





# Chief Executive Officer (CEO) Community Apgar Project


Dakota Conference on Rural and Public Health

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1



## Presenters:



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University of North Dakota School of  
Medicine and Health Sciences

2

## Acknowledgements

- Ed Baker, PhD, Professor and Director, Boise State University, Center for Health Policy
  - Lisa MacKenzie, MHS, Senior Research Associate
  - Molly Simpson & Sarah Ditali, Research Assistants
- Funding provided by the North Dakota State Office of Rural Health/North Dakota Center for Rural Health
- Special appreciation to Tim Putnam and Brock Slabach for sharing their expert opinions of CEO workforce challenges
- Original Community Apgar Program developmental funding provided by Mary Sheridan, Bureau Chief, Idaho Bureau of Rural Health and Primary Care
- Our partners across the US and Australia who have worked with us to improve health care in rural and underserved communities

3

## Presentation Overview

- History of the Community Apgar Program (CAP)
- Purpose/Development
- Using the CEO Community Apgar Questionnaire (CEO CAQ)
- North Dakota Overall Year One State Level Results
- Examples from Community Level Results
- Action Plan and Next Steps

4

## Background

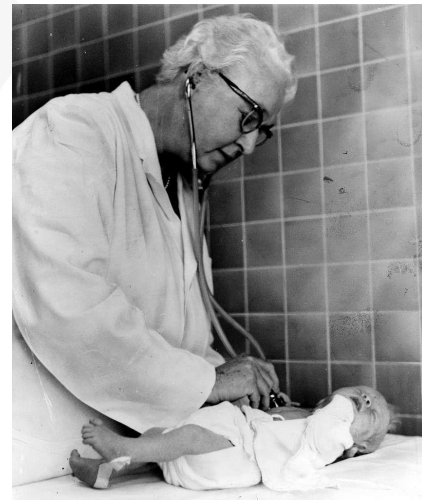
### How did we get here – Why research?

- Boise State University: Ed Baker, PhD
- University of North Dakota: David 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
  - University of Melbourne, Australia
  - Federation University, Australia

5

## 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 (**A**pppearance, **P**ulse, **G**rimace, **A**ctivity, **R**espiration) on a scale from zero to two, then summing up the five values thus obtained



6

6

## 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 CEOs?

- 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



7

## Community Apgar History

### 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*]

### Year 4 (2010)

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

### Years 5-13 (2011-2019)

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

### Years 14-17 (2020-2023)

- HPERC CAP
- Rural Pharmacists CAP
- CEO CAP

8

## Community Apgar Suite of Research Tools



9

## Purpose of the CEO Community Apgar

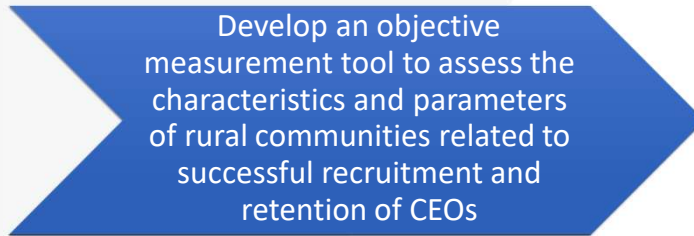
- A tool used to assess a rural community's assets and capabilities in recruiting and retaining CEOs for hospitals in rural areas
- Designed to be a real-time assessment tool providing guidance for the most helpful interventions at the present
- Presentation of individual CAQ Scores facilitating discussions with key decision makers in each community for specific strategic planning and improvements
- The CEO CAQ can also be used to track a community's progress over time, like the clinical use of Apgar scores in newborns

10

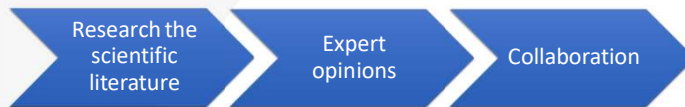
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## CEO Community Apgar Questionnaire (CAQ) Development

Goal



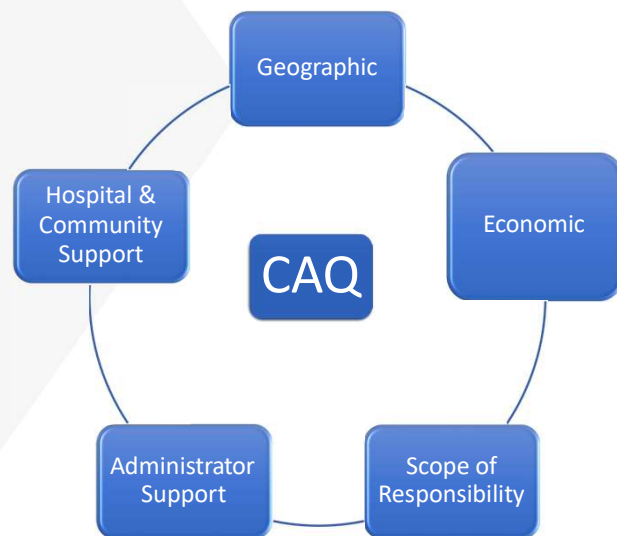
Process



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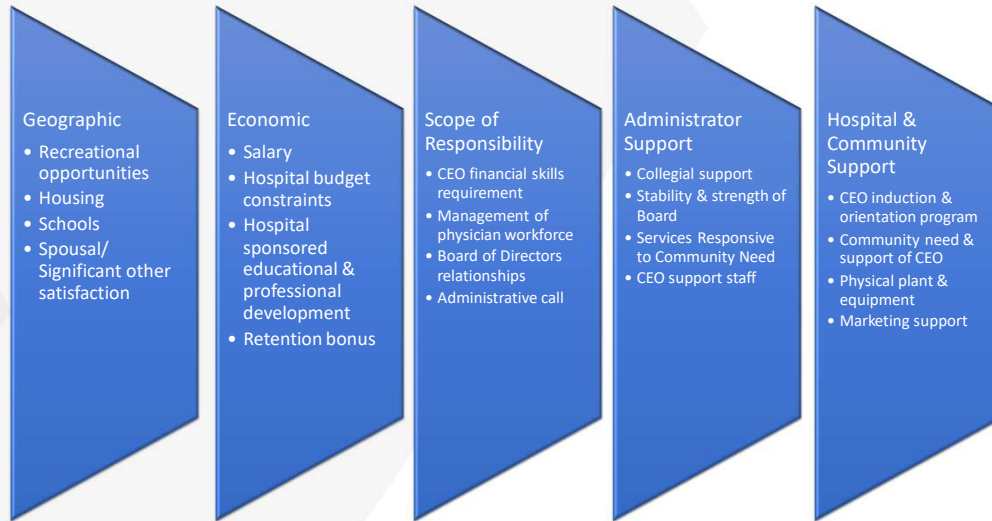
## CEO CAQ Development

- The CEO 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 CEOs in rural areas
  - Open-ended questions



12

## CEO CAQ Development: Class/Factor Examples



13

## CEO CAQ Program: North Dakota Sample and Administration



### Target Communities in ND

- 24 facilities = 24 administrators/ CEOs + 24 board members [n=48]



### CEO CAQ Administration

- Survey provided in advance with consent form (IRB approval from Boise State University)
- One-hour interviews scheduled
- CAQ completed



### CEO CAQ Community Reports

- Individual data from each CEO community reviewed each year of the program
- State level results presented at state-selected forum

