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# **The Economic Burden and Practice Restrictions Associated with Collaborative Agreements**

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# Agenda

- Background
- Proposed Study
- Research Design/Methodology
- Analysis Plan
- Demographics
- Results
- Key Takeaways



# Background

- Over the past two decades, numerous studies have documented a multitude of challenges facing the U.S. health care system.
- Chief among these are historic shortages in the provider workforce exacerbated by recent coverage expansions and an aging patient population.
- Despite growing demand for providers across specialties and comparable quality metrics, Advanced Practice Registered Nurses (APRNs) still face significant barriers to independent practice due to reduced scope of practice regulations.

# Proposed Study

- What:



- Who:



- When:



- Why:



RESTRICTIONS



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# Research Design



- NCSBN research staff designed a questionnaire with input from representatives of four APRN associations.
- The study was determined to be exempt by the Western Institutional Review Board.
- The instrument was piloted among a subgroup of APRNs to ensure comprehension and scope before dissemination.
- Administered to a representative sample of APRNs.

# Methodology

- The survey was administered using Qualtrics (Provo, UT).
- The survey consisted of 40 questions across four topic areas:
  - a) Baseline demographics;
  - b) Collaborative practice agreement framework;
  - c) Practice patterns; and
  - d) Collaborative practice agreement benefits/challenges.
- Six weeks to complete the survey, with a reminder sent three weeks after initial dissemination.



