

# Non-Healthcare Related Expenses Incurred Due to Pediatric Hospitalization

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## Disclosures

- **All authors have documented that they have no financial relationships to disclose or Conflicts of Interest (COIs) to resolve.**



## Background

- According to Health Care Cost & Utilization Project in 2012
  - 5.9 million pediatric hospital admissions in the US
  - Mean medical costs ranged from \$6,415 - \$11,143
- However, there is limited information about non-medical costs of pediatric hospitalization
  - Missed wages
  - Parking
  - Meals
  - Child care

## Family burden during hospitalization

*“I was in the hospital with no money with no one, no food, no gas. It was just horrible because I was breastfeeding, and I’m basically eating nothing but cereal or a little scrap that she don’t eat that I could sneak in before the doctors come and see.”*

## Objectives

To quantify the family burden of **non-medical costs** of pediatric hospitalization

To evaluate the relationship between sociodemographic variables and strain with **non-medical costs**




## Hospital to Home Outcomes Study (H2O)

- Randomized Control Trial
  - Nurse home visits 96 hours after discharge
- Quaternary, freestanding pediatric medical center
- Caregivers of children admitted to Hospital Medicine or Neurosciences services
- Survey completed in face-to-face interview

The Hospital-To-Home  
Outcomes Study (H2O)  
Improving the Fluidity of Patient Transitions

## Parent Survey: Non-medical Costs

Question
Have you or any household members <b>missed income from wages/tips</b> during hospitalization?
How much in wages/tips?
Have you or any household member taken <b>paid sick leave</b> ?
How much money has been spent on <b>travel/parking</b> at the hospital?
How much money has been spent on <b>meals</b> at the hospital?
How much money was spent on <b>additional child care</b> ?
Besides missed income/lost sick leave time, travel/parking, meals, additional child care, were there <b>any other costs</b> that your family experienced due to this hospitalization?




Cincinnati Children's  
changing the outcome together

## Parent Survey: Strain

Financial Strain	Social Strain

*Beck et al Pediatrics, 2014*



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changing the outcome together

## Parent Survey: Strain

Financial Strain	Social Strain
<ul style="list-style-type: none"> <li>• Difficulty making ends meet</li> <li>• Unable to pay rent or mortgage</li> <li>• Unable to pay utilities</li> <li>• Do not own home</li> <li>• Do not own a car, truck, or van</li> <li>• Borrowed money</li> <li>• Moved in with others due to difficult financial circumstances</li> </ul>	

*Beck et al Pediatrics, 2014*



## Parent Survey: Strain

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*Beck et al Pediatrics, 2014*



## Measures

### Parent Report

- Missed earnings
  - Other expenditures
- } = Reported Cost Burden

### Calculation

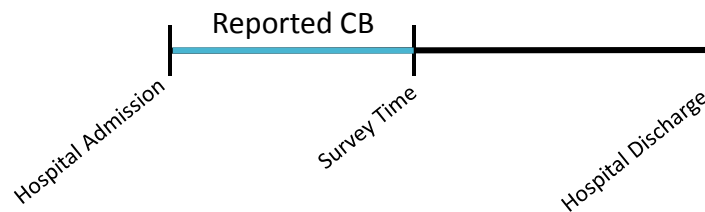
- Extrapolated Total Cost Burden
- Extrapolated Total Cost Burden as a proportion of weekly income



## Definitions & Calculations

**Reported Cost Burden (CB):** Lost wages & non-healthcare expenses

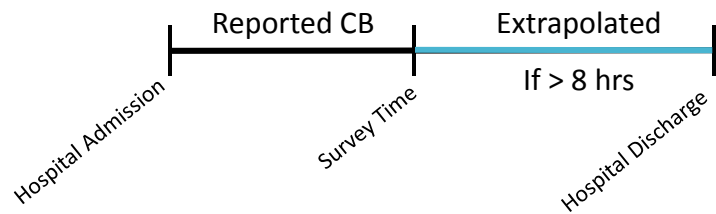
- Length of stay (LOS) was defined as admit to discharge time



## Definitions & Calculations

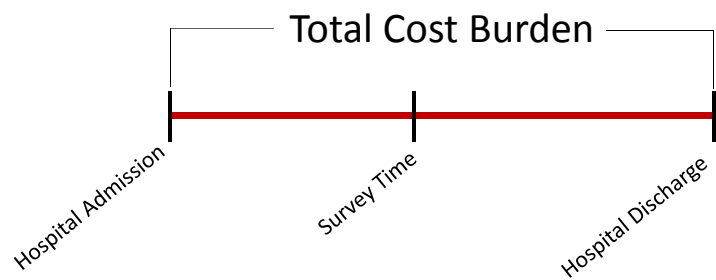
### Total cost burden (tCB) for length of stay for hospitalization

