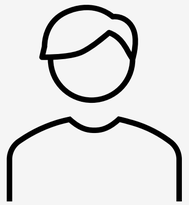
Community Apgar Recruitment and Retention: Partnering for Rural Workforce

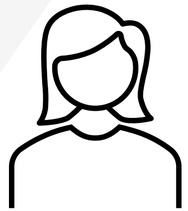
3RNET Annual Conference

August 26, 2026

Presenters:



David Schmitz, MD
Professor & Chair
Department of Family and Community Medicine
UND School of Medicine and Health Sciences



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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
- 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

Presentation Overview

- History of the Community Apgar Program (CAP)
- Purpose/Development
- Nurse Recruitment and Retention Factors
- Using the Community Apgar Questionnaire (CAQ)
- Examples from Community Level Results

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

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**ppearance, **P**ulse, **G**rimace, **A**ctivity, **R**espiration) 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 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

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
- CAH CEO CAP
- Updated Nurse CAP

Community Apgar Suite of Research Tools

Purpose of the Community Apgar Questionnaire (CAQ)

- A tool used to assess a rural community's assets and capabilities in recruiting and retaining health professionals in rural/underserved 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 CAQ can also be used to track a community's progress over time, like the clinical use of Apgar scores in newborns

Community Apgar Questionnaire (CAQ) Development

Goal

Develop an objective measurement tool to assess the characteristics and parameters of rural communities related to successful recruitment and retention of various health professions

Process

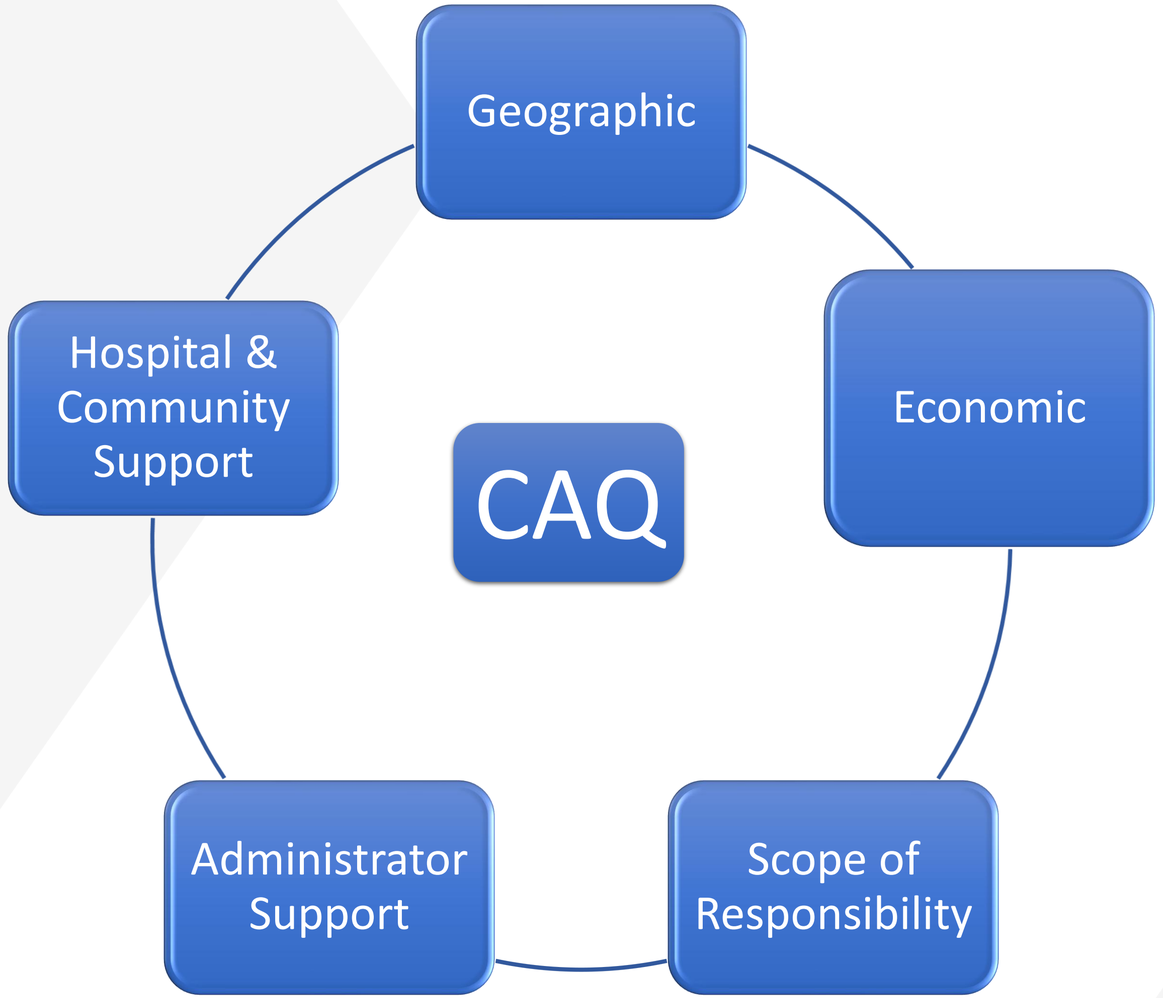
Research the scientific literature

Expert opinions

Collaboration

CAQ Development

- The 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 health professionals to rural areas
  - Open-ended questions



Nurse CAQ Class/Factor Examples

Geographic

- Access to larger community
- Recreational opportunities
- Schools
- Spousal/ significant other satisfaction

Economic/ Resources

- Cost of living
- Childcare
- Education support (CE, tuition)
- Salary

Management/ Decision Making

- Hospital leadership/ management
- Nurse empowerment in practice decisions
- Collegiality with med staff
- Teaching/ mentoring opportunities

Practice Environment/ Scope

- Electronic medical records (EMR)
- Mentoring culture
- Patient safety/quality care
- Workload manageability

Community/ Practice Support

- Welcome & recruitment program
- Perception of quality
- Emergency medical services
- Nursing workforce adequacy & stability

NCAQ Program:
North Dakota Sample and Administration

NCAQ Target Communities in North Dakota

- 14 facilities
- 14 nursing administrators and 14 practicing nurses for a total sample of 28

NCAQ Administration

- Participants provided the NCAQ survey in advance with consent form [IRB approval from Boise State University] and one-hour interviews scheduled
- Separate structured one-hour interviews for each participant where consent form was reviewed and executed and CAQ completed
- NCAQ Community Reports
  - Individual data from each community reviewed with community members each year of the program
- State level results presented at state selected forum

Use of the 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”
- Gain real-time context of key issues at local and state levels

Making the most out of the CAQ

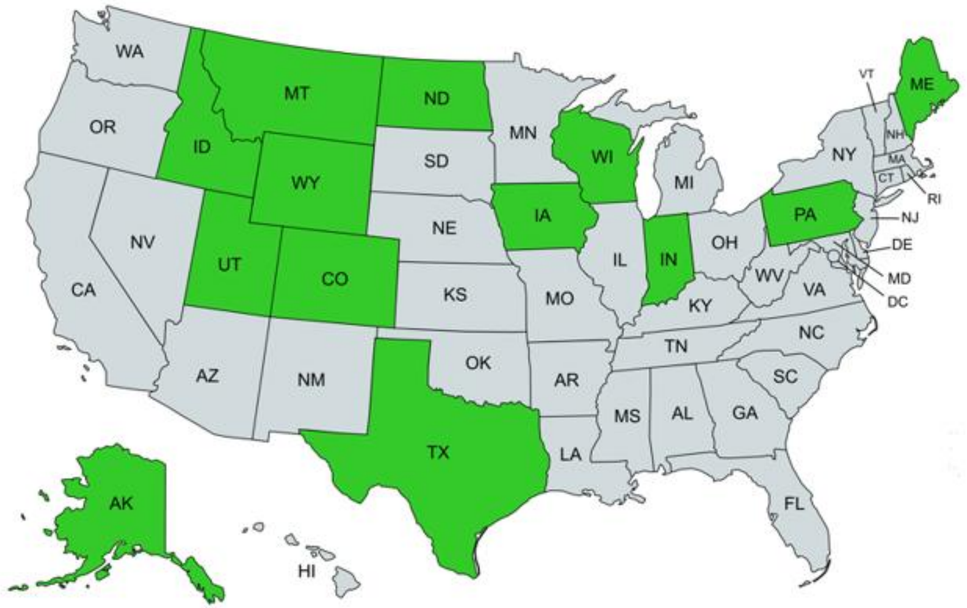
Assessing a rural community's assets and capabilities for recruitment and retention of health professionals:

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

Future of the CAQ

- Community Apgar studies have been used to share **successful strategies** communities have used to **overcome challenges** which may be difficult or impossible to modify (Best Practice Modeling).
- CAQ surveys may be useful in **identifying trends and overarching themes** which can be further addressed at state or national levels.

