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The Primary Care Workforce Paradox: Physician shortages in the context of a PA and NP surplus

Ryan D. White, MS, MPH, PA-C, Rutgers University
Rick Dehn, MPA, PA-C, DFAAPA, Northern Arizona University

Disclosures

- No relevant commercial relationships to disclose.

Learning objectives

At the conclusion of this session, participants should be able to:

1. Describe the policy implications of primary care workforce projection models.

2. Summarize PA and Nurse Practitioner clinical productivity relative to physicians in Federally Qualified Health Centers (FQHCs).

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Primary care workforce projections

Health Resources and Services Administration (HRSA)

- By 2025 there will be a shortage of over **23,000** primary care physicians[1]

Association of American Medical Colleges (AAMC)

- By 2033 there will be a shortage of **21,400 to 55,200** primary care physicians[2]

1. U.S. Health Resources and Services Administration. National and regional projections of supply and demand for primary care practitioners: 2013-2025. November 2016.
2. Association of American Medical Colleges. The Complexities of Physician Supply and Demand: Projections from 2018-2033. June 2020.

PAs in primary care

- 25-43% of PAs deliver primary care (26,000-30,000 PAs)[1,2]
- In 2019, 23.1% of newly-certified PAs accepted a primary care position[1]
  - decreased from 28% in 2013
- 12.9% of newly-certified PAs accepted position in a rural area[1]

1. National Commission on Certification of Physician Assistants, Inc. (2020, October). 2019
2. Agency for Healthcare Research and Quality. The Number of Nurse Practitioners and Physician Assistants Practicing Primary Care in the United States. Accessed on 3/3/21 at https://www.ahrq.gov/research/findings/factsheets/primary/pcwork2/index.html.

PAs and NPs in primary care

- 50-69% of NPs deliver primary care services[1,2]
- Primary care PAs and NPs provide a similar set of services as primary care physicians[3,4]
- "[M]ore effective incorporation of NP and PA services in care delivery could mitigate regional disparities and improve access to primary care services."[5]

