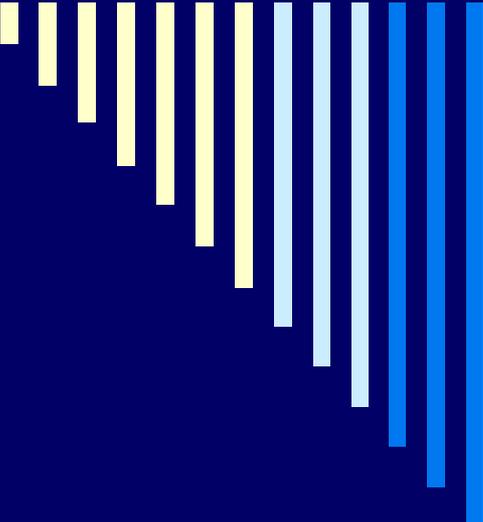


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# Idaho Family Physician Rural Workforce Study: The Community Apgar Questionnaire

**Presented by:**

**David Schmitz, MD, FAAFP**  
Associate Director of Rural Family Medicine  
Family Medicine Residency of Idaho

**Ed Baker, Ph.D.**  
Director, Center for Health Policy  
Boise State University

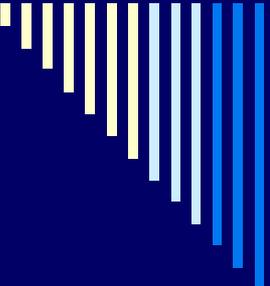
**Presented to:**

**Idaho Flex Program's Annual Statewide Flex Meeting**  
Boise, Idaho

**November 5, 2008**

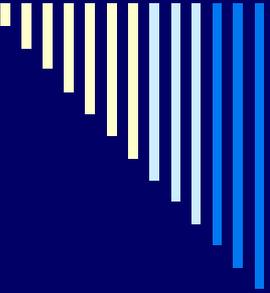
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# Presentation Overview

- Background
  - Study Design
  - Selected Findings
  - Next Steps
  - Questions
-

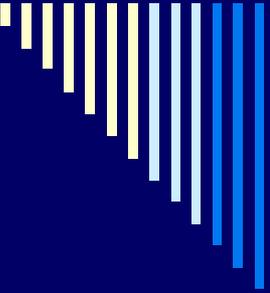


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# Background

## □ Contributors/Co-Investigators/Staff

- Steven Millard, President, Idaho Hospital Association
  - Ted Epperly, MD, Program Director and CEO, Family Medicine Residency of Idaho
  - Alex Reed, Psy.D., MPH, Director of Behavioral Science, Mental Health and Research, Family Medicine Residency of Idaho
  - Ayaka Nukui, BS, Center for Health Policy, Boise State University
-

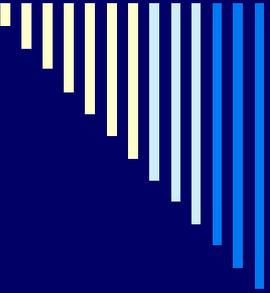


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# Background

## □ Funding

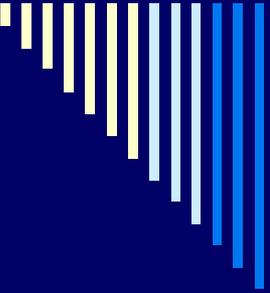
- Mary Sheridan, Supervisor, State Office of Rural Health and Primary Care, Idaho Department of Health and Welfare through a federal grant from the US Department of Health and Human Services, Health Resources and Services Administration
  - Research and Physician Faculty time contributions made by Boise State University and Family Medicine Residency of Idaho
  - In-kind contributions by Idaho Hospital Association
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# Background

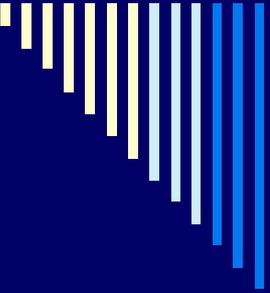
- American Academy of Family Physicians report in September of 2006
    - Idaho will experience a serious shortage of family medicine physicians by 2020
    - One of five states identified in report to experience “serious shortages”
      - Nevada, Arizona, Florida and Texas
      - Population growth
      - Increase in elderly citizens
-



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# Background

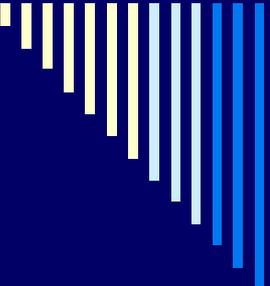
- Medical Education Study in 2007 commissioned by Idaho State Board of Education
    - Access to physicians extremely limited in Idaho
    - Idaho ranks high in number of physicians age 55 and older
    - Recommended that Idaho increase its physician work force to reach the median level of the 50 states
      - This would require a 42 percent increase in the number of Idaho physicians at current population levels
      - Population growth, demographic changes and retirement trends will impact this number higher
-



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# Background

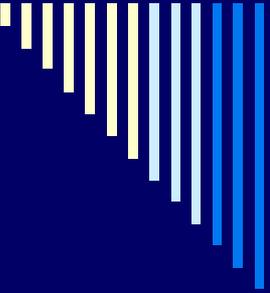
- Rural areas of Idaho experience significant challenges recruiting and retaining Family Medicine physicians
  - Rural areas disproportionately underserved - one study indicated that 20% of population resides in rural areas served by only 9% of practicing physicians
  - These challenges can materially impact rural community access to health care – both general and specific care such as obstetrics
  - Information on recruitment and retention of rural Family Medicine physicians in Idaho of significant interest to rural hospitals, rural practicing physicians, educational institutions, federal and state government, legislators and the rural community at large
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# Background

- Boise State University and the Family Medicine Residency of Idaho have initiated a three year study of factors impacting recruitment and retention of family medicine physicians in rural Idaho funded by the Idaho Office of Rural Health and Primary Care
    - Partners
      - Idaho Hospital Association
      - Idaho Academy of Family Physicians
      - Idaho Medical Association
-

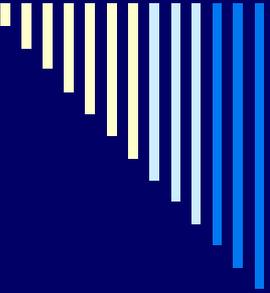


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# Background

## □ Year One Findings

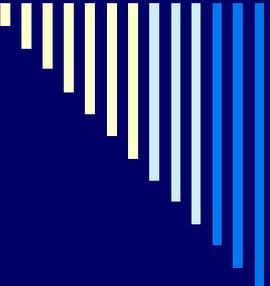
- Idaho rural family medicine physicians have a broad scope of practice
  - Idaho rural family medicine physicians use technology to help provide care to rural residents and to maintain skills
  - Idaho rural family medicine physicians are satisfied with their practice in rural areas
  - Idaho rural hospital administrators are satisfied with their family medicine staffs
-



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# Study Design

- Year Two Research Objectives
    - Develop an objective measurement tool (Community Apgar Questionnaire or CAQ) to assess the characteristics and parameters of rural Idaho communities related to successful recruitment and retention of family medicine physicians
    - Administer the CAQ to rural medical leaders in a structured interview format
    - Analyze the results, produce a written summary of the findings and disseminate the results to interested local, state, regional and national parties
-

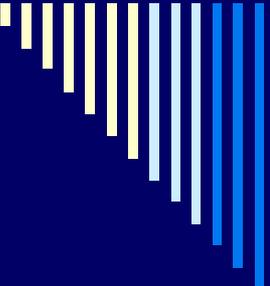


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# Study Design

## □ CAQ Development

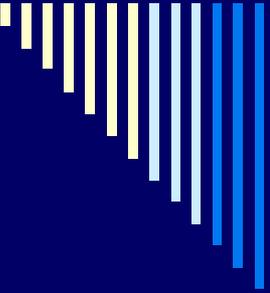
- Literature review conducted during Year One research
  - Site visits to local communities during Year One research
  - Discussions with rural physicians and hospital administrators during Year Two research
-



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# Study Design

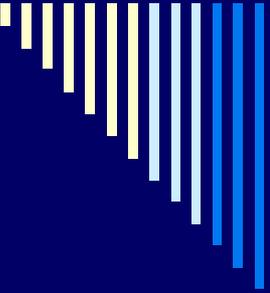
- The Community Apgar Questionnaire (CAQ)
    - Questions aggregated into 5 Classes
      - Geographic
      - Economic
      - Scope of Practice
      - Medical Support
      - Hospital and Community Support
    - Each Class contains 10 factors for a total of 50 factors/questions representing specific elements related to recruitment and retention of family medicine physicians in rural areas
    - Three open-ended questions
-



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# Study Design

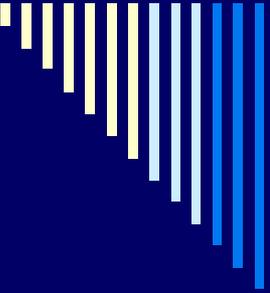
- Cumulative Community Apgar Score
    - Designed to produce an overall assessment comparable to an neonatal Apgar score
    - Constructed from the sum of five classes of the CAQ (similar to the five dimensions of the neonatal Apgar) to create a repeatable measure of a community's assets and capabilities
    - Intended to prognosticate the success of a community in recruiting and retaining rural family medicine physicians
    - Designed to differentially diagnose a community's relative strengths and challenges in order to prioritize improvements and identify marketing opportunities by examining Class and Factor Apgar scores
-



# Study Design

## □ CAQ Target Communities

- Selected based on site visits and discussions with the IHA and the State Office of Rural Health and Primary Care
  - Twelve rural communities with critical access hospitals identified
  - Communities classified as alpha [N=6] or beta [N=6] based on historical success in recruiting and retaining family medicine physicians
  - Final sample included 6 alpha and 5 beta communities [91.7% participation rate] as one community declined initial participation but requested to participate in subsequent community assessments
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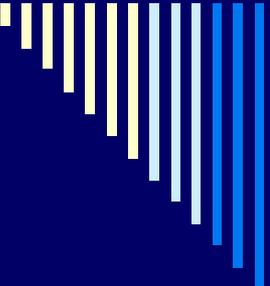
# Study Design

## □ CAQ Respondents

- Eleven rural critical access hospital administrators and eleven rural physicians with leadership roles in recruitment and retention [Total N=22]

## □ CAQ Administration

- Participants mailed the CAQ survey in advance with consent form [IRB approval from Boise State University] and one hour interviews scheduled
  - Separate structured one hour interviews by Dr. David Schmitz for each participant where consent form was reviewed and executed and CAQ completed
-