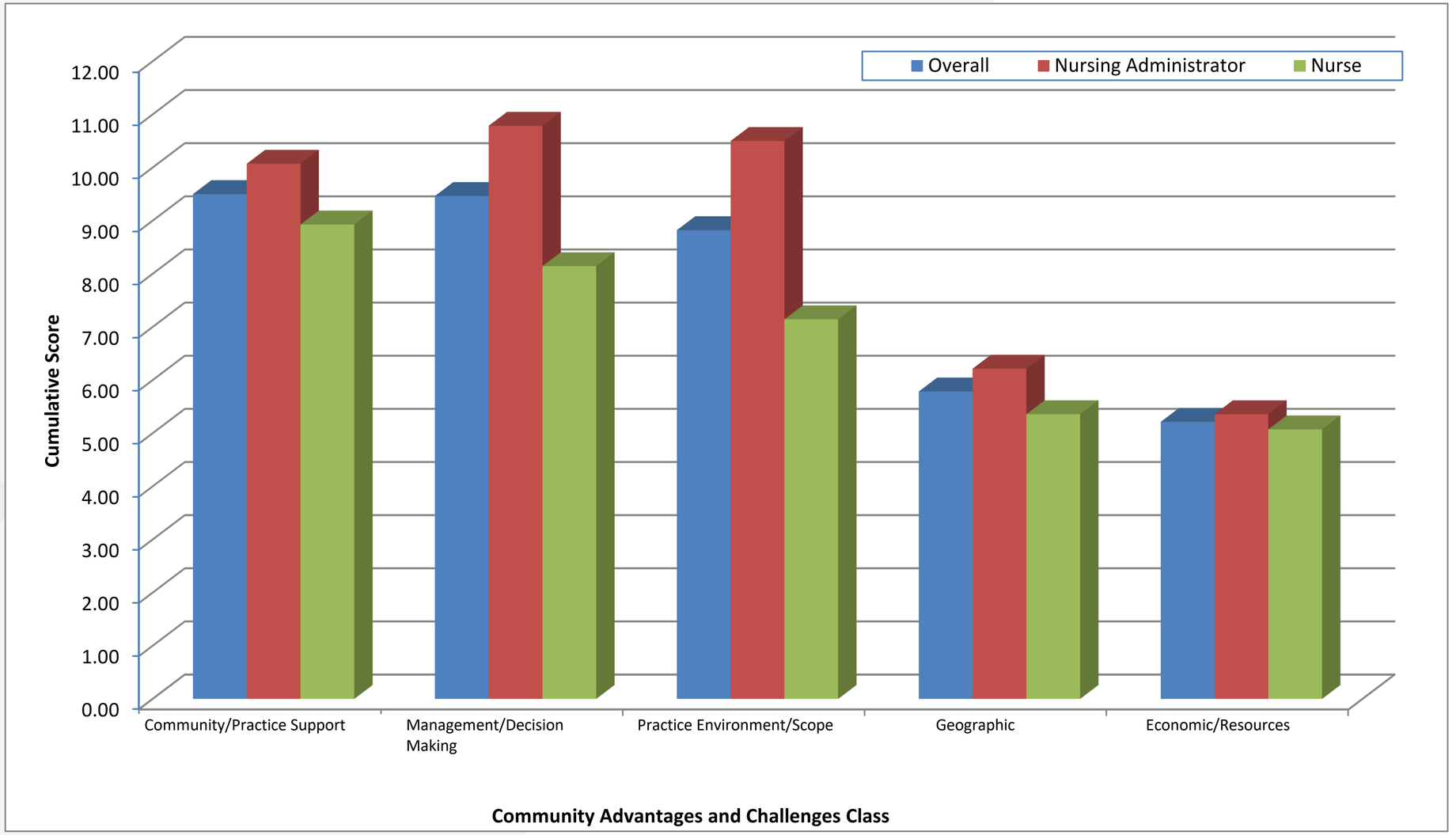
Current Apgar Partners



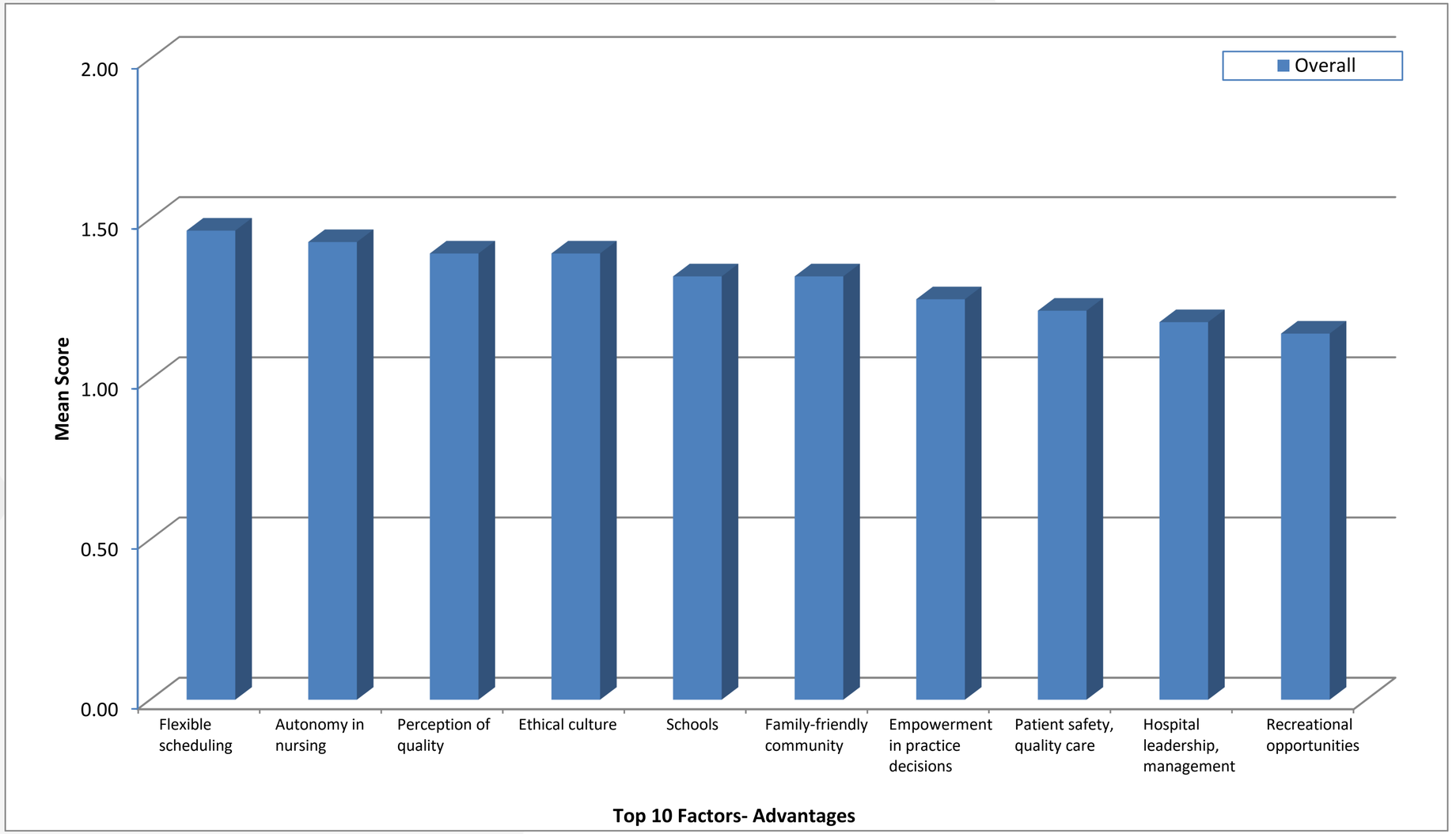
- States Participating/Participated

Examples from Overall North Dakota Community Level Results (Year 2)

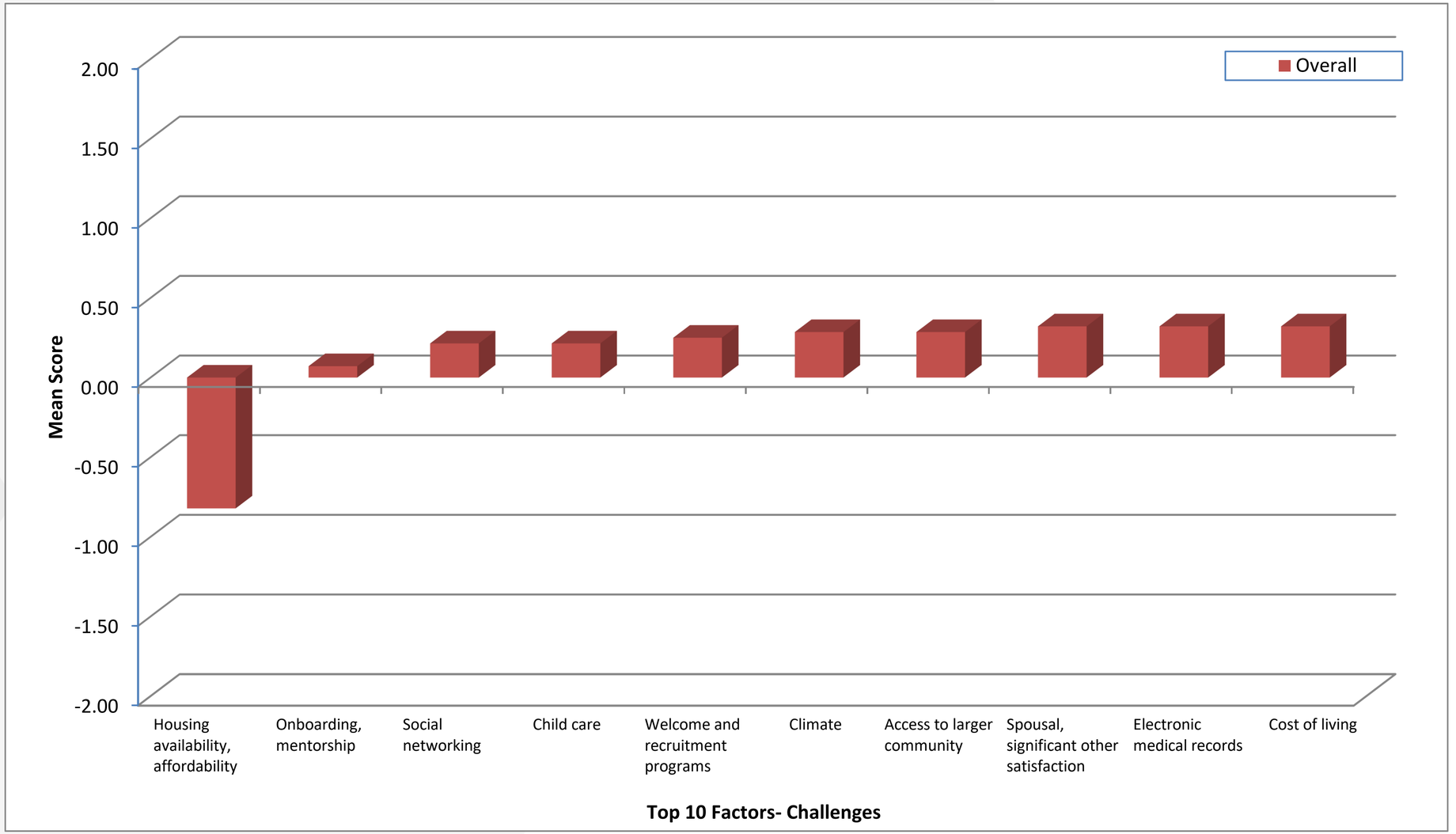
Class Nurse Community Advantages and Challenges Cumulative Score



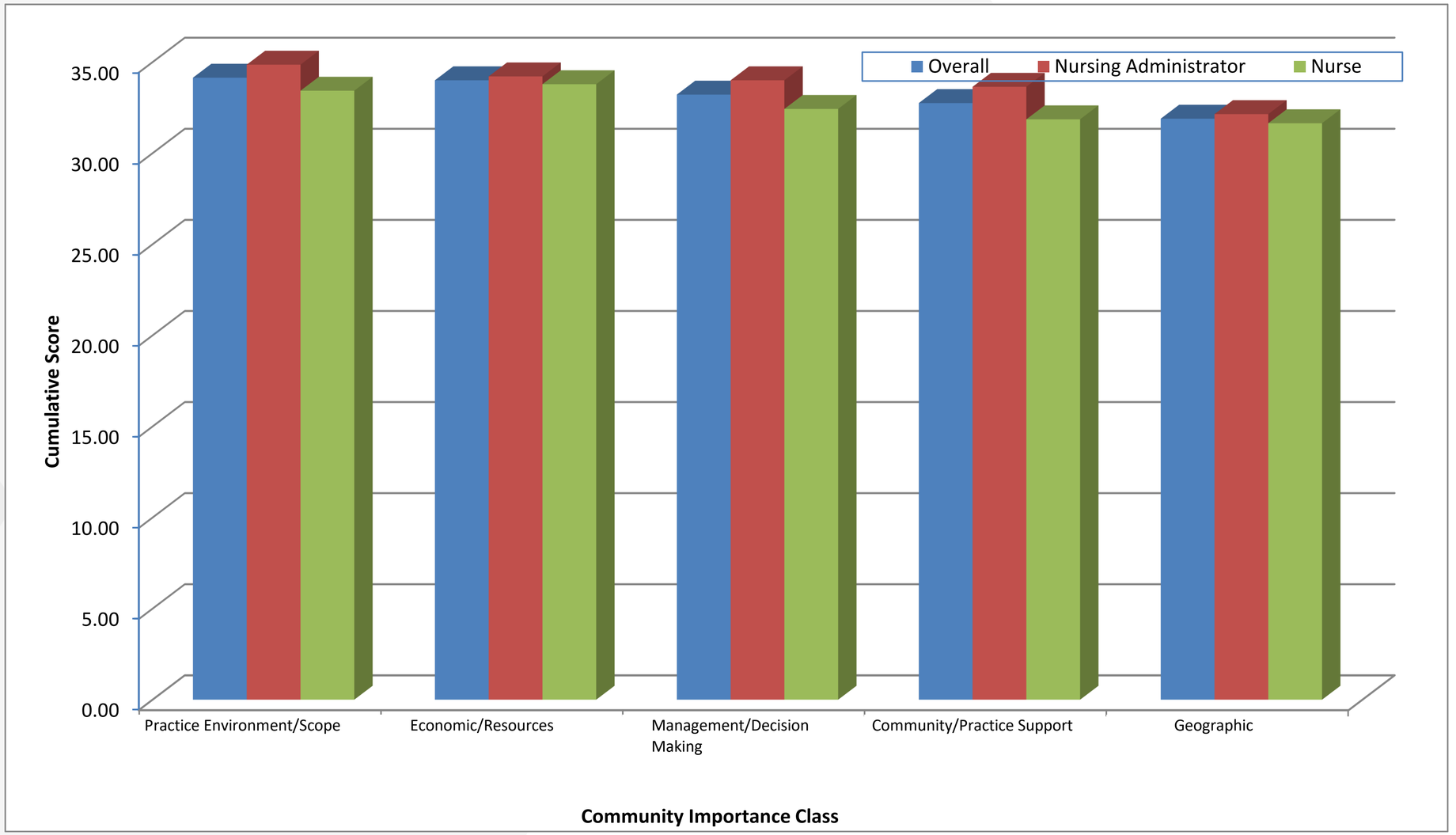
Top 10 Nurse Community Advantages Mean Score



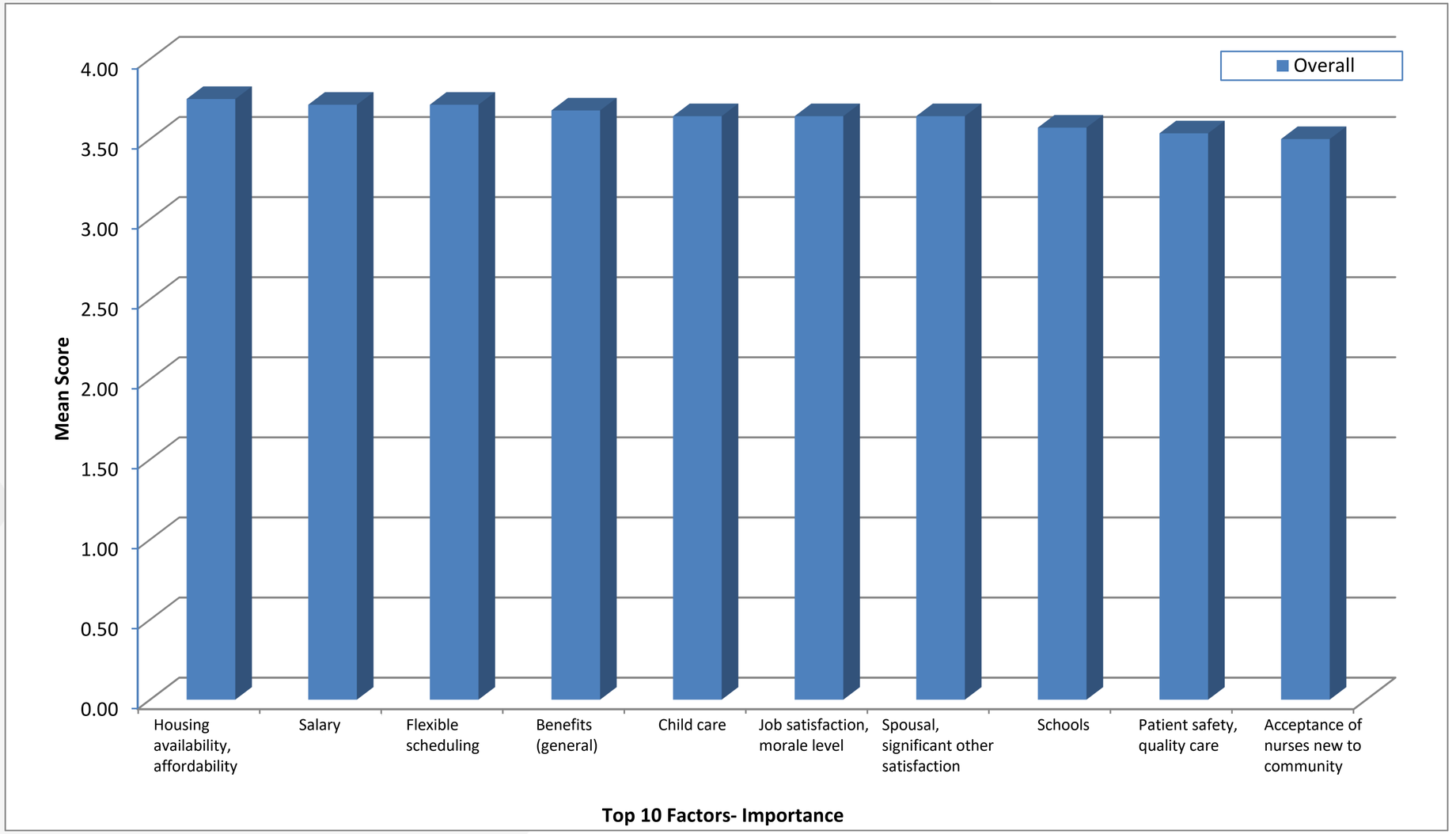
Top 10 Nurse Community Challenges Mean Score