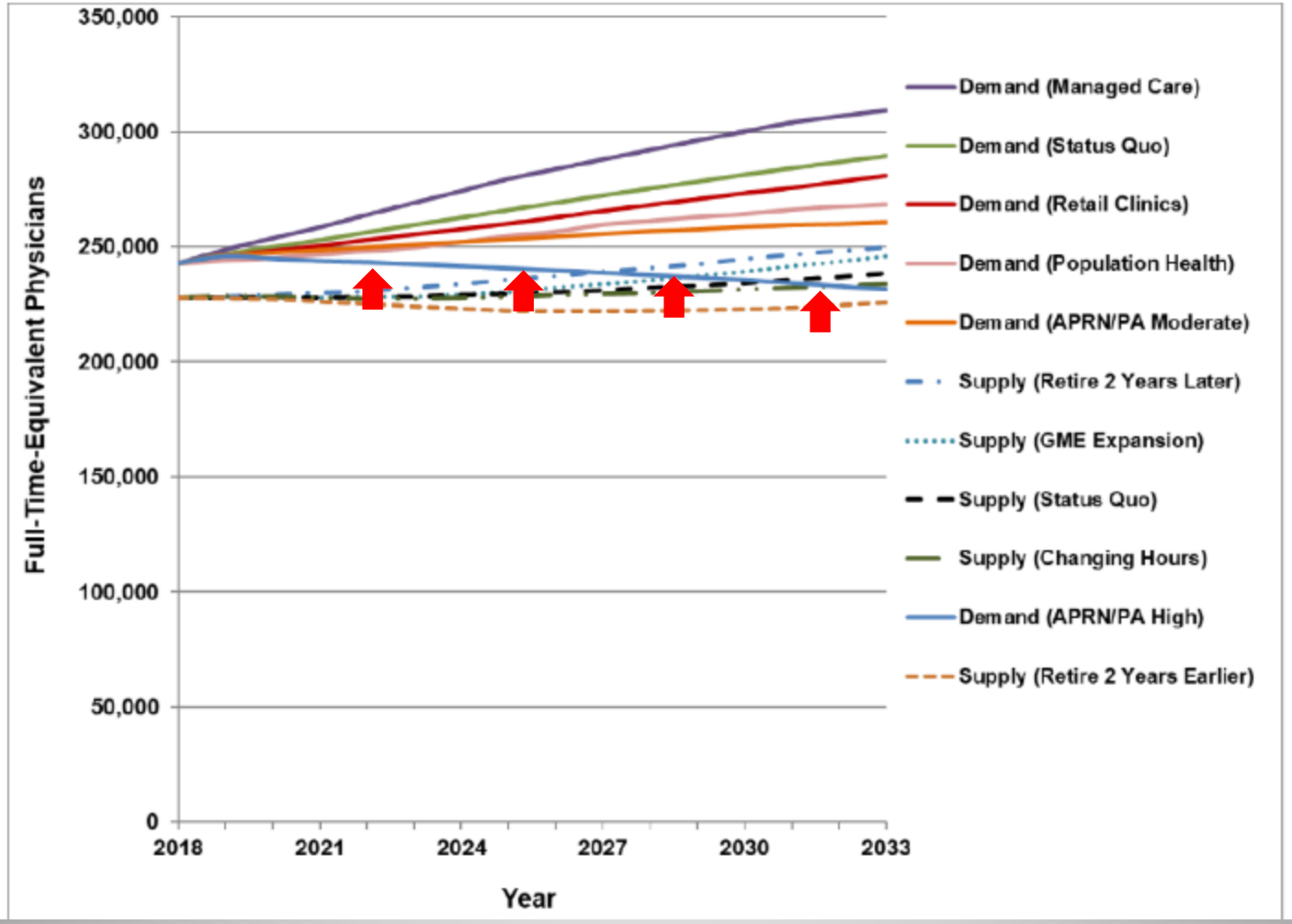
1. American Association of Nurse Practitioners. NP Fact Sheet. Accessed on 2/19/21 at https://www.aanp.org/about/all-about-nps/np-fact-sheet, updated August 2020.
2. Agency for Healthcare Research and Quality. The Number of Nurse Practitioners and Physician Assistants Practicing Primary Care in the United States. Accessed on 3/3/21 at https://www.ahrq.gov/research/findings/factsheets/primary/pcwork2/index.html.
3. Everett CM, Thorpe CT, Palta M, Carayon P, Gilchrist VJ, Smith MA. Division of Primary Care Services Between Physicians, Physician Assistants, and Nurse Practitioners for Older Patients With Diabetes. Medical Care Research and Review. 2013;70(5):531-541.
4. Morgan P, Everett C, Hing E. Nurse practitioners, physician assistants, and physicians in community health centers, 2006-2010. Healthc (Amst). 2015;3(2):102-107.
5. U.S. Health Resources and Services Administration. National and regional projections of supply and demand for primary care practitioners: 2013-2025. November 2016.

AAMC physician demand modeling

- The ratio of primary care physicians to PAs and NPs is currently 2.2:1
  - Projected to decrease to 1.1:1 by 2033[1]
- "**Moderate Use Scenario**"
  - Each new PA/NP reduces demand for a new physician by 25%
- "**High Use Scenario**"
  - Each new PA/NP reduces demand for a new physician by 50%

1. Association of American Medical Colleges. The Complexities of Physician Supply and Demand: Projections from 2018-2033. June 2020.

Exhibit 3: Projected Supply and Demand for Primary Care Physicians, 2018-2033



Association of American Medical Colleges. The Complexities of Physician Supply and Demand: Projections from 2018-2033. June 2020.

AAMC demand modeling

- Assuming each new PA/NP reduces the demand for a new physician by 75%, "*the demand for primary care physicians in 2033, 202,700, would drop below the projected 2033 supply, 238,400*"[1]

1. Association of American Medical Colleges. The Complexities of Physician Supply and Demand: Projections from 2018-2033. June 2020.

