Attracting and Retaining the Physician Workforce: Use of the Community Apgar Tool

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Background

• How did we get here – Why research?
  – Boise State University: Ed Baker, PhD
  – University of North Dakota: Dave Schmitz, MD
  – Idaho Bureau of Rural Health and Primary Care: Mary Sheridan
  – An intersection of workforce, education and advocacy
  – Practical knowledge, relationships, experience and investment
  – Answering needs and necessary questions
  – Applied research: Development of tools
  – Partnerships with those with “skin in the game”
    • 3RNet
    • NOSORH
Apgar Score for Newborns

- Devised in 1952 by Virginia Apgar, an anesthesiologist, as a simple and repeatable method to quickly and summarily assess the health of newborn children immediately after birth.

- Determined by evaluating the newborn baby on five simple criteria (Appearance, Pulse, Grimace, Activity, Respiration) on a scale from zero to two, then summing up the five values thus obtained.
A New Response to the Same Old Problem...

What if there was a similar test for hospitals – quick and repeatable with intervention measures on standby – to assess readiness for recruiting physicians?

• Something new
• Something based on quantifiable data
• Something that incorporates the whole community
• Something that shows people on graphs and charts where they are and how to achieve their goals.
A History of Community Apgar

Year 1 (2007)
Idaho Family Physician Rural Work Force Assessment Pilot Study [Published in the Journal of Rural Health]

Year 2 (2008)
Critical Access Hospital Community Apgar Questionnaire (CAH CAQ) [Published in the Rural & Remote Health Journal]

Year 3 (2009)
- Examining the Trait of Grit and Satisfaction in Idaho Physicians [Published in the Journal of the American Board of Family Medicine]
- Community Apgar Program (CAP) Pilot for Critical Access Hospitals in Idaho
- Nursing Community Apgar Questionnaire (NCAQ) [Published in Rural & Remote Health Journal]

Years 5-11 (2011-2017)
- Expansion of the Community Apgar Program (CAP) for Critical Access Hospitals and Community Health Centers
  - Wyoming, North Dakota, Wisconsin, Alaska, Indiana, Utah, Montana, and Iowa (CAHs)
  - Maine (CHCs)
- Rural Community Variation in Physician Recruitment Readiness [Published in Journal of Health Science]
- Nursing Community Apgar Program (CAP) in Idaho
- Assessing Idaho Rural Family Physician Scope of Practice over Time [Published in the Journal of Rural Health]

Year 4 (2010)
- Community Health Center Community Apgar Questionnaire (CHC CAQ) [Published in the Rural & Remote Health Journal]
- Community Apgar Program (CAP) for Community Health Centers in Idaho
- Community Apgar Solutions Pilot Project

- Expansion of the Community Apgar Program and Nursing Community Apgar (CAP) to Australia.
Purpose of the Critical Access Hospital CAQ (CAH CAQ)

- A validated tool used to assess a rural community’s assets and capabilities in recruiting and retaining family physicians.
- This should accurately correlate to historical community-specific workforce trends.
- Designed to be a real-time assessment tool providing guidance for the most helpful interventions at the present.
Purpose of the CAH CAQ (cont.)

• Presentation of individual CAQ Scores facilitating discussions with key decision makers in each community for specific strategic planning and improvements.

• The CAH CAQ can also be used to track a community’s progress over time, similar to the clinical use of Apgar scores in newborns.
CAH CAQ Development

• The CAH CAQ
  – Questions aggregated into five Classes

  – Each Class contains 10 factors for a total of 50 factors/questions representing specific elements related to recruitment and retention of family physicians in rural areas

  – Three open-ended questions
CAH CAQ Development: Class/Factor Examples

- **Geographic**
  - Schools
  - Climate
  - Perception of Community
  - Spousal Satisfaction

- **Economic**
  - Loan Repayment
  - Competition
  - Part-time Opportunities
  - Signing Bonus

- **Scope of Practice**
  - Emergency Care
  - Mental Health
  - Obstetrics
  - Administration Duties

- **Medical support**
  - Nursing Workforce
  - Call/practice Coverage
  - Perception of Quality
  - Specialist Availability