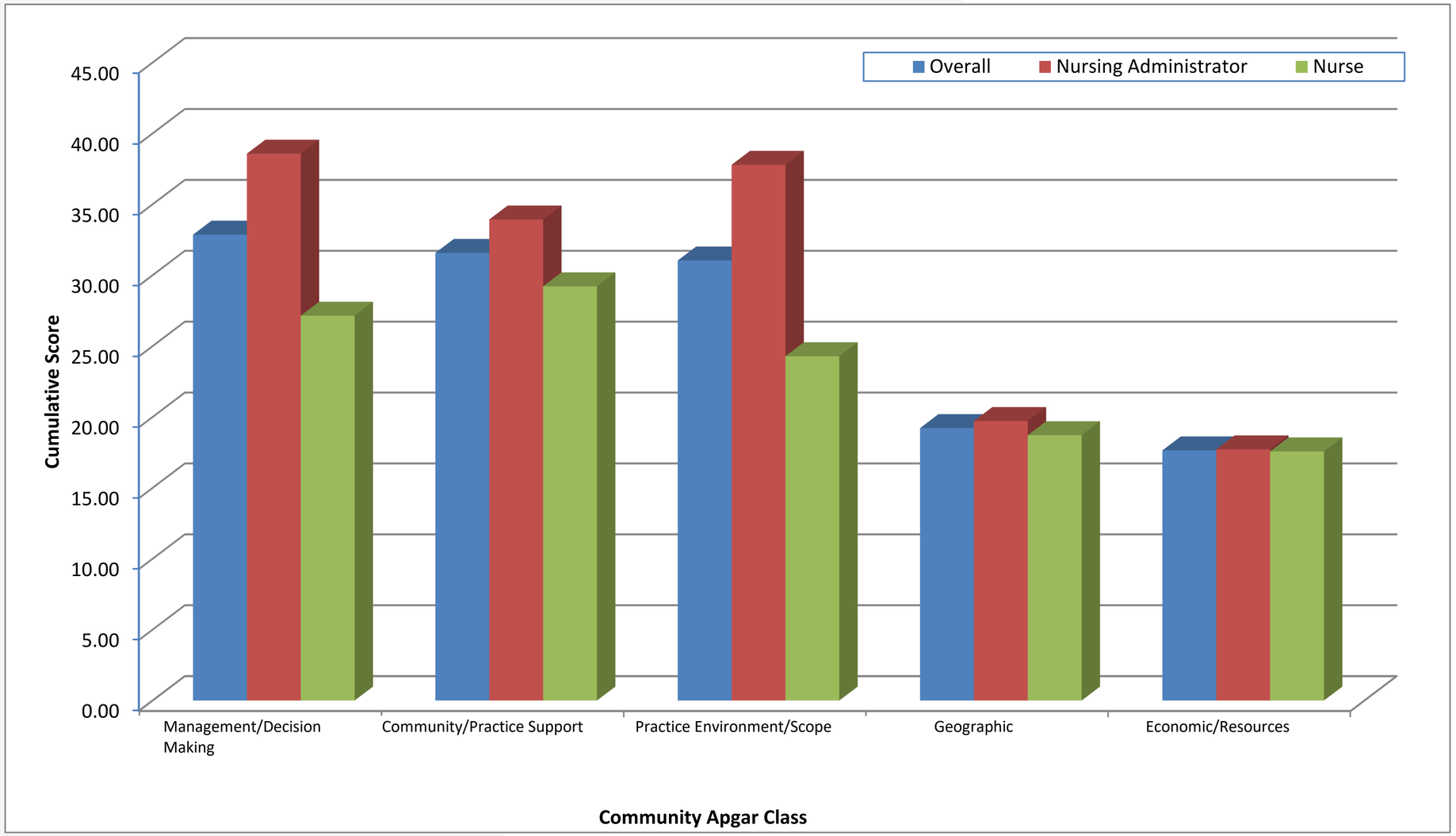
Class Nurse Community Importance Cumulative Score



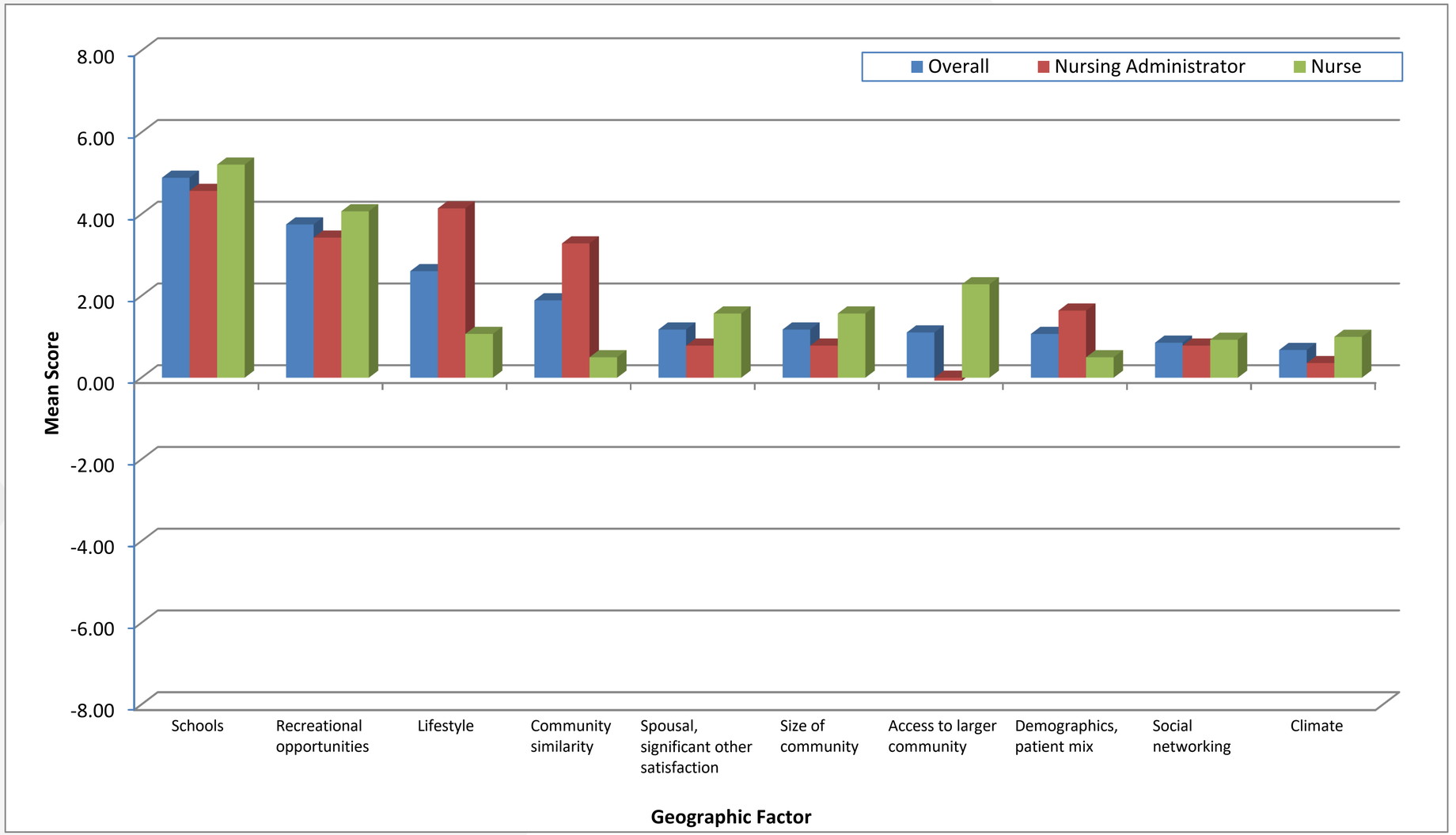
Top 10 Nurse Community Importance Mean Score



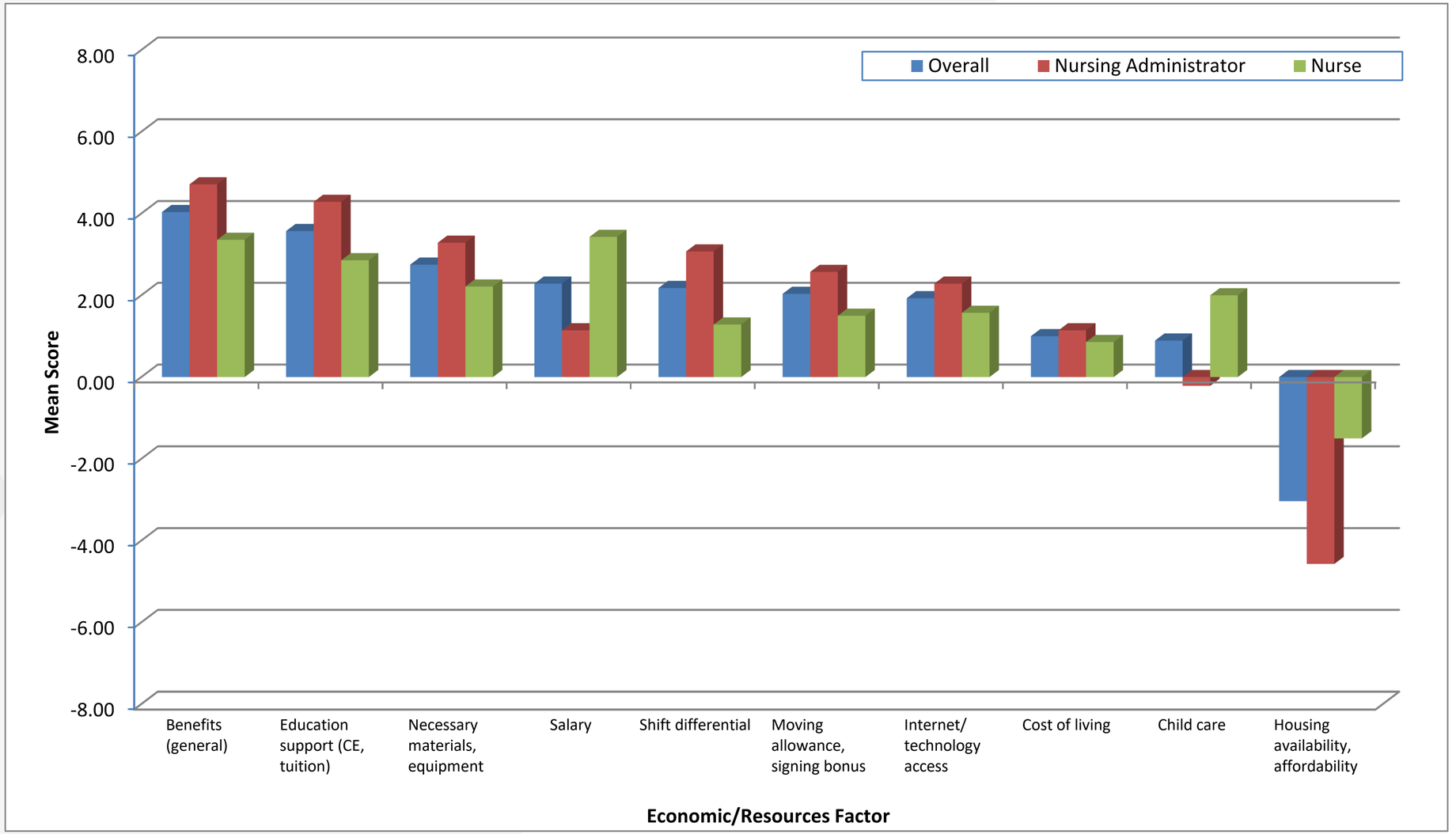
Class Nurse Community Apgar Cumulative Score