Primary care productivity

- Diverting 20% of physician work to PAs and NPs, paired with pooled physician teams, could eliminate projected physician shortages.[1]
- In physician-owned practices, PAs account for more annual patient encounters than physicians and NPs.[2]
- In Federally Qualified Health Centers (FQHCs) with high PA/NP staffing ratios, these providers account for nearly the same number of annual encounters as physicians.[3]

1. Green LV, Savin S, Lu Y. Primary care physician shortages could be eliminated through use of teams, nonphysicians, and electronic communication. Health affairs (Project Hope). 2013;32(1):11-19.
2. Essary AC, Green EP, Gans DN. Compensation and Production in Family Medicine by Practice Ownership. Health Serv Res Manag Epidemiol. 2016;3:2333392815624111.
3. Ku L, Frogner BK, Steinmetz E, Pittman P. Community Health Centers Employ Diverse Staffing Patterns, Which Can Provide Productivity Lessons For Medical Practices. Health Affairs. 2015;34(1):95-103.

HRSA physician demand modeling

- The greatest unmet demand for primary care physicians is anticipated to occur in the South, while this region is also projected to have the most significant *oversupply* of primary care PAs and NPs.[1]

- HRSA relies on the Medical Expenditure Panel Survey (MEPS) and staffing ratios to estimate demand for PAs and NPs.[2]

1. U.S. Health Resources and Services Administration. National and regional projections of supply and demand for primary care practitioners: 2013-2025. November 2016.
2. U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. Technical Documentation for HRSA's Health Workforce Simulation Model. Rockville, Maryland: U.S. Department of Health and Human Services, 2019.

PA and NP surplus

- The rapid growth of the PA and NP professions has led to concerns of future surpluses.[1]

- "Under current workforce utilization and care delivery patterns, the projected 2025 supply of primary care PAs is expected to exceed their demand."[2]

1. Salsberg E, Quigley L. Are we facing a physician assistant surplus? Jaapa. 2016;29(11):40-44.
2. U.S. Health Resources and Services Administration. National and regional projections of supply and demand for primary care practitioners: 2013-2025. November 2016

