HOME-BASED PRIMARY CARE BY NURSE PRACTITIONERS: EMERGING REGULATORY ISSUES

Monica O'Reilly-Jacob, PhD, FNP-BC, FAAN
Assistant Professor
Columbia University School of Nursing

Alex Hoyt, PhD, RN
Associate Professor
Massachusetts General Hospital, Institute of Health Professions

COLUMBIA | COLUMBIA UNIVERSITY SCHOOL OF NURSING
MGH INSTITUTE OF HEALTH PROFESSIONS
Brandeis | THE HELLER SCHOOL FOR SOCIAL POLICY AND MANAGEMENT

Disclosures

No disclosures to report.

Funding

NCSBN Center for Regulatory Excellence Grant

"Emerging Regulatory Issues in Home-based Care Provided or Led by Nurse Practitioners"

Jennifer Perloff, PhD

The Heller School, Brandeis University

Acknowledgement of Co-Authors

- Jen Perloff, PhD
  - Heller School of Social Policy & Management, Brandeis University
  - Institute for Accountable Care
- Meera Srinivasan, MS
  - Institute for Accountable Care
- Michelle Alvarez, MSN, BSN, RN
  - Boston College, Connell School of Nursing

Growth of Home-based Primary Care

National HBPC visits billed to Medicare increased 42% in 2012-2019 (Liu, 2022)

Modest & steady growth of home-based care workforce driven primarily by NPs (Yao, 2021)

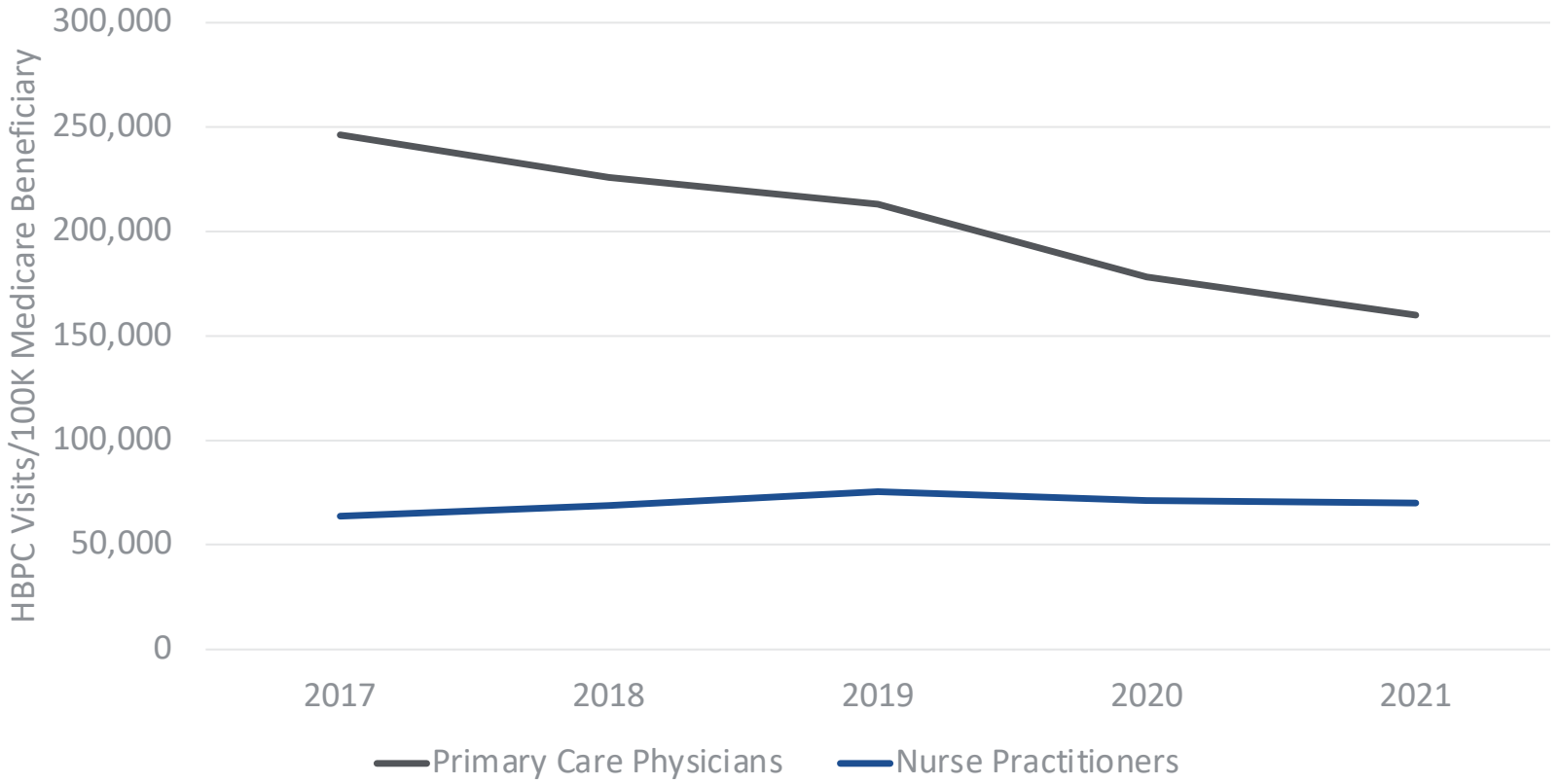
Contributing factors:

- Aging population
- Uptake in assisted living facilities
- Expansion of the HBPC provider workforce

- Liu B, Ritchie CS, Ankuda CK, et al. Growth of Fee-for-Service Medicare Home-Based Medical Care Within Private Residences and Domiciliary Care Settings in the U.S., 2012–2019. J Am Med Dir Assoc. 2022;23(10):1614-1620.e10. doi:10.1016/j.jamda.2022.06.014
- Yao N, Mutter JB, Berry JD, Yamanaka T, Mohess DT, Cornwell T. In Traditional Medicare, Modest Growth In The Home Care Workforce Largely Driven By Nurse Practitioners. Health Aff (Millwood). 2021 Mar;40(3):478-486. doi: 10.1377/hlthaff.2020.00671. PMID: 33646879.