14

14

## Use of the CEO CAQ

- Identify modifiable and non-modifiable factors
- Suggest/ identify most important factors to address
- Assess strengths, challenges, and importance of factors to gain a better understanding of “bigger picture”

15

## Making the most out of the CEO CAQ

Assessing a rural community’s assets and capabilities for recruitment and retention of CEOs:

- ❑ Community self-evaluation
- ❑ Prioritizing improvement plans
- ❑ Networking and collaboration



16



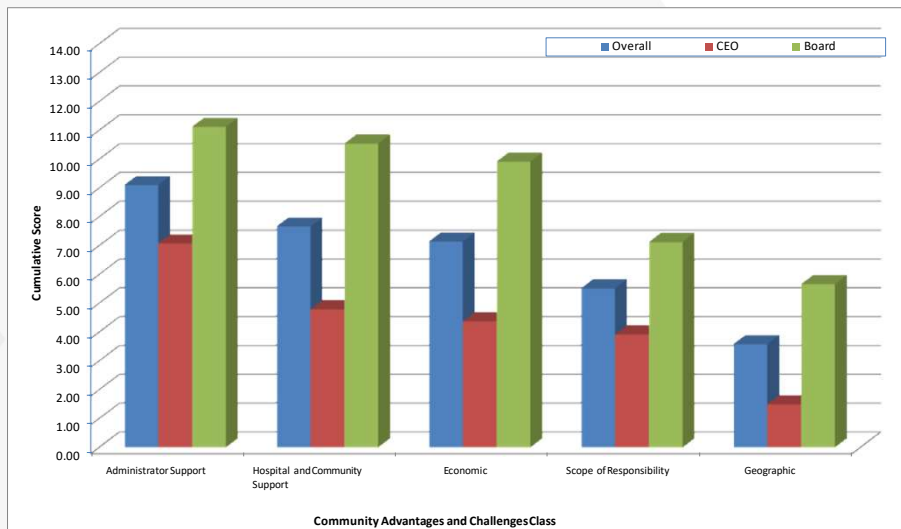


# North Dakota Overall Year One State Level Results



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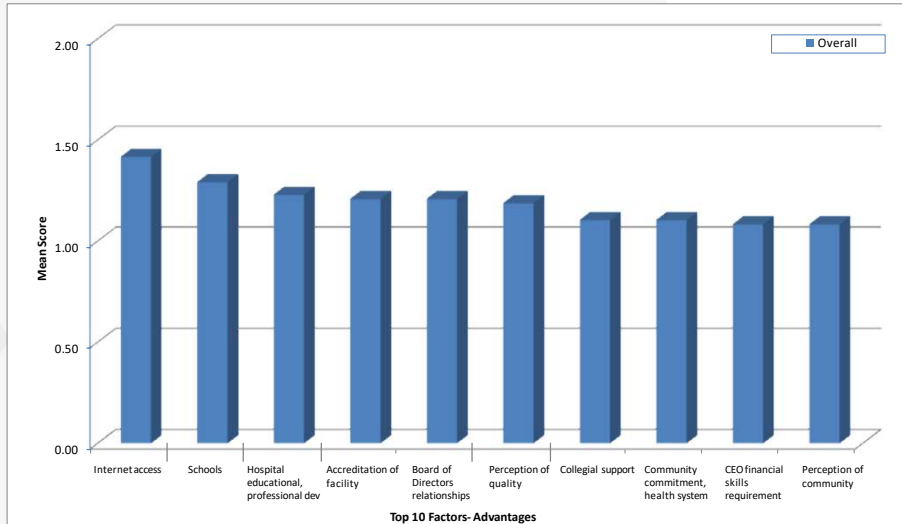
## Class CEO Community Advantages and Challenges Cumulative Score



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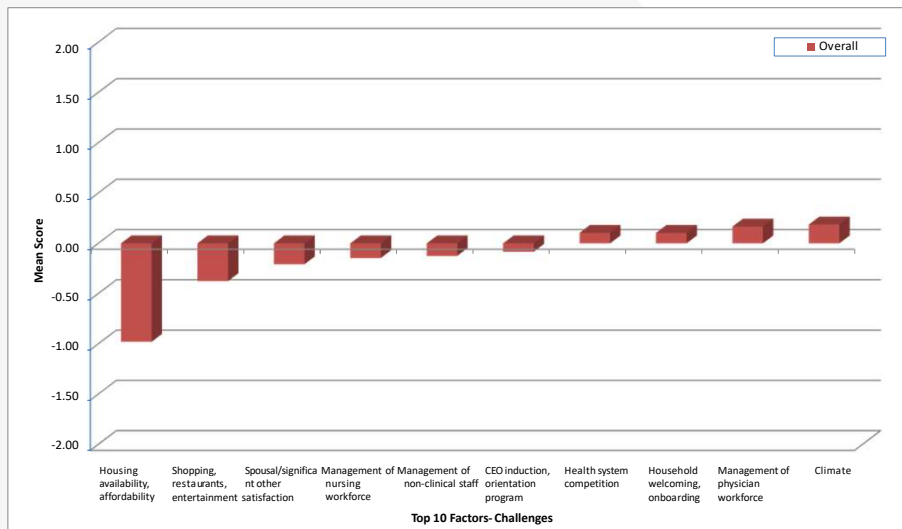
### Top 10 CEO Community Advantages Mean Score



21



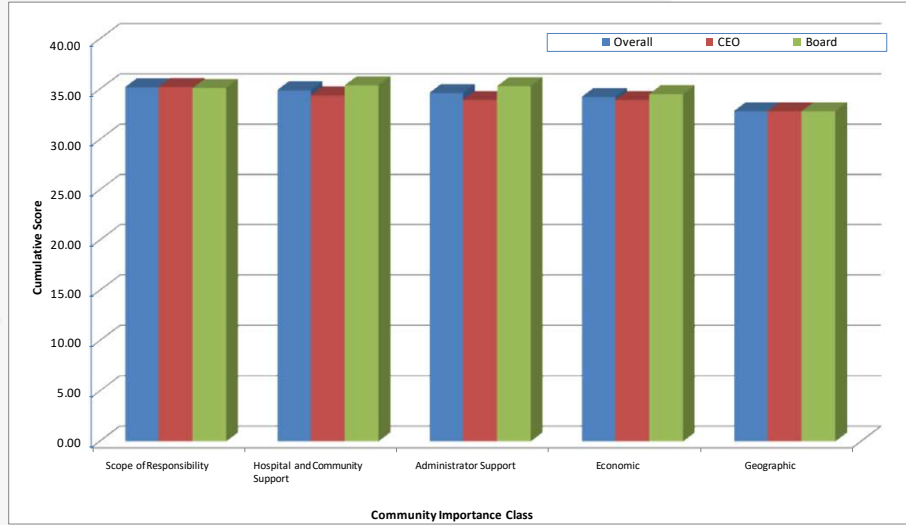
### Top 10 CEO Community Challenges Mean Score