The Paradox

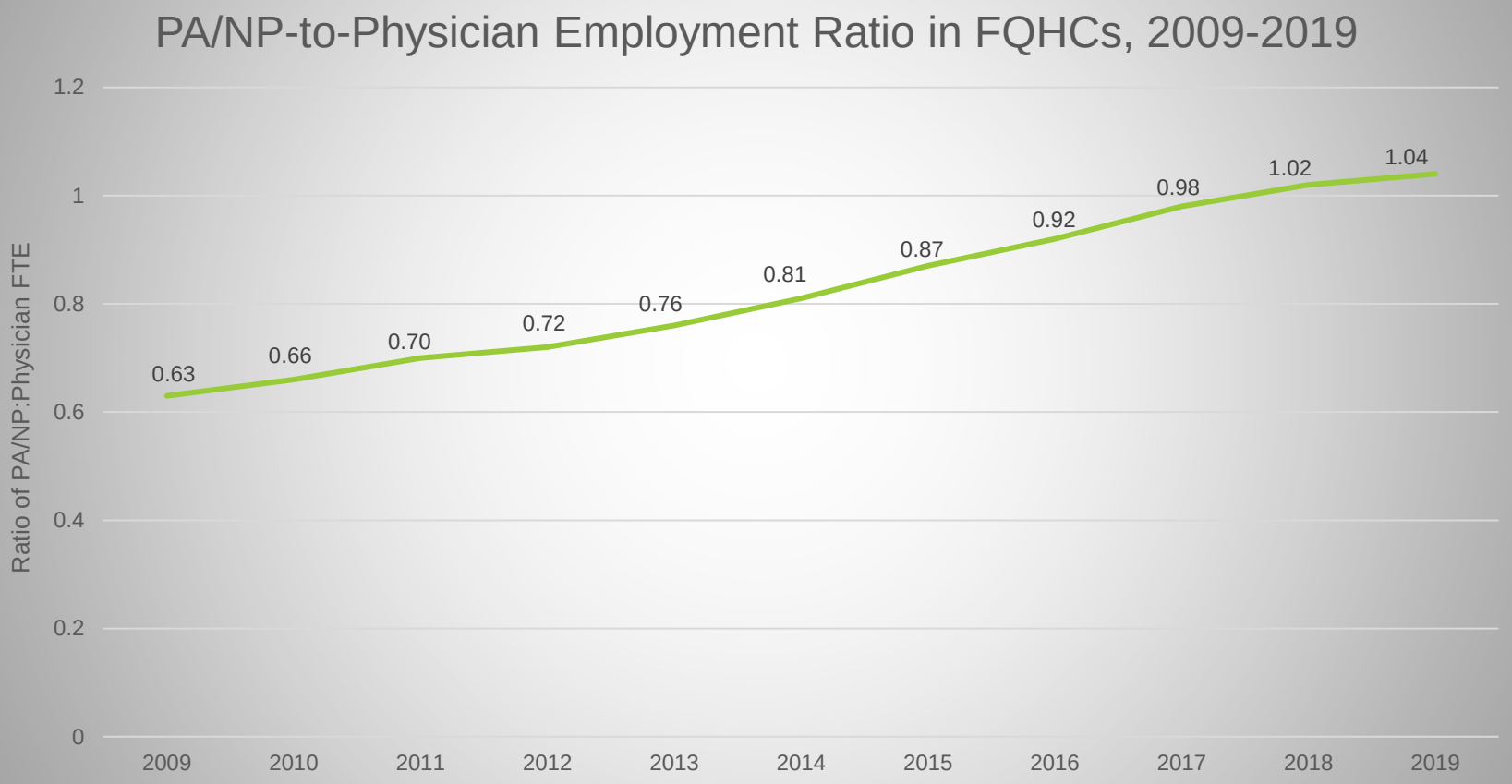
- Simultaneous primary care physician shortages and PA and NP surpluses are paradoxical.
- HRSA and the AAMC likely underestimate primary care PA and NP productivity.
- Future primary care physician shortages are likely overestimated.

FQHC workforce

- There are 1,400 FQHCs across the U.S., serving more than 29 million patients.[1,2]

- FQHCs employ 14,082 Full-Time Equivalent (FTE) physicians, and a combined 14,590 FTE PAs, NPs, and certified nurse midwives.[3]

1. U.S. Health Resources and Services Administration, Health Center Program. 2019 Health Center Data. Accessed on August 17, 2020 at https://bphc.hrsa.gov/uds/datacenter.aspx?q=tall&year=2018&state=.
2. U.S. Health Resources and Services Administration HCP. National Health Center Data. https://data.hrsa.gov/tools/data-reporting/program-data/national. Published 2019. Accessed August 17, 2020.
3. National Association of Community Health Centers. Community Health Center Chartbook 2020. 2020.



Data source: National Association of Community Health Centers. Community Health Center Chartbook 2020. 2020.

Data Source

Uniform Data System (UDS)

- FQHCs report annual performance measures to the UDS
- 81,181,215 medical encounters reported in 2019[1]
- Captures aggregate clinic visits and FTE by provider type

1. U.S. Health Resources and Services Administration. National Health Center Data. Retrieved from https://data.hrsa.gov/tools/data-reporting/program-data/national on March 10, 2021.