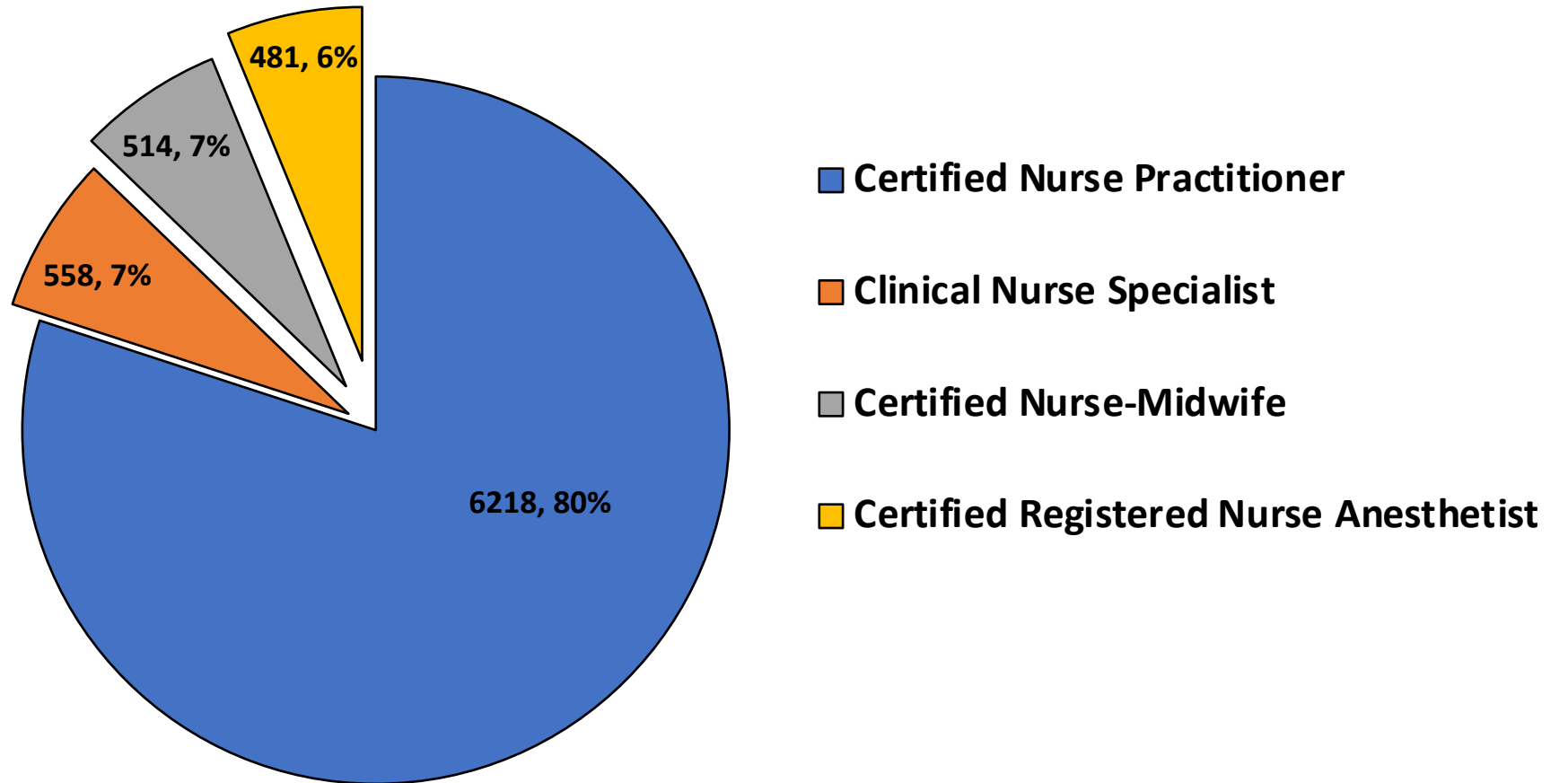
# Analysis Plan

- **Final Sample:** 8,701 APRNs
- Univariable and multivariable binary logistic regression models were used to examine fee requirements and restricted care patterns.
- Latent Class Analysis (LCA) supplemented these findings to further classify APRNs into more discrete groups based on practice profiles.
- All statistical analyses were conducted using SAS 9.4 (Cary, NC).



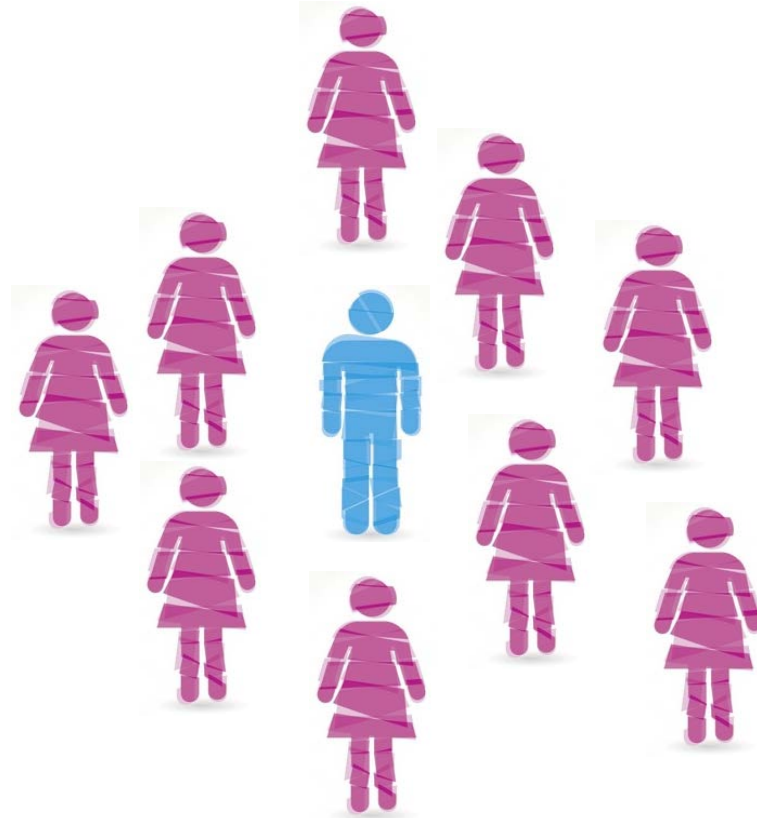


# APRN Role





# Respondent Sex & Education Level



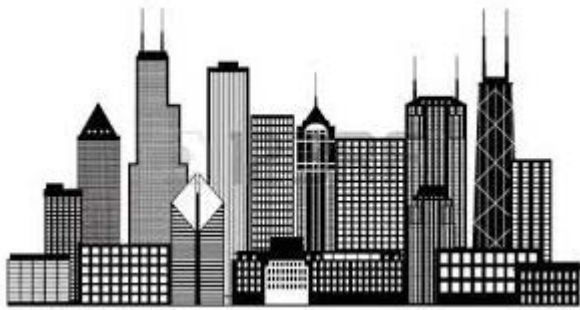
**Master's Degree:** 5,860 (75.3%)