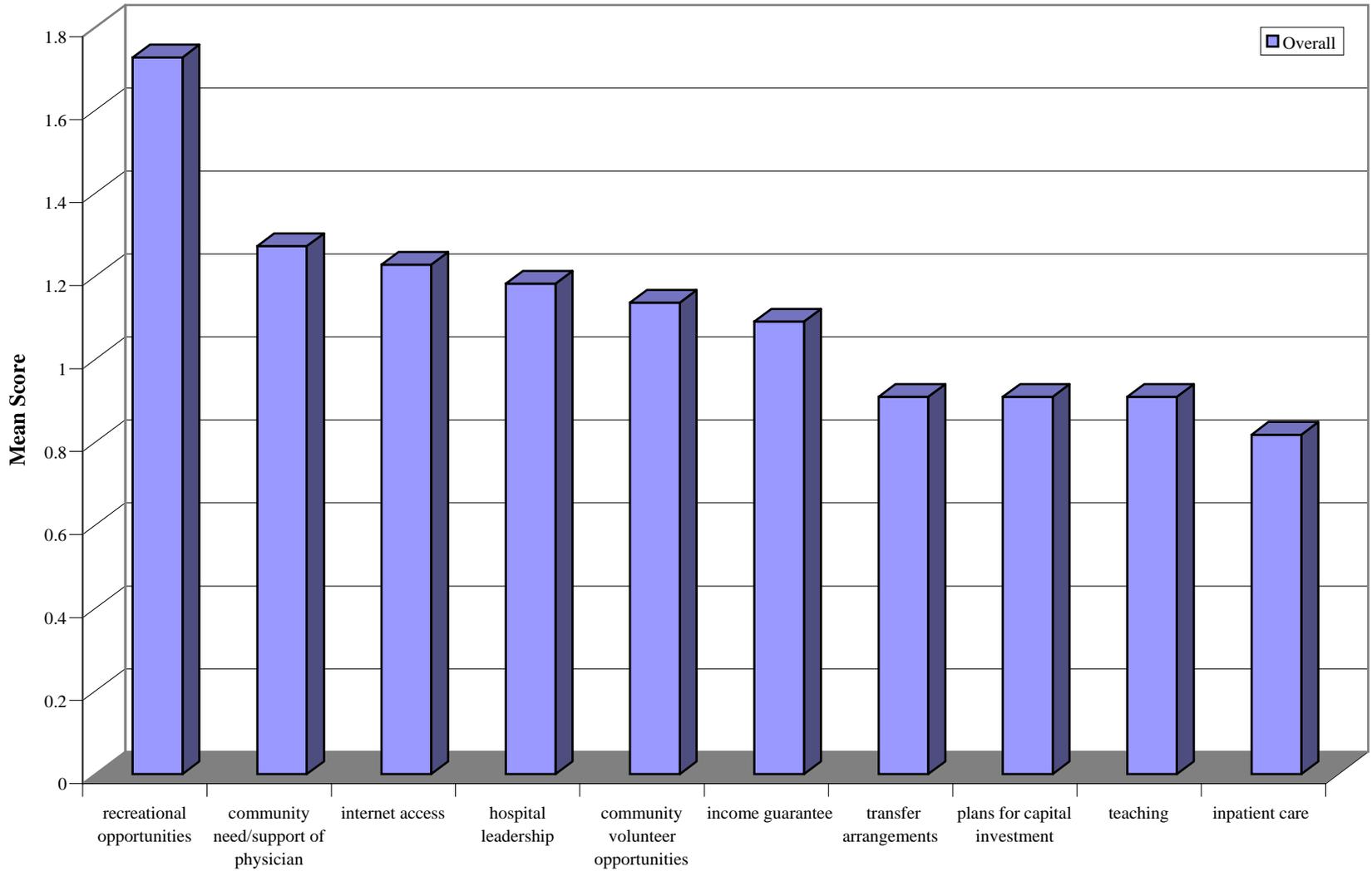


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# Selected Findings

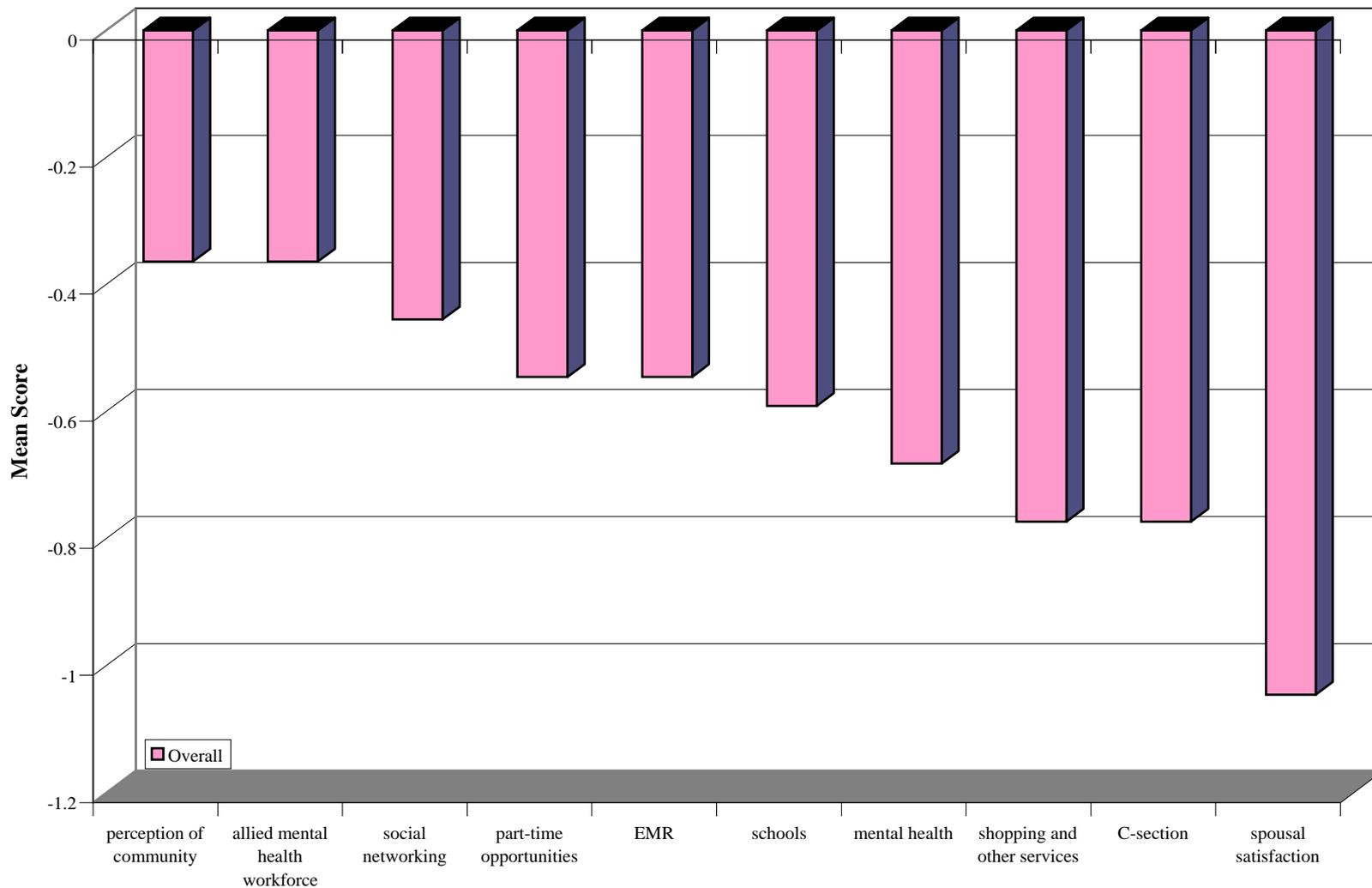
- CAQ Areas of Emphasis
    - Community Advantages and Challenges
    - Community Importance Ratings
    - Community Apgar Scores
  - CAQ Analytical Framework
    - Respondent type (administrator vs physician)
    - Community type (alpha vs beta)
    - Across Factor, Class and Summary
  - Differential Diagnosis of Community's Assets and Capabilities
-

**Top 10 Advantage Factors across All 50 Factors**



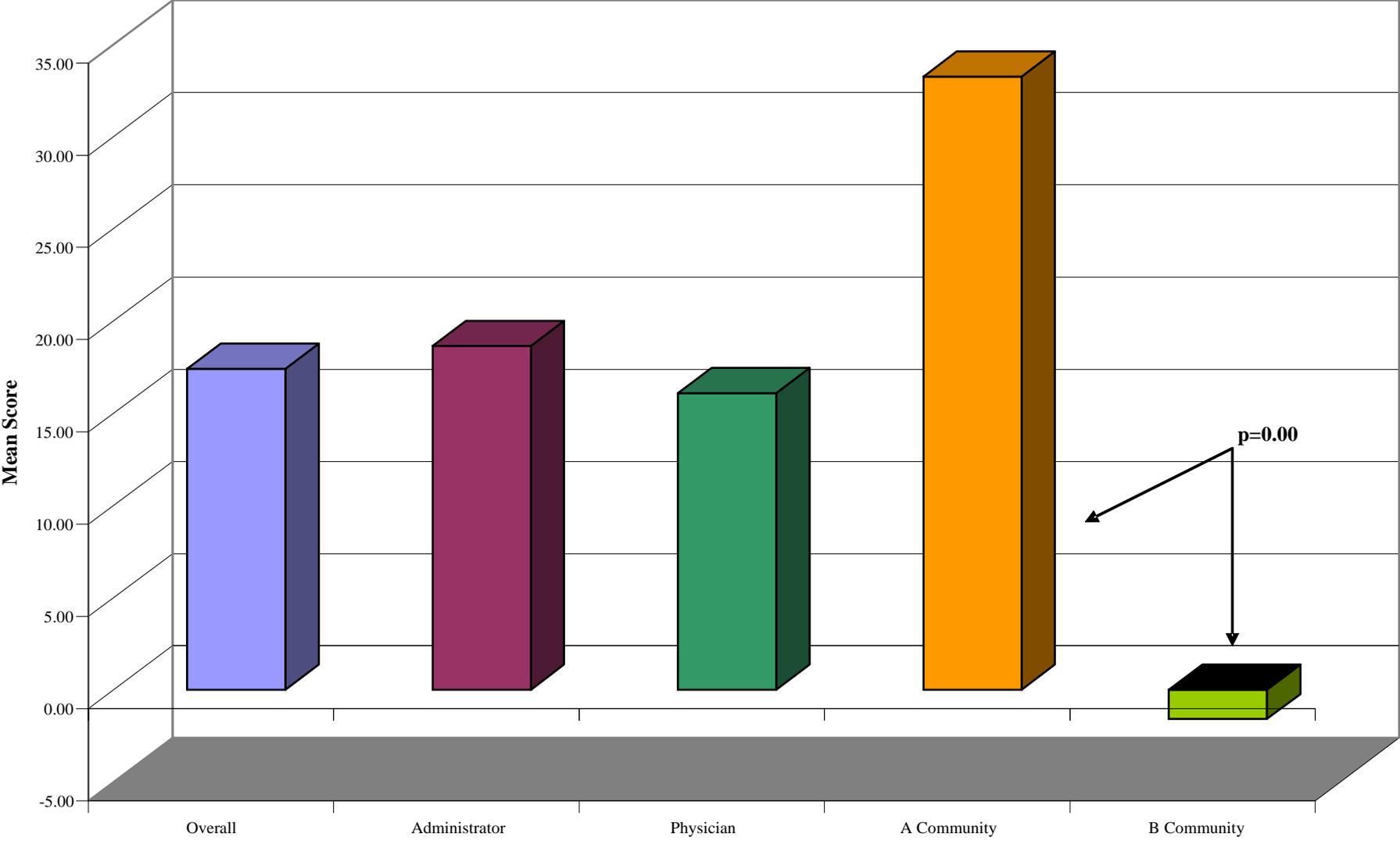
**Top 10 Advantage Factors**

**Top 10 Challenge Factors across All 50 Factors**

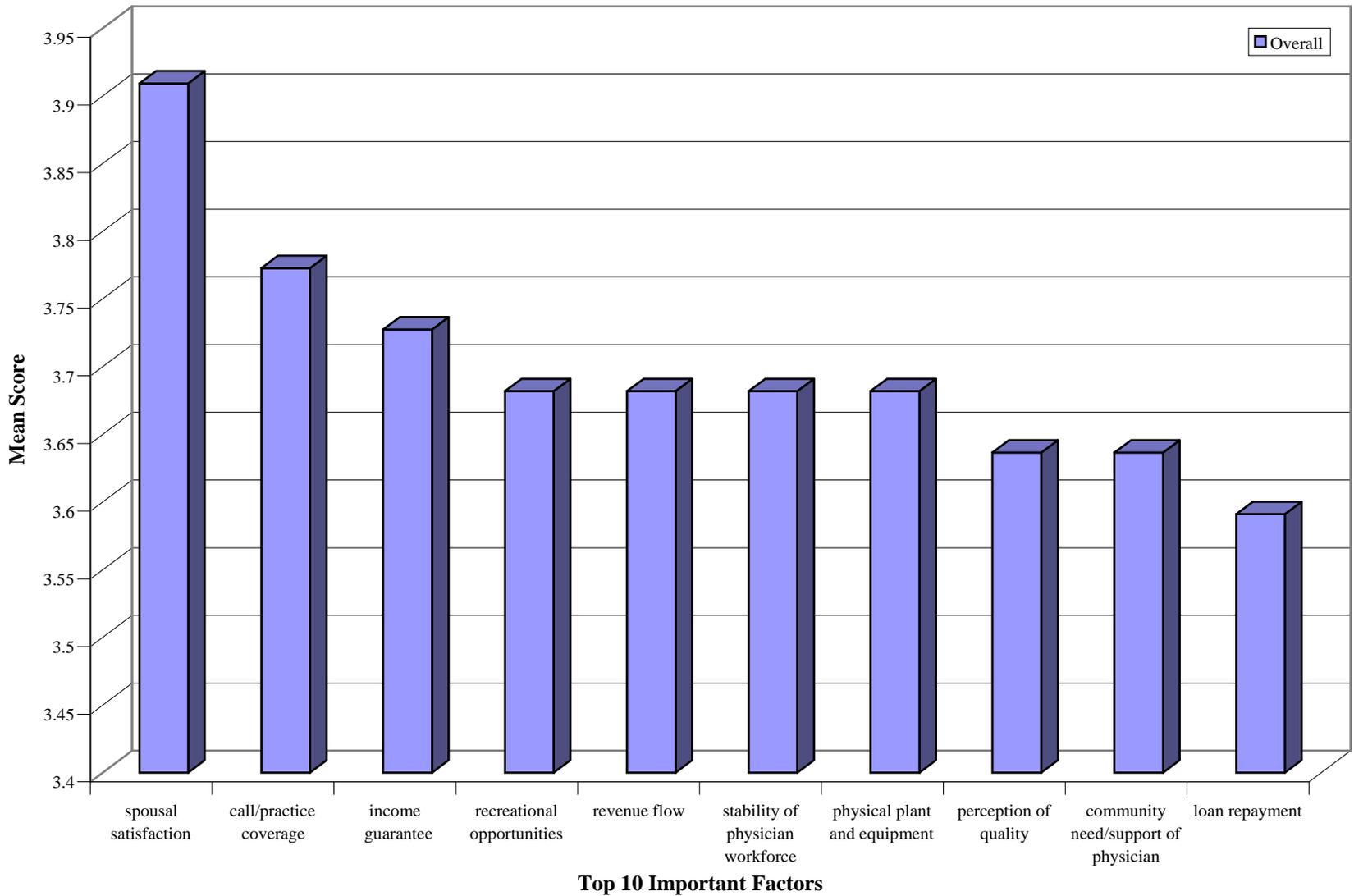


**Top 10 Challenge Factors**

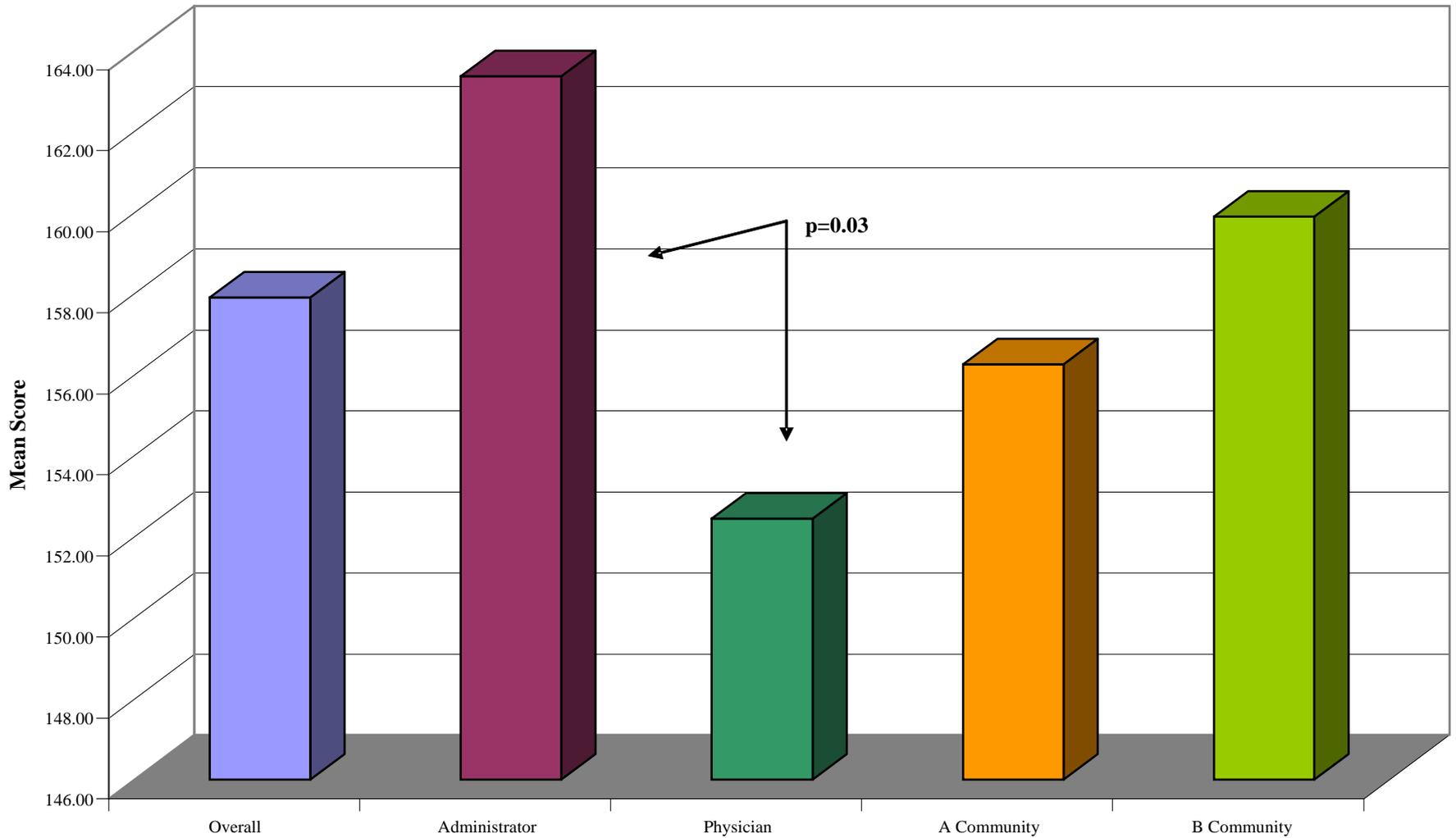
Summary Class Community Advantages and Challenges Mean Score  
Overall by Respondent and Community Type