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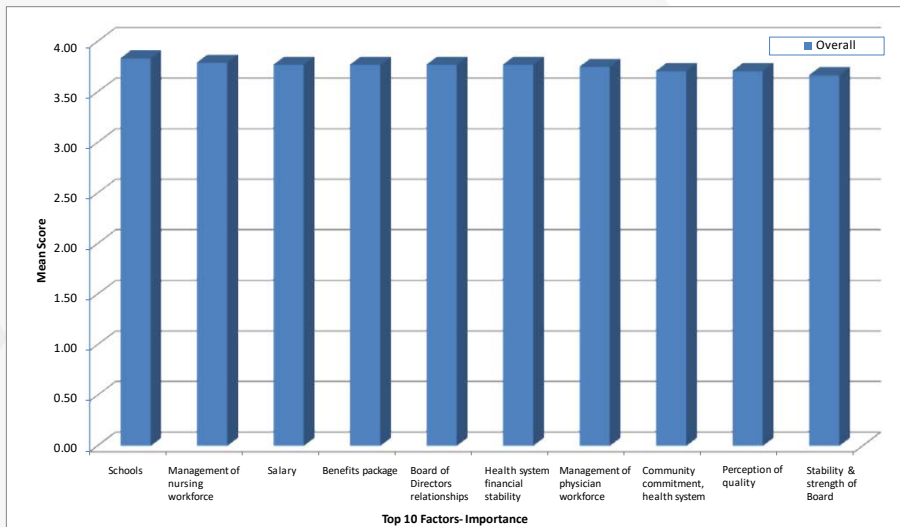
### Class CEO Community Importance Cumulative Score



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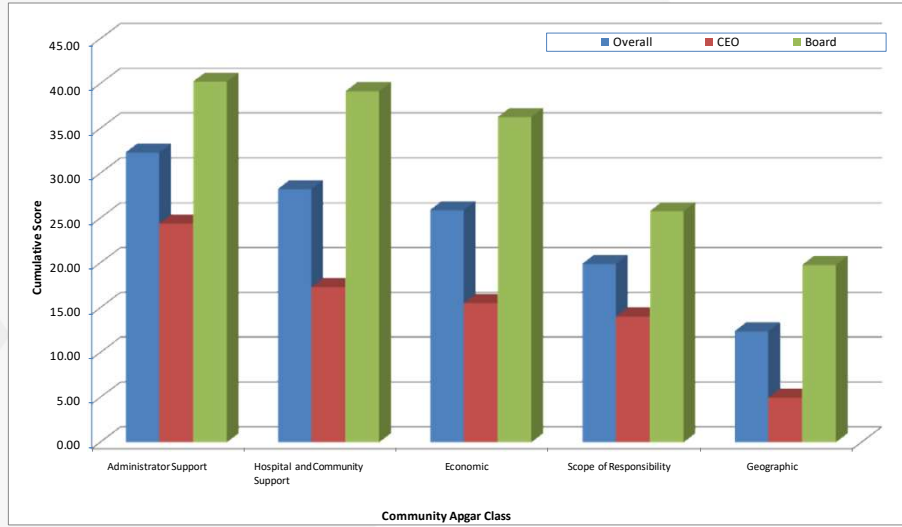
### Top 10 CEO Community Importance Mean Score



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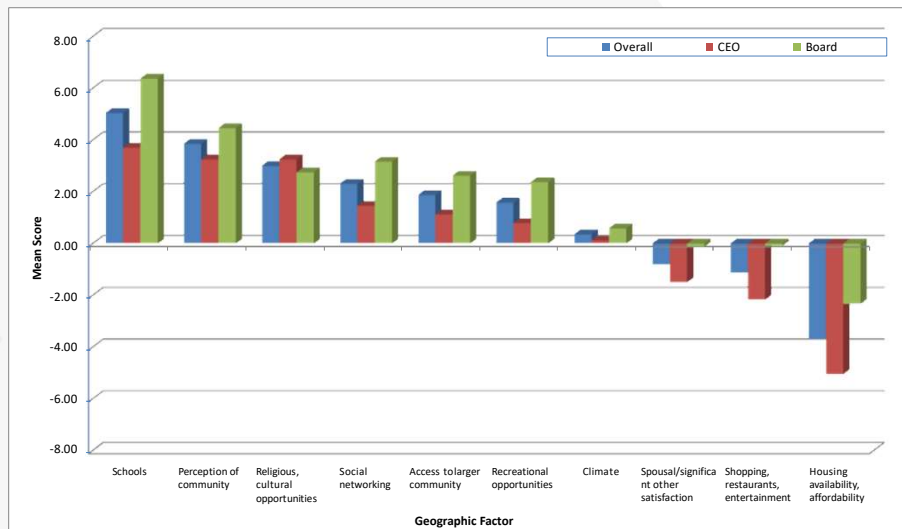
### Class CEO Community Apgar Cumulative Score



25



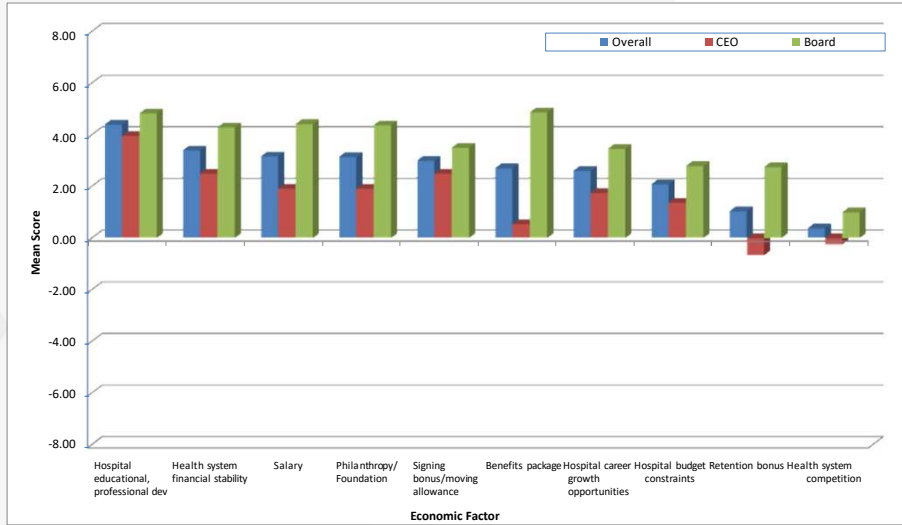
### Geographic Class CEO Community Apgar Mean Score



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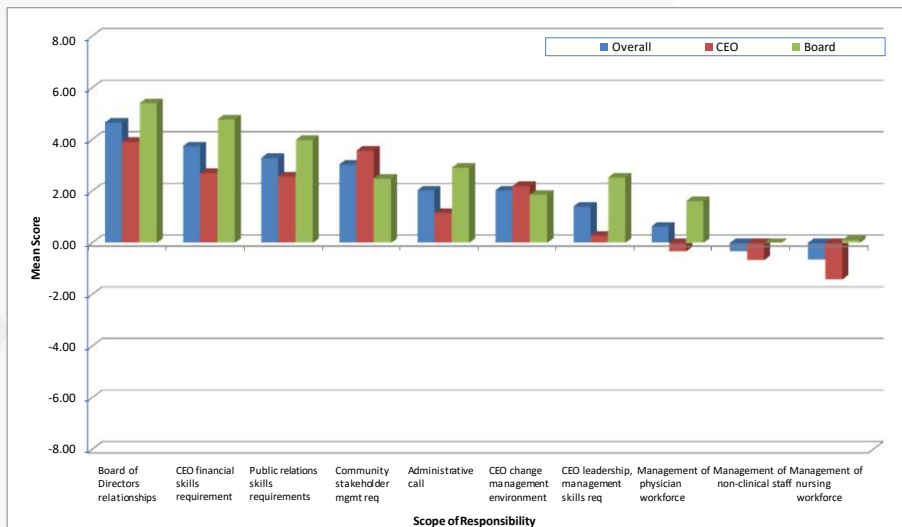
### Economic Class CEO Community Apgar Mean Score