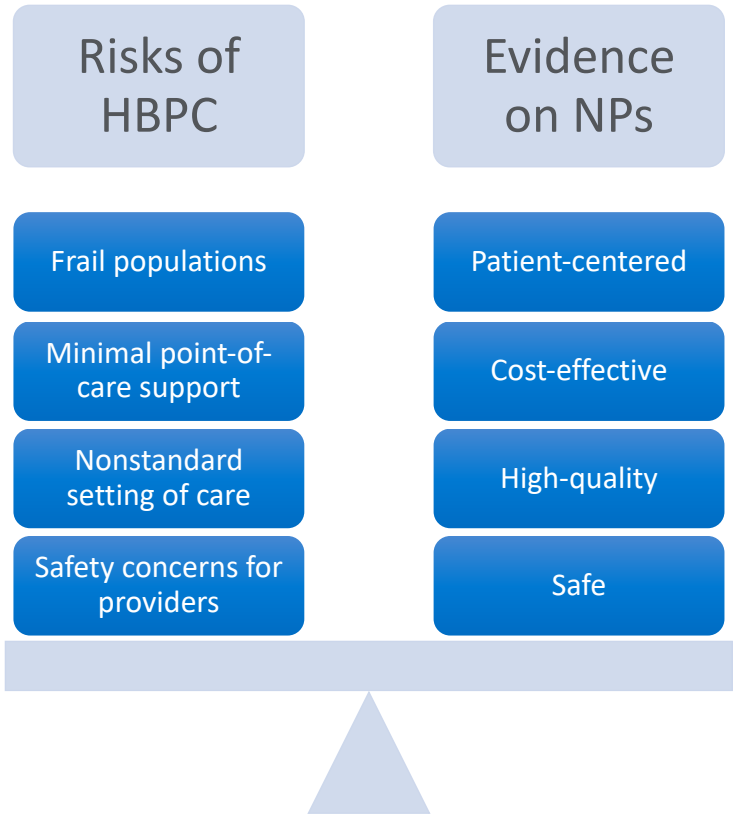
NPs' Growth in Home-based Primary Care

NP's HBPC visits/100K Medicare beneficiary increased 10% whereas PCMD's visits decreased 35%



Implications for Regulators

- Do state NP scope of polices restrict access to high-quality HBPC?
- Does NP curriculum need to integrate more HBPC content?
- Does NP HBPC need to be more regulated to ensure safety?



Methods: Research Questions

Q1: Do state scope of practice polices affect the volume of HBPC provided by NPs?

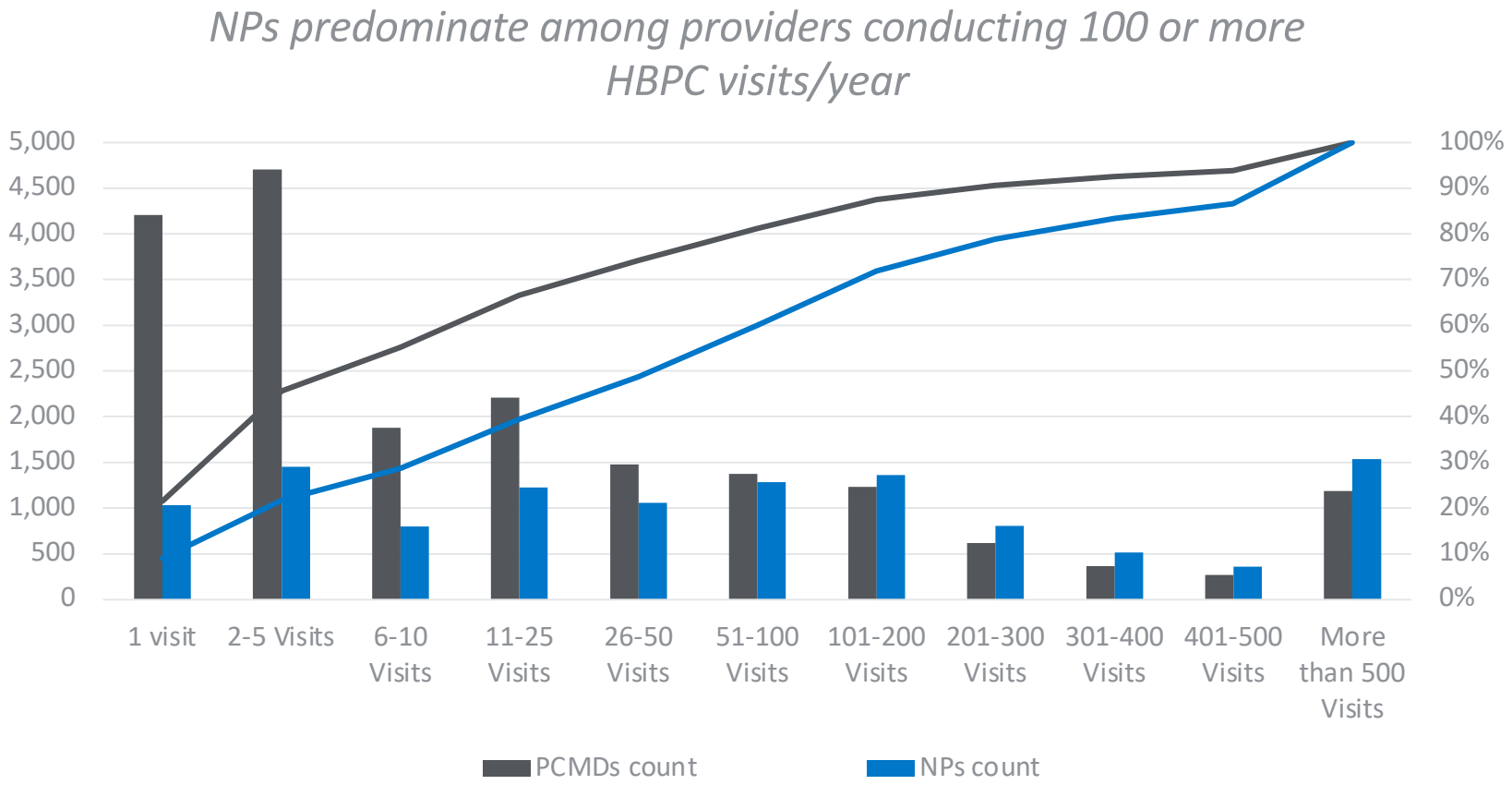
Q2: Are there differences in the quality of HBPC provided by NPs and MDs?

Q3: Do state scope of practice polices affect the quality of HBPC provided by NPs?