FQHC provider productivity

- Visits per FTE
  - Aggregate annual visits to PAs, NPs, and physicians were divided by the total FTE for each respective provider type

- Productivity ratios
  - PA and NP visits per FTE were divided by the physician visits per FTE
  - Physician category includes family physicians, general practitioners, internists, and pediatricians
  - Certified Nurse Midwives, obstetrician/gynecologists, and “other specialty physicians” were excluded

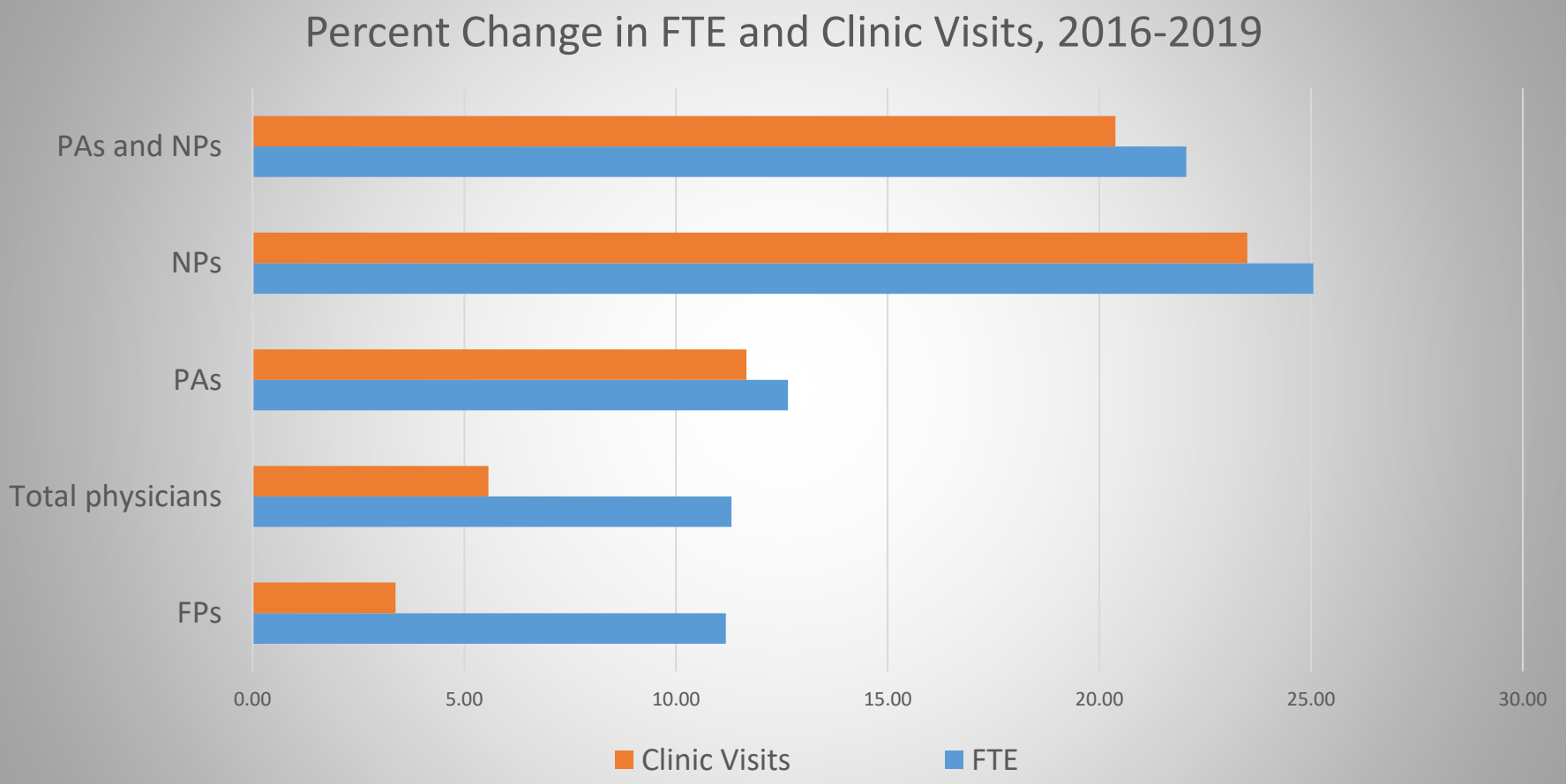
		FTE	Clinic Visits	Visits/FTE	Provider to FP Ratio	Provider to Total Physicians Ratio
2016	FPs	5,721.43	17,618,401	3,079.37		
	Total physicians	10,749.46	33,439,834	3,110.84		
	PAs	2,924.92	8,322,036	2,845.22	0.92	0.91
	NPs	7,878.98	20,170,946	2,560.10	0.83	0.82
	Combined PA/NP	10,803.90	28,492,982	2,637.29	0.86	0.85

