provided Care. *Nursing Outlook*. 61(6):400-407.

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Razavi, M., O'Reilly-Jacob, M., Perloff, J., Buerhaus, P. 2020. Drivers of cost differences between nurse practitioner and physician-attributed Medicare beneficiaries. *Medical Care* Feb 2021 59(2):177-184.

6. Improvement in mental health, mental health related mortality, including suicide

- Alexander, D. & Schnell, M. Just what the nurse practitioner ordered: Independent prescriptive authority and population mental health. Revised January 9, 2019. WP2017-08 Federal Reserved Bank of Chicago