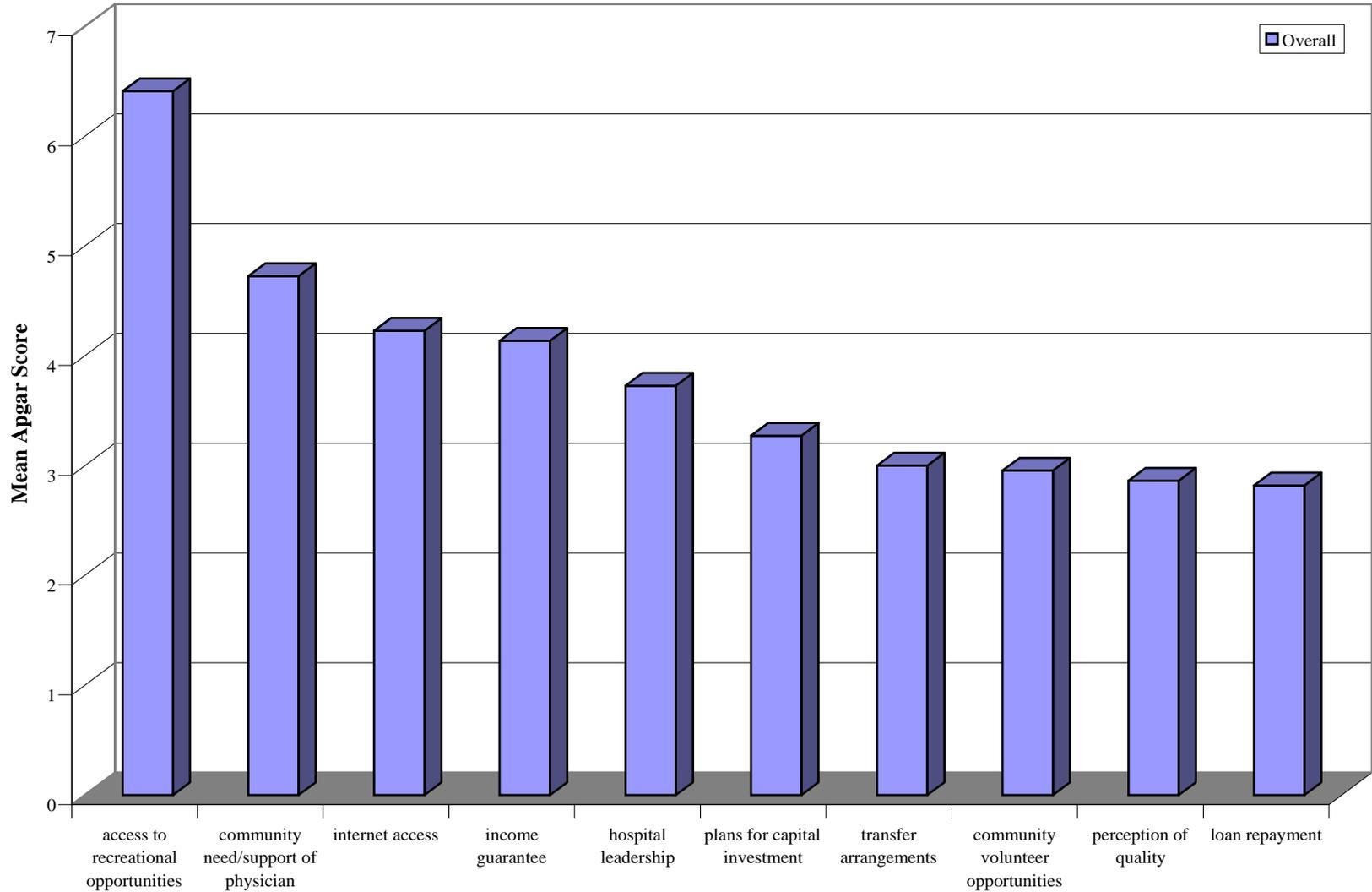
**Top 10 Important Factors across All 50 Factors**