		FTE	Clinic Visits	Visits/FTE	Provider to FP Ratio	Provider to Total Physicians Ratio
2017	FPs	5,933.44	17,549,536	2,957.73		
	Total physicians	11,172.71	33,741,457	3,019.99		
	PAs	3,076.92	8,677,475	2,820.18	0.95	0.93
	NPs	8,851.71	22,365,601	2,526.70	0.85	0.84
	Combined PA/NP	11,928.63	31,043,076	2,602.40	0.88	0.86

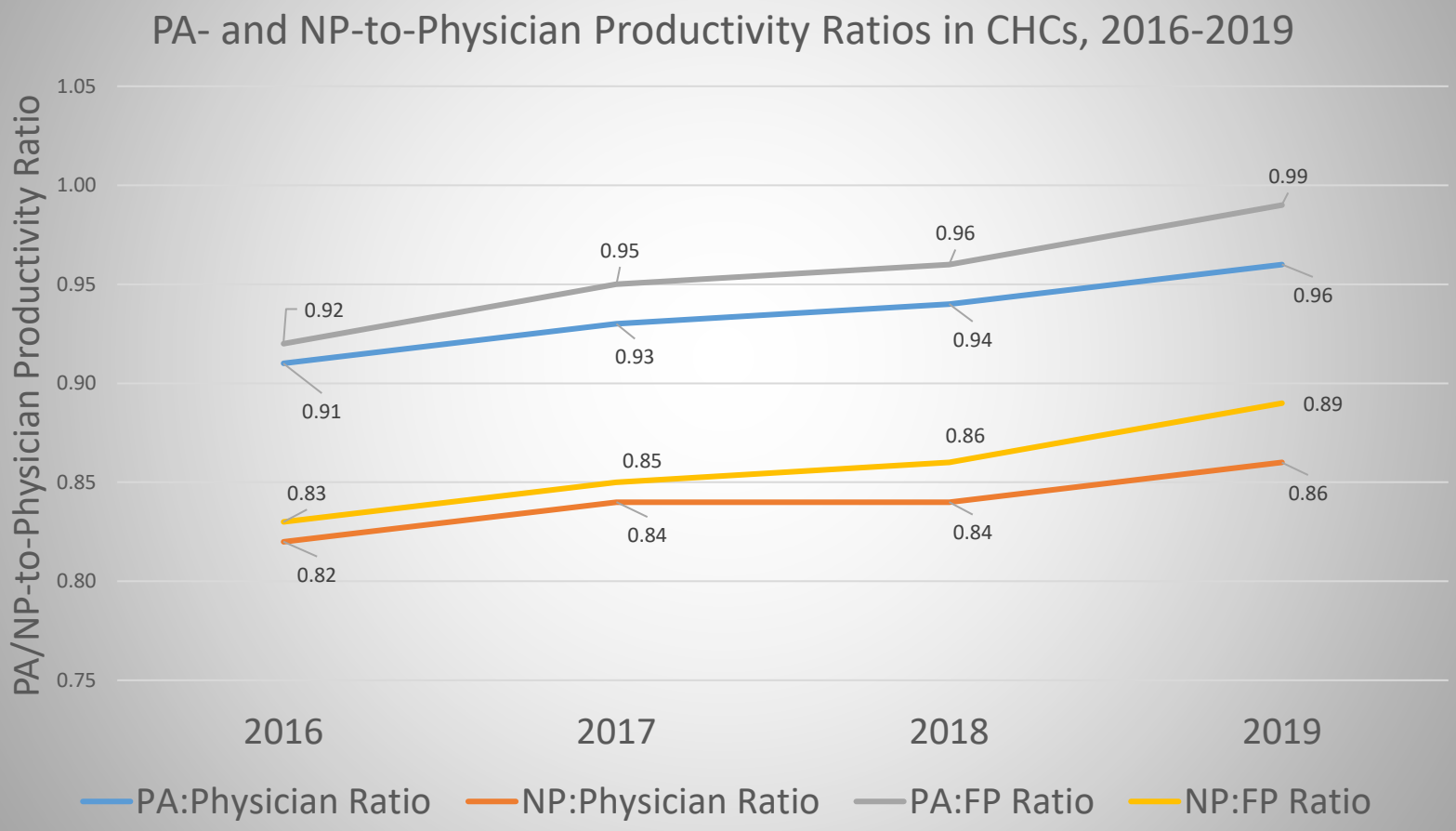
		FTE	Clinic Visits	Visits/FTE	Provider to FP Ratio	Provider to Total Physicians Ratio
2018	FPs	6,117.26	17,742,535	2,900.41		
	Total physicians	11,574.79	34,191,477	2,953.96		
	PAs	3,227.05	9,006,061	2,790.80	0.96	0.94
	NPs	9,657.64	24,183,141	2,504.04	0.86	0.84
	Combined PA/NP	12,884.69	33,189,202	2,575.86	0.89	0.86