Methods: Data Analysis

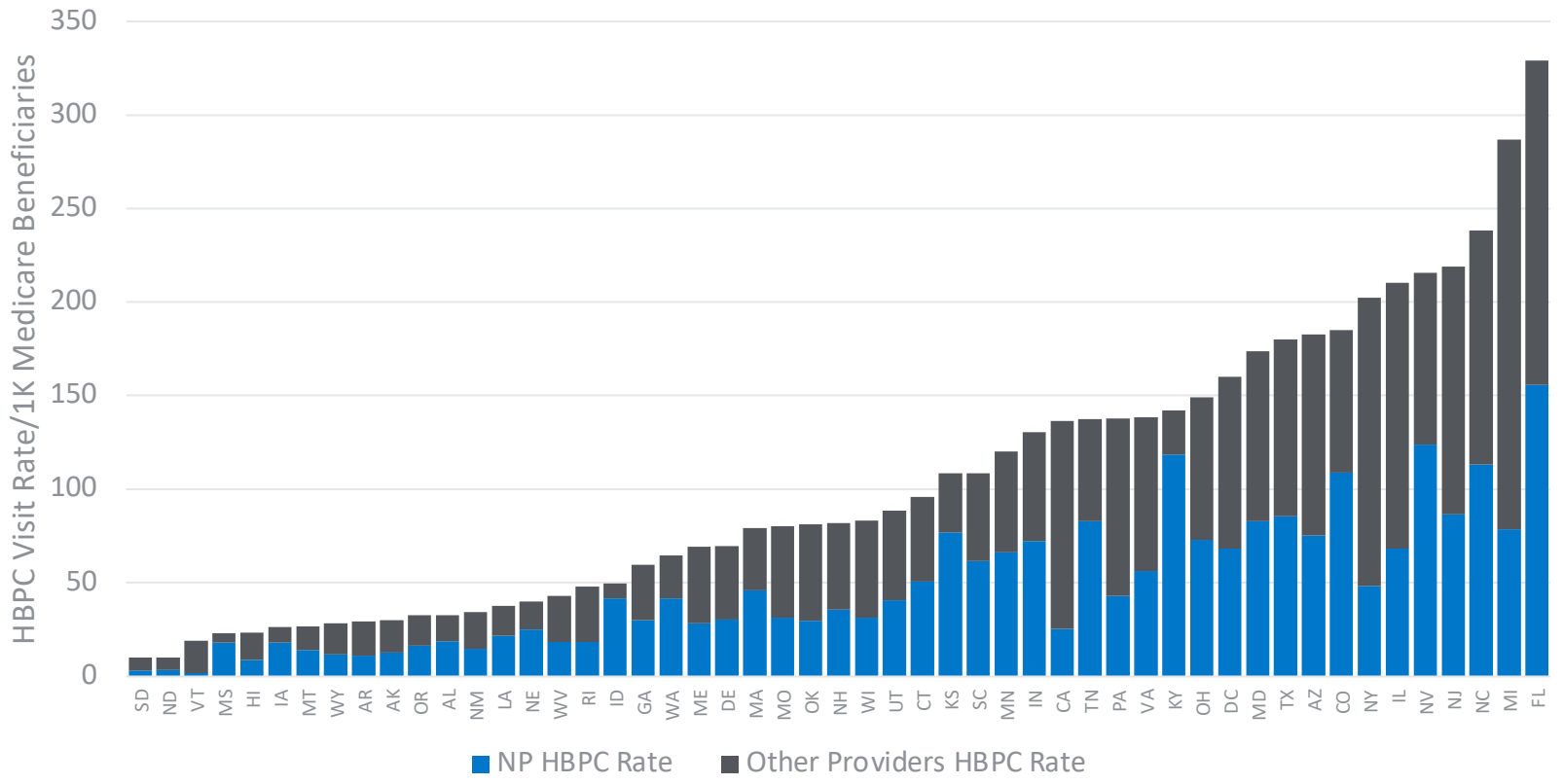
- 100% of 2018 Medicare claims from all 50 states for 24 million beneficiaries
- Q1: Negative binomial regressions to test effect of SOP on utilization
  - NP HBPC visits / total HBPC visits
  - NPs billing ≥1 HBPC services / all NPs in the state
  - NPs billing ≥10 HBPC services / all clinicians billing ≥10 HBPC services
- Q2: Logistic regression to test effect of provider type on quality
  - Preventive care (e.g. flu shot)
  - Acute care utilization (e.g. all ED and avoidable ED visits).
  - End of life care (e.g. hospice in last 3 days of life)
- Q3: Multilevel modeling to test effect of SOP on quality
  - Visits nested in providers nested in states
  - Variance Partition Analysis
  - Random coefficient of SOP on provider

Q1 Results: Count of provider's HBPC visits by provider type

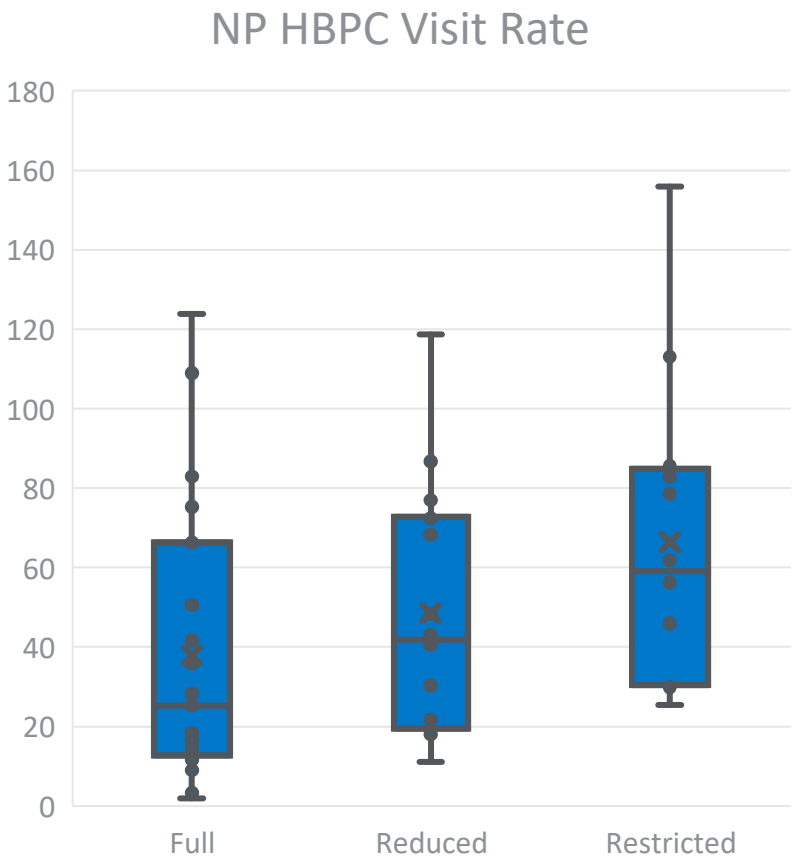


Q1 Results: Rates of HBPC Visits by State

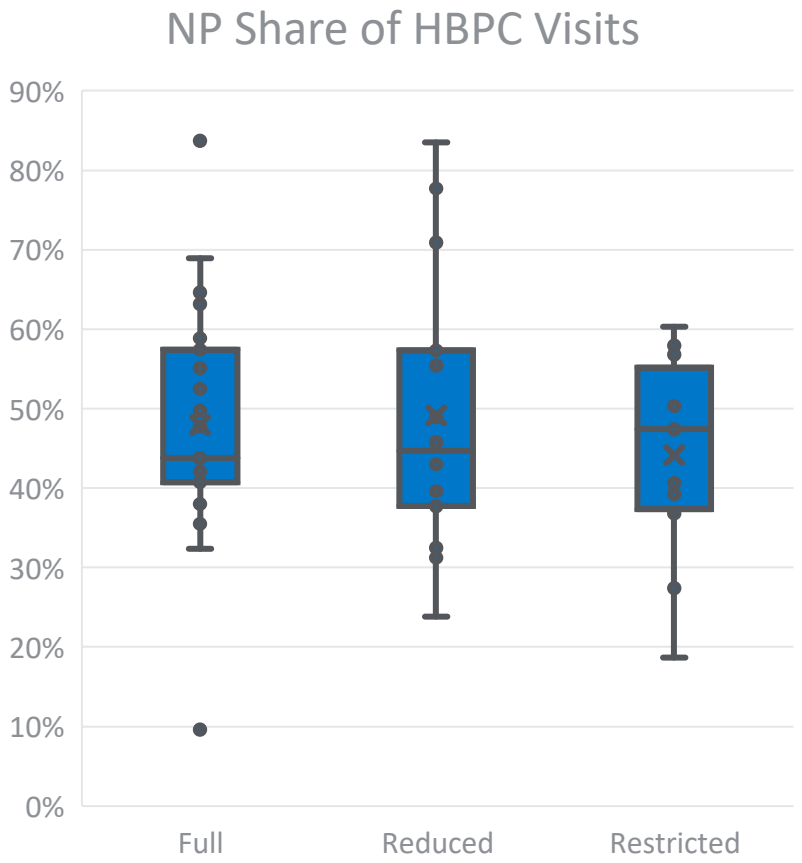
The NP HBPC visit rate varies by nearly 2 orders of magnitude and the NP HBPC share varies nine-fold