**Summary Class Community Importance Mean Score  
Overall by Respondent and Community Type**

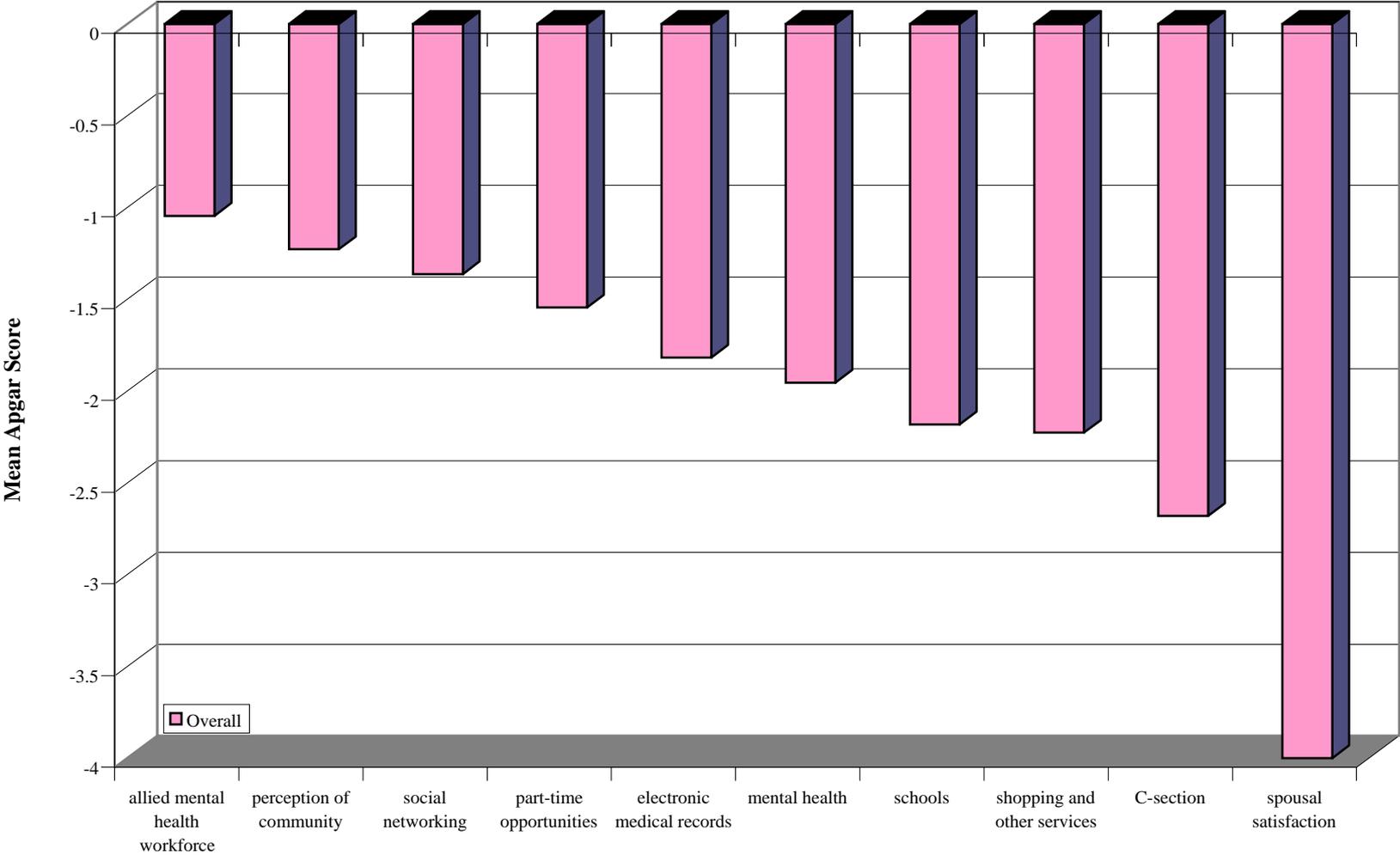


**Top 10 Apgar Scores by Factors across All 50 Factors**



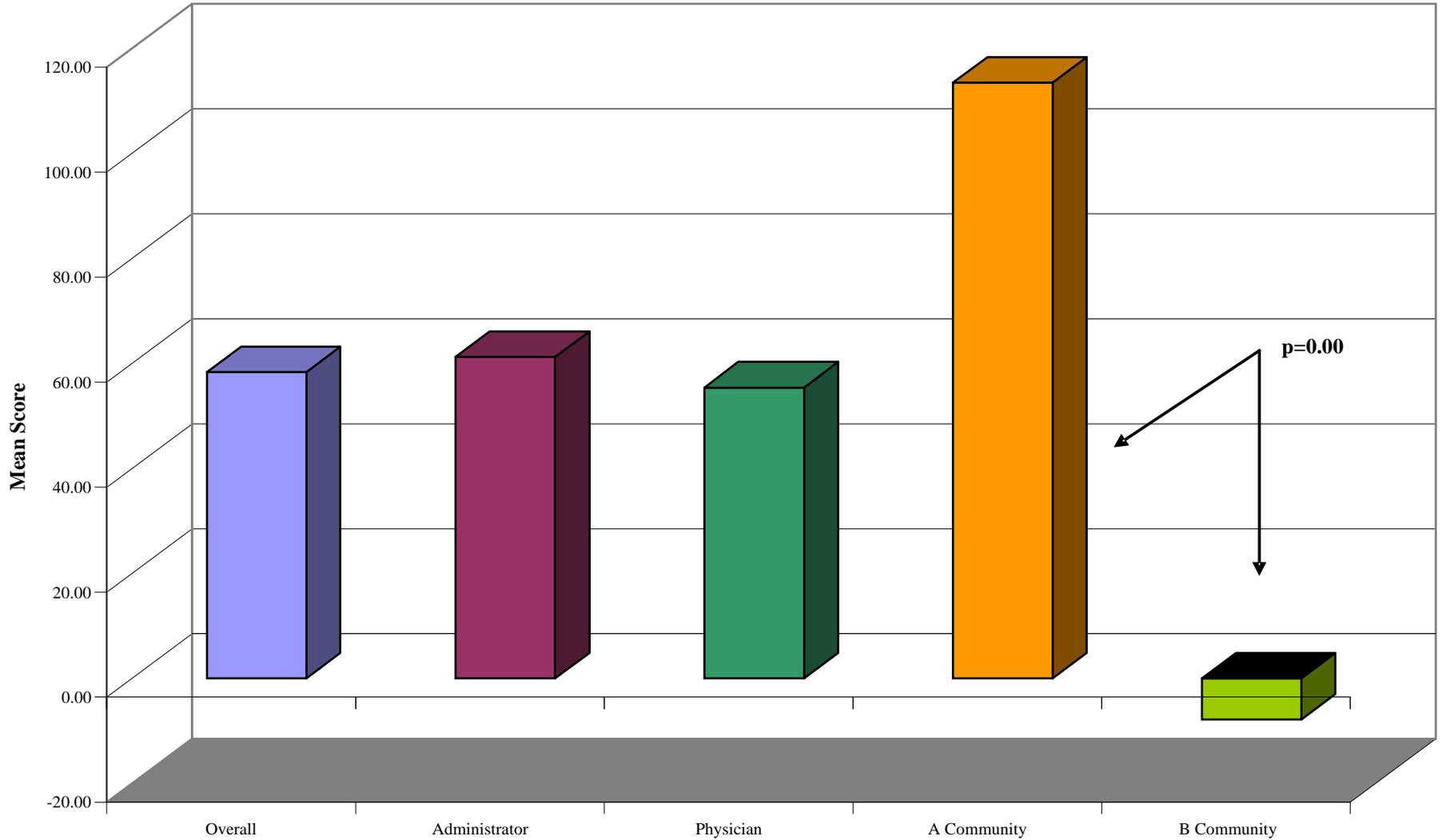
**Top 10 Apgar Scores by Factors**

Bottom 10 Apgar Scores by Factors across All 50 Factors

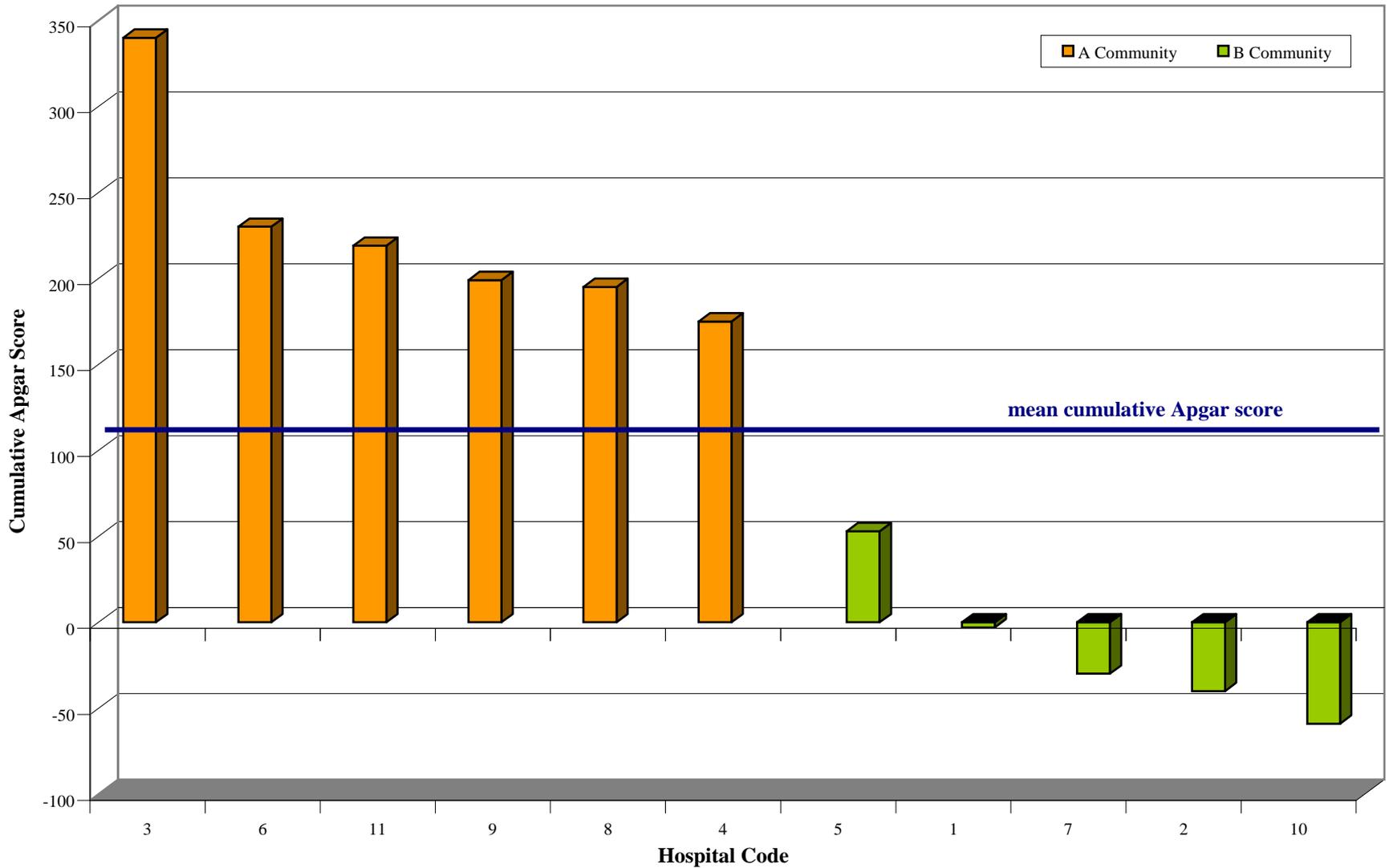


Bottom 10 Apgar Scores by Factors

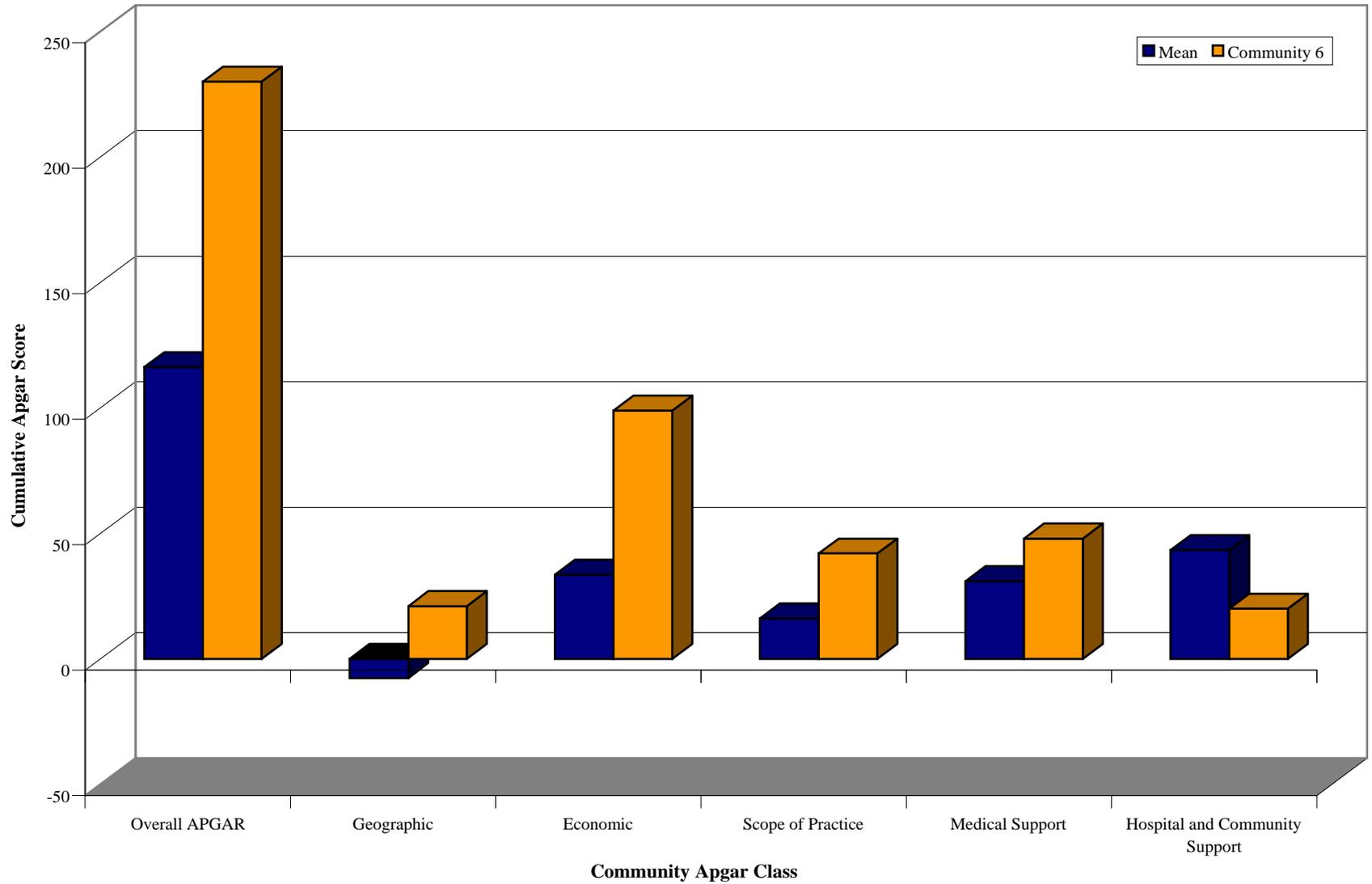
Summary Class Community Apgar Mean Score  
by Overall Respondent and Community Type



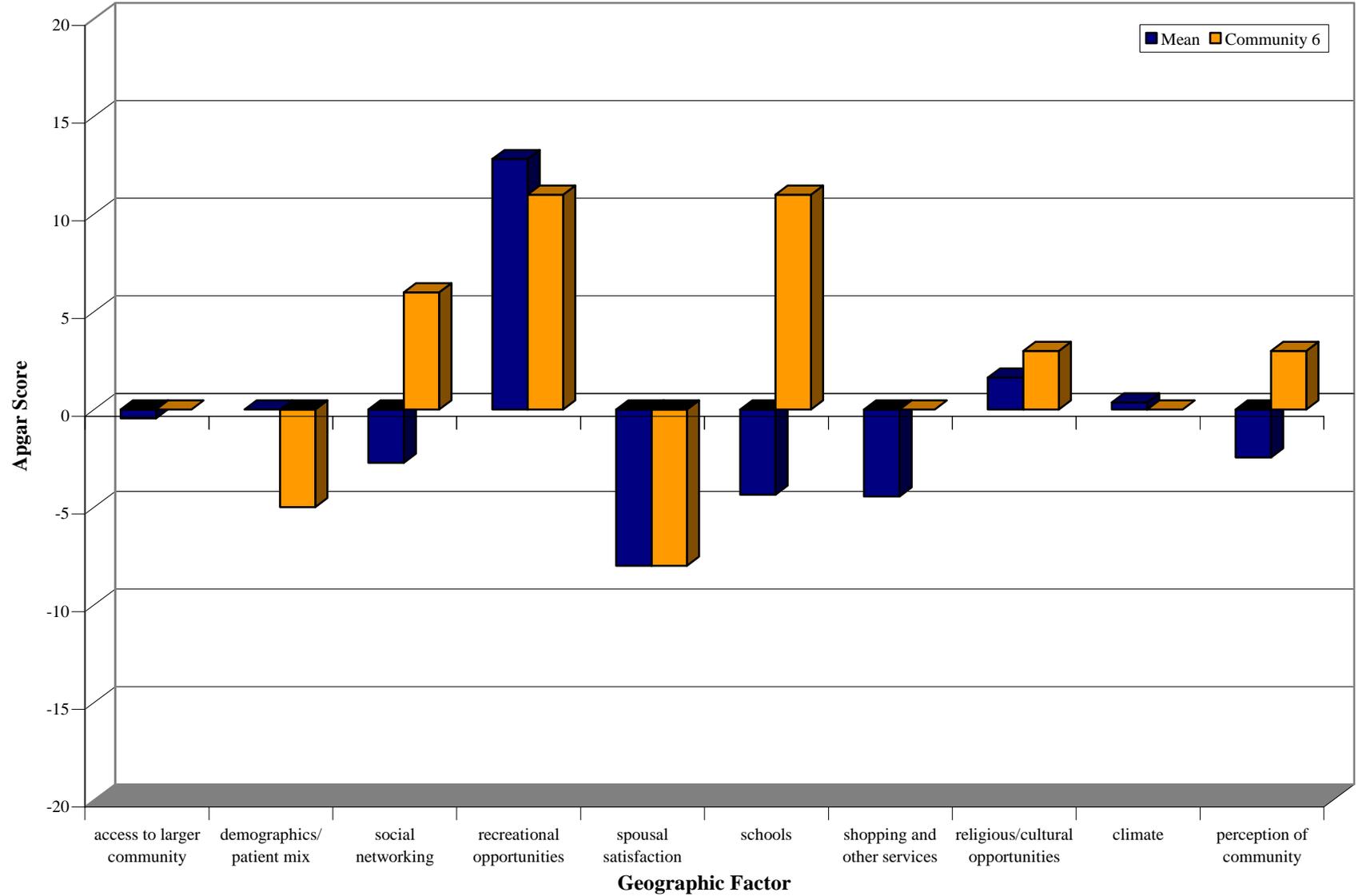
Cumulative Community Apgar Score by Hospital



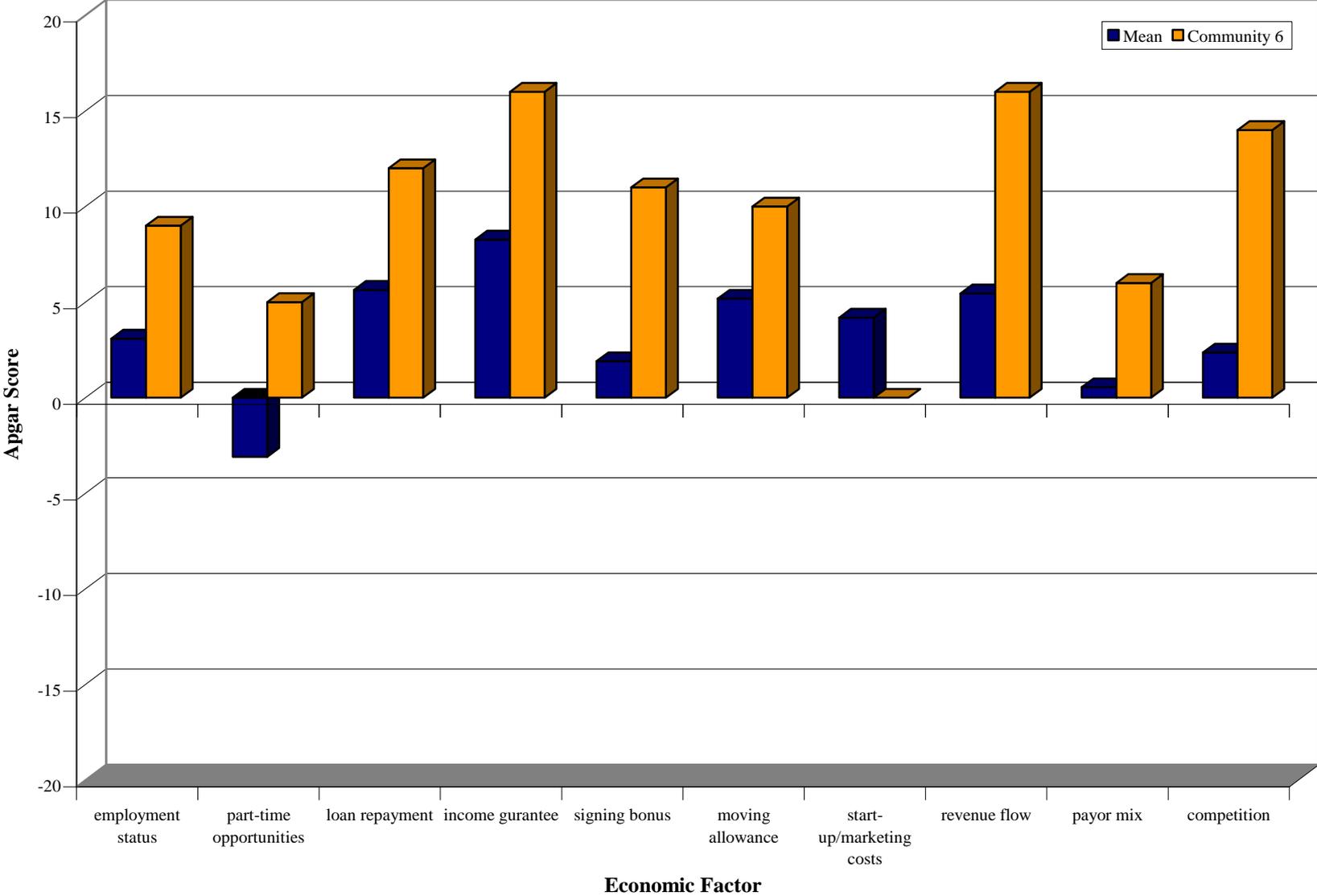
Comparative Apgar Score for Community Six



