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

Nathan LaVoy

Children's Mercy Hospital

John Cowden

Children's Mercy Kansas City

Jenna Miller

Children's Mercy Hospital

Asdis Finnsdottir Wagner

Children's Mercy Hospital

Shekinah Hensley

Children's Mercy Hospital

See next page for additional authors

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Creators

Nathan LaVoy, John Cowden, Jenna Miller, Asdis Finnsdottir Wagner, Shekinah Hensley, and Stephen Pfeiffer

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

Nathan LaVoy, MD

John D. Cowden, MD, MPH; Jenna O. Miller, MD, FAAP,
Ásdis Finnsdóttir Wagner, DO, Shekinah Hensley, RN,
Stephen Pfeiffer, MD



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

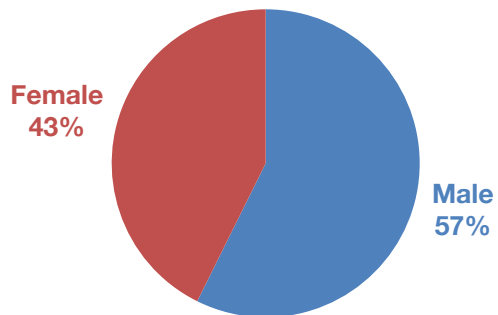
Methods

- 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

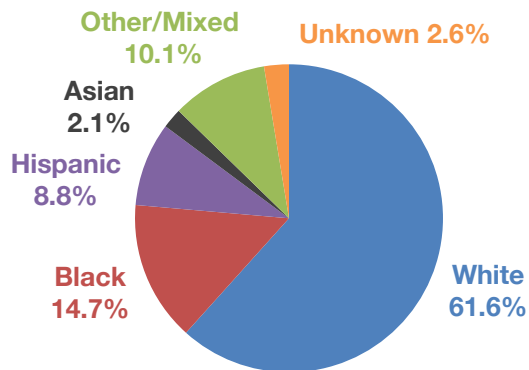
Demographics

375 Patients