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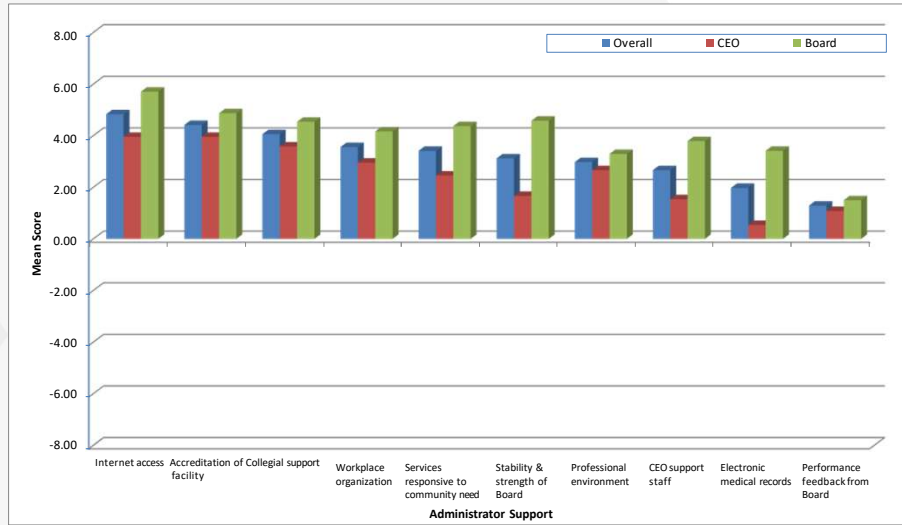
### Scope of Responsibility Class CEO Community Apgar Mean Score



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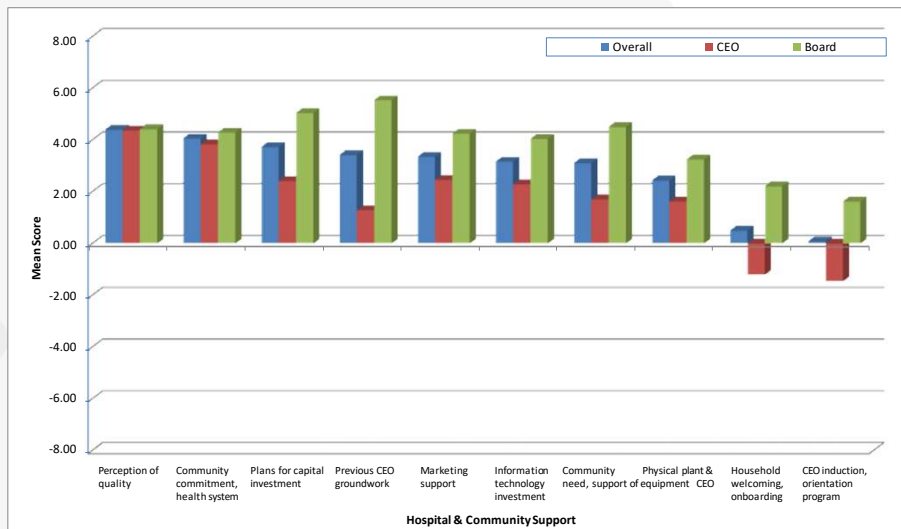
### Administrator Support Class CEO Community Appgar Mean Score



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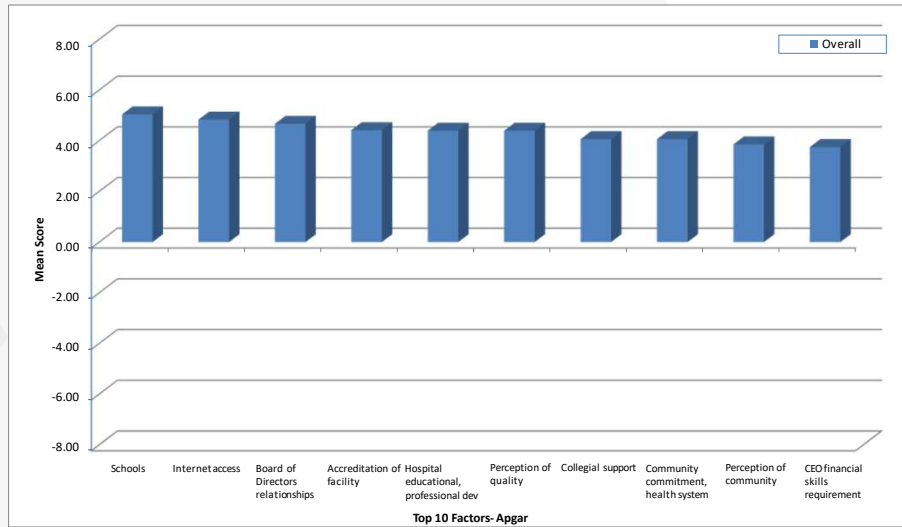
### Hospital & Community Support Class CEO Community Appgar Mean Score



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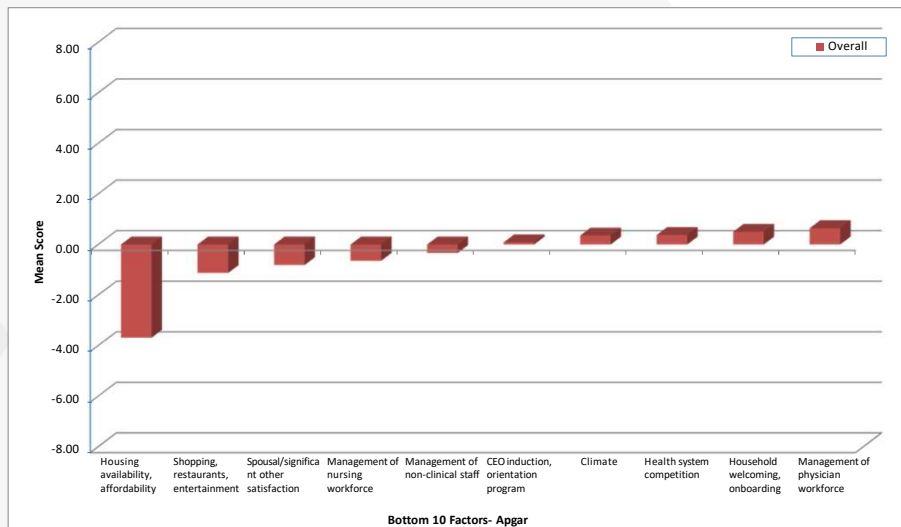
### Top 10 CEO Community Apgar Mean Score



