Can a Medical Society Really Address Workforce Economics? Opportunities, Limitations, and Risks

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Director of Analytics and Research Services
Director, Center for Anesthesia Workforce Studies (CAWS)
November 10, 2022
I have no disclosure$. 
Topics To Be Covered

- Workforce Economics
- Data Sources
- Research Questions
- Prospecting Perspectives

Can a medical specialty society really address workforce economics?

Declare the past, diagnose the present, foretell the future.

— Hippocrates
Workforce Economics – It’s Not Rocket Science…
It’s Much More Challenging!

Supply
- Medical school graduates and incoming residents
- Changing work-life integration preferences and/or productivity
- Retirement preferences and other attrition
- Regulatory (broad)
- “Price” (compensation)

Demand
- Population demographics and health status
- Technology (equipment, Rx, IT)
- Substitutes (& their price)
- “Price” (payment for services by consumers and other payers)
The Oft-Quoted AAMC Projections of Physician Workforce Shortages

In each of its publications on physician workforce projections, the Association of American Medical Colleges (AAMC) assumes that physician supply and demand are in equilibrium at the beginning of the projection period, except for primary care and mental health designated health professionals’ shortage areas. Shortages (or surpluses) only occur “in the future.”

Source: AAMC. The Complexities of Physician Supply and Demand: Projections from 20XX to 20XX.
“A shortage exists when the number of workers available (the supply) increases less rapidly than the number demanded at the salaries in the recent past. Then salaries will rise, and activities which were once performed by (say) engineers must now be performed by a class of workers less well trained and less expensive.”


Endogeneity and Simultaneity

Despite the challenges, the development of a model requires an explicit articulation of assumptions about future supply and demand forces – an excellent exercise for any medical society or group interested in understanding health care workforce dynamics.

“The gist is that each of the variables in a forecasting equation for physician manpower … is a function of numerous other variables. In a full-fledged health manpower model, an attempt is made to estimate empirical approximations to these functions. Next, one attempts to obtain projected values for all the variables in these functions. Upon insertion of these values into the estimated functions, one can then obtain predicted values of the variables.

It turns out that refinement of this procedure beyond the rudimentary level soon leads one into complex simultaneous equations models. I am not aware that a satisfactory model of this sort has yet been estimated.”

Common Workforce Supply Data Sources

1. Centers for Medicare & Medicaid Services (CMS)
   a. Doctors and Clinicians National Downloadable File (NDF)
   b. National Plan & Provider Enumeration System (NPPES)

2. American Medical Association (AMA)
   a. Physicians List as provided by Medical Marketing Service (MMS)

3. American Board of Medical Specialties (ABMS)

4. Federation of State Medical Boards (FSMB)
   a. Physician Data Center

5. NRMP Matching Program®, or The Match®

6. YOUR Membership Database
Selected Questions CAWS* Has Addressed

- What are the supply trends in the number of anesthesia professionals and what is ASA’s “market share” of anesthesiologists? By age, gender, state, group practice type/size, and subspecialty?
- Where do the clinicians new to the workforce practice? By state, rurality, type of hospital, type of group practice?
- What are the trends in the number of clinicians that leave the workforce?
- What are the trends in group practice consolidation?
- What are the trends in group practice affiliation with hospitals and health systems?
- What are the trends in traveling/part-time/1099 clinicians?

*Center for Anesthesia Workforce Studies
Specialist Supply Trends (based on Medicare participation)

<table>
<thead>
<tr>
<th>Ratio</th>
<th>2014</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesiologists to SrgPrc</td>
<td>0.242</td>
<td>0.265</td>
</tr>
<tr>
<td>Total anesthesia clinicians to SrgPrc</td>
<td>0.490</td>
<td>0.602</td>
</tr>
</tbody>
</table>

SrgPrc = Surgeons and physician proceduralists

Supply Set = 100
3/27/2014

Overall percentage increase compared to March 2014

The 8-year growth in the number of anesthesiologists and other anesthesia clinicians was higher than that for surgeons and physician proceduralists.

Based on primary specialty

CMS changed the lookback period from 12 months to 6 months.