**DNP:** 1,003 (12.9%)

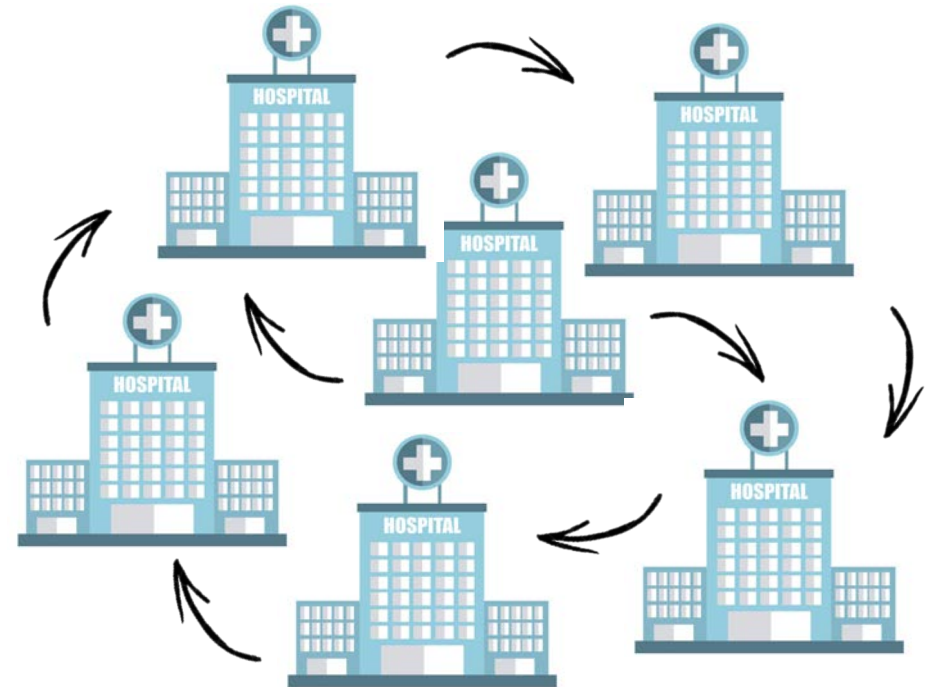
**PhD:** 349 (4.5%)

**Baccalaureate:** 137 (1.8%)

# Facility Setting & Type



**Urban: 5,264 (67.9%)**



**Health Facility/System: 4,515 (58.0%)**

# Patient Population



3,139 (31.4%)

Gerontology  
Careers  
in Aging



2,808 (28.1%)



1,337 (13.4%)

# Baseline Interaction



## *APRN Initiated Interactions:*

- **Discussions:** 5,866 (93.7%)
- **Referrals:** 4,923 (78.7%)

## *Physician Initiated Interactions:*

- **In-Person:** 3,143 (50.2%)
- **Electronic:** 3,850 (61.5%)
- **Chart Review:** 3,551 (56.6%)

# Collaborative Practice Agreement Fees



n = 1,275 (20.3%)



Rural Setting

Establish & Maintain :

**\$6,000 - 7,800**



Private APRN Practice

Maximum:



Remote

**\$50,000**



Number of Collaborative Agreements



Collaborative Agreement Authorship



Primary Care



Women's Health Services

# Practice Restrictions

**RESTRICTIONS**

n = 1,947 (32.5%)

**Collaborative Practice Agreement Fees**

**State Mandated Chart Reviews**

**State Mandated Minimum Distance**

**Lost/Changed Supervising Physician**

**Number of Collaborative Agreements**

**Collaborative Agreement Authorship**

**Primary Care**

**Women's Health Services**





# Latent APRN Cohorts



5.3%

- High probabilities of paying to establish and maintain their collaborative agreement out-of-pocket, as well as higher likelihoods of encountering restrictions, disadvantages, and challenges.



28.4%

- Collaborative Agreement fees covered by facility, but still reported significant restrictions, disadvantages, and challenges.



66.3%

- Few to no Collaborative Agreement fees and fewer restrictions, disadvantages, and challenges, comparatively.