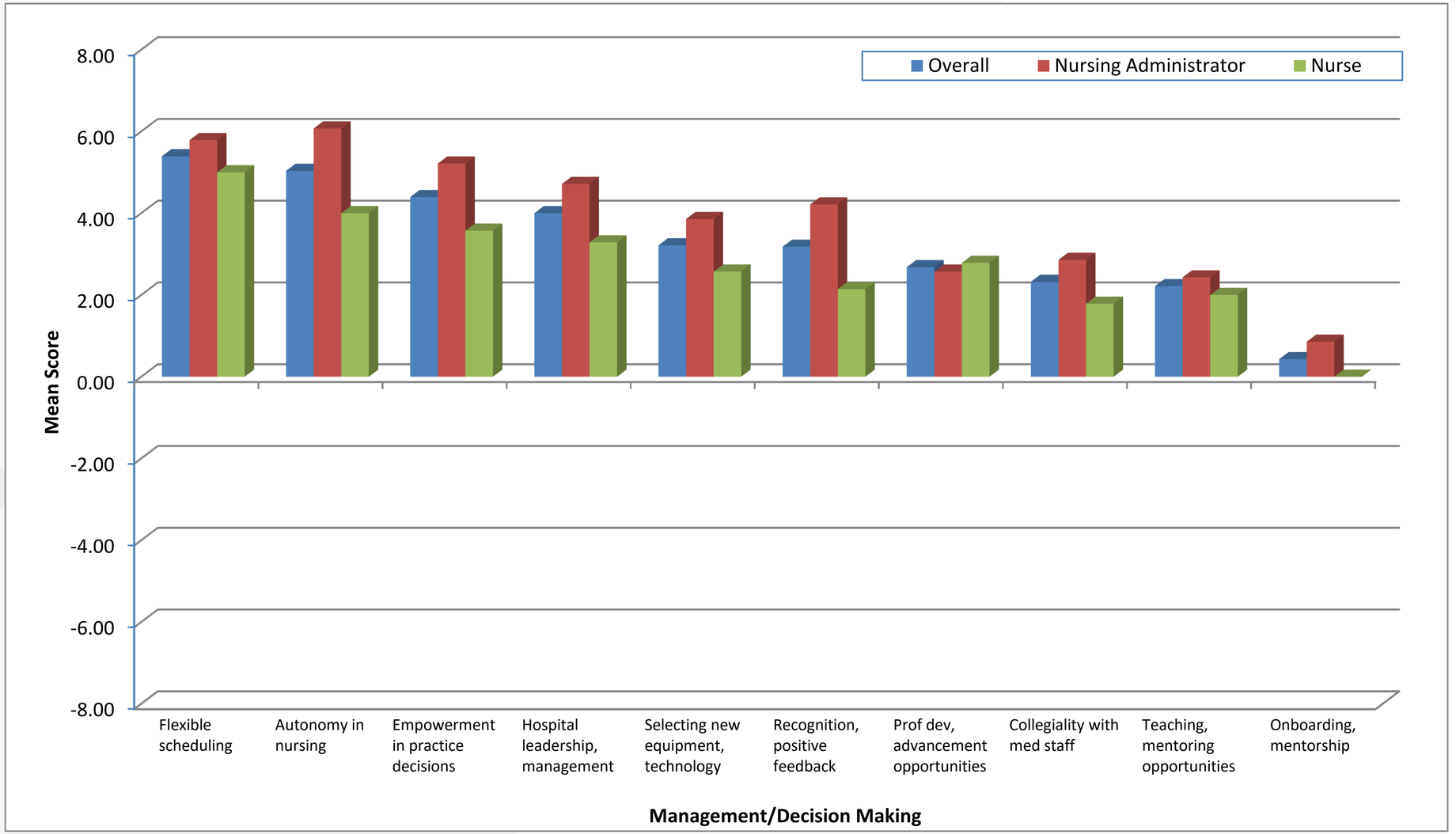
Geographic Class Nurse Community Apgar Mean Score



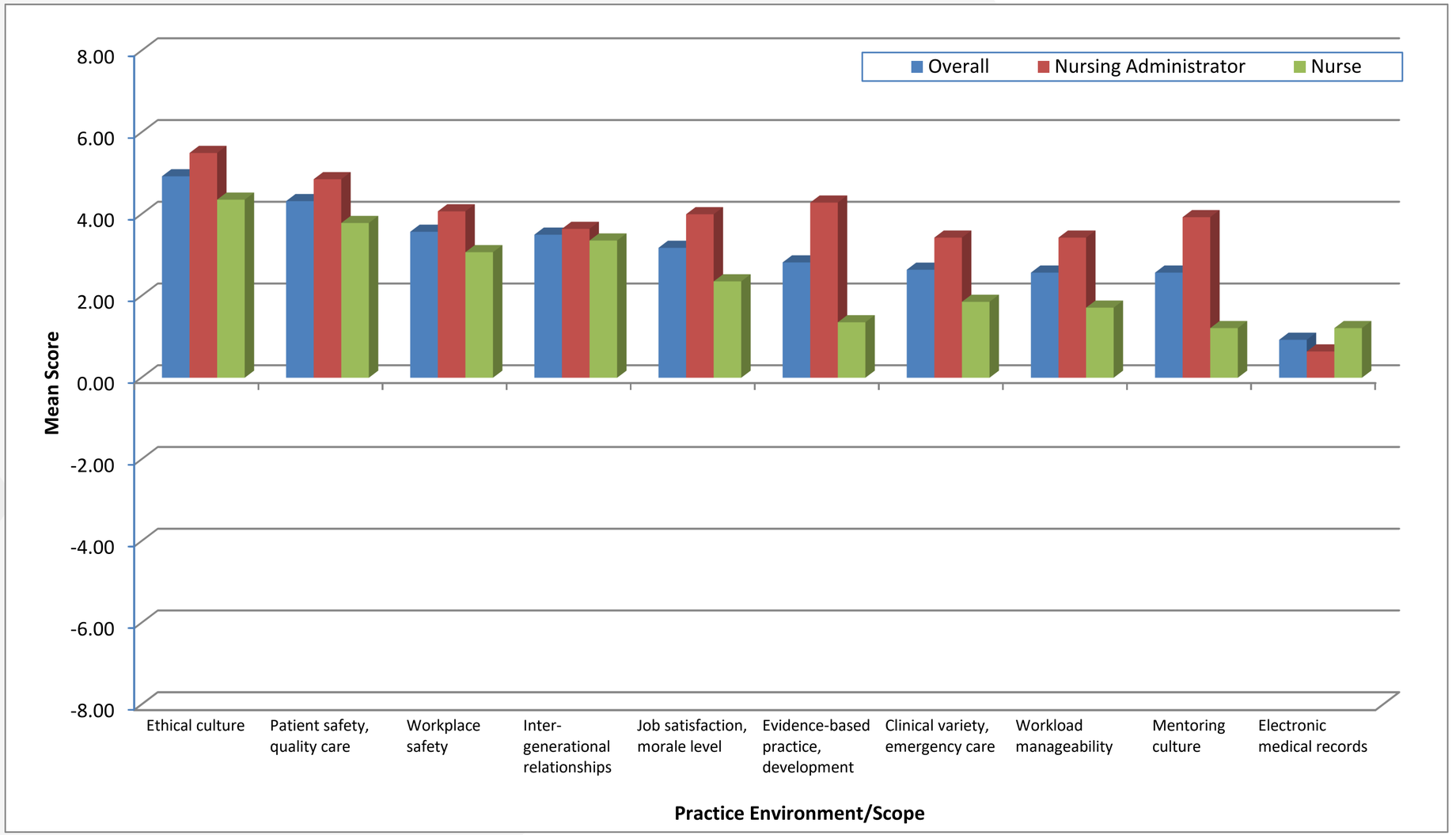
Economic/Resources Class Nurse Community Apgar Mean Score



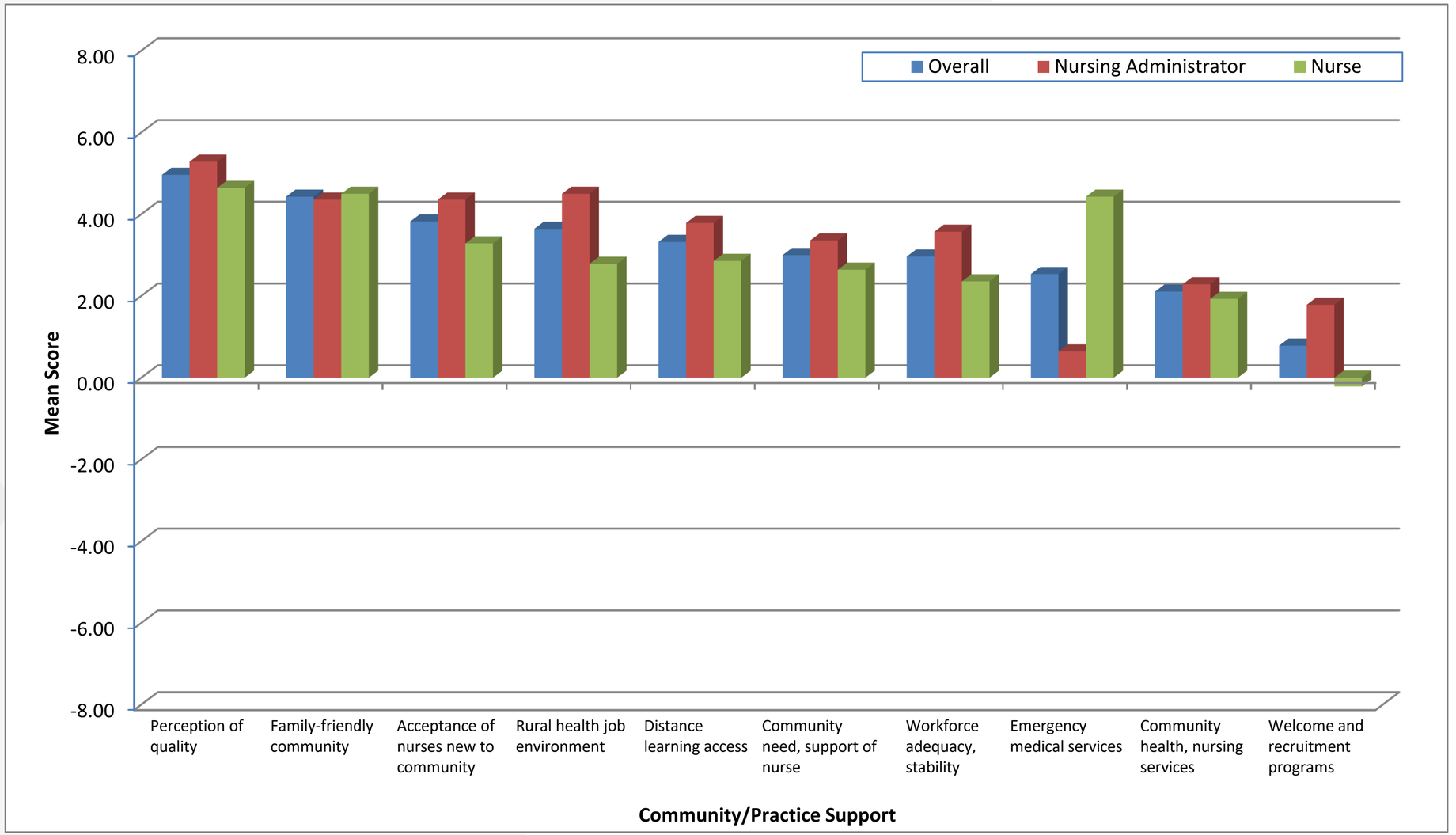
Management/Decision Making Class Nurse Community Apgar Mean Score