Source: Calculations by CAWS based on NDF

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Percentage of PGY-1 Residency Positions Filled in Selected Specialties, 1990–2022

- **Orthopedic Surgery**: (97.4–100.0)
- **Surgery**: (84.6–100.0)
- **Anesthesiology**: (48.3–99.9)
- **Family Medicine**: (65.0–96.7)
- **Diagnostic Radiology**: (62.6–100.0)
- **Emergency Medicine**: (92.5–100.0)
- **Other Specialties**: (77.2–96.1)

Year

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Source: CAWS analysis of NRMP
Age Distribution of Anesthesiologists, 2022

Source: Developed by CAWS based on AMA data as of 12/31/2021

Effect of the decrease in the number of residents in the 1990s.
- The 5-year age cohort, 60-64 years, is 36% larger than the 50-54 years cohort.

★ Mean and Median Age = 51 years
Interquartile Range = 20

Baby Boomers
Impact of New Anesthesiology Residency Programs

The table shows the incremental number of anesthesiologists that would be added to the supply based on an average program size of 12 residents, for varying number of programs and years the programs remain operational.

- This analysis assumes no attrition from the programs.

<table>
<thead>
<tr>
<th># of New Programs</th>
<th>Number of Years New Programs Remain Open</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
<th>18</th>
<th>20</th>
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<tr>
<td>4</td>
<td>192</td>
<td>288</td>
<td>384</td>
<td>480</td>
<td>576</td>
<td>672</td>
<td>768</td>
<td>864</td>
<td>960</td>
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</tr>
<tr>
<td>5</td>
<td>240</td>
<td>360</td>
<td>480</td>
<td>600</td>
<td>720</td>
<td>840</td>
<td>960</td>
<td>1,080</td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>288</td>
<td>432</td>
<td>576</td>
<td>720</td>
<td>864</td>
<td>1,008</td>
<td>1,152</td>
<td>1,296</td>
<td>1,440</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>336</td>
<td>504</td>
<td>672</td>
<td>840</td>
<td>1,008</td>
<td>1,176</td>
<td>1,344</td>
<td>1,512</td>
<td>1,680</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>384</td>
<td>576</td>
<td>768</td>
<td>960</td>
<td>1,152</td>
<td>1,344</td>
<td>1,536</td>
<td>1,728</td>
<td>1,920</td>
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<tr>
<td>9</td>
<td>432</td>
<td>648</td>
<td>864</td>
<td>1,080</td>
<td>1,296</td>
<td>1,512</td>
<td>1,728</td>
<td>1,944</td>
<td>2,160</td>
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<tr>
<td>10</td>
<td>480</td>
<td>720</td>
<td>960</td>
<td>1,200</td>
<td>1,440</td>
<td>1,680</td>
<td>1,920</td>
<td>2,160</td>
<td>2,400</td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis by CAWS

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You/We Are Not Alone

Based on an analysis of medical claims, Definitive Healthcare found that the physician specialties hit hardest by workforce exits are:

- internal medicine (-15,000 providers)
- family practice (-13,015)
- clinical psychology (-10,874)
- chiropractic (-10,662)
- psychiatry (-8,629)
- optometry (-8,292)
- anesthesiology (-7,459)
- pediatric medicine (-7,330)
- emergency medicine (-5,530)

Sources:
- https://www.uschamber.com/workforce/understanding-americas-labor-shortage

Healthcare workforce lost
333,942 providers in 2021
- Moly Gamble (Twitter) October 24, 2022
# Top 10 Specialties Who Dropped from Medicare

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Drops</td>
<td>Number of Drops</td>
<td>Percentage of Specialty</td>
<td>Number of Drops</td>
<td>Percentage of Specialty</td>
</tr>
<tr>
<td><strong>Physician Specialties:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anesthesiology</td>
<td>1,232.3</td>
<td>1,779</td>
<td>3.4</td>
<td>4.8</td>
<td>44.4</td>
</tr>
<tr>
<td>Family Medicine</td>
<td>3,296.7</td>
<td>4,130</td>
<td>4.1</td>
<td>5.0</td>
<td>25.3</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>2,903.0</td>
<td>3,770</td>
<td>3.7</td>
<td>4.7</td>
<td>29.9</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>1,637.0</td>
<td>2,195</td>
<td>7.3</td>
<td>9.5</td>
<td>34.1</td>
</tr>
<tr>
<td>Obstetrics/Gynecology</td>
<td>1,375.7</td>
<td>1,753</td>
<td>4.5</td>
<td>5.8</td>
<td>27.4</td>
</tr>
<tr>
<td><strong>Non-Physician Specialties:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAs and CAAs</td>
<td>1,114.3</td>
<td>1,813</td>
<td>2.7</td>
<td>3.9</td>
<td>62.7</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>3,522.7</td>
<td>5,555</td>
<td>3.3</td>
<td>3.9</td>
<td>57.7</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>2,466.0</td>
<td>3,286</td>
<td>3.7</td>
<td>4.3</td>
<td>32.4</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>2,747.0</td>
<td>4,060</td>
<td>5.2</td>
<td>6.8</td>
<td>47.8</td>
</tr>
<tr>
<td>Chiropractic</td>
<td>1,838.0</td>
<td>1,916</td>
<td>4.6</td>
<td>4.9</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Source: Based on the data sources and methods described in this article. CAA=certified anesthesiologist assistant; NA=nurse anesthetist