Q1 Results: NP HBPC visit rate and share by Scope of Practice

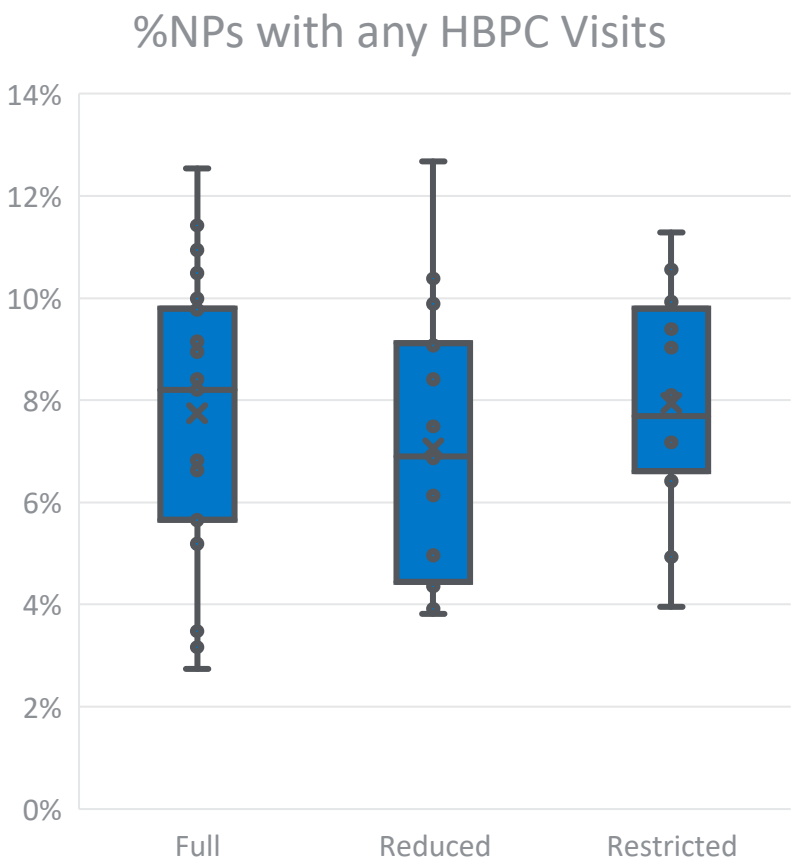


p= 0.0797

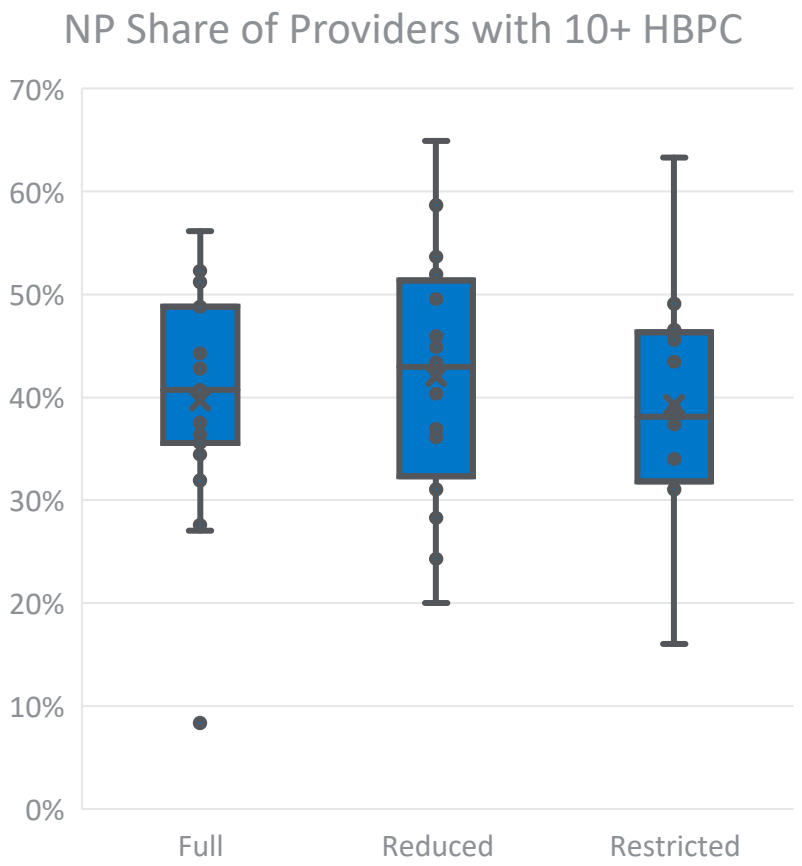


p=0.9811

Q1 Results: NP HBPC participation and engagement by Scope of Practice



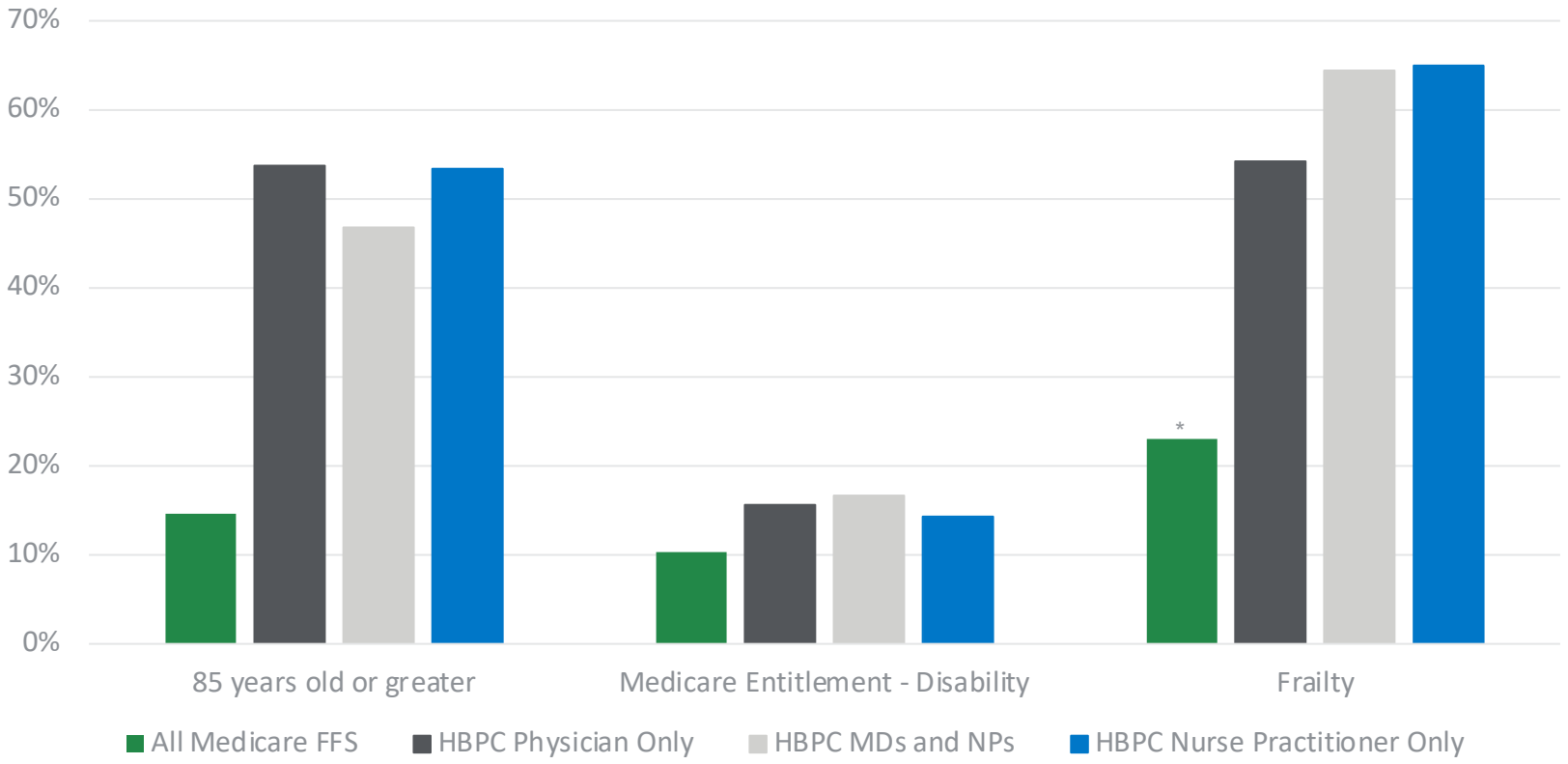
p= 0.9957



p=0.9915

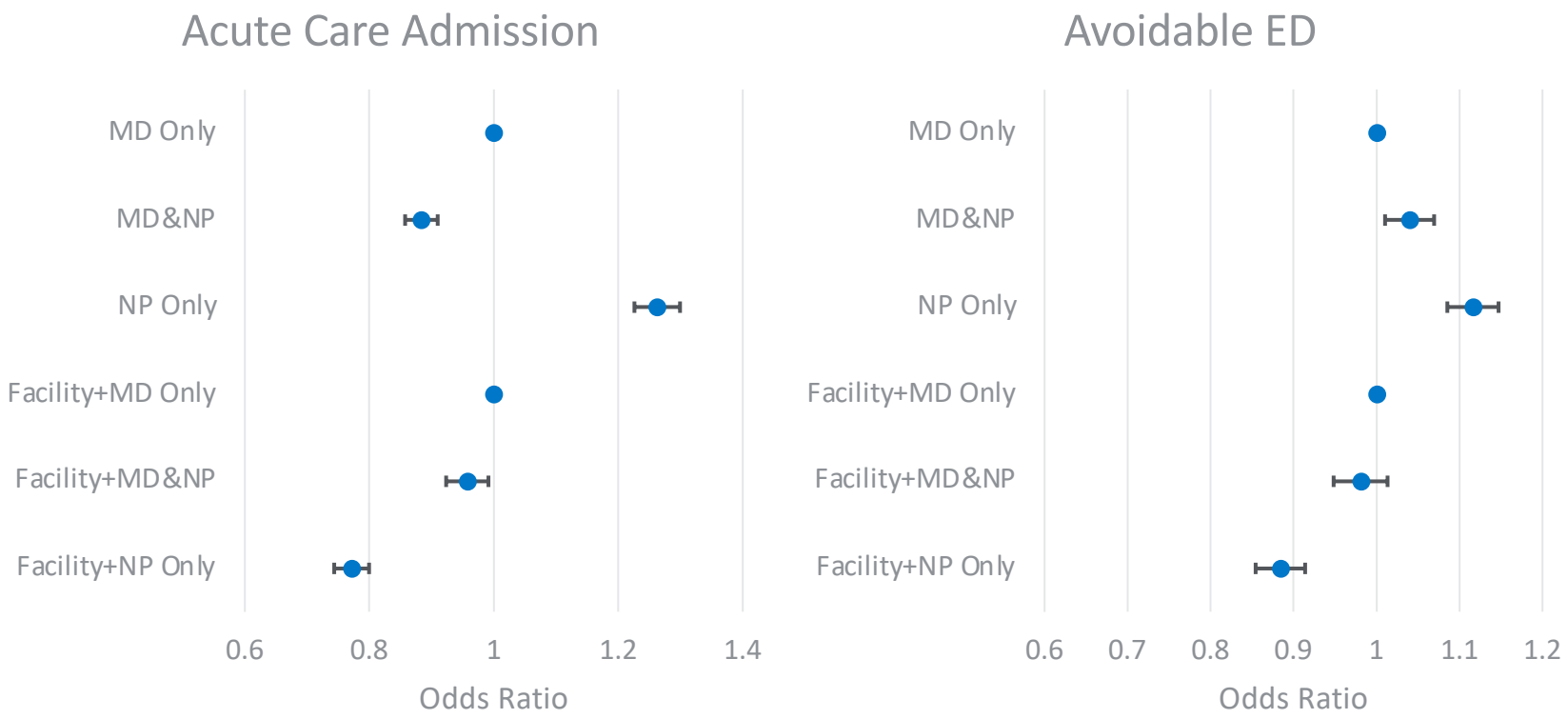
Q2 Results: Beneficiary Characteristics