# Key Takeaways

- Given the numerous challenges facing the U.S. health care system, state laws should facilitate APRNs practicing to the full extent of their education and training.
- The current patchwork of overly restricted regulation has resulted in significant market inequities.
- Collaborative agreements, far from implementing checks and balances that augment patient safety, do little to generate a truly collaborative environment.
- It is incumbent on state legislatures to address these disparities and make their constituents' access to high-quality care a top priority.

# Discussion

Respondent & CPA Factors	Valid n	% Fees	OR (95 CI)	AOR (95 CI)
<b>Geographic Setting</b>				
Rural	2068	27.3	1.86 (1.64 – 2.10) <sup>a</sup>	1.52 (1.32 – 1.75) <sup>a</sup>
Urban ( <i>Ref</i> )	4172	16.9	-	-
<b>Career Stage</b>				
Early ( <i>Ref</i> )	1769	22.1	-	-
Mid	1377	22.4	1.02 (0.86 – 1.21)	1.07 (0.89 – 1.28)
Established	2956	18.3	0.79 (0.68 – 0.91) <sup>a</sup>	0.88 (0.75 – 1.04)
<b>Type of health care facility</b>				
Health Facility/Health System	3651	17.6	0.18 (0.15 – 0.23) <sup>a</sup>	0.31 (0.24 – 0.39) <sup>a</sup>
Private Practice Physician (MD)	1091	10.1	0.10 (0.07 – 0.13) <sup>a</sup>	0.16 (0.12 – 0.22) <sup>a</sup>
Private Practice (APRN) ( <i>Ref</i> )	351	53.9	-	-
Private Practice Other	200	35.5	0.47 (0.33 – 0.68) <sup>a</sup>	0.60 (0.41 – 0.88) <sup>b</sup>
Self-Employed	135	38.5	0.54 (0.36 – 0.81) <sup>a</sup>	0.63 (0.41 – 0.97) <sup>b</sup>
Other	836	24.9	0.28 (0.22 – 0.37) <sup>a</sup>	0.34 (0.25 – 0.45) <sup>a</sup>
<b>Physician Practice Location</b>				
Same Office/Clinic ( <i>Ref</i> )	2214	12.6	-	-
Same Facility	1543	10.8	0.84 (0.68 – 1.03)	0.86 (0.69 – 1.07)
Same City/Town	1287	31.3	3.16 (2.66 – 3.76) <sup>a</sup>	2.68 (2.23 – 3.23) <sup>a</sup>
Other	1227	34.8	3.70 (3.12 – 4.40) <sup>a</sup>	2.66 (2.20 – 3.21) <sup>a</sup>
<b>Number of CPA</b>				
One ( <i>Ref</i> )	4377	18.6	-	-
Two or More	1894	24.4	1.41 (1.24 – 1.61) <sup>a</sup>	1.27 (1.10 – 1.47) <sup>a</sup>
<b>CPA Author</b>				
No ( <i>Ref</i> )	4627	18.9	-	-
Yes	1627	24.3	1.38 (1.20 – 1.57) <sup>a</sup>	1.16 (0.98 – 1.36)
<b>Patient Population*</b>				
Family/Across Lifespan	2576	26.9	1.96 (1.73 – 2.20) <sup>a</sup>	1.64 (1.41 – 1.90) <sup>a</sup>
Adult Gerontology	2223	16.6	0.69 (0.60 – 0.79) <sup>a</sup>	0.87 (0.74 – 1.01)
Women's Health	1013	15.8	0.70 (0.58 – 0.84) <sup>a</sup>	0.86 (0.71 – 1.06)
Pediatrics	767	14.7	0.65 (0.52 – 0.80) <sup>a</sup>	0.76 (0.60 – 0.96) <sup>b</sup>
Psychiatric Mental Health	595	28.2	1.62 (1.34 – 1.96) <sup>a</sup>	1.47 (1.18 – 1.82) <sup>a</sup>
Neonatal	182	11.5	0.50 (0.32 – 0.80) <sup>a</sup>	0.59 (0.35 – 0.98) <sup>b</sup>

**Note:** CPA = Collaborative Practice Agreement. OR = Odds Ratio. AOR = Adjusted Odds Ratio. CI = confidence interval. \*Each patient population was assessed as an independent binary predictor with a general referent of 'No' indicating any other patient subgroup.