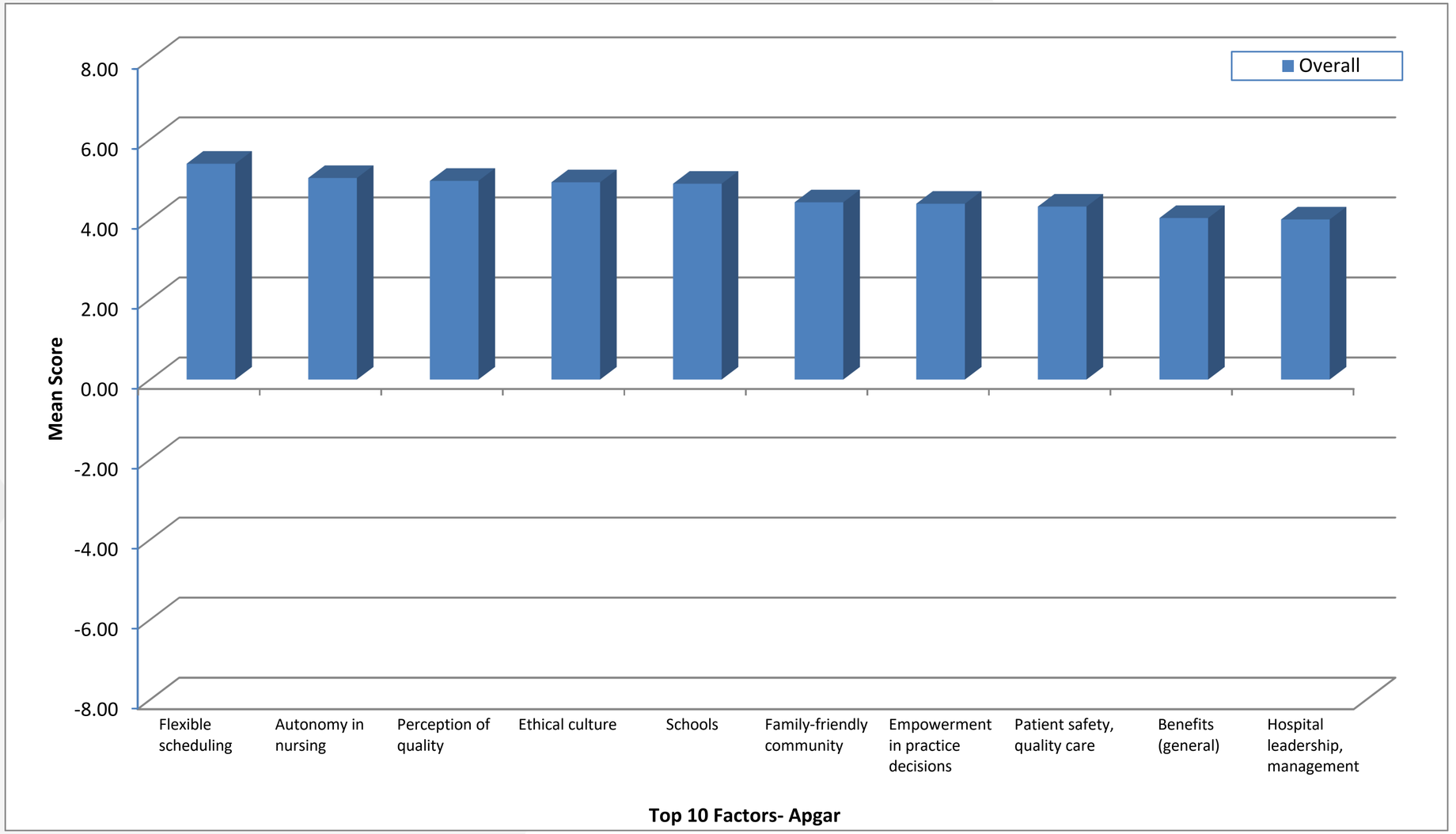
Practice Environment/Scope Class Nurse Community Apgar Mean Score



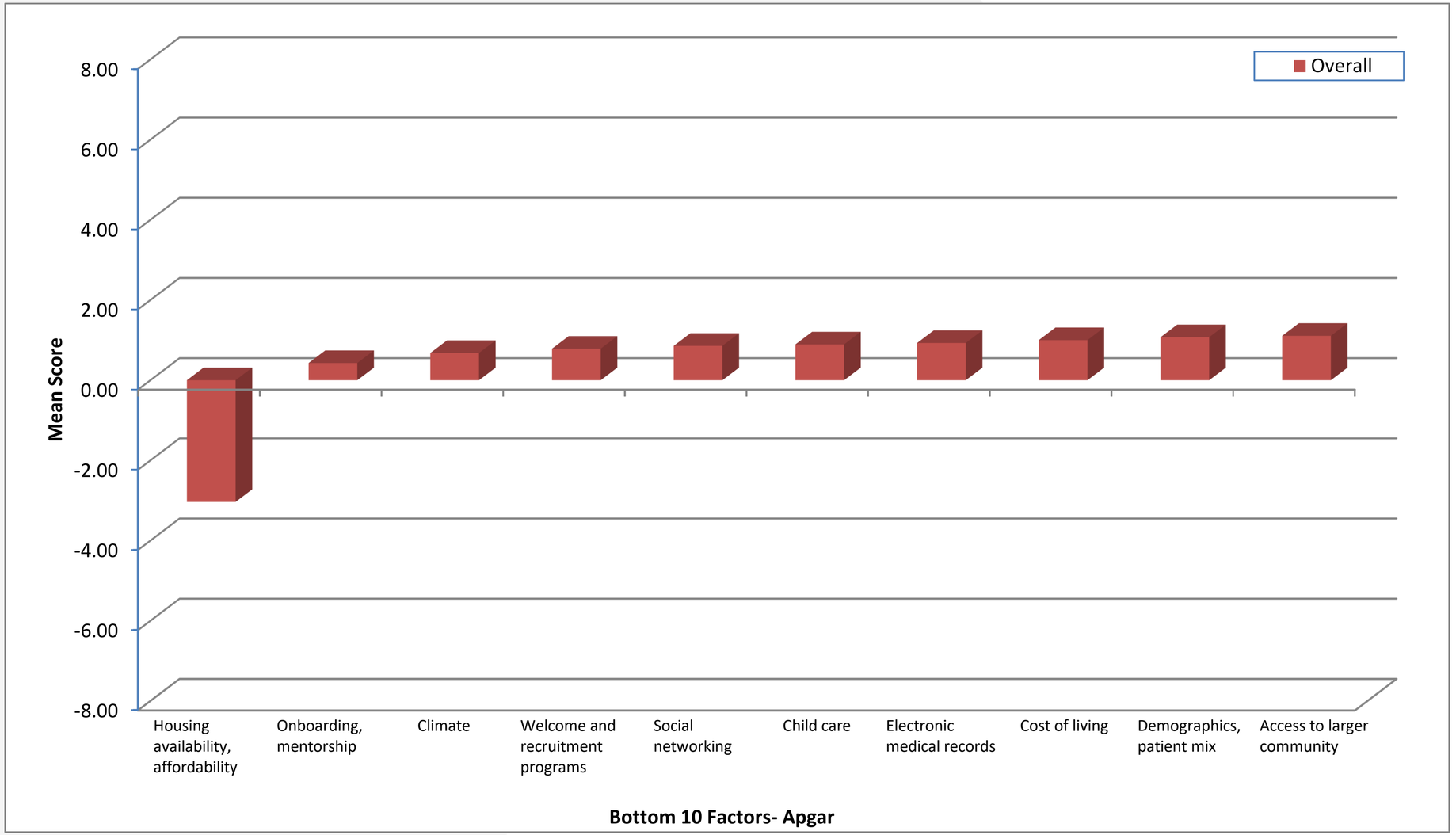
Community/Practice Support Class Nurse Community Apgar Mean Score



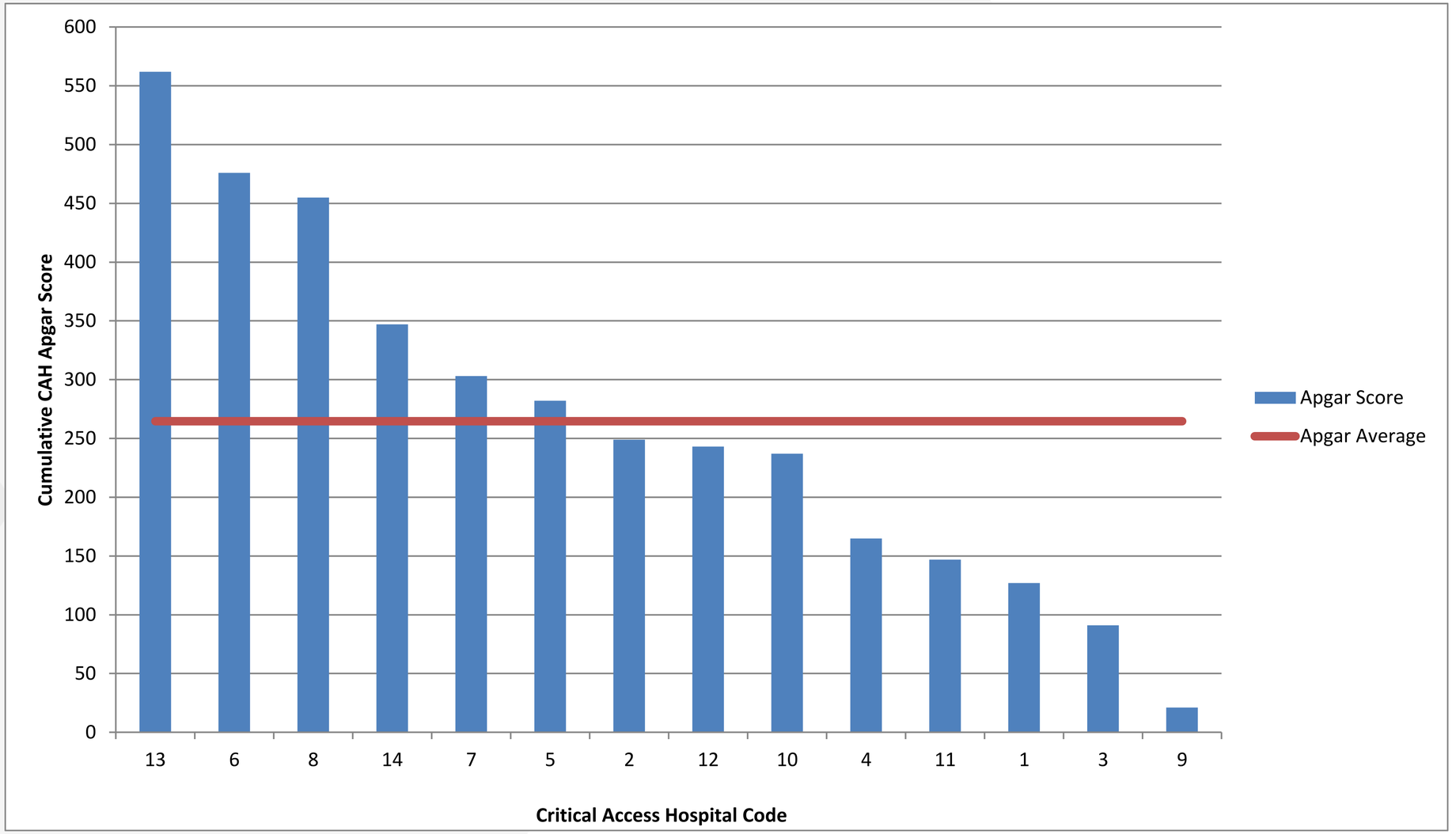
Top 10 Nurse Community Apgar Mean Score



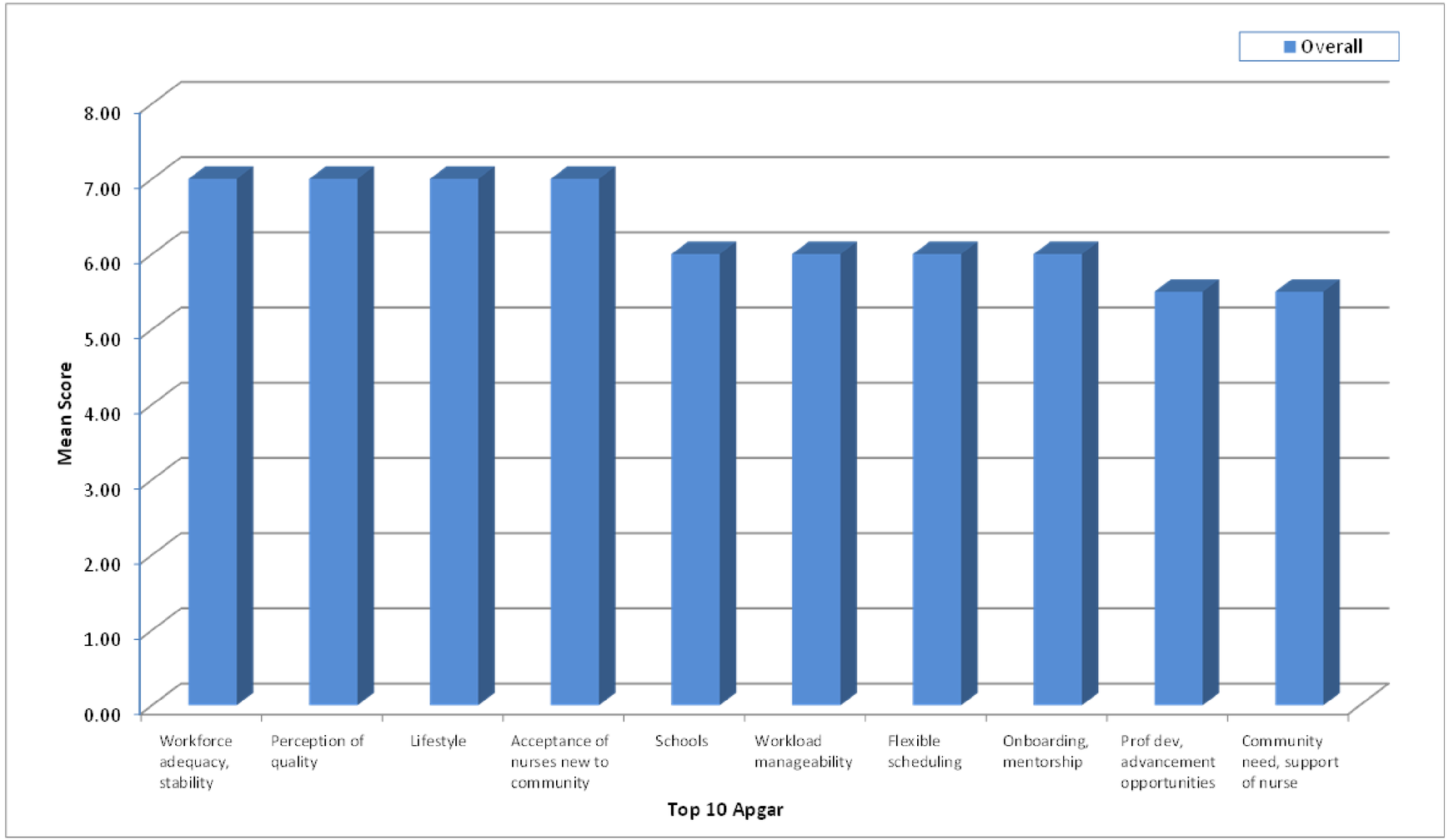
Bottom 10 Nurse Community Apgar Mean Score