Medicare beneficiaries receiving HBPC are older and less advantaged



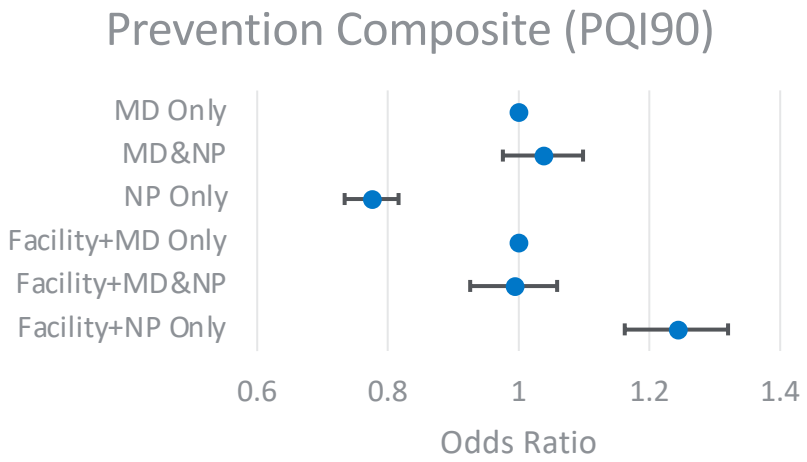
* O'Caoimh, R., Sezgin, D., O'Donovan, M. R., Molloy, D. W., Clegg, A., Rockwood, K., & Liew, A. (2021). Prevalence of frailty in 62 countries across the world: a systematic review and meta-analysis of population-level studies. *Age and ageing*, *50*(1), 96-104.