		FTE	Clinic Visits	Visits/FTE	Provider to FP Ratio	Provider to Total Physicians Ratio
2019	FPs	6,441.49	18,233,695	2,830.66		
	Total physicians	12,120.82	35,412,947	2,921.66		
	PAs	3,348.28	9,420,638	2,813.58	0.99	0.96
	NPs	10,512.54	26,364,33	2,507.89	0.89	0.86
	Combined PA/NP	13,860.52	35,784,974	2,581.79	0.91	0.88

Data source: U.S. Health Resources and Services Administration. National Health Center Data.



U.S. Health Resources and Services Administration. National Health Center Data. Retrieved from https://data.hrsa.gov/tools/data-reporting/program-data/national on March 10, 2021.



U.S. Health Resources and Services Administration. National Health Center Data. Retrieved from https://data.hrsa.gov/tools/data-reporting/program-data/national on March 10, 2021.

Key findings

- PA and NP productivity increased relative to FPs and all physicians in each year.
  - The combined PA/NP-to-physician productivity ratio increased from **0.85** in 2016 to **0.88** in 2019.
- The PA-to-all physician productivity ratio increased from **0.91** in 2016 to **0.96** in 2019.
- The PA-to-family physician productivity in 2019 was **0.99**.

Discussion / implications

- Commonly-used primary care workforce demand models underestimate PA and NP contributions to primary care.
  - Projected primary care physician shortages are likely overestimated.

- Workforce projections should consider accurate PA and NP productivity metrics.
  - Team-based productivity measures should be developed and incorporated.

Discussion / implications

- Regional and sub-regional workforce estimates may be more helpful than national estimates.

- Cultural, language, and other access barriers also influence provider supply and demand.

Discussion / implications

- It is counterintuitive to simultaneously recognize a primary care physician shortage and a PA and NP surplus.
- Future strategies to grow the primary care workforce would benefit from focusing on PAs and NPs.
- Policies aimed at increasing access to primary care services should target areas of greatest need.

Discussion / implications

- Additional research is needed to develop accurate estimates of PA and NP productivity in primary care.
- Researchers would benefit from access to patient- and practice-level data.
  - Existing datasets present challenges for workforce productivity studies.

Limitations

- Aggregate data
  - Provider-, practice-, and patient-level variables were not available for this analysis.
  - Case-mix and patient complexity not included.
  - PAs, NPs, and physicians may provide services in FQHCs not captured in the UDS.
- Could not determine the extent of provider involvement in each encounter.

Limitations

- Patient outcomes not measured.
- FQHCs may not be representative of the broader primary care landscape.
  - Patients in FQHCs tend to have more chronic conditions with fewer social and economic resources than those who seek care in private practices.

QUESTIONS