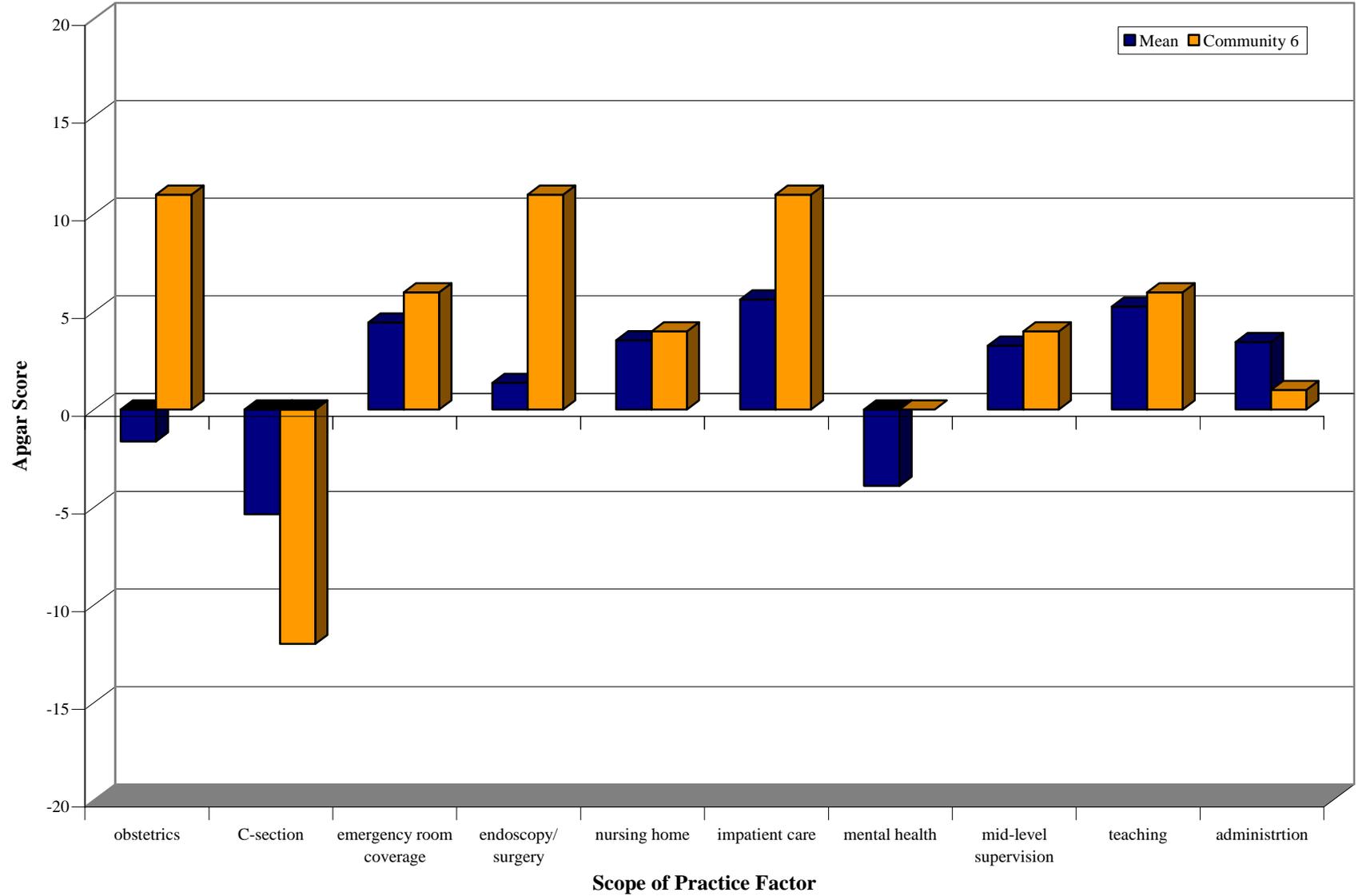
Comparative Apgar Score for Geographic Class for Community Six



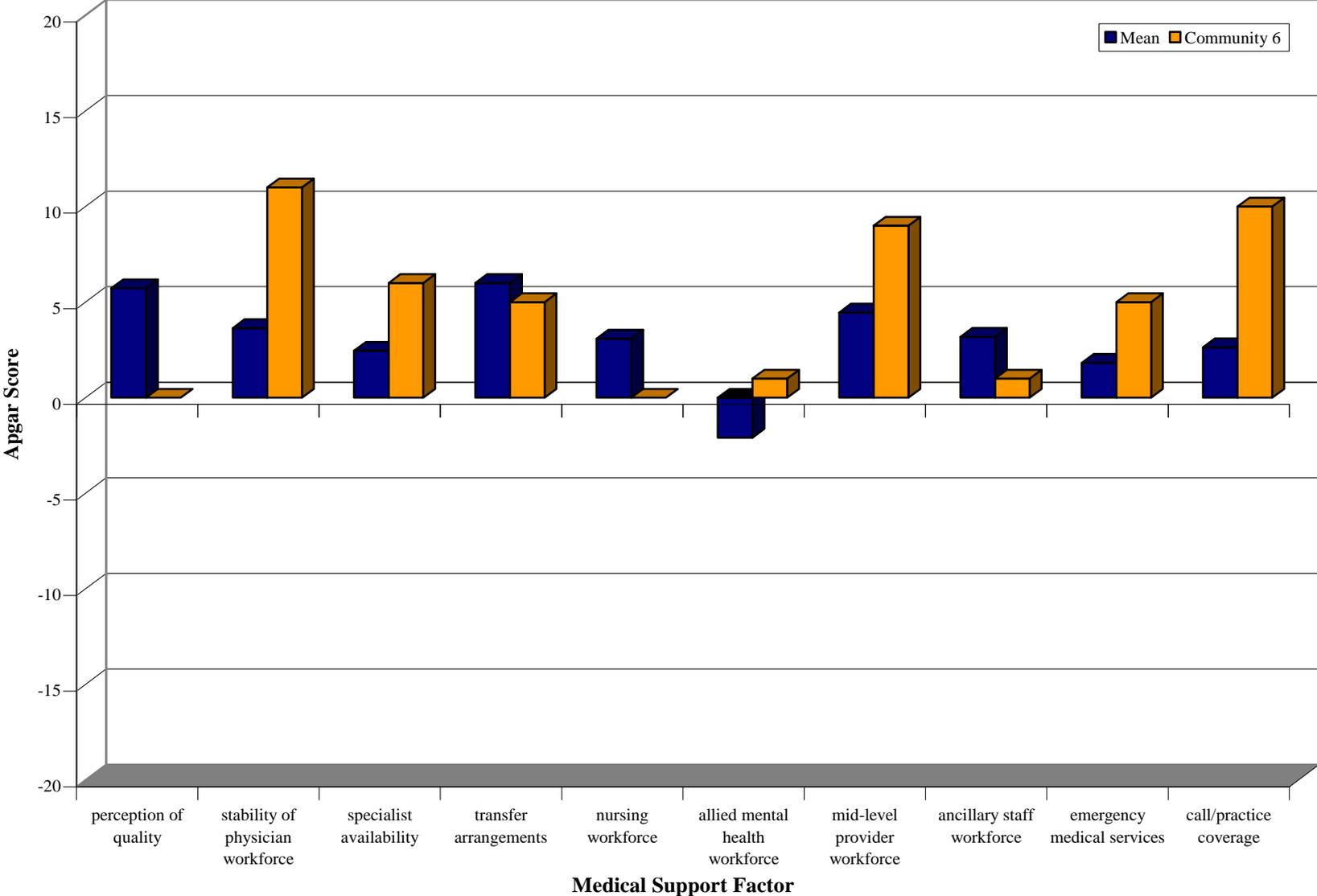
Comparative Apgar Score for Economic Class for Community Six



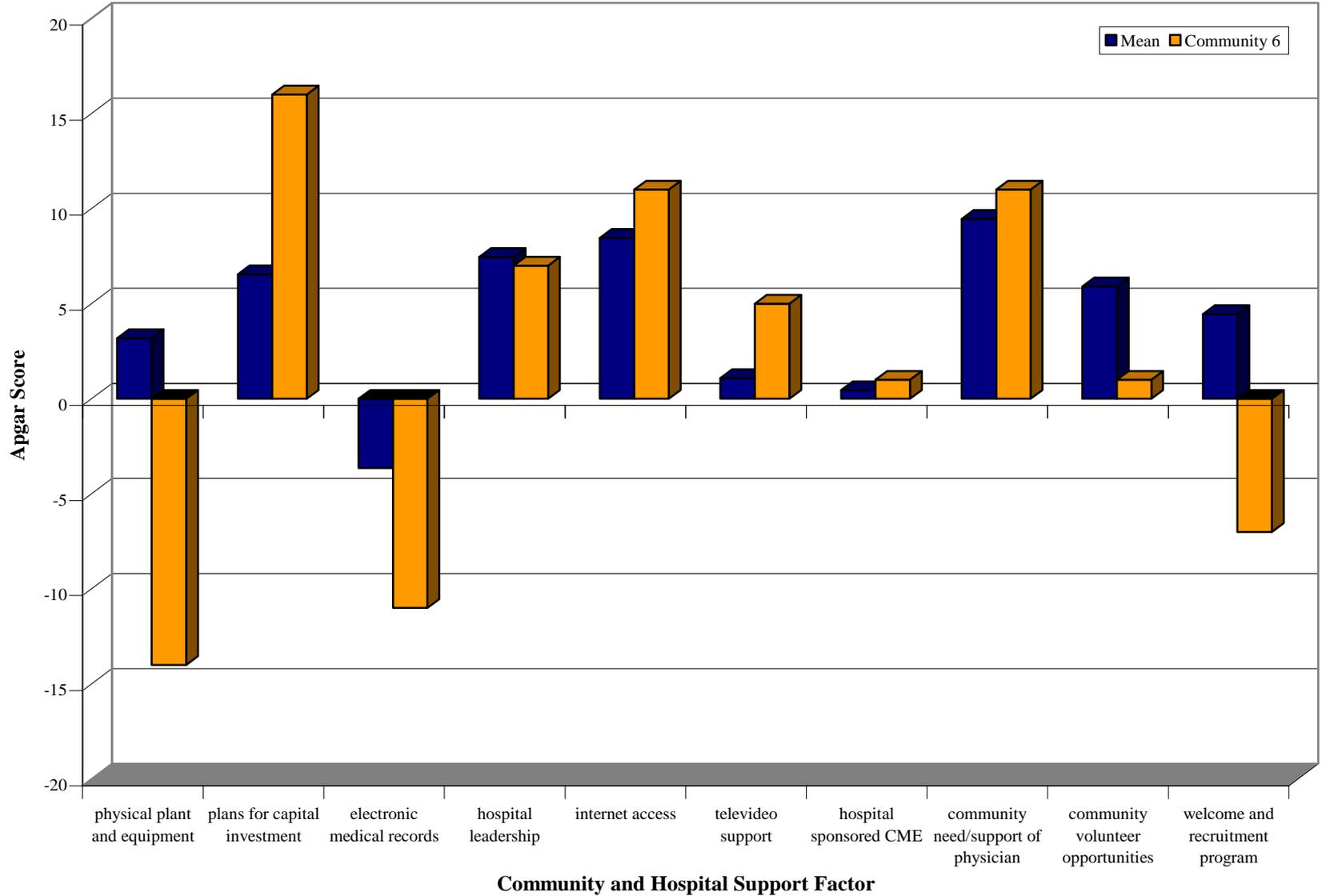
Comparative Apgar Score for Scope of Practice Class for Community Six



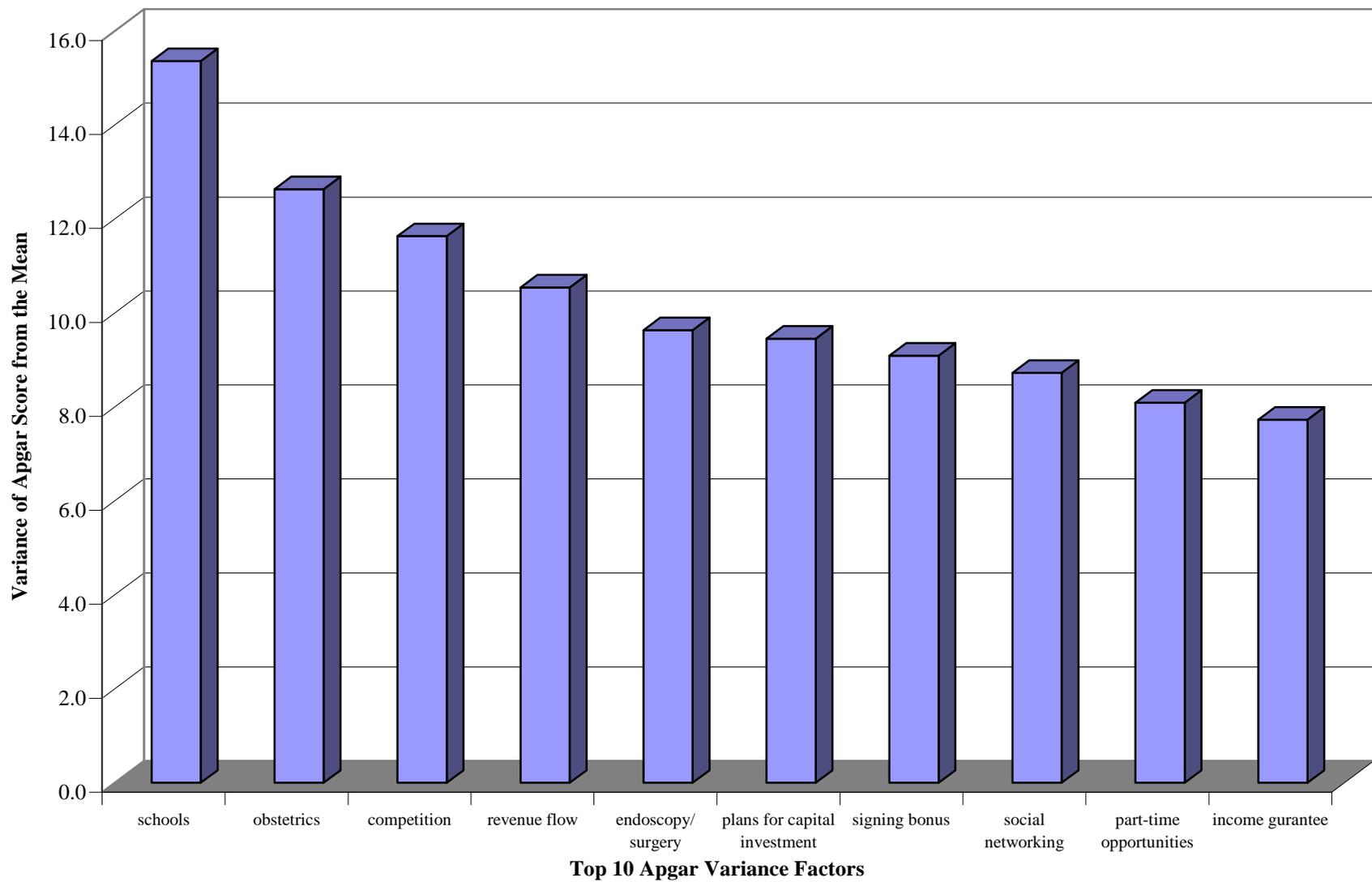
Comparative Apgar Score for Medical Support Class for Community Six