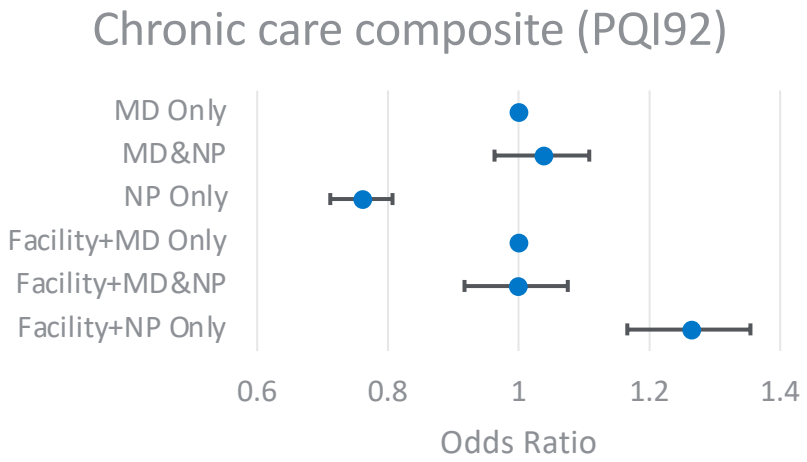
Q2 Results: Utilization by provider type

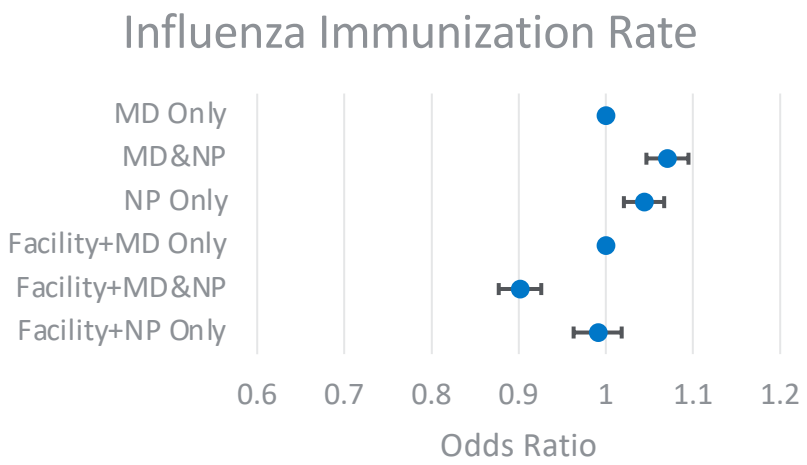


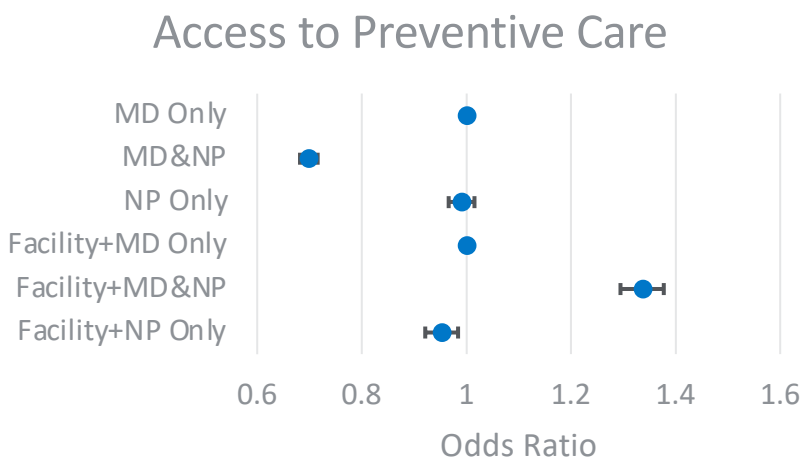
Models control for race, sex, frailty, state, rurality, ACO membership, and comorbidities