*Excludes two physician specialties with more than 2000 drops in 2021: (1) Pediatric Medicine because of variability in these physicians billing Medicare and (2) Emergency Medicine because of reporting inconsistencies in the NDFs.

Source: Miller T. Responses to 2 Workforce Questions from Curious Readers. ASA Monitor. 2022;86(11):1,7-8
Number of Anesthesia Professionals Who Dropped from Medicare, 2017-2021

Figure 1. Number of Anesthesia Professionals Who Dropped from Medicare Billing. Based on the data sources and methods described in this article. CAA=certified anesthesiologist assistant; NA=nurse anesthetist

Source: Calculations by CAWS based on NDF

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Defining Demand

- How does one define or determine the current demand for services and related physicians and non-physician clinicians providing services within a given specialty and within/for a given geography/population?

- **Demand versus growth**: What if a hospital, health system, group practice, or physician practice company (e.g., private equity) wants additional physicians to achieve revenue or growth targets (e.g., by increasing its market share within a geography)?

- For some specialties, the demand is influenced by other physicians; e.g., the changes in demand for anesthesia services from procedural physicians.
Common Workforce Demand Data Sources

- Population forecasting
  - The World Bank – DataBank
  - Institute for Health Metrics and Evaluation (IHME)
  - US Census International Database
    - Demographic Analysis & Population Projection System (DAPPS) Software

- Job postings

- Medical claims and other health services utilization databases
Medical claims data to examine “What was used/provided at historical prices.”

- Medicare  
  CMS.gov

- Medicaid  
  Data.Medicaid.gov

- Commercial
  - FAIR Health – rarely for dissemination / publication
  - Health Care Cost Institute (HCCI) – for research and publication
  - Merative™ MarketScan® Research Databases

- AHRQ’s Healthcare Cost & Utilization Project
Selected Workforce Demand Related Questions

- What is the level of recruitment interest?
- What have been the trends in inpatient and outpatient use rates for the specialty’s services?
- What have been the trends in physician to population ratios?
- What have been the trends in physician-to-physician and physician-to-non-physician (‘substitutes) ratios?
- What have we heard from our specialty society’s membership?

Non-Recruiting Agency Job Posting Trends for Anesthesiologists (AN) and Nurse Anesthetists (NA)
October 1, 2019–November 1, 2022

Anesthesia and Procedural Clinicians

<table>
<thead>
<tr>
<th>Primary Specialty</th>
<th>Estimated Number Mar 2022</th>
<th>Percentage Change Feb 2018–Mar 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesiologist</td>
<td>39,390</td>
<td>6.2</td>
</tr>
<tr>
<td>Nurse Anesthetist</td>
<td>47,329</td>
<td>20.9</td>
</tr>
<tr>
<td>Anesthesiologist Assistant</td>
<td>2,492</td>
<td>40.1</td>
</tr>
<tr>
<td><strong>Total Anesthesia Clinicians</strong></td>
<td><strong>89,211</strong></td>
<td><strong>14.4</strong></td>
</tr>
<tr>
<td><strong>Interventional Cardiology, Interventional Radiology,</strong></td>
<td><strong>8,508</strong></td>
<td><strong>26.2</strong></td>
</tr>
<tr>
<td><strong>and Cardiac Electrophysiology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical Oncology</td>
<td>1,101</td>
<td>14.6</td>
</tr>
</tbody>
</table>

5 Specialties with Growth > Anesthesiology but < Overall Anesthesia 14,406 8.7

12 Specialties with Growth < Anesthesiology 133,562 2.6

The ratio of anesthesiologists to surgical and procedural specialists increased between October 2015 and February 2018, and between February 2018 and March 2022.