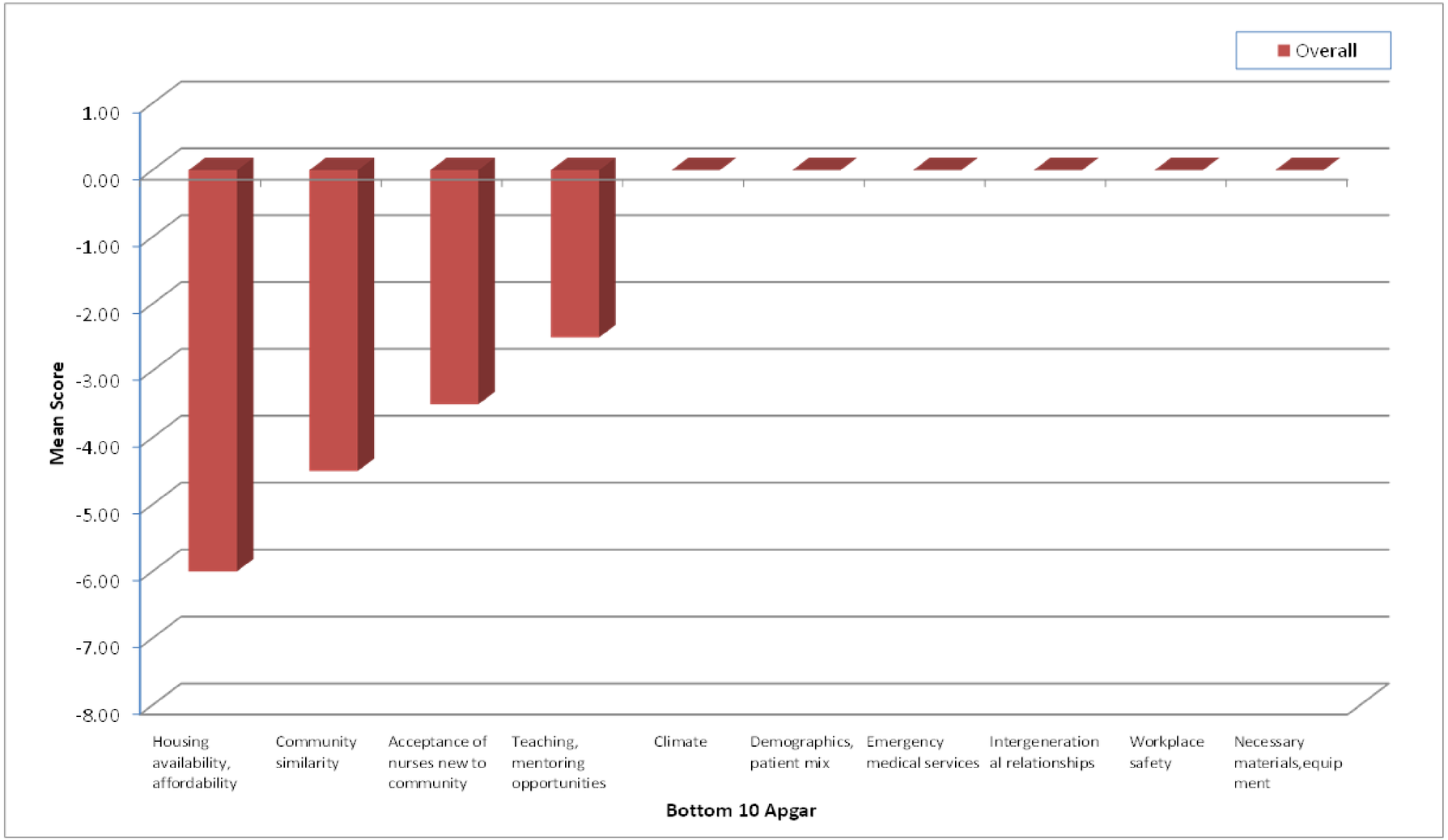
Cumulative Nurse Community Apgar Score



Community X Nures CAQ
Top 10 Apgar Factors across all 50 factors

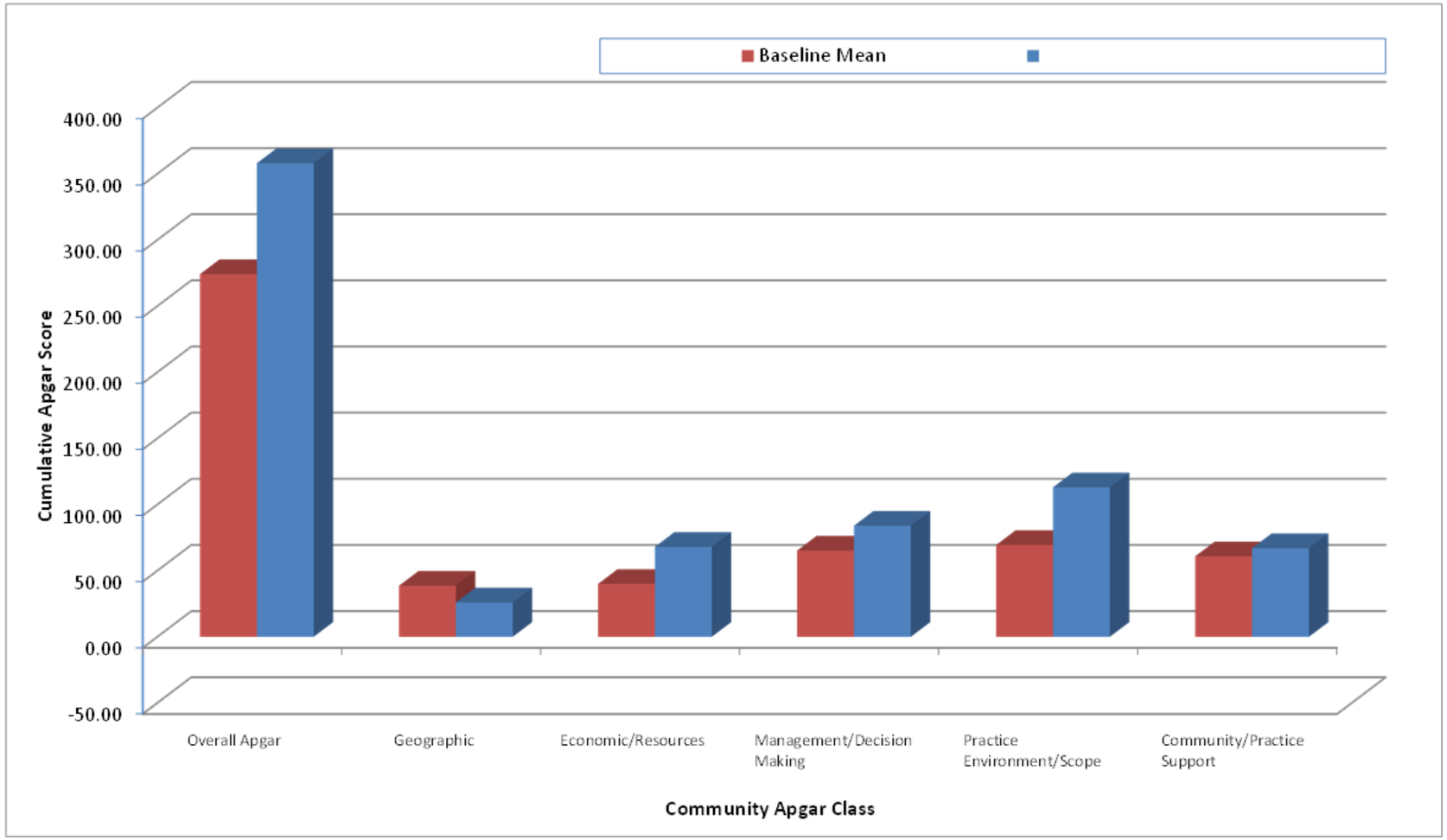


Community X Nurse CAQ
Bottom 10 Apgar Factors across all 50 factors

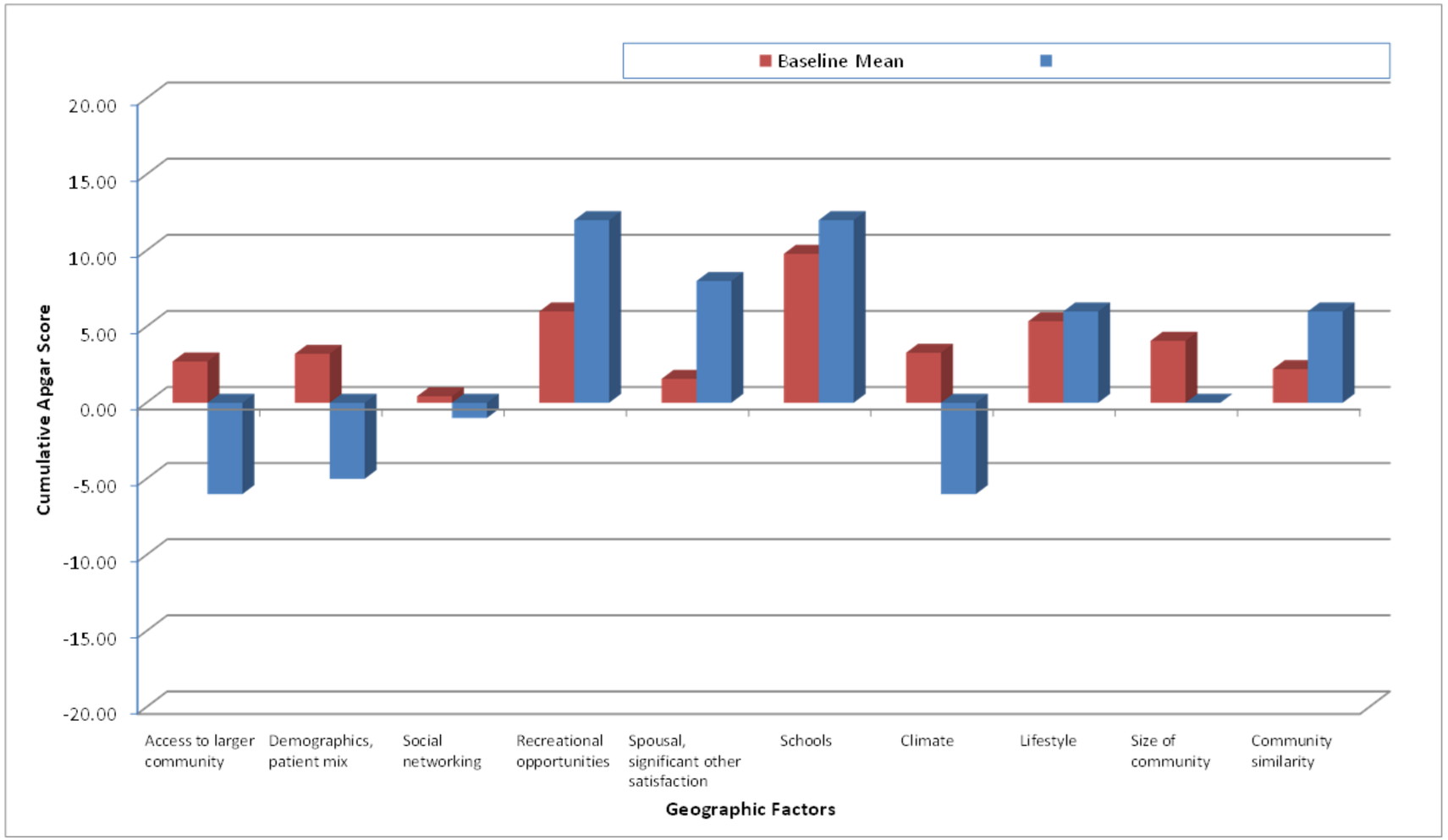


Examples from Comparative North Dakota Community Level Results

