

# Social Needs Resource Provision in Critically Ill Children May Reduce Hospital Readmissions

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Akron  
Children's

# Disclosures

- None



# Introduction

- Critically ill children may have unmet social needs which may be worsened by PICU hospitalization
- Inpatient social workers (SW) can address health disparities by providing emotional support and social resources (SR) to address these unmet social needs



# Introduction

- We do not know if SR provision during PICU hospitalization is associated with outcomes for critically ill children
- This information may help identify children at highest risk for social disparity and guide resource development to mitigate the impact of hospitalization on social needs



# Objective

- We aimed to describe the characteristics of patients receiving SR during their PICU hospitalization and study the impact of SR provision on 6-month hospital readmissions and healthcare costs



# Methods

- We conducted a propensity matched retrospective single center cohort study at a tertiary free standing children's hospital
- We included all PICU encounters between 1/1/2023 and 12/31/2023 with no exclusion criteria

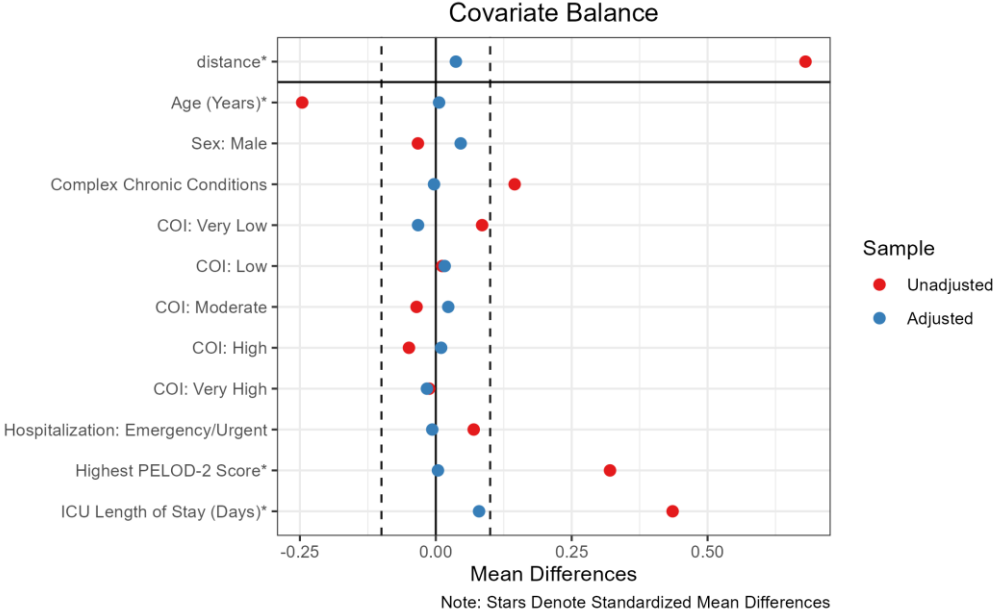


# Methods

- Primary exposure – patients with SW engagement and SR provision
  - SW engagement defined as documentation by a PICU SW of an interaction with the patient/caregivers during PICU hospitalization
  - SR provision identified through chart review of encounters for documented resource(s) provided to the patient/caregiver during PICU hospitalization
- Primary outcome – 6-month readmissions



# Matching





## Results - N

- 1,507 PICU hospitalizations across 1,328 distinct patients
  - 1,130 (75%) met with a PICU SW
  - 459 (30.5%) received SR
  - 827 SR provided across all encounters



# Results - Demographics

Characteristic	Overall (N = 1,507)	Social Work Resources Provided		p-value
		No (N = 1,048)	Yes (N = 459)	
Age (years), Median (IQR)	4.0 (1.1 – 12.0)	5.0 (1.3 – 13.0)	2.0 (0.6 – 11.0)	<0.001 <sup>1</sup>
Complex Chronic Condition, n (%)	825 (56.4)	531 (52.3)	294 (65.6)	0.33 <sup>2</sup>
Unknown	44	33	11	
Primary Language, n (%)				
English	1,448 (96.1)	1,015 (96.9)	433 (94.3)	<0.001 <sup>2</sup>
Other	59 (3.9)	33 (3.1)	26 (5.7)	
Insurance, n (%)				0.020 <sup>2</sup>
Government	918 (62.7)	611 (60.2)	307 (68.5)	
Other	95 (6.5)	65 (6.4)	30 (6.7)	
Private	450 (30.8)	339 (33.4)	111 (24.8)	0.004 <sup>2</sup>
Unknown	44	33	11	
Zip-Code MHI, Median (IQR)	54,272.0 (44,819.0 – 65,432.0)	55,337.0 (46,875.0 – 66,884.0)	53,316.0 (41,261.0 – 64,729.0)	
Unknown	46	34	12	
COI (Overall), n (%)				
Very Low	400 (26.7)	252 (24.2)	148 (32.5)	0.001 <sup>1</sup>
Low	274 (18.3)	188 (18.0)	86 (18.9)	
Moderate	494 (33.0)	356 (34.2)	138 (30.3)	0.006 <sup>2</sup>
High	184 (12.3)	141 (13.5)	43 (9.4)	
Very High	146 (9.7)	105 (10.1)	41 (9.0)	