- The ratio of total anesthesia professionals to surgical and procedural specialists also increased.

These data are based on primary specialty only; each clinician may have up to four secondary specialties.

Source: Developed by CAWS based on NDF
A “Simplified” Anesthesia Demand Model

Years: Current Year, 5-Year Forecast, 10-Year Forecast

Total Service Demand
- Driven by age
- Driven by technology/payment/other factors

Percentage of Cases Requiring Anesthesia
- From FL dataset
- Surgical/Procedural
- OB

Total Anesthesia Demand
- Surgical/Procedural
- OB

Total Service Demand

Critical Care

Anesthesia Professional Market Share:
- Percentage of Cases Seen by Any Type of Anesthesia Professional

Anesthesia Professional Cases

Anesthesia Specialty Composition:
- Percentage of Anesthesia Professional Cases Seen by Anesthesia Specialty
- General
- Pediatric
- OB
- CCI

Anesthesia Professional Cases by Specialty

Anesthesia Care Team Composition:
- % of cases seen by
  - Physician Alone
  - Nurse
  - Anesthesiologist Alone
  - Care Team
  - Phys w/ NA
  - Phys w/ AA
A “Simplified” Anesthesia Demand Model – continued

Years: Current Year, 5-Year Forecast, 10-Year Forecast
All elements below include service category/case type and site of care

Baseline Cases Seen by Anesthesia Professional Specialty and Type
- Physician
- Nurse Anesthetist
- Anesthesia Assistant

Annual Change in Case Length from Patient Aging
- By Case Type and Setting
- By Age of Patient
- By Specialty
- By Care Team Composition

Annual Change in Case Length for Other Complexity/Efficiency
- By Case Type and Setting
- By Age of Patient
- By Specialty
- By Care Team Composition

“Case-Length Adjusted Cases” Resulting From Patient Aging and Complexity/Efficiency

Anesthesia Professional Productivity
Cases per year
Critical Care patients per day

Annual Change in Productivity Related to Lifestyle Expectations

Annual Change in Productivity Related to Changes in Care Team Coverage Ratio
Care team coverage ratio adjusts the number of cases a physician anesthesiologist can supervise concurrently when in care teams

Anesthesia Professionals Required (FTEs)

Baseline
Constant productivity - before changes in case length, lifestyle expectations, or care team coverage ratio

Case-Length Adjusted Baseline
After changes in case length, but before changes in lifestyle expectations or care team coverage ratio

Lifestyle Adjusted
After changes in case length and reflecting changes in lifestyle expectations

Care Team Adjusted
After changes in case length and reflecting changes in care team coverage ratio

Lifestyle & Care Team Adjusted
After changes in case length and reflecting changes in lifestyle expectations and care team coverage ratio
Compensation of Professionals versus Payment for Clinical Services

Regarding compensation, the role of the medical society is primarily informational, and educational, with selected ‘research’ (e.g., modeling & benchmarking).

Advocacy takes center stage in the arena of payment for clinical services.
Caveat Emptor

- The quality of published clinician compensation data varies, and the usability of the data for comparison with specific practice characteristics is limited.
- The definitions of ‘compensation’ vary.
- Different sources vary in their adjusting for potential confounding factors.

KEY:
- Report is publicly available
- Not publicly available

Doximity
- Historical trends; comparisons by region and gender. Evaluates pay gaps.
- Sample size: >40,000 physicians (2021)
- Methodology: Self-reported. Based on physicians practicing ≥40 hours/week from various specialties.

Medical Group Management Association (MGMA)
- Compensation includes total pay, bonus/incentives, retirement
- Productivity (work RVUs, total RVUs, professional collections and charges)
- Benefit metrics (hours worked per week/year and weeks of vacation)
- Sample size: 185,816 physicians (Jan-Feb 2021)
- Methodology: Online survey
Compensation – continued

- **Medscape**
  - Comparable to Doximity
  - Physician work quality; job satisfaction
  - Sample size: 13,064 (Oct 2021-Jan 2022).
  - Methodology: Survey limited to Medscape and MDedge member physicians.