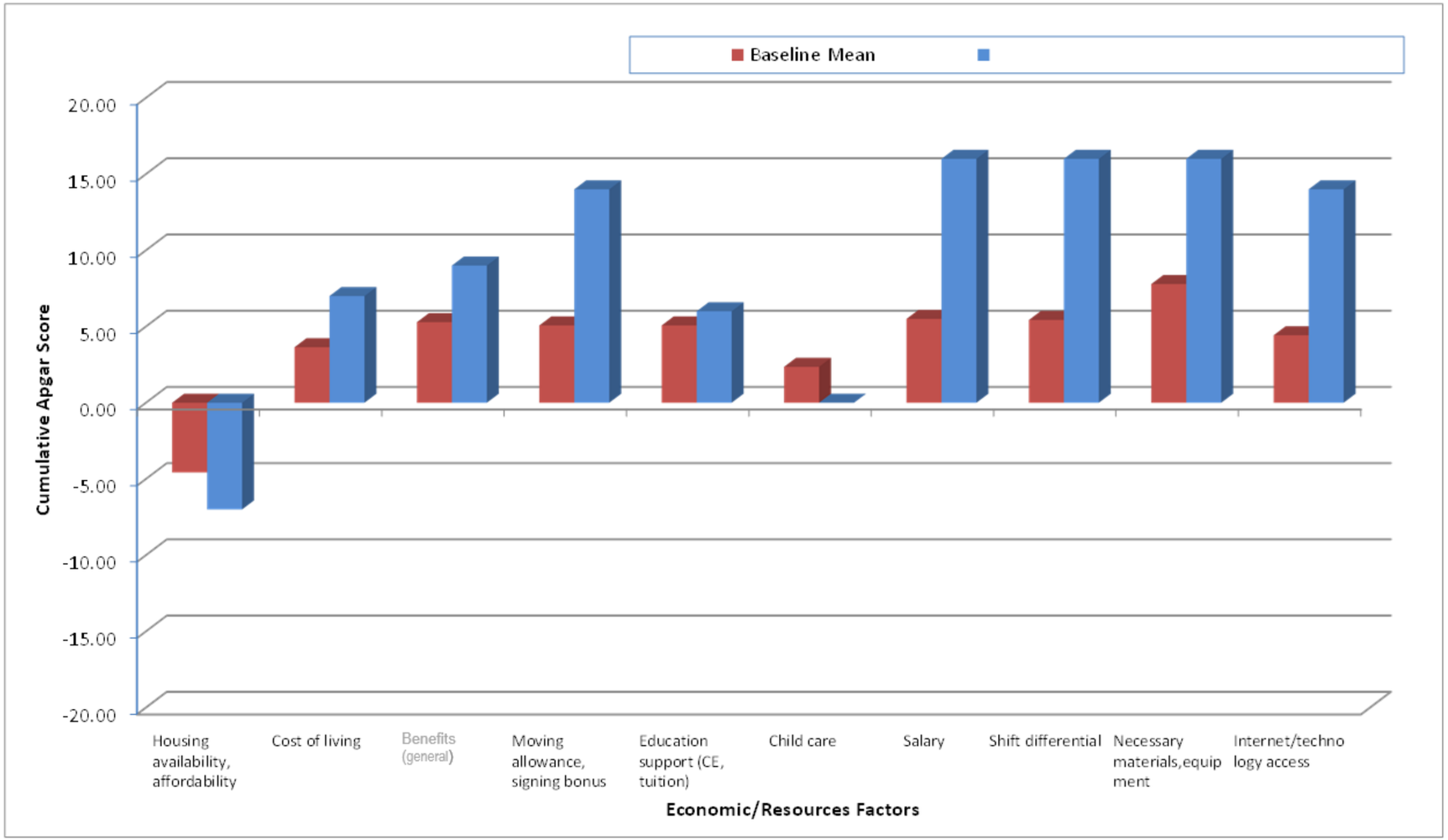
Community X Nurse CAQ
Comparative Cumulative Apgar Score



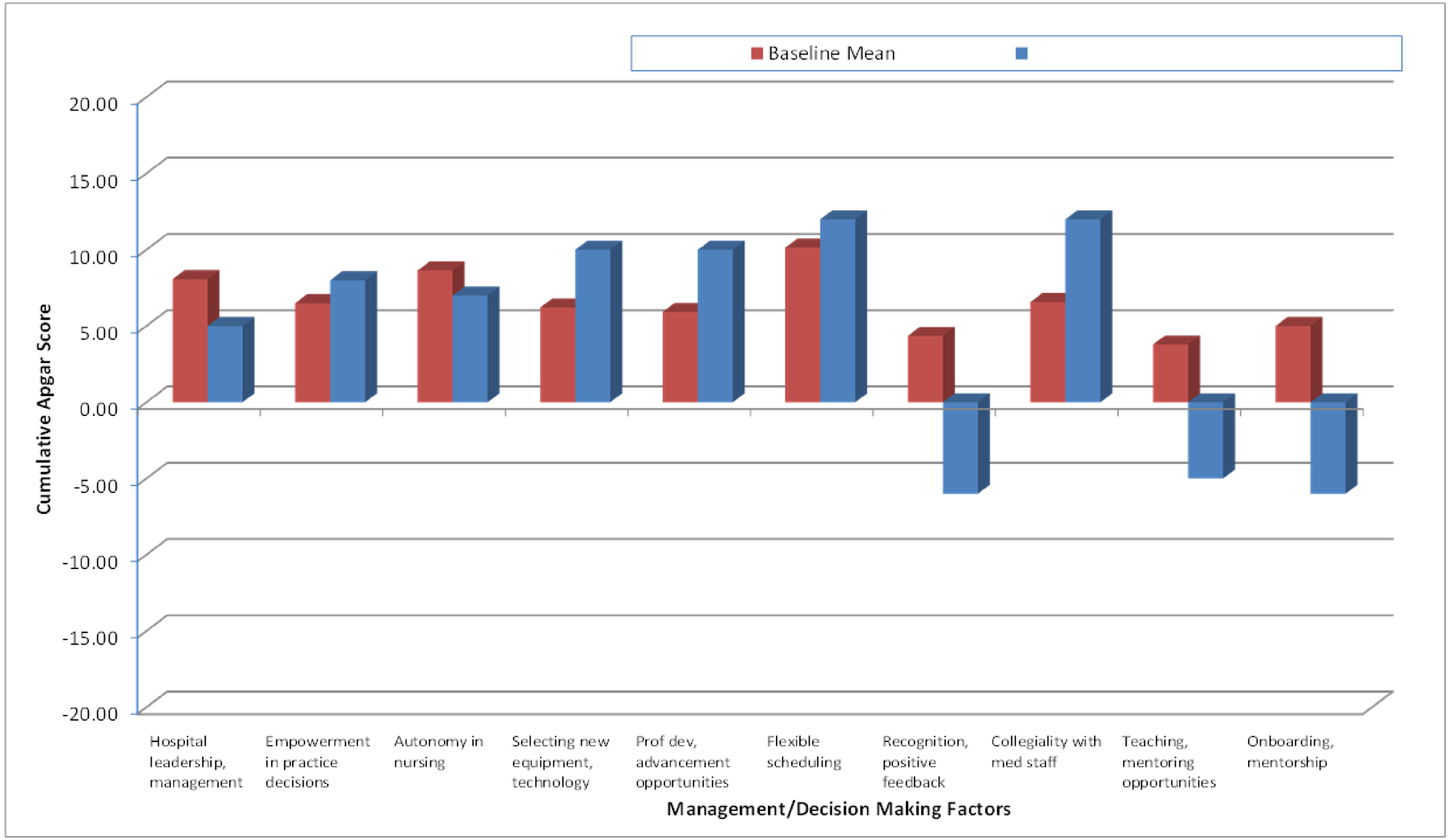
Community X Nurse CAQ
Comparative Cumulative Apgar Score for Geographic Class



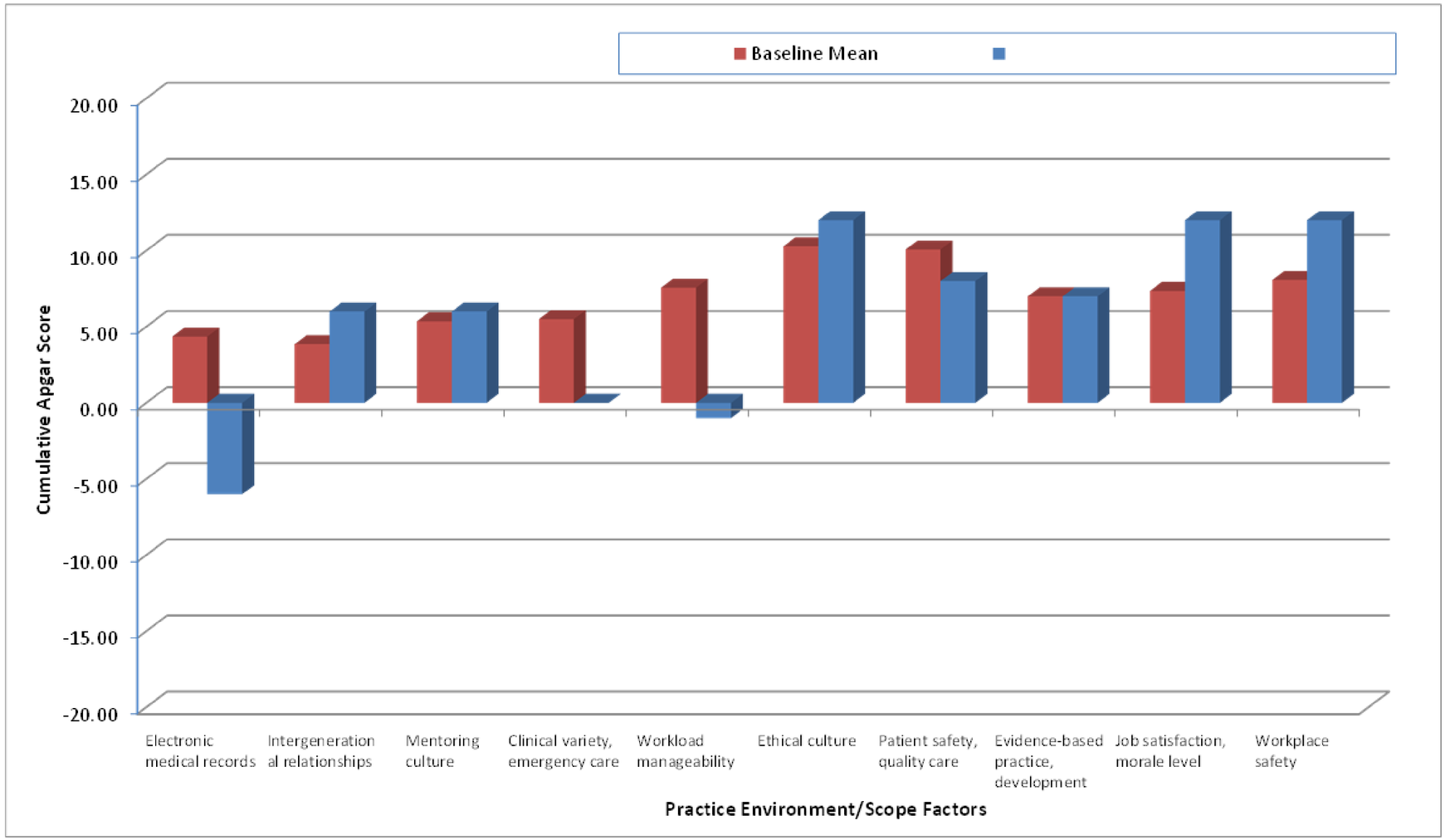
Community X Nurse CAQ
Comparative Cumulative Apgar Score for Economic/Resources Class