<sup>a</sup>Significant at the  $p < .01$  level.

<sup>b</sup>Significant at the  $p < .05$  level.

Respondent & CPA Factors	Valid n	% Restricted	OR (95 CI)	AOR (95 CI)
<b>Sex</b>				
Female ( <i>Ref</i> )	5379	31.6	-	-
Male	562	40.4	1.46 (1.23 – 1.75) <sup>a</sup>	1.50 (1.24 – 1.80) <sup>a</sup>
<b>Mandated Chart Reviews</b>				
No ( <i>Ref</i> )	1871	27.0	-	-
Yes	3096	36.4	1.55 (1.37 – 1.76) <sup>a</sup>	1.40 (1.22 – 1.60) <sup>a</sup>
<b>Mandated Min. Distance</b>				
No ( <i>Ref</i> )	2694	30.2	-	-
Yes	1312	43.0	1.75 (1.52 – 2.00) <sup>a</sup>	1.59 (1.38 – 1.84) <sup>a</sup>
<b>Pay Fee to Establish CPA</b>				
No ( <i>Ref</i> )	4375	29.2	-	-
Yes, and I paid it	224	38.0	1.48 (1.12 – 1.96) <sup>b</sup>	1.57 (1.03 – 2.39) <sup>b</sup>
Yes, and my facility paid it	759	42.7	1.81 (1.54 – 2.11) <sup>a</sup>	1.41 (1.08 – 1.85) <sup>b</sup>
<b>Pay Fee to Maintain CPA</b>				
No ( <i>Ref</i> )	4254	29.3	-	-
Yes, and I paid it	256	34.8	1.29 (0.99 – 1.68)	0.88 (0.59 – 1.33)
Yes, and my facility paid it	775	41.4	1.71 (1.46 – 2.00) <sup>a</sup>	1.15 (0.88 – 1.50)
<b>Lost Supervising Provider</b>				
No ( <i>Ref</i> )	4071	30.1	-	-
Yes	1929	37.4	1.39 (1.24 – 1.56) <sup>a</sup>	1.30 (1.15 – 1.46) <sup>a</sup>
<b>Physician Practice Location</b>				
Same Office/Clinic ( <i>Ref</i> )	2134	29.0	-	-
Same Facility	1464	32.2	1.17 (1.01 – 1.35) <sup>b</sup>	1.10 (0.95 – 1.28)
Same City/Town	1228	33.7	1.25 (1.07 – 1.45) <sup>a</sup>	1.10 (0.94 – 1.29)
Other	1174	37.7	1.48 (1.27 – 1.72) <sup>a</sup>	1.22 (1.03 – 1.45) <sup>a</sup>
<b>Number of CPA</b>				
No ( <i>Ref</i> )	4187	31.0	-	-
Yes	1813	35.9	1.25 (1.11 – 1.40) <sup>a</sup>	1.13 (1.00 – 1.28) <sup>b</sup>
<b>CPA Author</b>				
No ( <i>Ref</i> )	4384	34.0	-	-
Yes	1599	28.3	0.77 (0.68 – 0.87) <sup>a</sup>	0.80 (0.70 – 0.92) <sup>a</sup>
<b>Patient Population*</b>				
Family/Across Lifespan	2462	33.2	1.06 (0.95 – 1.19)	
Adult Gerontology	2122	31.6	0.94 (0.84 – 1.06)	
Women's Health	979	37.1	1.28 (1.11 – 1.48) <sup>a</sup>	1.46 (1.25 – 1.69) <sup>a</sup>
Pediatrics	728	31.5	0.95 (0.80 – 1.12)	
Psychiatric Mental Health	571	33.1	1.03 (0.86 – 1.24)	
Neonatal	172	39.0	1.34 (0.98 – 1.83)	1.34 (0.97 – 1.86)

**Note:** CPA = Collaborative Practice Agreement. OR = Odds Ratio. AOR = Adjusted Odds Ratio. CI = confidence interval. \*Each patient population was assessed as an independent binary predictor with a general referent of 'No' indicating any other patient subgroup.

<sup>a</sup>Significant at the  $p < .01$  level.

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