- **Hospital and Community Support**
  - EMR
  - Welcome & Recruitment
  - Televideo Support
  - Plan for Capital Investment
The Community Apgar Program (CAP)

• Year 1 of Program
  – Participants mailed the CAH CAQ survey with consent form
  – CAH CAQ surveys administered in separate structured one hour interviews for each participant
  – CAH CAQ Board Reports
    • Individual data from each critical access hospital reviewed with Board of Directors each year of the program
    • Action plans developed in Year 1 for improvement in areas identified by the CAH CAQ
  – State level results presented at state selected forum

• Year 2 of Program
  – Second round of CAH CAQ surveys
  – Year 2 Board presentation focuses on movement towards achieving improvement identified in Year 1
Use of the CAH CAQ

- This assessment allows for identification of both modifiable and non-modifiable factors and also may suggest which factors are most important for a community to address with limited available resources.

- The CAH CAQ may be used by communities to assess their relative strengths and challenges, the relative importance of CAQ factors, and to gain a better understanding of which CAQ factors are seen as most important from the physician point-of-view.
Making the most of the CAH CAQ

Recruiting and Retaining Family Physicians:
• community self-evaluation
• prioritizing improvement plans
• advertising and interviewing
• negotiation strategies and contract construction
The CAQ Value Proposition

- Beyond “Expert Opinion”
- A new approach to the old problem of physician recruiting
- Self-empowering for the community: knowledge as power, not an outside “headhunter”
- Beyond physician recruitment to community improvement
Future of the CAH CAQ

• With further research and collaboration, this tool could also be used to share successful strategies communities have used to overcome challenges which may be difficult or impossible to modify (Best Practice Model).

• CAH CAQ surveys may be useful in identifying trends and overarching themes which can be further addressed at state or national levels.
Current Apgar Partners

- States Participating in the CAP
- States Interested in Implementing the CAP
State Level Information
Class CAH Community Advantages and Challenges Cumulative Score

<table>
<thead>
<tr>
<th>Economic</th>
<th>Hospital and Community Support</th>
<th>Scope of Practice</th>
<th>Medical Support</th>
<th>Geographic</th>
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</thead>
<tbody>
<tr>
<td>Overall</td>
<td>Administrator</td>
<td>Physician</td>
<td>Overall</td>
<td>Administrator</td>
</tr>
<tr>
<td>10.00</td>
<td>11.00</td>
<td>12.00</td>
<td>8.00</td>
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</tbody>
</table>

Community Advantages and Challenges Class
Top 10 CAH Community Advantages Mean Score

Endoscopy, surgery
Community volunteer opportunities
Transfer arrangements
Loan repayment
Community need, physician support
Employment status
Religious, cultural opportunities
Recreational opportunities
Ancillary staff workforce
Call, practice coverage
Top 10 CAH Community Challenges Mean Score

Spousal satisfaction
Mental health
Allied mental health workforce
Shopping and other services
Climate
Physician workforce stability
Perception of community
Electronic medical records
Administration
Nursing workforce
Top 10 CAH Community Importance Mean Score

Top 10 Factors- Importance

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00

Spousal satisfaction  Competition  Perception of quality  Income guarantee  Call, practice coverage  Loan repayment  C-section  Obstetrics  Nursing workforce  Schools

Top 10 Factors- Importance
Geographic Class CAH Community Apgar Mean Score

-8.00
-6.00
-4.00
-2.00
0.00
2.00
4.00
6.00
8.00
Mean Score
Geographic Factor
Overall Administrator Physician
Recreational opportunities
Religious, cultural opportunities
Schools
Demographic, patient mix
Access to larger community
Social networking
Perception of community
Climate
Shopping and other services
Spousal satisfaction
Geographic Factor
Top 10 CAH Community Apgar Mean Score

Endoscopy, surgery
Loan repayment
Community need, physician support
Transfer arrangements
Employment status
Recreational opportunities
Ancillary staff workforce
Call, practice coverage
Perception of quality
Religious, cultural opportunities