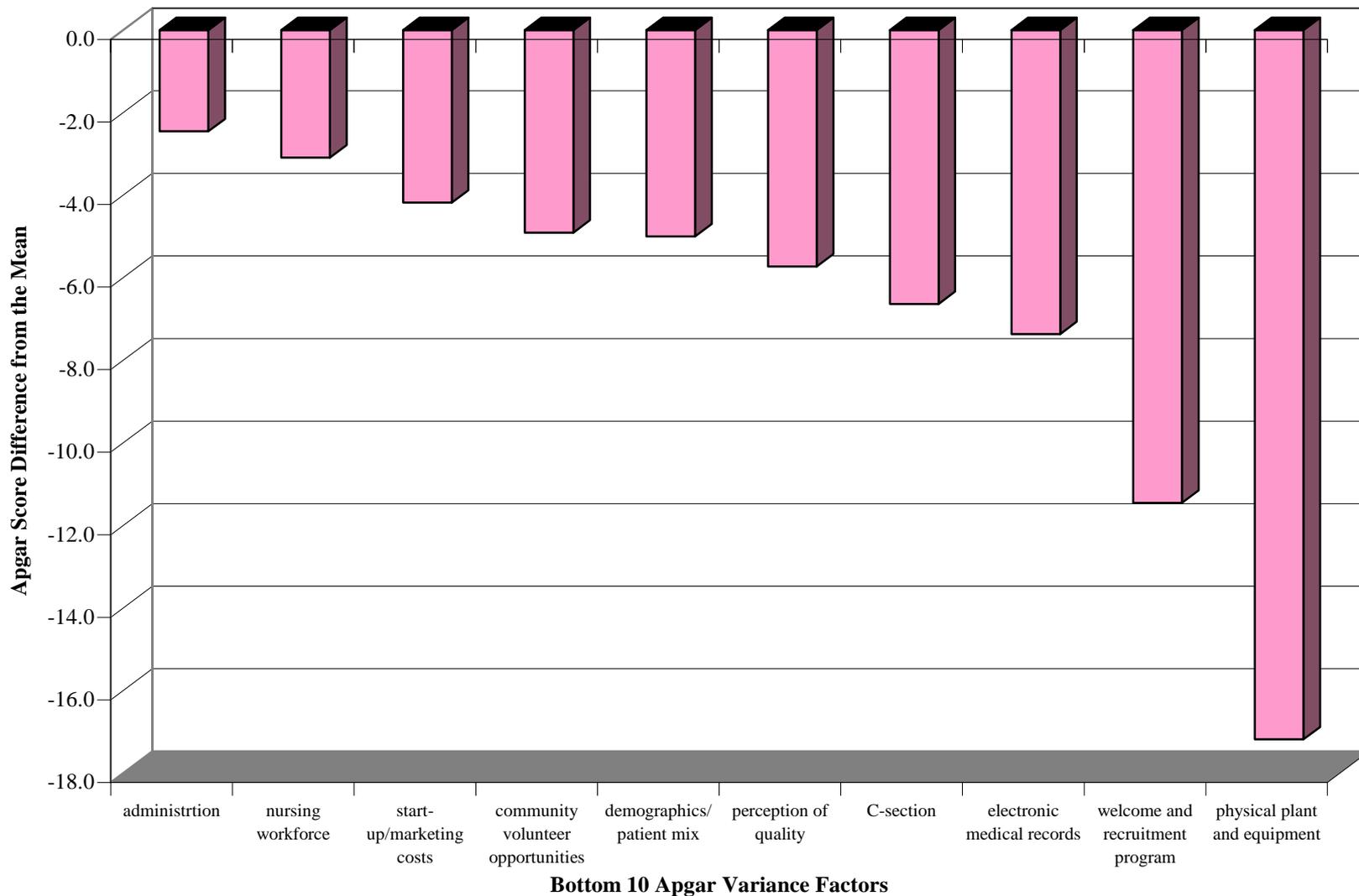
Comparative Apgar Score for Community and Hospital Support Class for Community Six



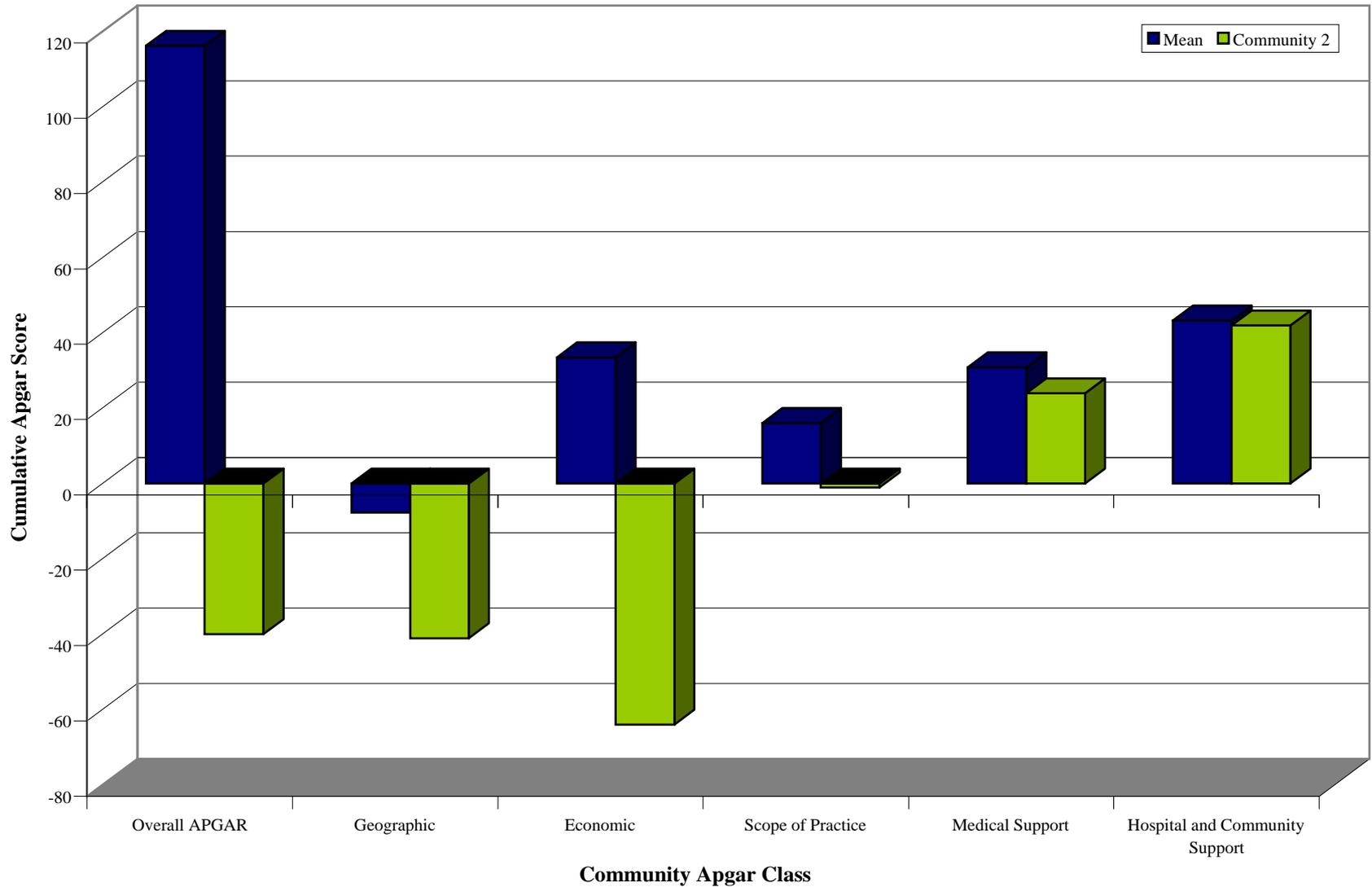
**Top 10 Apgar Variance Factors Across All 50 Factors in Community Six**



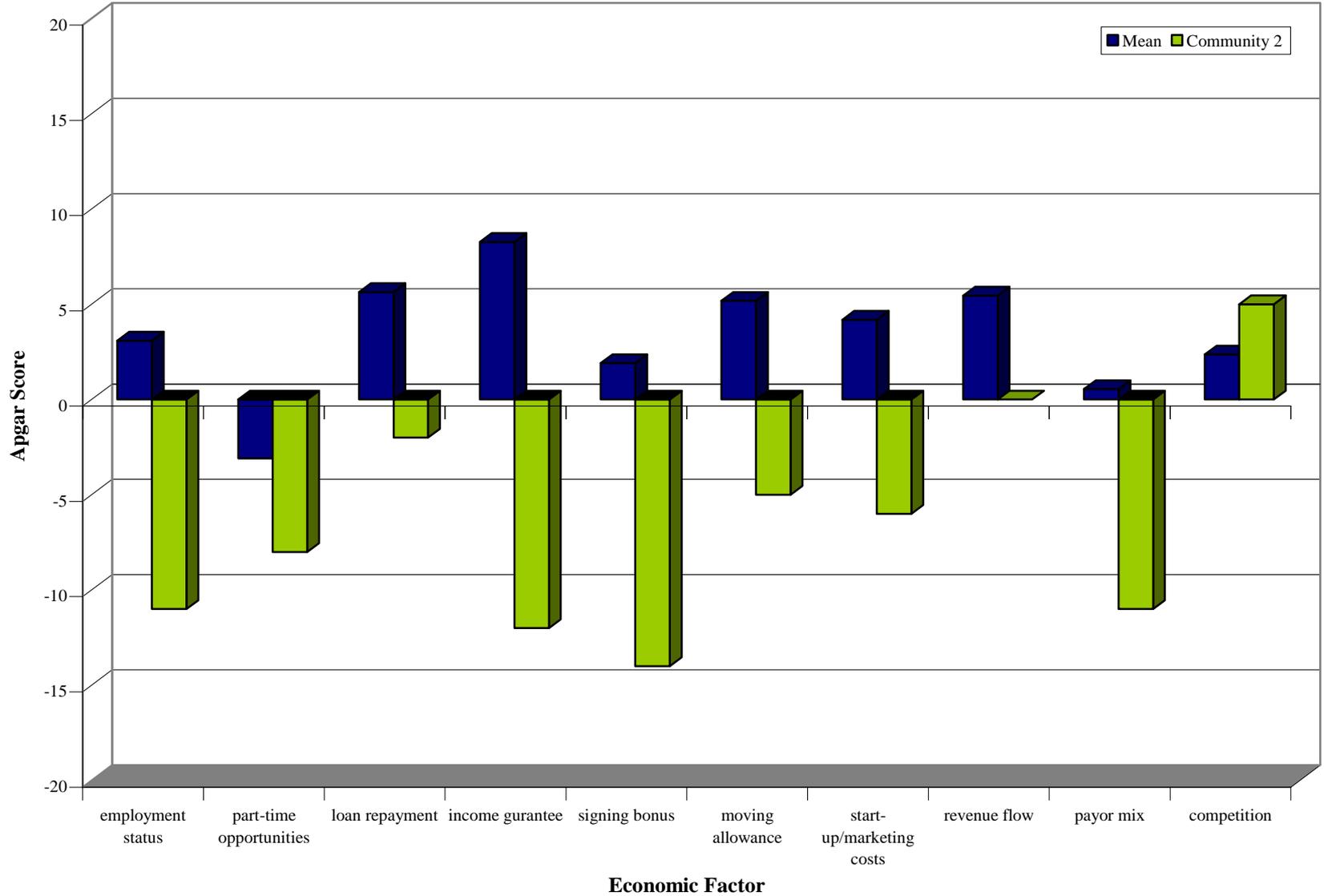
**Bottom 10 Apgar Variance Factors Across All 50 Factors in Community Six**



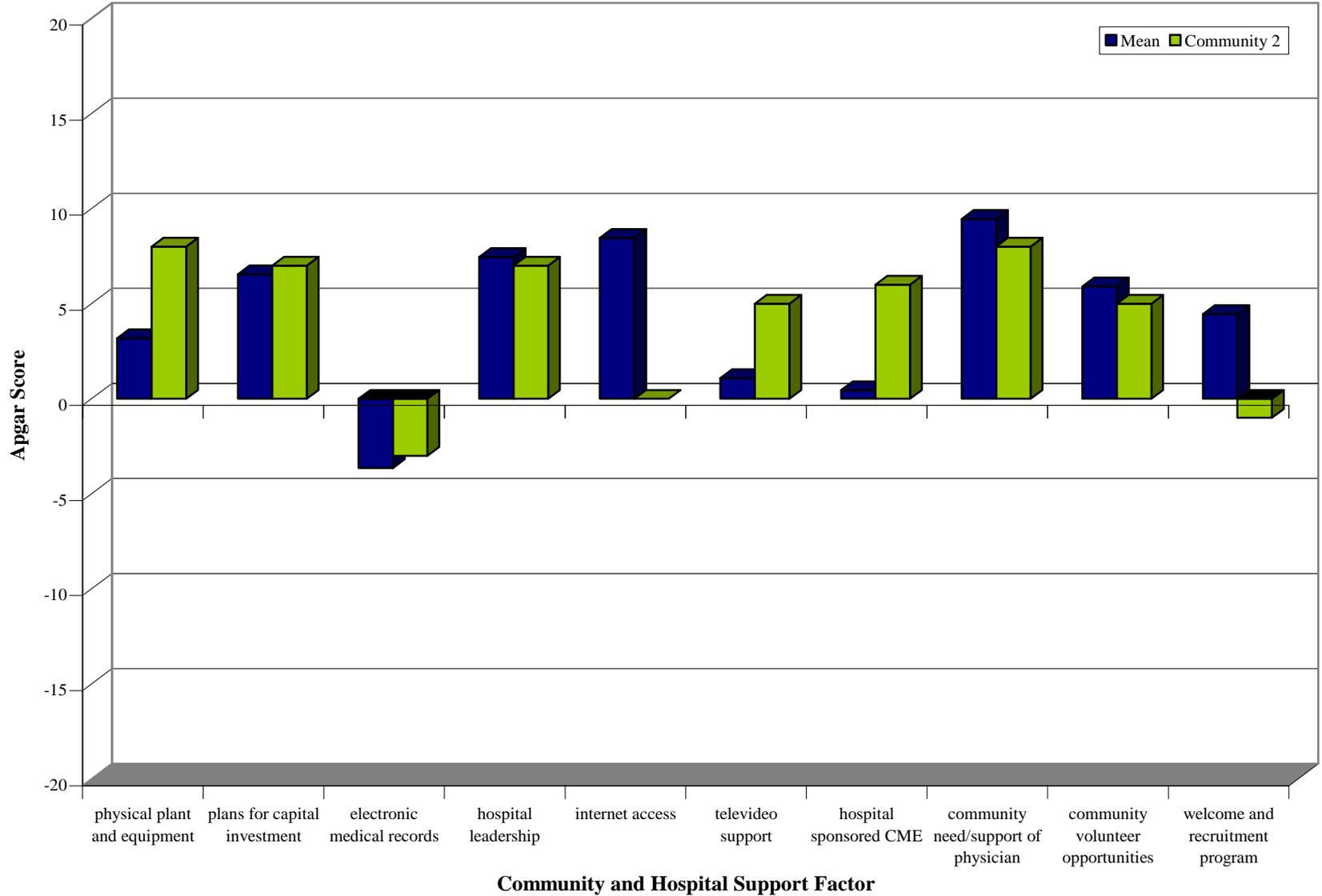
Comparative Apgar Score for Community Two