- **Merritt Hawkins**
  - Detailed and comprehensive; broad regional trends (includes signing bonuses); employment setting trends
  - Strong source for residents/fellows
  - Sample size: 2,458 (Apr 2020-Mar 2021)
  - Methodology: Surveys conducted by Merritt Hawkins/AMN Healthcare’s physician staffing companies

- **Salary.com / ZipRecruiter.com**
  - General profile of specialties; regional and national data
  - No historical trends; no context on reported compensation
  - Sample size: Not disclosed
  - Methodology: User reported data

- **Modern Healthcare**
  - Annual release of average/median compensation for selected specialties, reported by almost two dozen consulting firms and associations. Numbers in parenthesis are surveyed physicians and active survey dates.
    - AMGA (189,503 – Jan-Apr 2020)
    - ECG Management Consultants (75,000 – Jan-Dec 2020)
    - Gallagher (75,414 – Jan-May 2021)
    - Jackson Physician Search (389 – Jan-Dec 2020)
    - Merritt Hawkins (see summary)
    - MGMA (see summary)
    - Pacific Companies (5,578 – Dec 2020-Apr 2021)
    - Pinnacle Health Group (55 – May-Jun 2020)
    - Sullivan Cotter (Jan-Apr 2021)
      - Broad survey (159,405 providers)
      - Medical groups (256,424)


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## Specialty-specific Workforce Studies

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Strategy/Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cardiovascular</strong></td>
<td>• Focus on disease prevention&lt;br&gt;• Effectively use care team&lt;br&gt;• Alter training pathway</td>
</tr>
<tr>
<td>Narang 2016. JACC; 68:1680-9</td>
<td></td>
</tr>
<tr>
<td><strong>Endocrinology</strong></td>
<td>• Expand fellowship positions&lt;br&gt;• Provide more E&amp;M codes&lt;br&gt;• Obtain payment for telehealth, etc.&lt;br&gt;• Truncate training duration&lt;br&gt;• Disseminate best practices</td>
</tr>
<tr>
<td>Vigersky 2014. JCEM; 99:3112-21</td>
<td></td>
</tr>
<tr>
<td><strong>Neurology</strong></td>
<td>• Increase supply of neurologists&lt;br&gt;• Increase supply of NPs and other extenders&lt;br&gt;• Develop innovative ways to deliver care and improve productivity</td>
</tr>
<tr>
<td>Dall 2013. Neurology; 81:470-8</td>
<td></td>
</tr>
<tr>
<td><strong>Oncology</strong></td>
<td>• Expand fellowship positions&lt;br&gt;• Increase use of nonphysician clinicians&lt;br&gt;• Increase role of primary care physicians&lt;br&gt;• Redesign service delivery</td>
</tr>
<tr>
<td>Erikson 2007. JOPASCO; 3:79-86</td>
<td></td>
</tr>
</tbody>
</table>

All concluded shortages.
## Specialty-specific Workforce Studies – continued

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Strategy/Conclusion</th>
</tr>
</thead>
</table>
| **Pathology**                  | • Substantially increase the number of residency positions, otherwise pathologist numbers will decline steadily beginning in 2015  
                                | • Developed an interactive modeling tool to analyze scenario-based physician workforce supply and demand (Gupta 2015, Academic Pathology)                                                         |
| **Physical Medicine & Rehabilitation** | • Some pockets of surplus in selected geographic areas  
                                | • Increase communication to inform the market of the role and advantages of physiatry                                                                                                                                  |
| **Rheumatology**               | • Develop and implement national and regional strategies, including a dynamic patient and provider web site, rheumatology-specific EMR tools, multidisciplinary disease management approaches, integrating rheumatology curricula into primary care residencies.  
                                | • Decreasing insurance barriers and health care regulations may facilitate solutions to offset the shortage and maldistribution                                                                                  |

All concluded shortages.
Incorporating Compensation Proxies

\[
Pr(Q = q, A = a) = \left[ \frac{1}{\sigma_{CS}} \phi \left( \frac{q - X^S \beta^S - \mu_{CS}}{\sigma_{CS}} \right) \left( 1 - \Phi \left( \frac{q - X^D \beta^D - \mu_{CD}}{\sigma_{CD}} \right) \right) + \frac{1}{\sigma_{CD}} \phi \left( \frac{q - X^D \beta^D - \mu_{CD}}{\sigma_{CD}} \right) \left( 1 - \Phi \left( \frac{q - X^S \beta^S - \mu_{CS}}{\sigma_{CS}} \right) \right) \right] \times \phi \left( \frac{a - E[A|X^D, X^S, p]}{\sigma_A} \right) / \sigma_A
\]