Q2 Results: Quality and Prevention by provider type



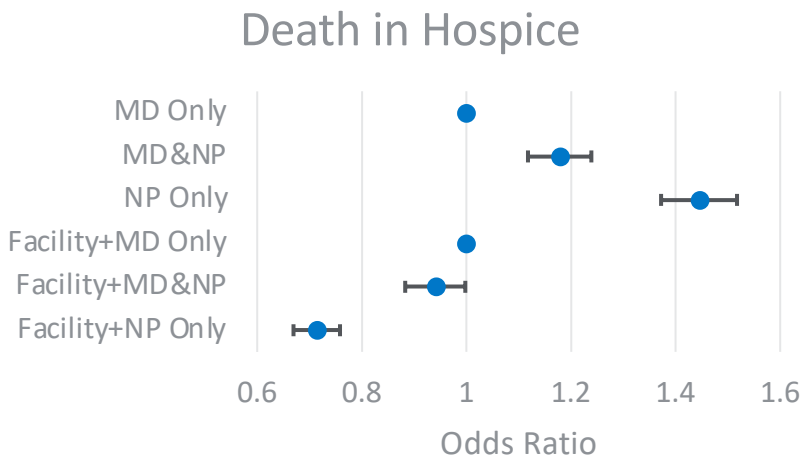


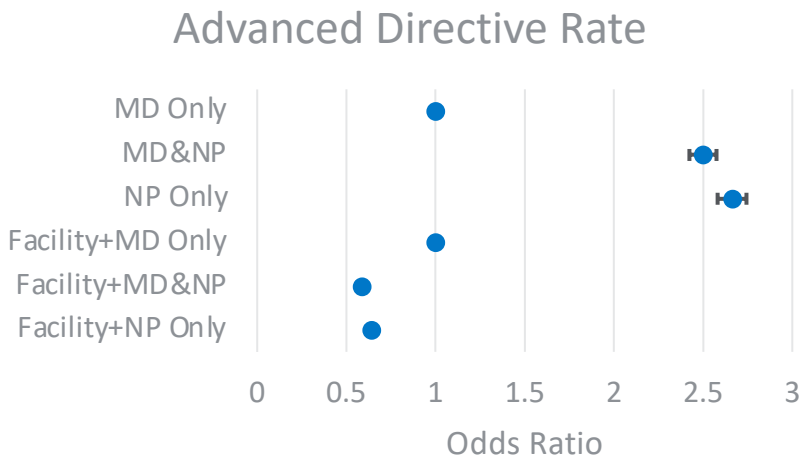


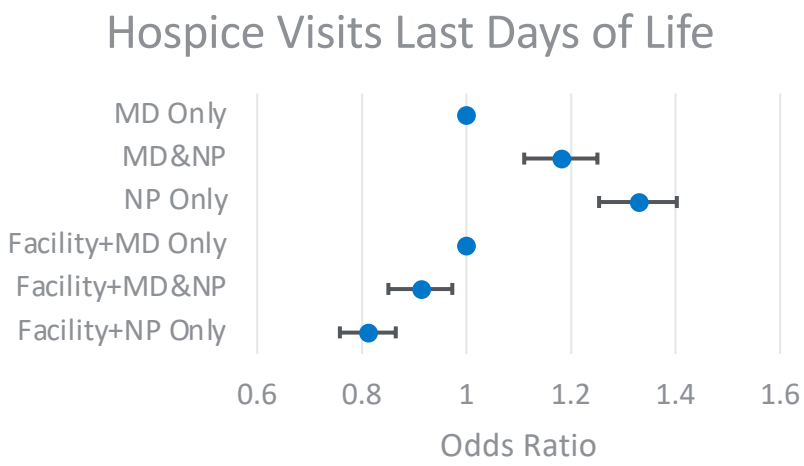


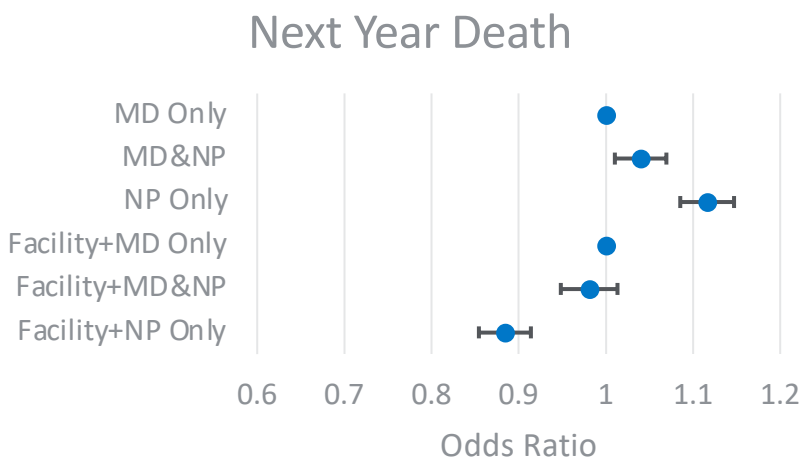
Models control for race, sex, frailty, state, rurality, ACO membership, and comorbidities

Q2 Results: End of Life Care by provider type



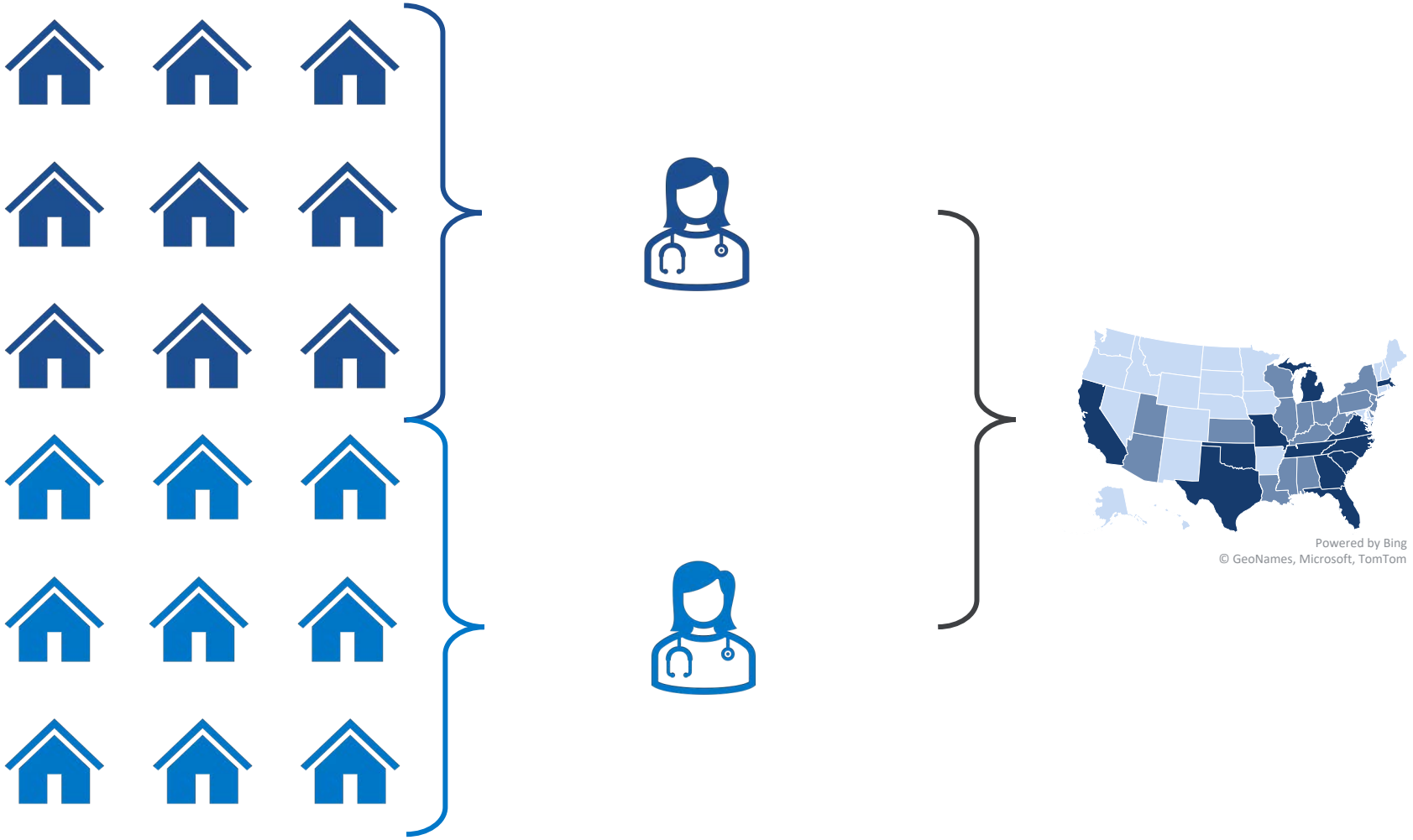






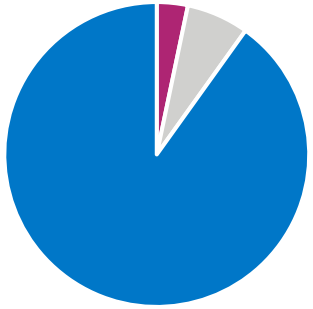
Models control for race, sex, frailty, state, rurality, ACO membership, and comorbidities