Top 10 Factors- Apgar

Overall
Bottom 10 CAH Community Apgar Mean Score

- Spousal satisfaction
- Mental health
- Allied mental health workforce
- Shopping and other services
- Climate
- Physician workforce stability
- Electronic medical records
- Televideo support
- Administration
- Payor mix
Facility Level Information
Hospital X
Comparative Cumulative Apgar Score

Cumulative Apgar Score
Community Apgar Class
Wyoming (All Sites) Baseline
Overall Apgar Geographic Economic Scope of Practice Medical Support Hospital and Community Support

-50.00
0.00
50.00
100.00
150.00
200.00
250.00
300.00

300.00
250.00
200.00
150.00
100.00
50.00
0.00
-50.00
Hospital X
Comparative Cumulative Apgar Score for Geographic Class

- Access to larger community
- Demographic, patient mix
- Social networking
- Recreational opportunities
- Spousal satisfaction
- Schools
- Shopping and other services
- Religious, cultural opportunities
- Climate
- Perception of community

Cumulative Apgar Score
Geographic Factors
Hospital X
Comparative Cumulative Apgar Score for Economic Class

Economic Factors

- Employment status
- Part-time opportunities
- Loan repayment
- Income guarantee
- Signing bonus
- Moving allowance
- Start-up, marketing costs
- Revenue flow
- Payor mix
- Competition

Cumulative Apgar Score
Hospital X
Comparative Cumulative Apgar Score for Scope of Practice Class

Scope of Practice Factors

Cumulative Apgar Score

Obstetrics  C-section  Emergency room coverage  Endoscopy, surgery  Nursing home  Inpatient care  Mental health  Mid-level supervision  Teaching  Administration
Hospital X
Comparative Cumulative Apgar Score for Medical Support Class

Cumulative Apgar Score
Medical Support Factors
Wyoming (All Sites) Baseline

Perception of quality
Physician workforce stability
Specialist availability
Transfer arrangements
Nursing workforce
Allied mental health workforce
Mid-level provider workforce
Ancillary staff workforce
Emergency medical services
Call, practice coverage
Hospital X
Comparative Cumulative Apgar Score for Community and Hospital Support Class

<table>
<thead>
<tr>
<th>Hospital and Community Support Factors</th>
<th>Cumulative Apgar Score</th>
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</thead>
<tbody>
<tr>
<td>Physical plant and equipment</td>
<td>-20.00</td>
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<tr>
<td>Plans for capital investment</td>
<td>-15.00</td>
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<tr>
<td>Electronic medical records</td>
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<tr>
<td>Hospital leadership</td>
<td>-5.00</td>
</tr>
<tr>
<td>Internet access</td>
<td>0.00</td>
</tr>
<tr>
<td>Televideo support</td>
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<tr>
<td>Hospital sponsored CME</td>
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<tr>
<td>Community need, physician support</td>
<td>15.00</td>
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<tr>
<td>Community volunteer opportunities</td>
<td>20.00</td>
</tr>
<tr>
<td>Welcome and recruitment</td>
<td>-20.00</td>
</tr>
</tbody>
</table>
Hospital X
Bottom 10 Apgar Factors across All 50 Factors
Hospital X
Top 10 Cumulative Apgar Variance Factors across All 50 Factors
Hospital X
Bottom 10 Cumulative Apgar Variance Factors across All 50 Factors
Community Apgar Program
Innovations in Iowa

- Iowa Hospital Association in partnership with Iowa State Office of Rural Health

- Client innovation requests
  - Multiple physicians and administrators to participate
  - Internet data collection
  - Participation by trustee/board members
  - One year
  - Individual site presentations through distance presentations
  - Webinar for State Level results presentation
Community Apgar Program
Innovations in Iowa

• The Iowa Experience
  – Recruitment through internet communications in partnership with Iowa Hospital Association
  – Facility cost sharing
  – Consent obtained electronically
  – Data collected using Qualtrics (additional administrator and physician participation allowed, trustee participation)
  – Apgar survey directions through 3RNet online educational material
  – Facility and state level data presentations done remotely
  – Trustee data analyzed separately
Community Apgar Program
Innovations in Iowa