31



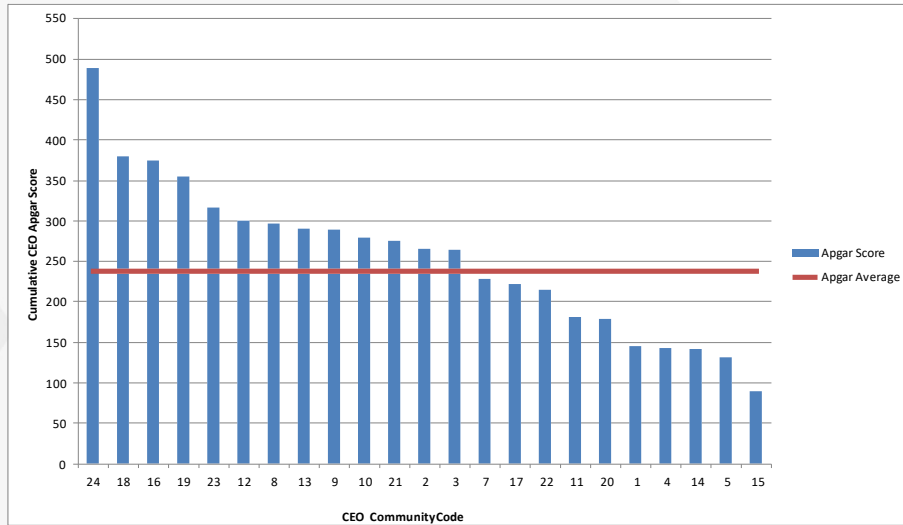
### Bottom 10 CEO Community Apgar Mean Score



32



### Cumulative CEO Community Apgar Score



33

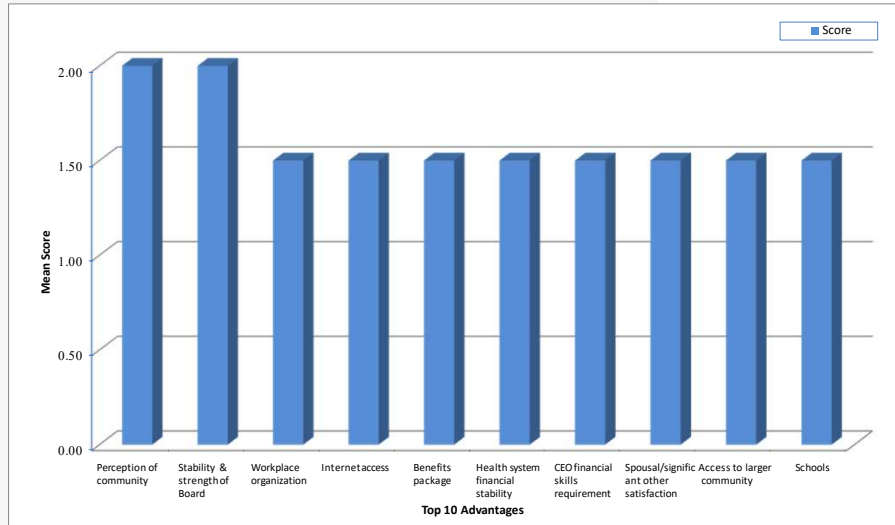
### Examples from Overall North Dakota Community Level Results



34



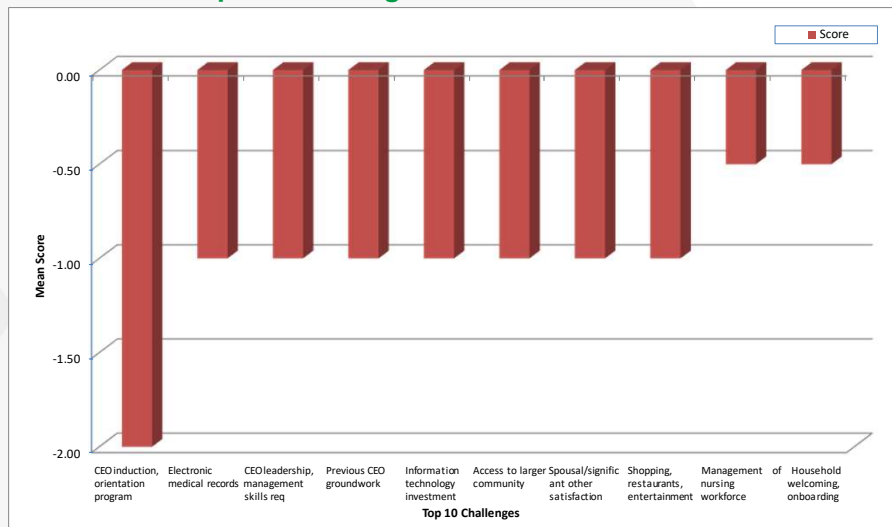
### Community X Top 10 Advantage Factors across all 50 factors



35



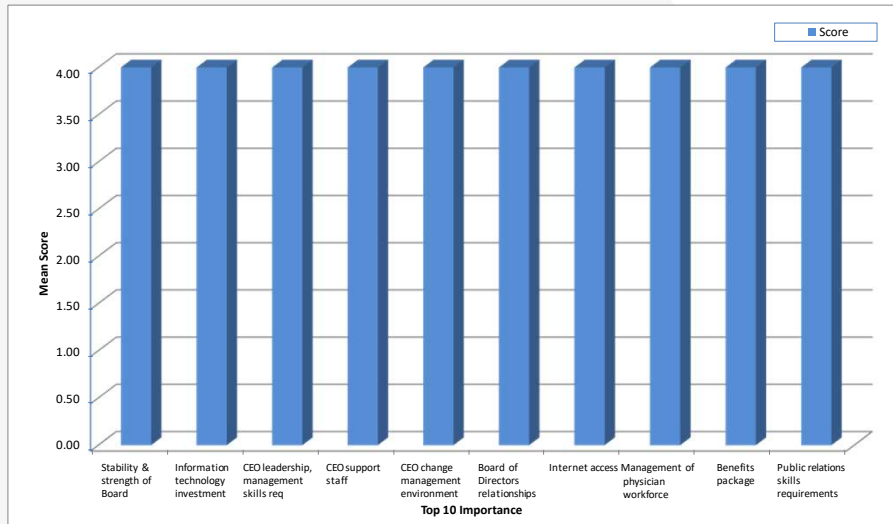
### Community X Top 10 Challenge Factors across all 50 factors



36



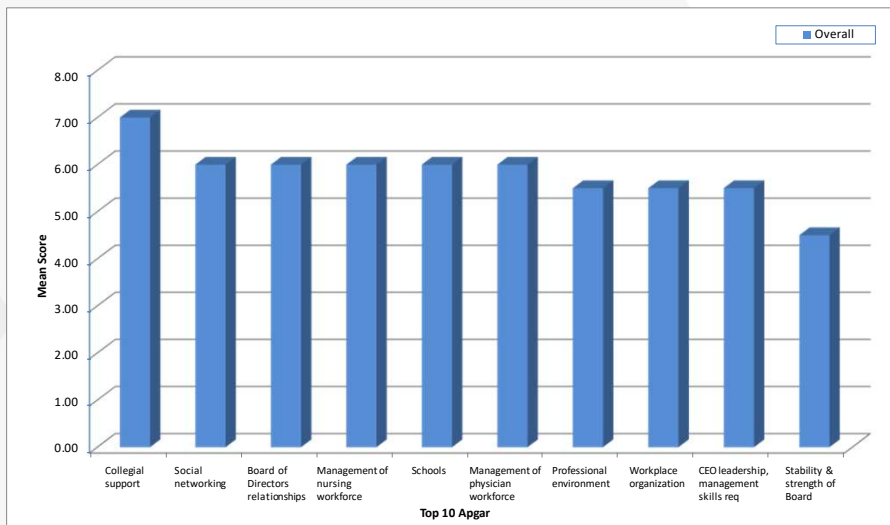
### Community X Top 10 Importance Factors across all 50 factors