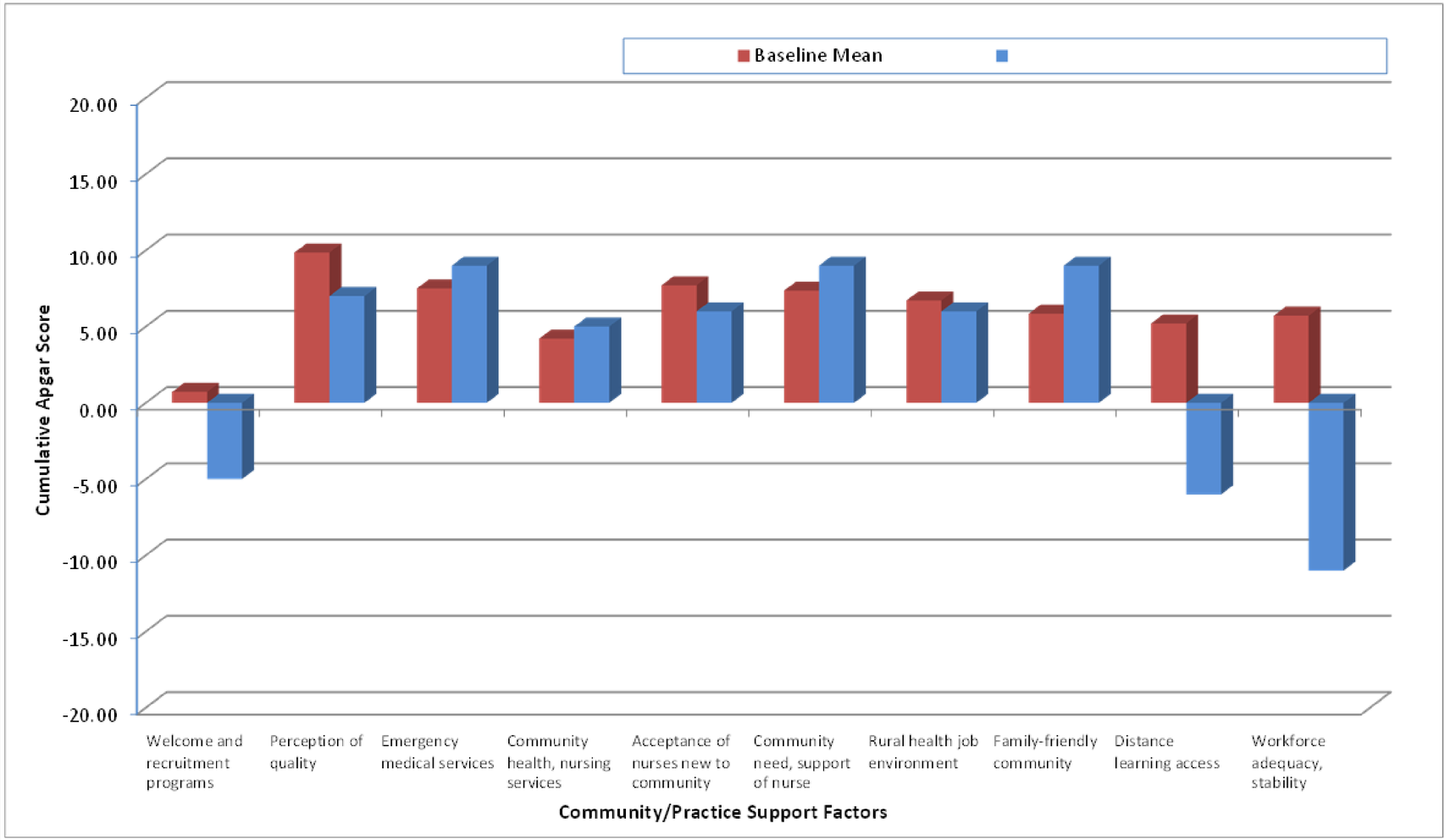
Community X Nurse CAQ
Comparative Cumulative Apgar Score for Management/ Decision Making Class



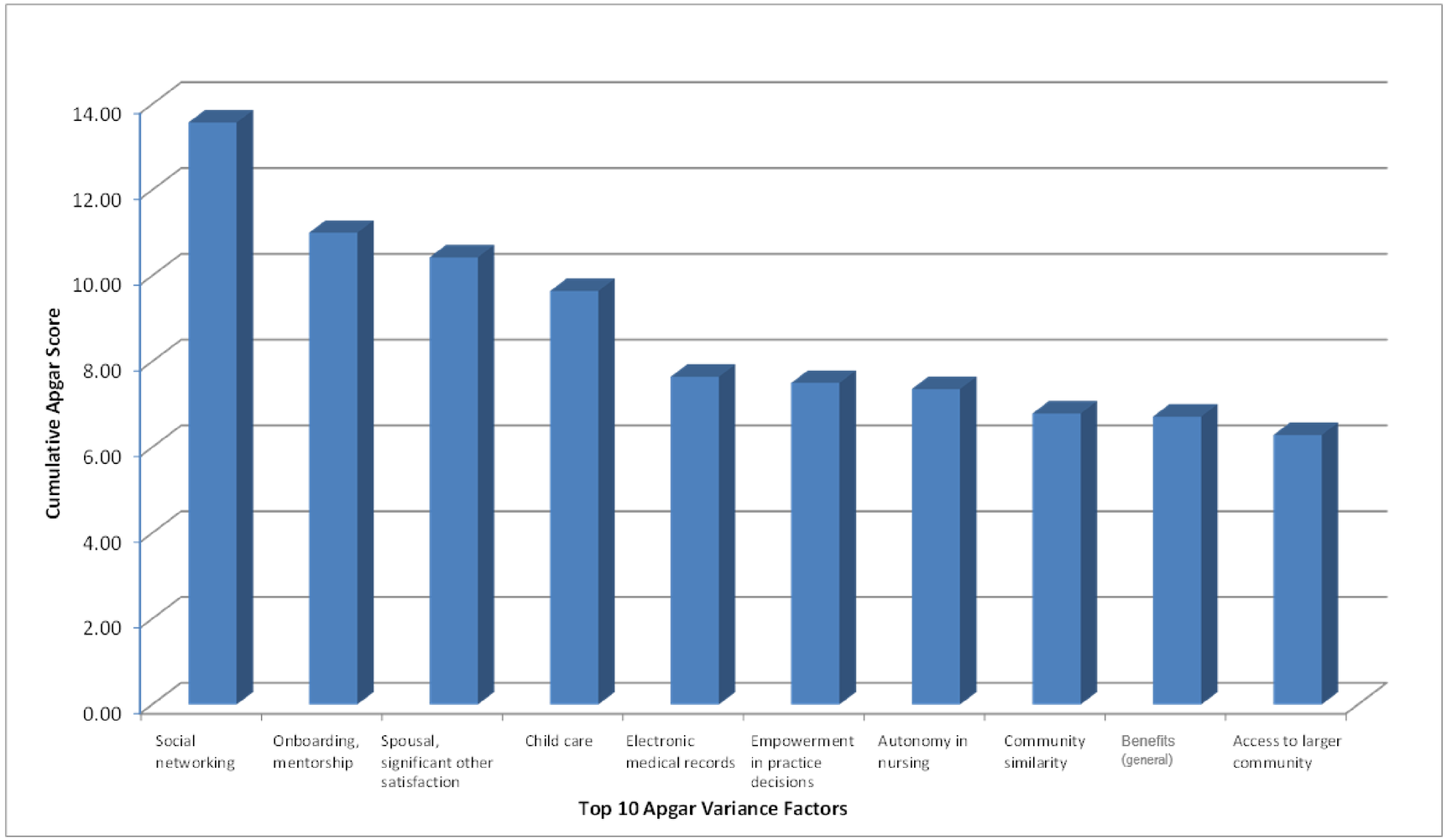
Community X Nurse CAQ
Comparative Cumulative Apgar Score for Practice Environment/Scope Class



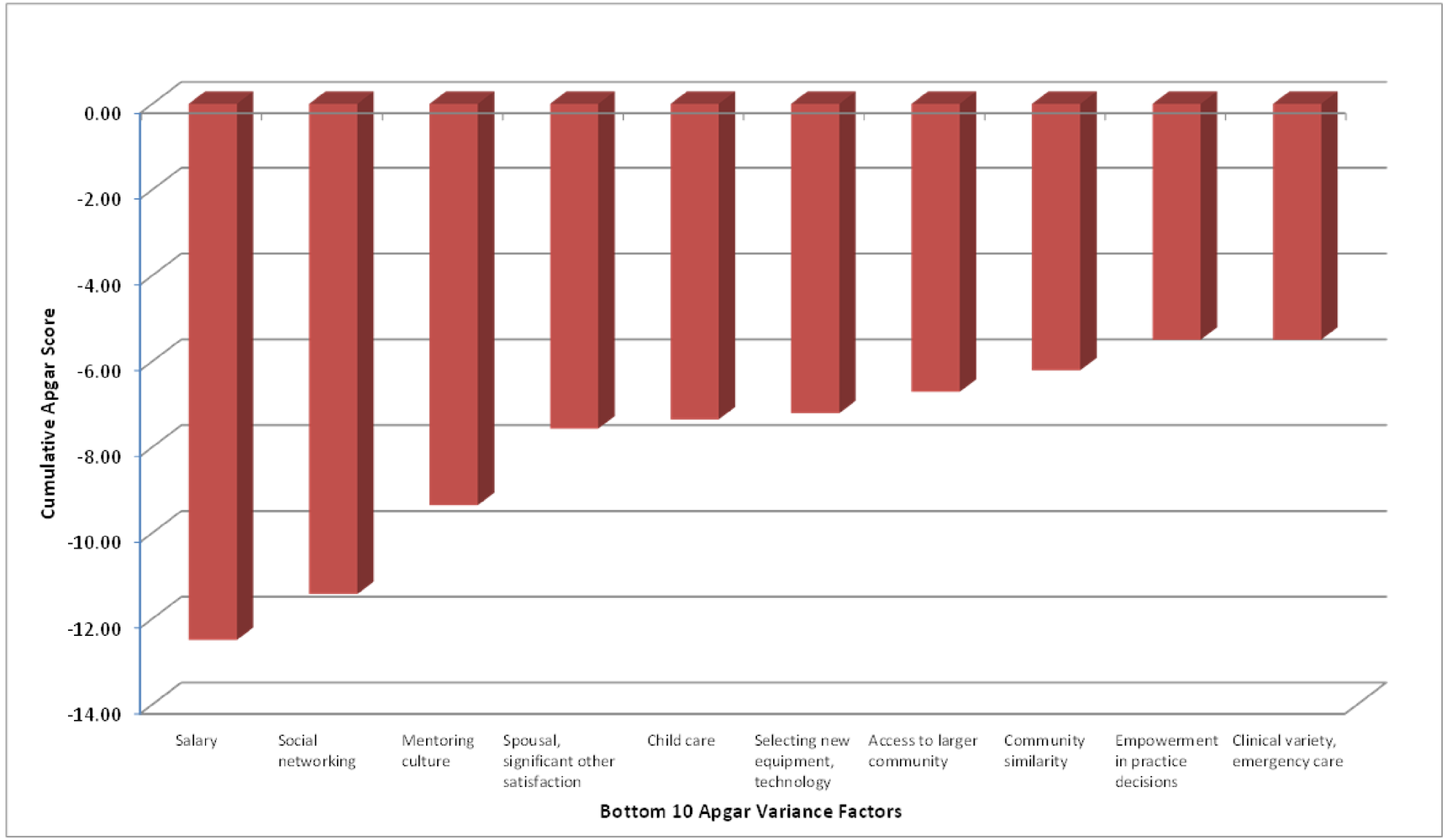
Community X Nurse CAQ
Comparative Cumulative Apgar Score for Community/Practice Support Class



Community X Nurse CAQ
Top 10 Cumulative Apgar Variance Factors across all 50 Factors

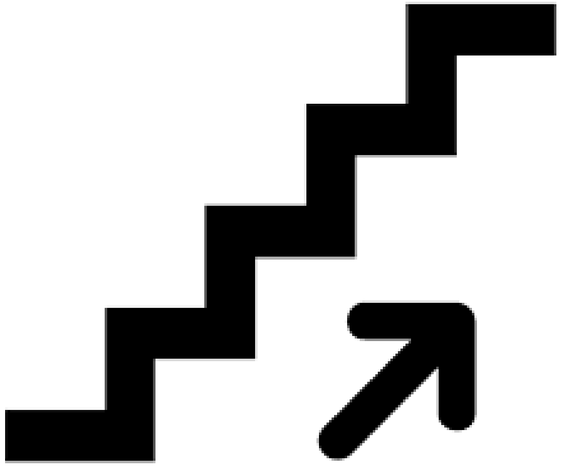


Community X Nurse CAQ
Bottom 10 Cumulative Apgar Variance Factors across all 50 Factors



Next Steps

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



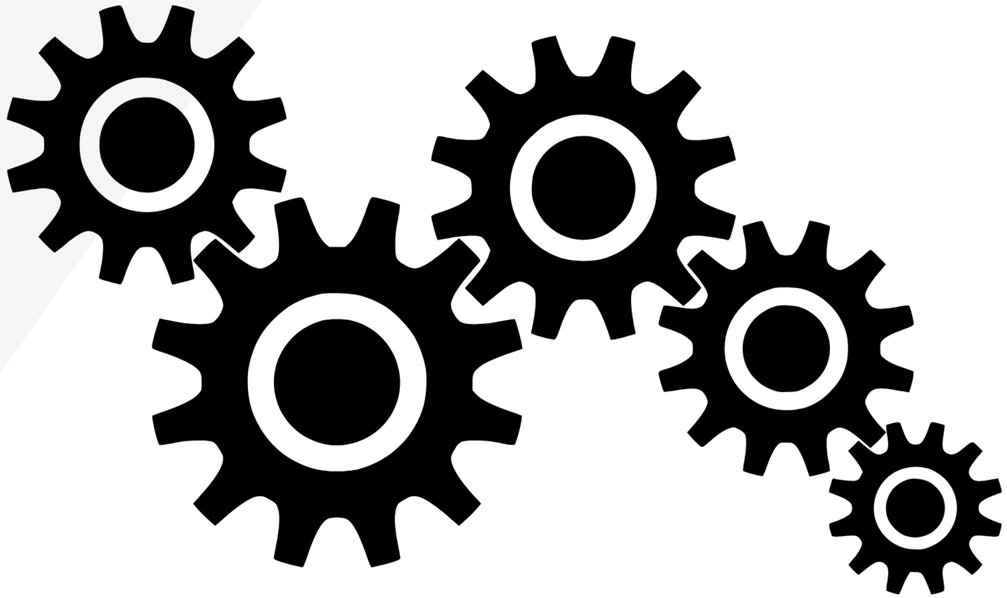
Action Plan (3-5 bullet points)

Be as specific as possible:

1.

2.

3.



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