- Iowa Community Apgar Positives
  - Use of technology to collect information
  - 3RNet online educational materials
  - Cost sharing with facilities
  - Lower overall costs
  - Additional input from physicians/administrators/trustees

- Iowa Community Apgar Challenges
  - Technical analytical issues related to increase in participation of physicians and administrators
  - Incorporation of trustee/board member data with physician and administrator data
  - No Iowa expert
  - No follow-up year two assessment
Selected Findings from the National Apgar Database
Selected Results –
Top 10 Apgar Factors

Idaho (2016)
- Recreational opportunities
- Internet access
- Employment status
- Community need/physician support
- Loan repayment
- Transfer arrangements
- Income guarantee
- Competition
- Stability of physician workforce
- Ancillary staff workforce (Tie)
- Community volunteer opportunities (Tie)

North Dakota (2016)
- Transfer arrangements
- Ancillary staff workforce
- Competition
- Income guarantee
- Community need/physician support
- C-section
- Emergency medical services
- Obstetrics
- Perception of quality
- Schools (Tie)
- Mid-level provider workforce (Tie)

Indiana (2015)
- Internet access
- Community need/physician support
- Obstetrics
- Endoscopy/surgery
- Physical plant and equipment
- Employment status
- Emergency room coverage
- C-section
- Hospital sponsored CME
- Start-up/marketing costs (Tie)
- Schools (Tie)

Montana (2015)
- Community need/physician support
- Perception of quality
- Employment status
- Competition
- Transfer arrangements
- Income guarantee
- Teaching
- Internet access
- Physical plant and equipment
- Recreational opportunities

Iowa (2015)
- Schools
- Hospital leadership
- Perception of quality
- Income guarantee
- Emergency room coverage
- Ancillary staff workforce
- Mid-level provider workforce
- Emergency medical services
- Community need/physician support
- Physical plant and equipment
## Selected Results – Bottom 10 Apgar Factors

<table>
<thead>
<tr>
<th>State</th>
<th>Year</th>
<th>Factors</th>
</tr>
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</table>
| Idaho      | 2016 | • Mental Health
            |     | • Schools
            |     | • Shopping/other services
            |     | • Allied mental health workforce
            |     | • Spousal satisfaction
            |     | • Electronic medical records
            |     | • Access to larger community
            |     | • Allied mental health workforce
            |     | • Climate
            |     | • Emergency room coverage
            |     | • Specialist availability
            |     | • Payor mix |
| North Dakota | 2016 | • Spousal satisfaction
            |     | • Mental health
            |     | • Electronic medical records
            |     | • Shopping/other services
            |     | • Welcome and recruitment
            |     | • Allied mental health workforce
            |     | • Perception of community
            |     | • Mental health
            |     | • Climate
            |     | • Demographic/patient mix
            |     | • Stability of physician workforce |
| Indiana    | 2015 | • Spousal satisfaction
            |     | • Social networking
            |     | • Allied mental health workforce
            |     | • Mental health
            |     | • Shopping/other services
            |     | • Administration
            |     | • Nursing workforce
            |     | • Climate
            |     | • Electronic medical records
            |     | • Access to larger community
            |     | • Social networking |
| Montana    | 2015 | • Spousal satisfaction
            |     | • Allied mental health workforce
            |     | • Mental health
            |     | • Shopping/other services
            |     | • Part-time opportunities
            |     | • Allied mental health workforce
            |     | • Climate
            |     | • Electronic medical records
            |     | • Access to larger community
            |     | • Teaching
            |     | • Demographic/ patient mix |
| Iowa       | 2015 | • Mental Health
            |     | • Climate
            |     | • Spousal satisfaction
            |     | • Allied mental health workforce
            |     | • Shopping/other services
            |     | • Access to larger community
            |     | • Electronic medical records
            |     | • Teaching
            |     | • Demographic/ patient mix |
Community Apgar Program

• Next Steps
  – Development of CEO/Administrator Apgar in 2017
  – Nurse Practitioner Apgar
  – Physician Assistant Apgar
  – Allied Health Apgar
  – Expansion and further development of Apgar Solutions
  – Additional use of technology
Questions?

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