37

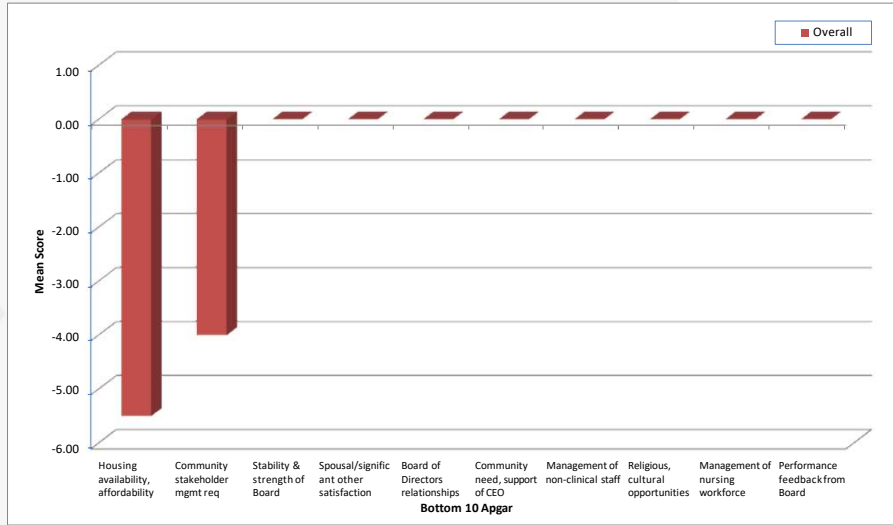


### Community X Top 10 Appar Factors across all 50 factors



38

### Community X Bottom 10 Apgar Factors across all 50 factors



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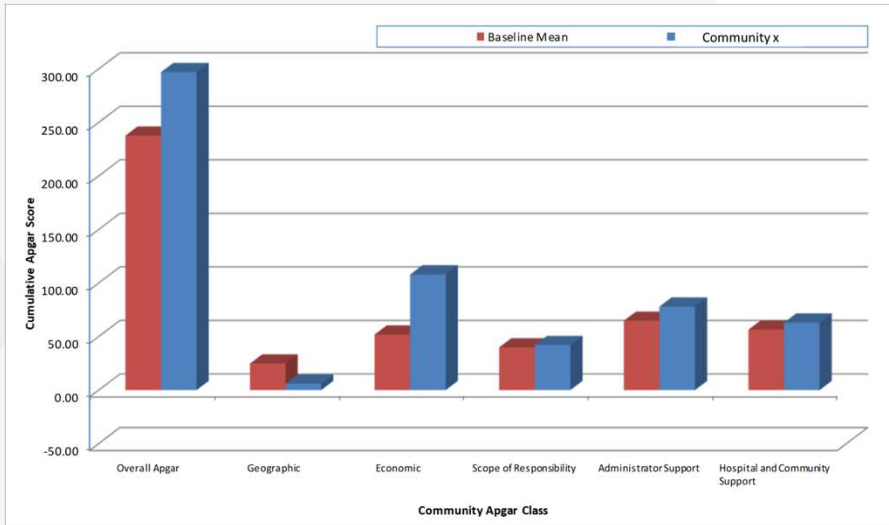
### Examples from Comparative North Dakota Community Level Results



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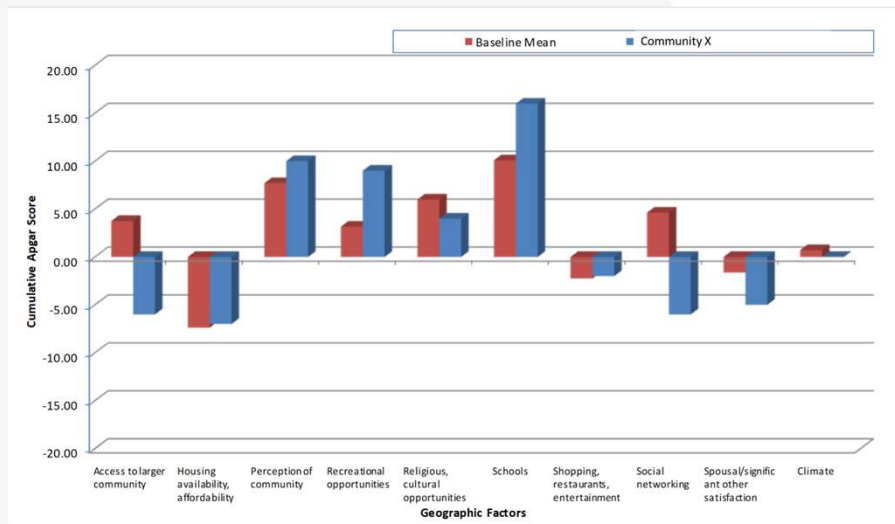
### Community X Comparative Cumulative Apgar Score



41



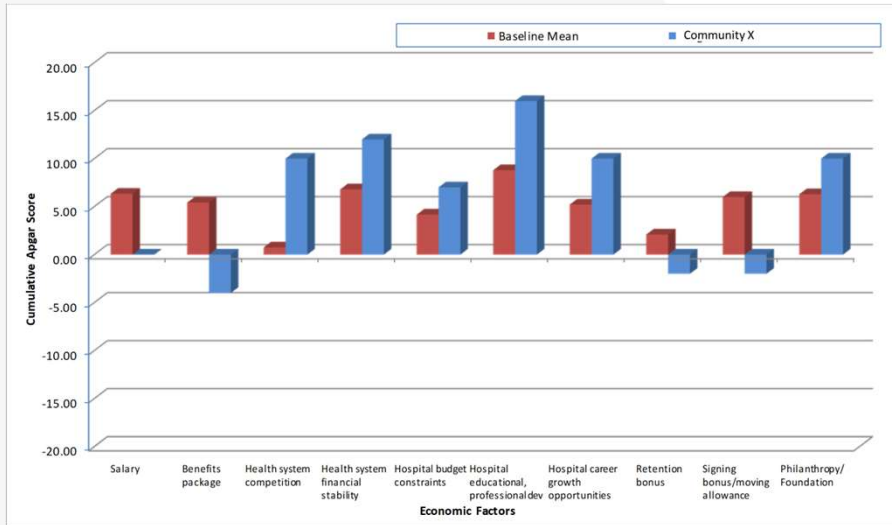
### Community X Comparative Cumulative Apgar Score for Geographic Class



