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: SURVEY

- Who: APBN

- When: 2017

- Why: FEES + RESTRICTIONS
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).
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%)

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

Establish & Maintain:
- Rural Setting: $6,000 - 7,800
- Maximum: $50,000

n = 1,275 (20.3%)
Practice Restrictions

- 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

n = 1,947 (32.5%)
Latent APRN Cohorts

- 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.
  - Collaborative Agreement fees covered by facility, but still reported significant restrictions, disadvantages, and challenges.
- Few to no Collaborative Agreement fees and fewer restrictions, disadvantages, and challenges, comparatively.

5.3%  28.4%  66.3%
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
<table>
<thead>
<tr>
<th>Respondent &amp; CPA Factors</th>
<th>Valid n</th>
<th>% Fees</th>
<th>OR (95 CI)</th>
<th>AOR (95 CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geographic Setting</strong></td>
<td></td>
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<tr>
<td>Rural</td>
<td>2068</td>
<td>27.3%</td>
<td>1.86 (1.64 – 2.10)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.52 (1.32 – 1.75)&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>Urban (Ref)</td>
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<td>16.9%</td>
<td>-</td>
<td>-</td>
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<td><strong>Career Stage</strong></td>
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<tr>
<td>Early (Ref)</td>
<td>1769</td>
<td>22.1%</td>
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<td>-</td>
</tr>
<tr>
<td>Mid</td>
<td>1377</td>
<td>22.4%</td>
<td>1.02 (0.86 – 1.21)</td>
<td>1.07 (0.89 – 1.28)</td>
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<tr>
<td>Established</td>
<td>2956</td>
<td>18.3%</td>
<td>0.79 (0.68 – 0.91)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.88 (0.75 – 1.04)</td>
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<td><strong>Type of health care facility</strong></td>
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<tr>
<td>Health Facility/Health System</td>
<td>3651</td>
<td>17.6%</td>
<td>0.18 (0.15 – 0.23)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.31 (0.24 – 0.39)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Private Practice Physician (MD)</td>
<td>1091</td>
<td>10.1%</td>
<td>0.10 (0.07 – 0.13)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.16 (0.12 – 0.22)&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>Private Practice (APRN) (Ref)</td>
<td>351</td>
<td>53.9%</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Self-Employed</td>
<td>135</td>
<td>38.5%</td>
<td>0.54 (0.36 – 0.81)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.63 (0.41 – 0.97)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Other</td>
<td>836</td>
<td>24.9%</td>
<td>0.28 (0.22 – 0.37)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.34 (0.25 – 0.45)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Physician Practice Location</strong></td>
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<tr>
<td>Same Office/Clinic (Ref)</td>
<td>2214</td>
<td>12.6%</td>
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<tr>
<td>Same Facility</td>
<td>1543</td>
<td>10.8%</td>
<td>0.84 (0.68 – 1.03)</td>
<td>0.86 (0.69 – 1.07)</td>
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<tr>
<td>Same City/Town</td>
<td>1287</td>
<td>31.3%</td>
<td>3.16 (2.66 – 3.76)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.68 (2.23 – 3.23)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Other</td>
<td>1227</td>
<td>34.8%</td>
<td>3.70 (3.12 – 4.40)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.66 (2.20 – 3.21)&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td><strong>Number of CPA</strong></td>
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</tr>
<tr>
<td>One (Ref)</td>
<td>4377</td>
<td>18.6%</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Two or More</td>
<td>1894</td>
<td>24.4%</td>
<td>1.41 (1.24 – 1.61)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.27 (1.10 – 1.47)&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td><strong>CPA Author</strong></td>
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<td>No (Ref)</td>
<td>4627</td>
<td>18.9%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Yes</td>
<td>1627</td>
<td>24.3%</td>
<td>1.38 (1.20 – 1.57)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.16 (0.98 – 1.36)</td>
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<tr>
<td><strong>Patient Population</strong></td>
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<tr>
<td>Family/Across Lifespan</td>
<td>2576</td>
<td>26.9%</td>
<td>1.96 (1.73 – 2.20)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.64 (1.41 – 1.90)&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>Adult Gerontology</td>
<td>2223</td>
<td>16.6%</td>
<td>0.69 (0.60 – 0.79)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.87 (0.74 – 1.01)</td>
</tr>
<tr>
<td>Women’s Health</td>
<td>1013</td>
<td>15.8%</td>
<td>0.70 (0.58 – 0.84)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.86 (0.71 – 1.06)</td>
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<tr>
<td>Pediatrics</td>
<td>767</td>
<td>14.7%</td>
<td>0.65 (0.52 – 0.80)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.76 (0.60 – 0.96)&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>Psychiatric Mental Health</td>
<td>595</td>
<td>28.2%</td>
<td>1.62 (1.34 – 1.96)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.47 (1.18 – 1.82)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Neonatal</td>
<td>182</td>
<td>11.5%</td>
<td>0.50 (0.32 – 0.80)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.59 (0.35 – 0.98)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

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

**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.