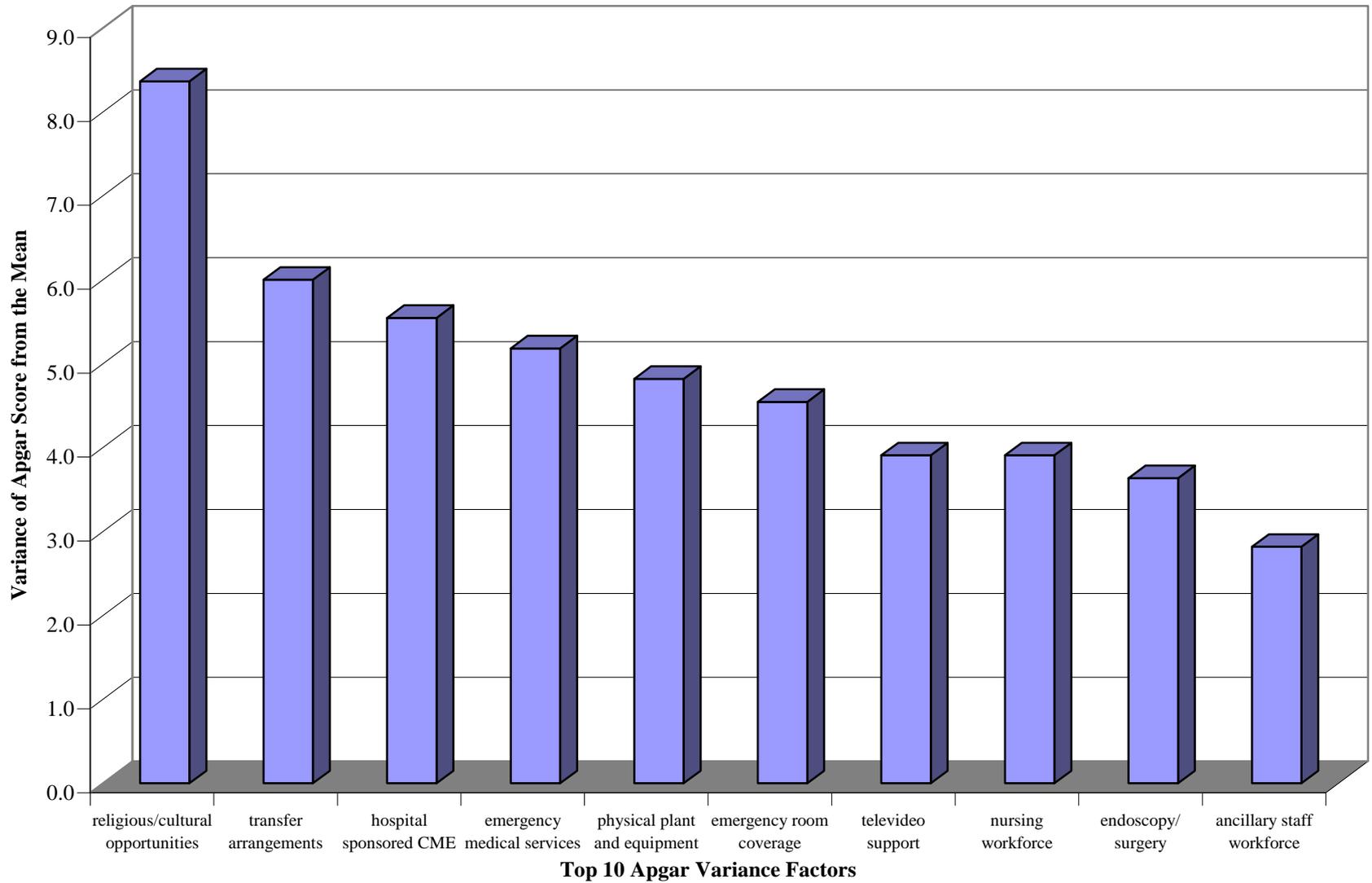
Comparative Apgar Score for Economic Class for Community Two



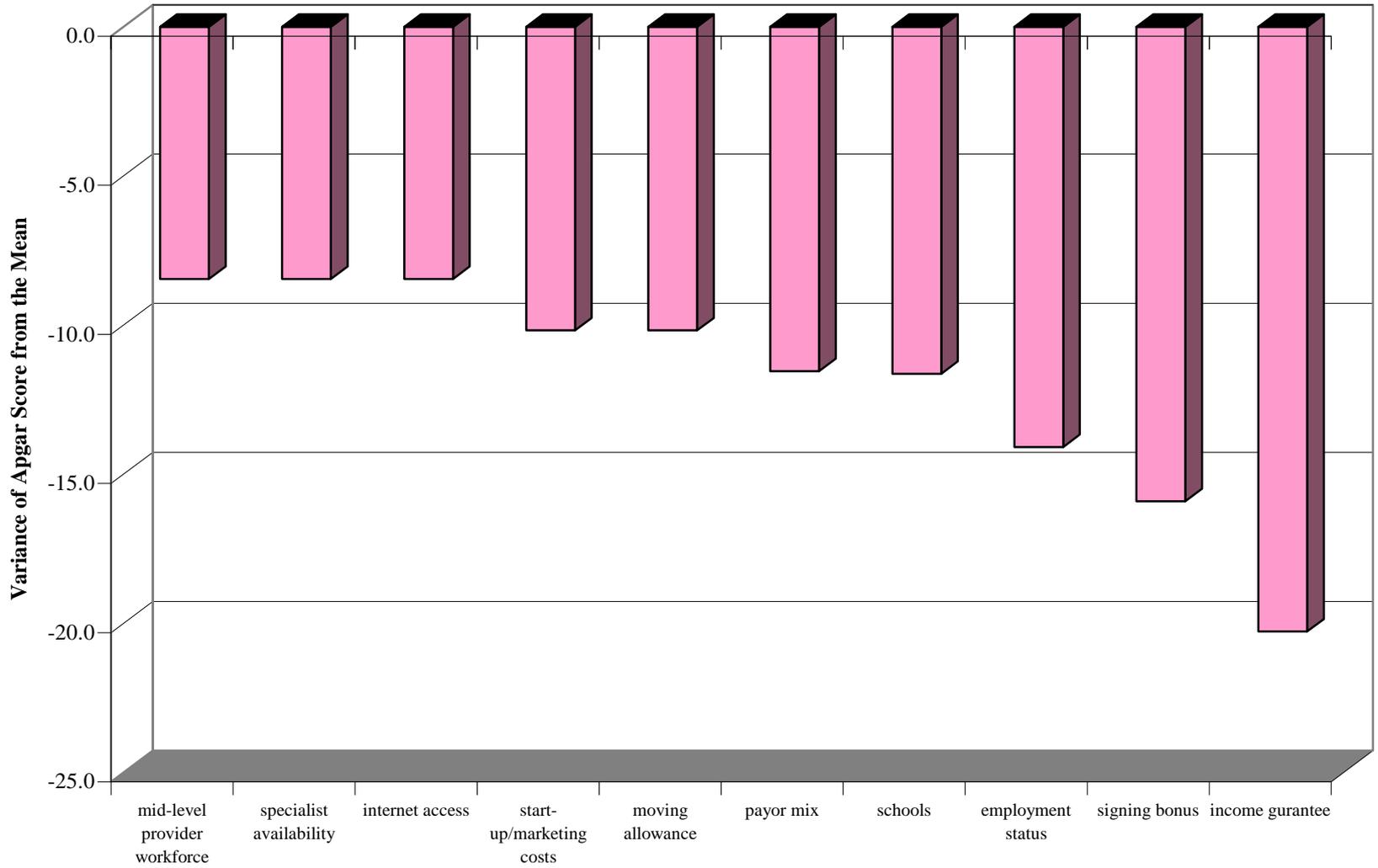
Comparative Apgar Score for Community and Hospital Support Class for Community Two