Where for \( j = \{S, D\} \)

\[
\mu_{Cj} = \frac{\sigma_{QjA}}{\sigma_A^2} (a - E[A|X^D, X^S, p])
\]

\[
\sigma_{Cj} = \sigma_{\epsilon j} \left( 1 - \frac{\sigma_{QjA}^2}{\sigma_{\epsilon j}^2 \sigma_A^2} \right)^{.5}
\]

\[
\sigma_{QjA} = Cov(\epsilon^j, h((X^D \beta^D + \epsilon^D - X^S \beta^S - \epsilon^S)/p))
\]

\[
\sigma_A^2 = Var(h((X^D \beta^D - X^S \beta^S)/p)) + \sigma_{\nu}^2
\]

\[
E[Q^D|q, x^D, x^S, A] = E[Q^D|q, x^D, x^S] + \frac{\sigma_{Q^D A}}{\sigma_A^2} (a - E[A|q, x^D, x^S])
\]

\[
E[Q^S|q, x^D, x^S, A] = E[Q^S|q, x^D, x^S] - \frac{\sigma_{Q^S A}}{\sigma_A^2} (a - E[A|q, x^D, x^S])
\]
So What?

**THERE’S A SHORTAGE!**
- Good for th$ physician!
- Incentives for efficiency and innovation.
- Substitutes become more attractive.
- Preferred bias?
  - To expand US medical schools and avoid risking harmful effects of a shortage on population health.

**THERE’S A SURPLUS!**
- Downward pressure on compensation.
- Incentives to expand scope and demonstrate value.

“As on so many other areas of the real world, the views of economists on this matter cancel one another out.”
- Uwe Reinhardt
Qualitative Research Resources

Methodological rigor and transparency as critical as in traditional quantitative research.
The ASA Workforce Summit – June 2022

Representatives from a range of practice types and perspective.

- Information Sharing:
  - DATABOOK
  - Summary of interviews of key informants

- Brainstorming and Prioritizing

- Initial Effort-Time-Return Analysis

- Preliminary Action Steps
Traditional Group Facilitation Tools
The Ubiquitous (and Effective) 2 x 2 Matrix
## Workforce Supply and Demand Workgroups

<table>
<thead>
<tr>
<th>Area To Be Addressed</th>
<th>Example of Potential Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUPPLY</strong></td>
<td></td>
</tr>
<tr>
<td>New Training Paradigms</td>
<td>Group practice-community hospital partnerships to establish new residency programs under sound economic model</td>
</tr>
<tr>
<td>Harnessing the Workforce Potential</td>
<td>Creativity and flexibility in matching clinician preferred work environment (work-life balance) with practice opportunities</td>
</tr>
<tr>
<td><strong>DEMAND</strong></td>
<td></td>
</tr>
<tr>
<td>Staffing &amp; Efficiency in the Operating Room (OR)</td>
<td>Establish set of OR metrics meaningful to anesthesia, surgery, and health system leadership</td>
</tr>
<tr>
<td>Use of Anesthesiologists, Non-OR Anesthesia, and Sedation Models</td>
<td>Optimization of resources and buy-in across affected specialties and health system leadership</td>
</tr>
</tbody>
</table>
Still Missing, Appropriately

- Some really big things should be left to the marketplace.
Summary

- Effective strategies to address workforce economics are difficult to identify and more challenging to implement.
- Historical supply data seem to be reasonable and informative.
- Projections of supply and demand (and associated shortages and surpluses) are helpful in identifying and articulating shared assumptions, but their reliability is questionable.
- Issues related to payment for clinical services may be effectively addressed via advocacy; however, compensation structure initiatives are likely limited to information and benchmarking.
- Data and research are necessary but not sufficient. The strategy development process is as important as the product (data and models).
APPENDIX
Selected URLs, References, and Contact Information

- Schwartz WB, Sloan FA, Mendelson DN. Why there will be little or no physician surplus between now and the year 2000. NEJM. 1988;318:892-897.
References and URLs – continued

- CMS Limited Data Set (LDS) Files https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/LimitedDataSets
- CMS Medicaid Datasets https://data.medicaid.gov/datasets
- FAIR Health https://www.fairhealth.org/data
- Health Care Cost Institute (HCC) https://healthcostinstitute.org/

There are many more!
Feel free to reach out to:

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