Pediatric In-Hospital Cardiac Arrests: We Have More to Learn About Patient Demographics and Outcomes

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**Recommended Citation**

LaVoy, Nathan; Cowden, John; Miller, Jenna; Wagner, Asdis Finnsdottir; Hensley, Shekinah; and Pfeiffer, Stephen, "Pediatric In-Hospital Cardiac Arrests: We Have More to Learn About Patient Demographics and Outcomes" (2023). *Presentations*. 75.  
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Pediatric In-Hospital Cardiac Arrests: We Have More to Learn About Patient Demographics and Outcomes

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#SCCM2023
Background

• Estimated US incidence of pediatric in hospital cardiac arrests (pIHCA) is 2% (mortality 35-45%)
• Lower socioeconomic status and minority background linked with worse outcomes following out of hospital cardiac arrests (OHCA) and IHCA

Aim

Evaluate the impact of demographics on mortality after IHCA within a single center quaternary referral PICU
Methods

• Single center retrospective review of PICU IHCA events from 2010 – 2021
• Combined PICU/CICU
• Data obtained via VPS and chart review
• Demographics: age, sex, race/ethnicity, language
• Primary diagnosis: cardiac or non-cardiac
• Primary outcome: survival to hospital discharge
• aOR obtained using PRISM III scores
Demographics

375 Patients

SEX

Male 57%
Female 43%

RACE/ETHNICITY

White 61.6%
Black 14.7%
Hispanic 8.8%
Asian 2.1%
Other/Mixed 10.1%
Unknown 2.6%

LANGUAGE

English 94%
Spanish 5%
Other/Unknown 1%

OVERALL SURVIVAL RATE

Died 50.1%
Survived 49.9%

Sex
Male: 49.9%
Female: 50.1%

Race/Ethnicity
White: 50.0%
Black: 20.0%
Hispanic: 20.0%
Asian: 10.0%
Other: 5.0%
Unknown: 5.0%

Language Preference
English: 60.0%
Spanish: 20.0%
Other: 20.0%

Primary Diagnosis
Non cardiac: 60.0%
Cardiac: 40.0%
## Adjusted Odds of Mortality

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<th>Odds Ratio</th>
<th>95% CI</th>
<th>P-value</th>
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<td>1.11</td>
<td>0.70, 1.73</td>
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<td>0.96, 8.00</td>
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<td>0.23, 4.10</td>
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<td>Cardiac</td>
<td>0.84</td>
<td>0.53, 1.32</td>
<td>0.44</td>
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Limitations

- Single center study
- Transformation of adjunctive therapies over the last 10 years
- Demographic documentation
  - Race/ethnicity not differentiated
  - Often reported by healthcare personnel
- CPR performance and post cardiac arrest care were not assessed
Conclusion

• No statistically significant differences in outcomes based on patient demographics
  • Inconsistent with previously published data on cardiac arrests
• Framework for…
  • Future analysis of PICU IHCA
  • Identifying challenges in race/ethnicity documentation