Q3: Multilevel Regression Analysis

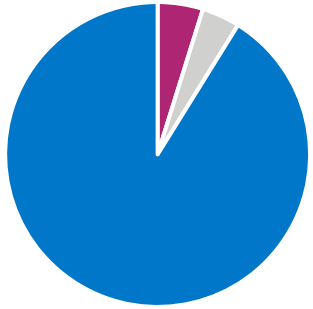


Q3 Results: Variance Partition Analysis

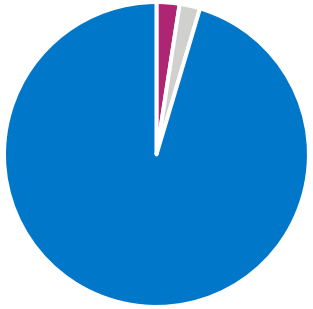
Advanced Directive Counseling



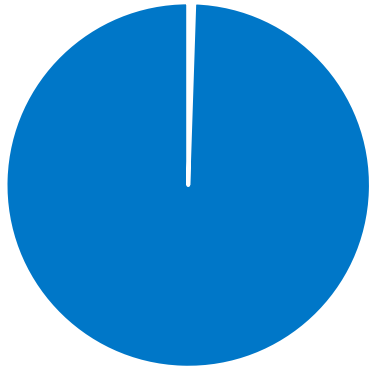
Access to Preventive Care



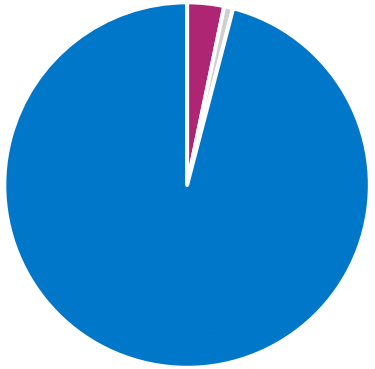
Influenza Immunization



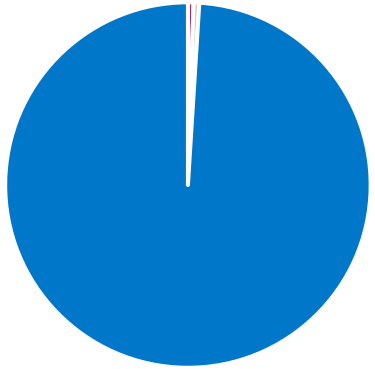
Avoidable ED Visits



Death in Hospice

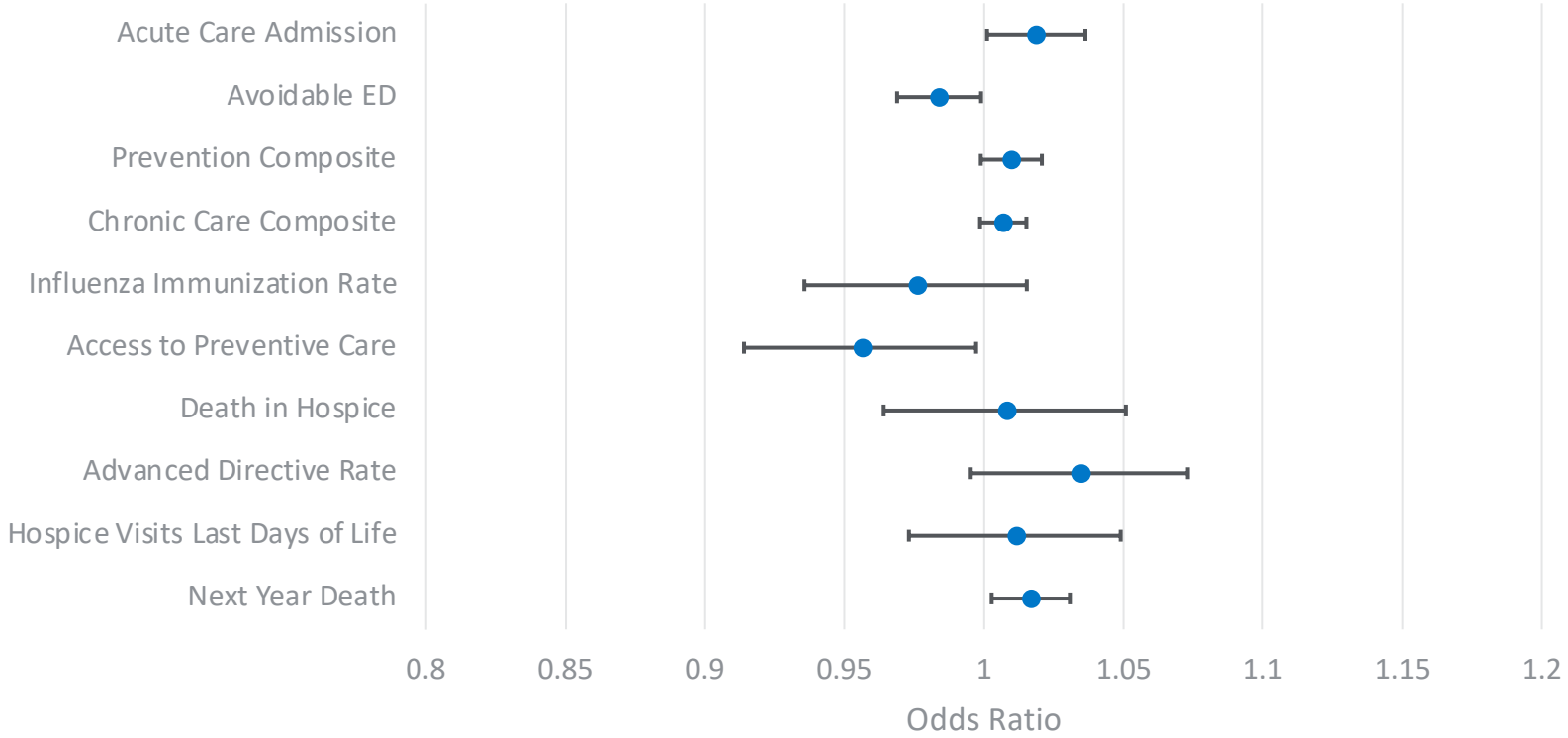


Falls



State Provider Type Beneficiary

Q3 Results: Full Practice Authority on Quality of NP's HBPC



Models control for race, sex, frailty, rurality, ACO membership, and comorbidities

Limitations

- Incident-to Billing
- Could not account for range of HBPC practice models or unobserved patient severity differences between NP & MDs
- Omitted variable - processes not captured in claims
- 2018 data doesn't reflect post-COVID trends (i.e., more HBPC)

Discussion

- NPs may be caring for sicker HBPC patients than physicians
  - Hint: higher mortality
- Comparable quality of HBPC between NPs & MDs
  - Is the quality good enough?
  - Challenge of HBPC quality measurement d/t mix of palliative & healthy pts
  - Need for more patient-centered measures
- No obvious effect of state SOP on volume or quality of NP HBPC
- Quality of HBPC mostly influenced by pt-level characteristics
  - Would more regulation ensure consistency?

Conclusion

- NPs are continuing to increase access to high-quality HBPC for the sickest patients.
- Current regulations are not harming NP HBPC
- Could removing other nonregulatory barriers improve quality?
- Shift in focus to employer and payer barriers for NPs?
- Is there any role for regulators in ensuring the safety of providers and patients as care shifts to the home?