42



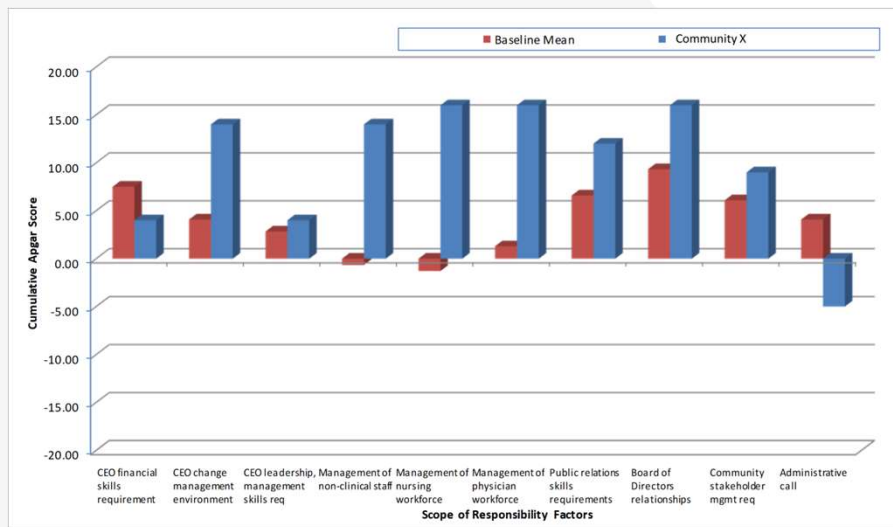
### Community X Comparative Cumulative Apgar Score for Economic Class



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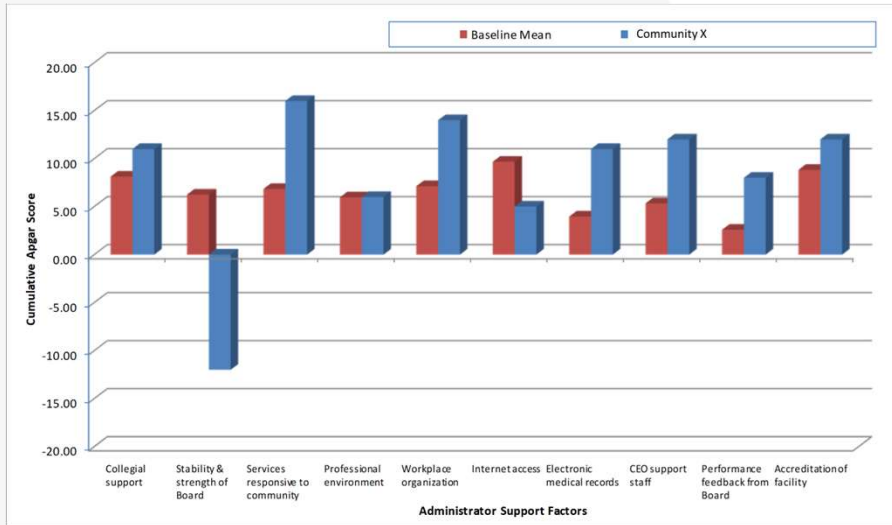
### Community X Comparative Cumulative Apgar Score for Scope of Responsibility Class



44



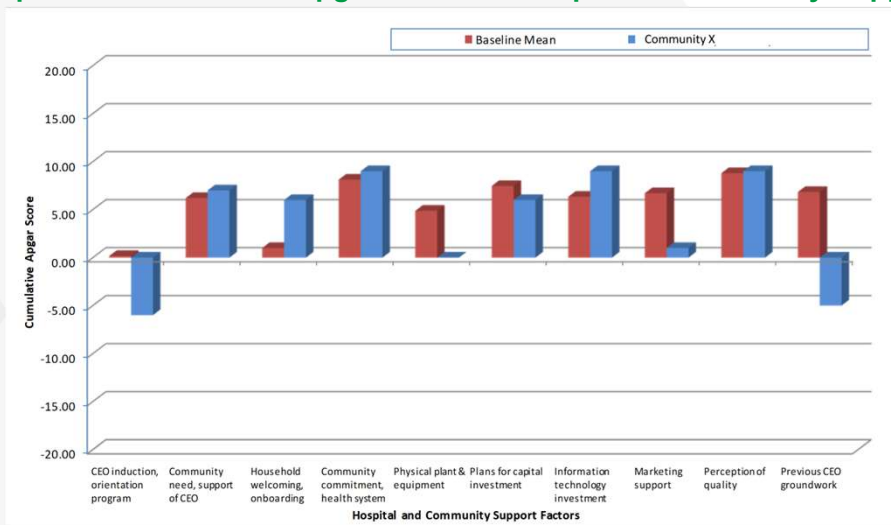
### Community X Comparative Cumulative Apgar Score for Administrator Support Class



45



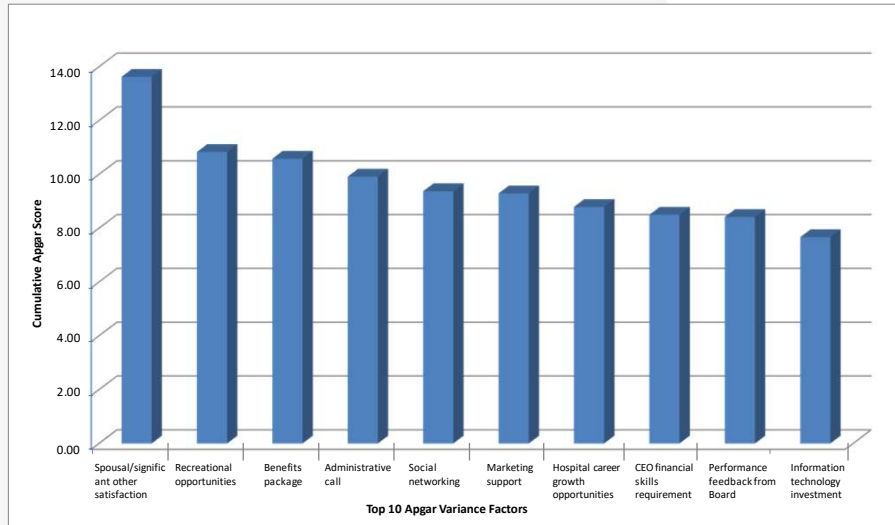
### Community X Comparative Cumulative Apgar Score for Hospital & Community Support Class



46



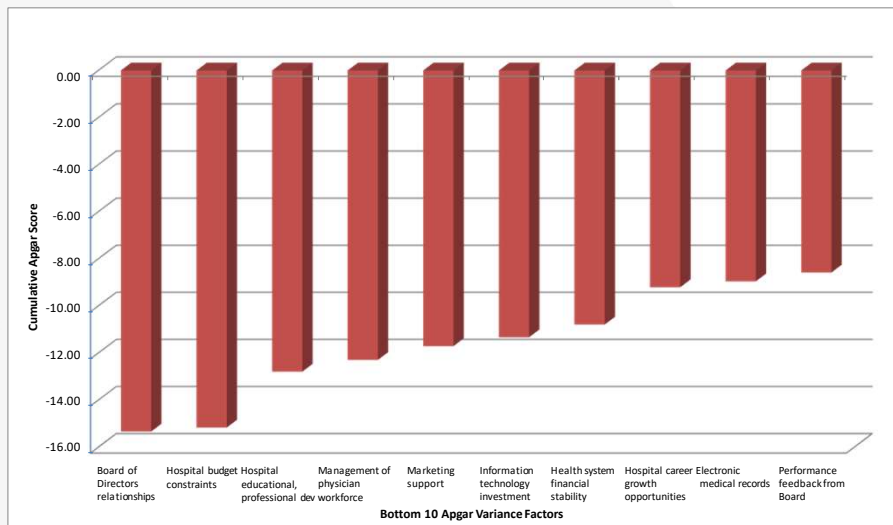
### Community X Top 10 Cumulative Appgar Variance Factors across all 50 Factors