**Top 10 Apgar Variance Factors Across All 50 Factors in Community Two**

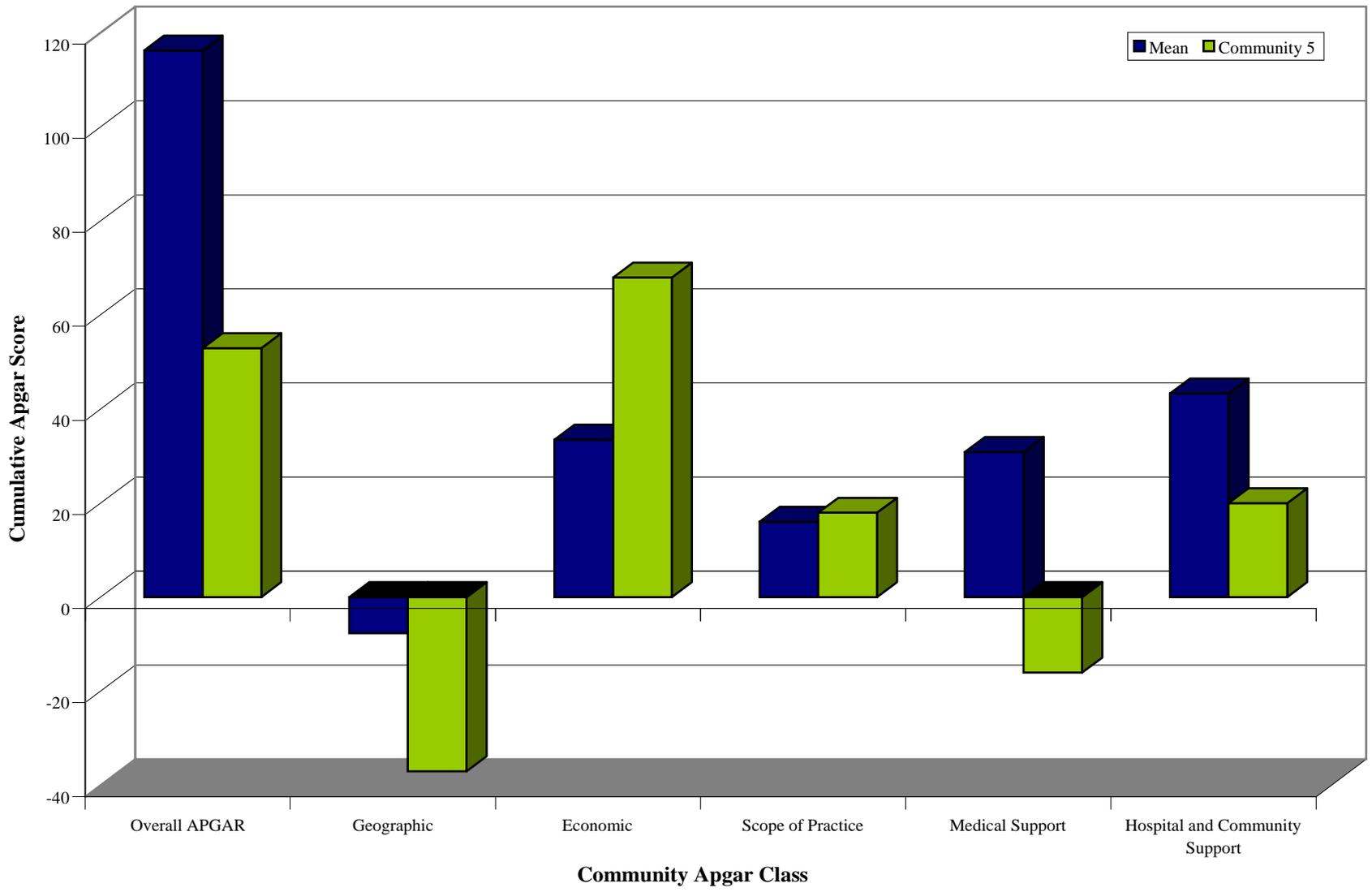


**Bottom 10 Apgar Variance Factors Across All 50 Factors in Community Two**

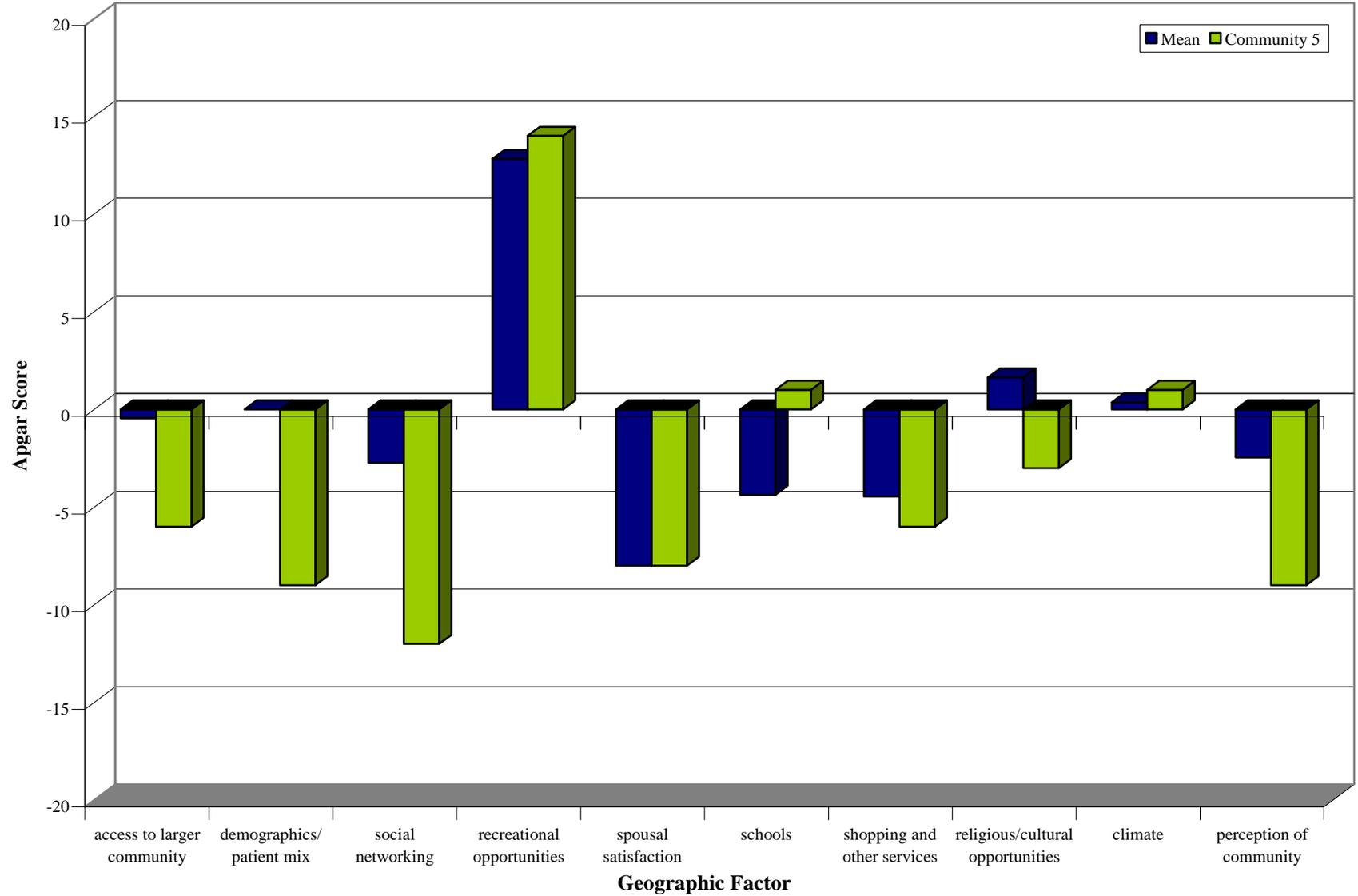


**Bottom 10 Apgar Variance Factors**

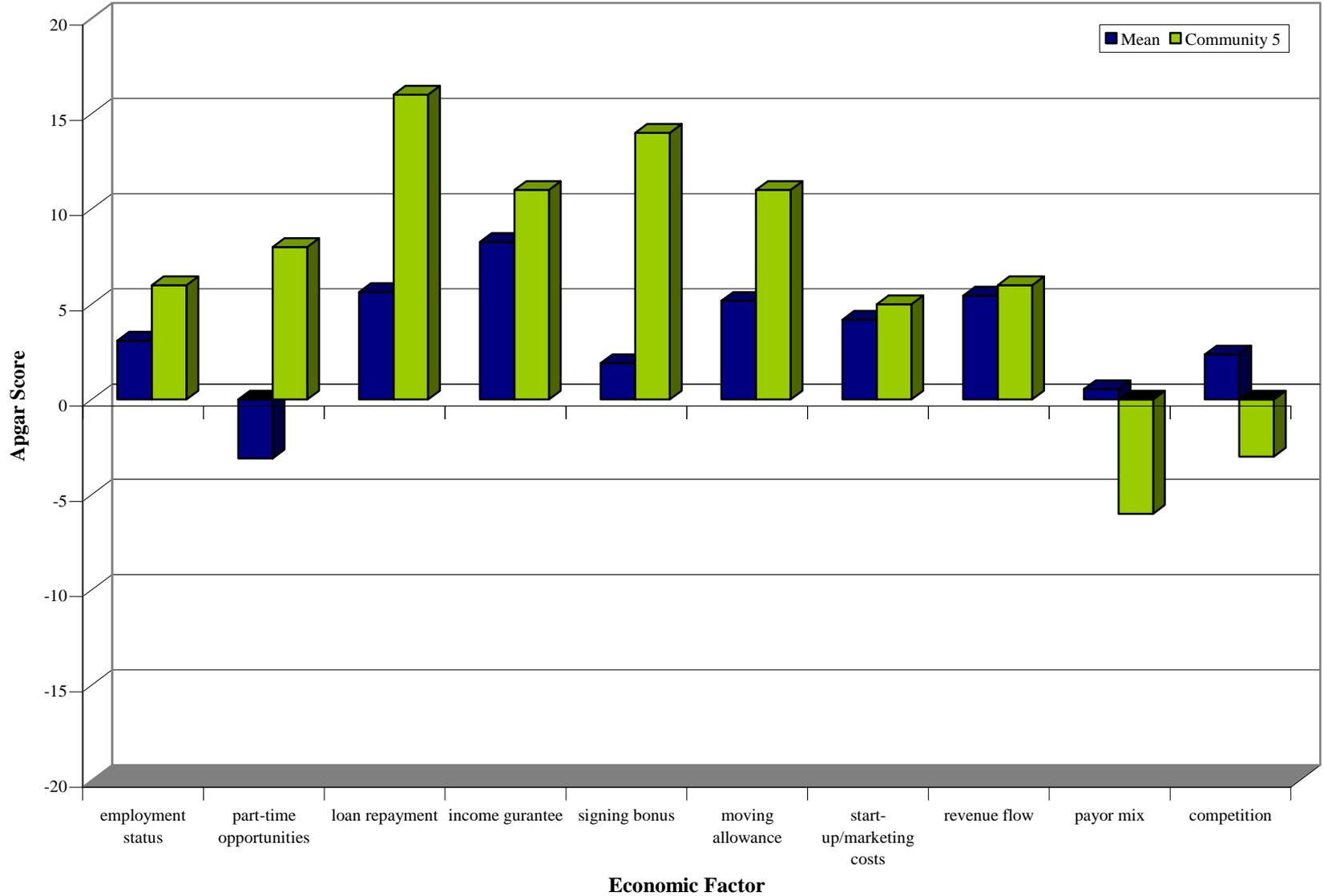
Comparative Apgar Score for Community Five



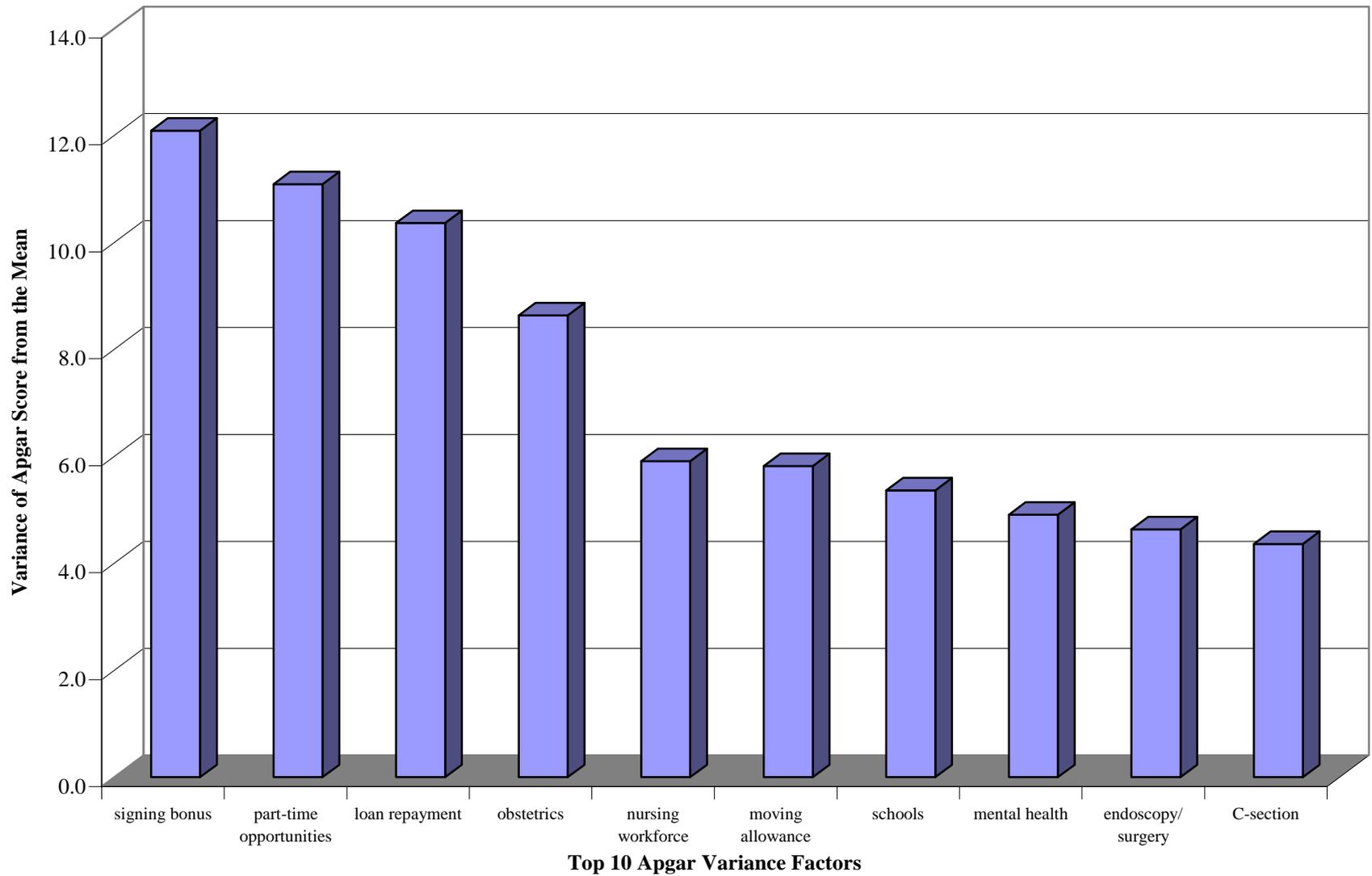
Comparative Apgar Score for Geographic Class for Community Five



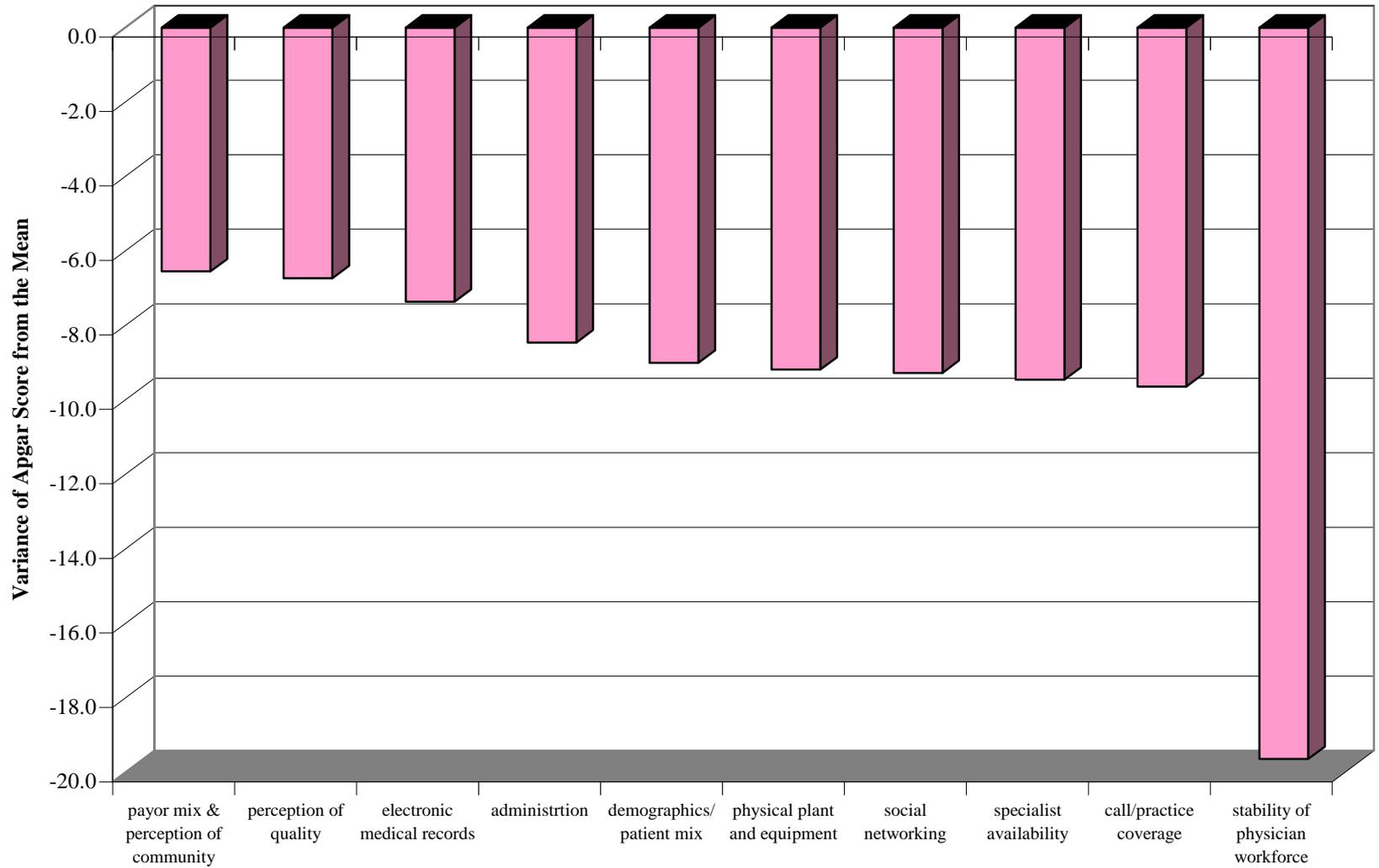
Comparative Apgar Score for Economic Class for Community Five



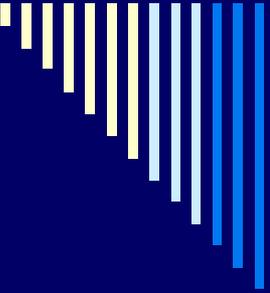
**Top 10 Apgar Variance Factors Across All 50 Factors in Community Five**



### Top 10 Apgar Variance Factors Across All 50 Factors in Community Five



Bottom 10 Apgar Variance Factors

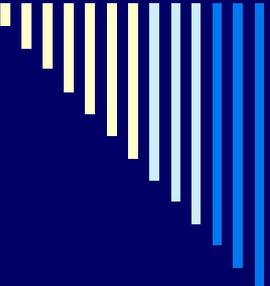


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# Next Steps

- Identify a process for using the CAQ to help communities
  - Phase III research
    - Survey of IMA physicians to assess underlying characteristics of perseverance, tenacity and fortitude
    - Impact on selection of medical students and residents
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# Questions