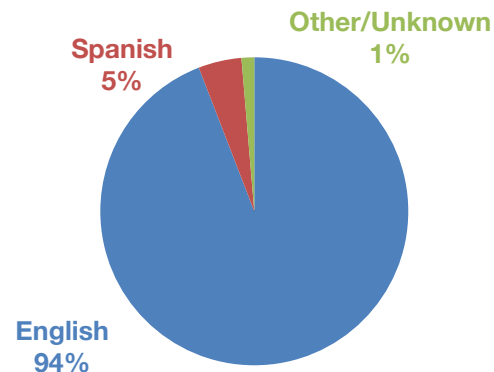
SEX



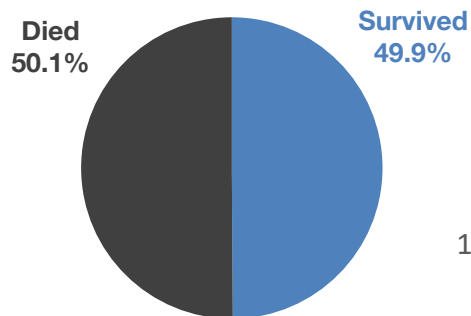
RACE/ETHNICITY



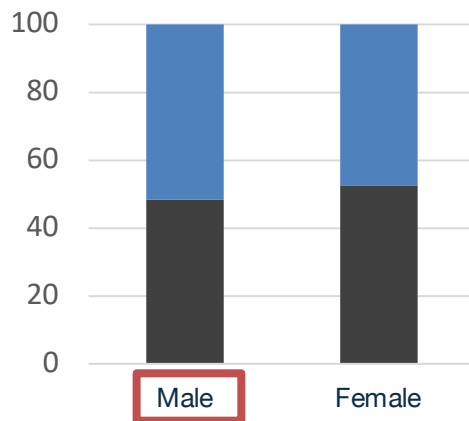
LANGUAGE



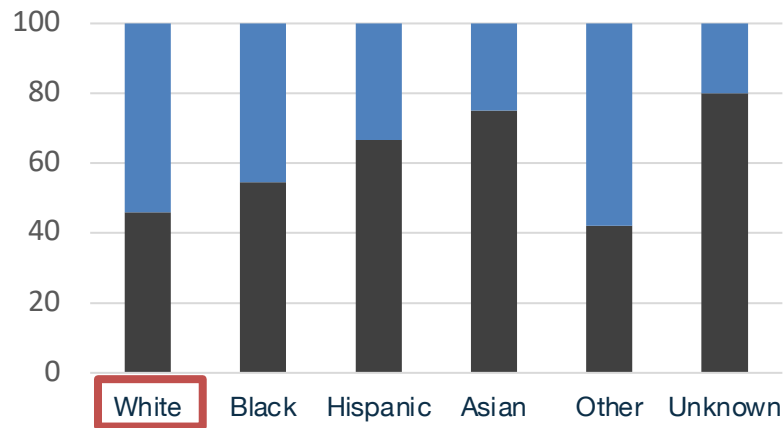
OVERALL SURVIVAL RATE



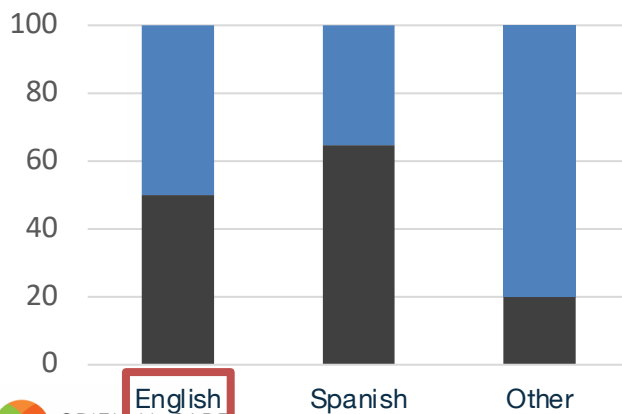
Sex



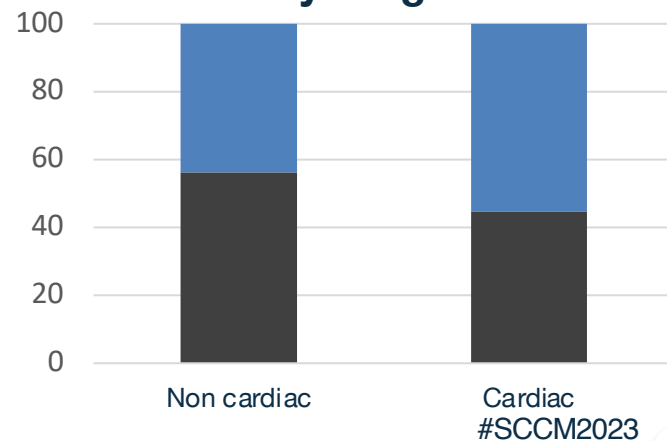
Race/Ethnicity



Language Preference



Primary Diagnosis



Adjusted Odds of Mortality

		Odds Ratio	95% CI	P-value
Sex				
	Male	-ref-	---	---
	Female	1.11	0.70, 1.73	0.69
Race/Ethnicity				
	White	-ref-	---	---
	Black	1.27	0.67, 2.41	0.47
	Hispanic	2.64	0.96, 8.00	0.07
	Asian	5.02	1.10, 35.25	0.054
	Other/Mixed	0.69	0.31, 1.48	0.35
	Unknown	5.32	1.32, 40.59	0.034
Patient Preferred Language				
	English	-ref-	---	---
	Spanish	0.98	0.23, 4.10	0.98
	Other/unknown	0.38	0.02, 2.83	0.41
Cardiac Patient				
	Non-cardiac	-ref-	---	---
	Cardiac	0.84	0.53, 1.32	0.44

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