1 Wilcoxon rank sum test, 2 Pearson Chi-square test

# Results – Resources Provided

Category	Number of Encounters	Percentage of Encounters
Food	328	21.8
Housing	177	11.7
Safety	39	2.6
Transportation	118	7.8
Utilities	10	0.7

Food	(Any food resource)	328	21.8%
Food	Other food resource	200	13.3%
Food	Ronald McDonald House	129	8.6%
Food	Hospital food resources (e.g. meal trays)	76	5.0%
Food	Grocery store or retailer gift card	37	2.5%
Food	Department of Job and Family Services (DJFS) SNAP Information	9	0.6%
Food	Food service home delivery program (e.g. Door Dash)	1	0.1%
Food	My LocalLink/211 (findhelp.org)	1	0.1%

Housing	(Any housing resource)	177	11.7%
Housing	County-specific Child Protective Services information	95	6.3%
Housing	MBA Opens Doors (Rent/mortgage assistance program)	57	3.8%
Housing	Other housing resource	38	2.5%
Housing	Local metropolitan housing authority information (public housing)	1	0.1%
Housing	My LocalLink/211 (findhelp.org)	1	0.1%



## Results - Outcomes

- 1,164 index encounters among 1,164 individual patients without in-hospital mortality used for propensity matching (612 matched)
- 6-month readmission free survival 74% (95% CI 69-79%) among children receiving SR v 66% (95% CI 61%-72%) in those who did not

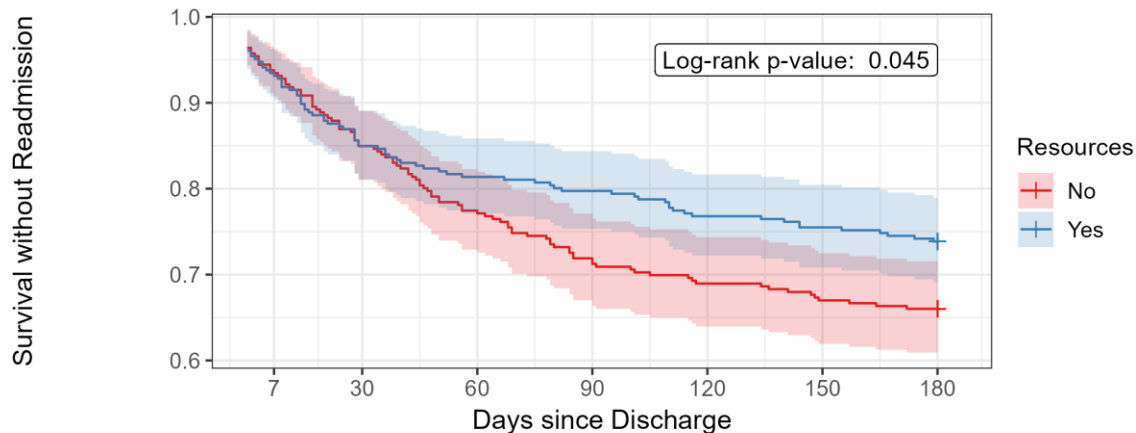


## Results - Outcomes

- Marginal risk reduction in 6-month readmissions of 7.9% (95% CI 0.4-15.4%) with marginal risk ratio 0.768 (95% CI 0.579-0.987)
- Estimated cost avoidance \$828 (95% CI \$41-\$2,078) per child receiving SR with total cost avoidance \$253,368 (95% CI \$12,546-\$635,868)



# Results - Outcome



	No						
At Risk (Events)	287 (20)	260 (46)	237 (70)	220 (88)	211 (95)	205 (101)	202 (104)
Survival	93%	85%	77%	71%	69%	67%	66%
(95% CI)	(91-96)	(81-89)	(73-82)	(66-76)	(64-74)	(62-72)	(61-72)
	Yes						
At Risk (Events)	286 (21)	260 (46)	249 (57)	244 (62)	235 (71)	231 (75)	226 (80)
Survival	93%	85%	81%	80%	77%	75%	74%
(95% CI)	(90-96)	(81-89)	(77-86)	(75-84)	(72-82)	(71-80)	(69-79)



# Discussion

- Upon PICU admission, critically ill children are at high risk for unmet social needs
- We demonstrated a reduction in readmissions for children who received SR during PICU hospitalization and an annual cost avoidance of over \$250,000
- Future work is needed to further characterize the social needs of critically ill children, identify resource gaps, and provide potential cost savings from preventable healthcare utilization through increased social care



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