47



### Community X Bottom 10 Cumulative Appgar Variance Factors across all 50 Factors



48

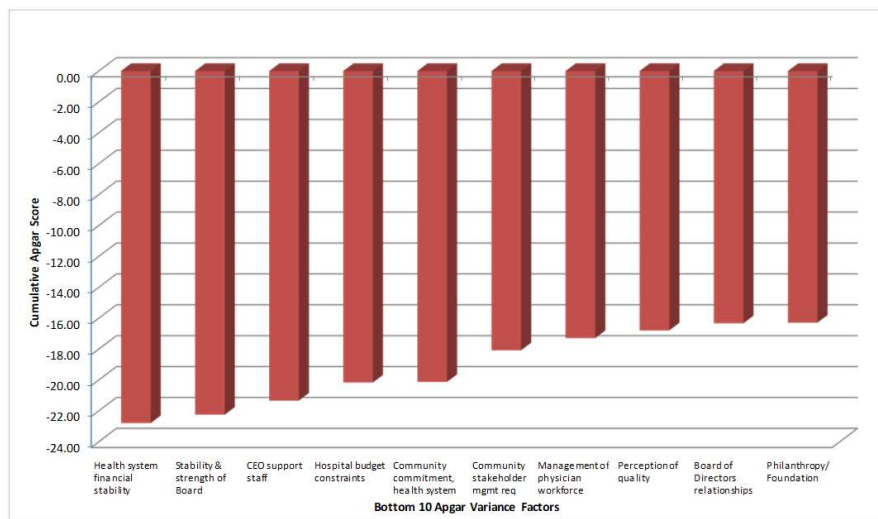


## Examples: Variance factors from year 2



49

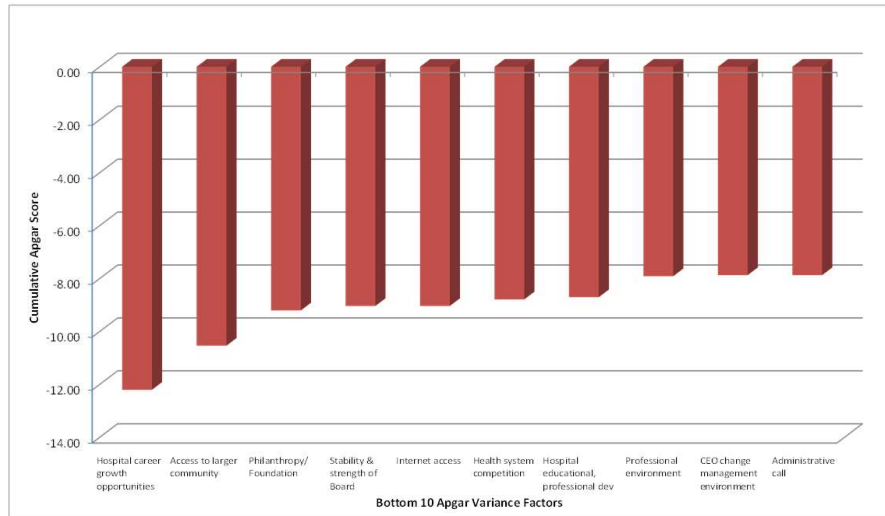
### Community X Bottom 10 Cumulative Apgar Variance Factors across all 50 Factors- YEAR 1



50



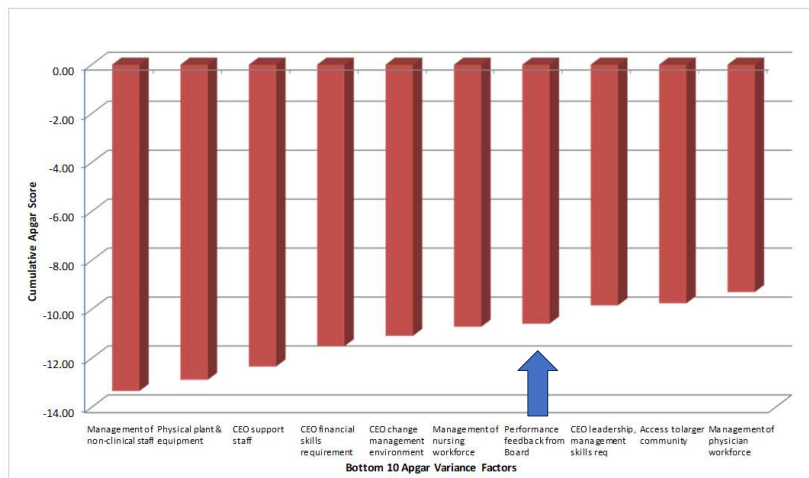
### Community X Bottom 10 Cumulative Apgar Variance Factors across all 50 Factors- YEAR 2



51

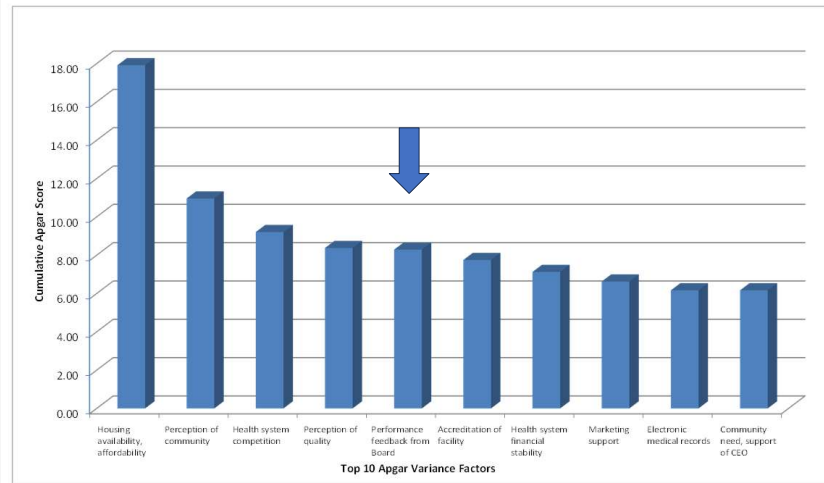


### Community X Bottom 10 Cumulative Apgar Variance Factors across all 50 Factors- YEAR 1



52

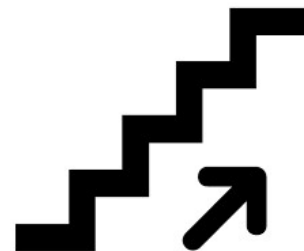
### Community X Top 10 Cumulative Apgar Variance Factors across all 50 Factors- YEAR 2



53

### Next Steps

1. Develop action plan (next slide)
2. CEO CAQ administered again in second year
3. Second administrative team presentation



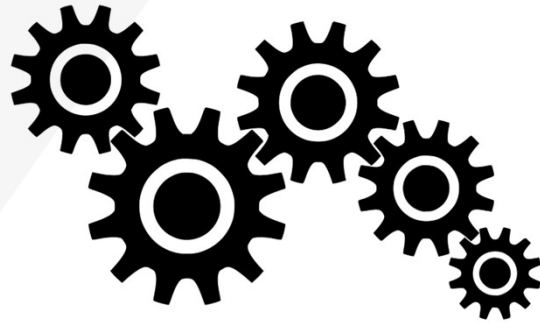
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## Action Plan (3-5 bullet points)

Be as specific as possible:

- 1.
- 2.
- 3.



55



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56