- Extrapolated the hourly CB and estimated the remaining losses



## Definitions & Calculations

### Total Cost Burden for LOS for hospitalization



## Measures

### Total Cost Burden (tCB)

Household Income	Income used to calculate tCB as a function of income
<\$15,000	\$14,999
\$15,000-\$29,999	\$29,999
\$30,000-\$44,999	\$44,999
\$45,000-\$59,999	\$59,999
\$60,000-\$89,999	\$89,999
\$90,000-\$119,999	\$119,999
≥\$120,000	\$150,000



## Outcome

$$\frac{\text{Categorical Maximum Income}}{52 \text{ Weeks}} = \text{Weekly income}$$

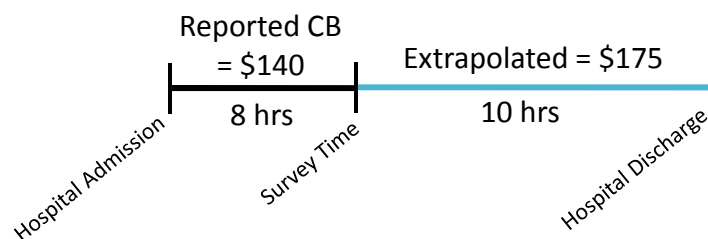
$$\frac{\text{tCB}}{\text{Weekly Income}} = \text{Total Cost Burden relative to weekly income}$$





## Example Calculation

- Reported Cost Burden/# of hours = \$140/8 hours
  - Hourly Cost Burden = \$17.50
- \$17.50 x 10 additional hours = \$175
- Total Cost Burden = \$140 + \$175 = **\$315**



## Example Calculation

- Total Cost Burden = \$315
- Household Income \$15,999-29,999
- Weekly Income = \$29,999/52 wks = \$577

$$\frac{\text{tCB}}{\text{Weekly Income}} = \text{Total Cost Burden relative to weekly income}$$

$$\frac{\$315}{\$577} = \mathbf{55\%}$$



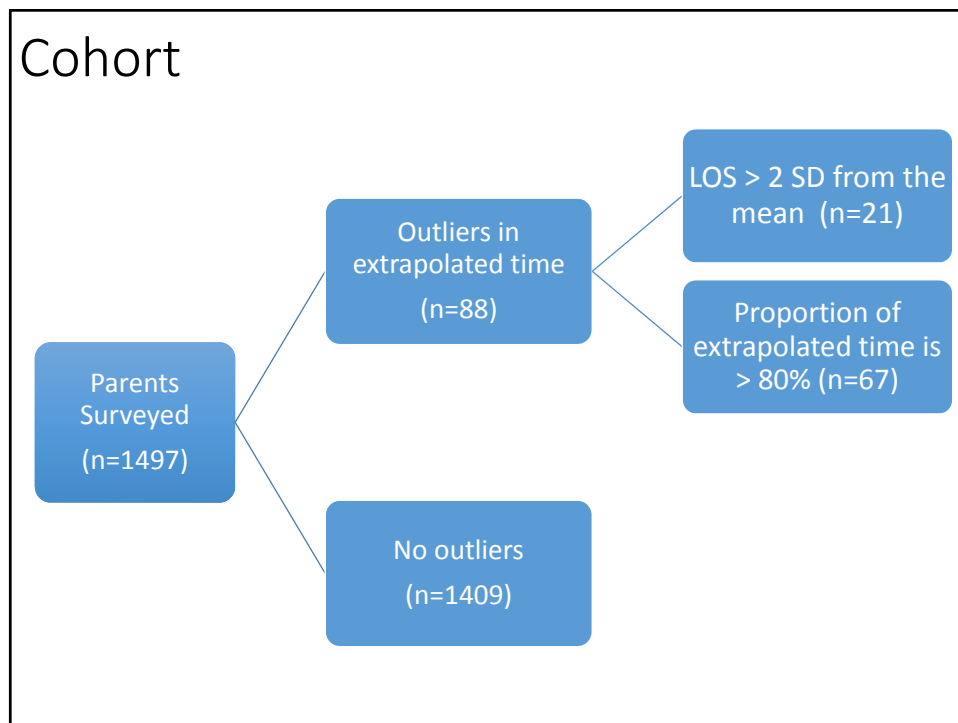
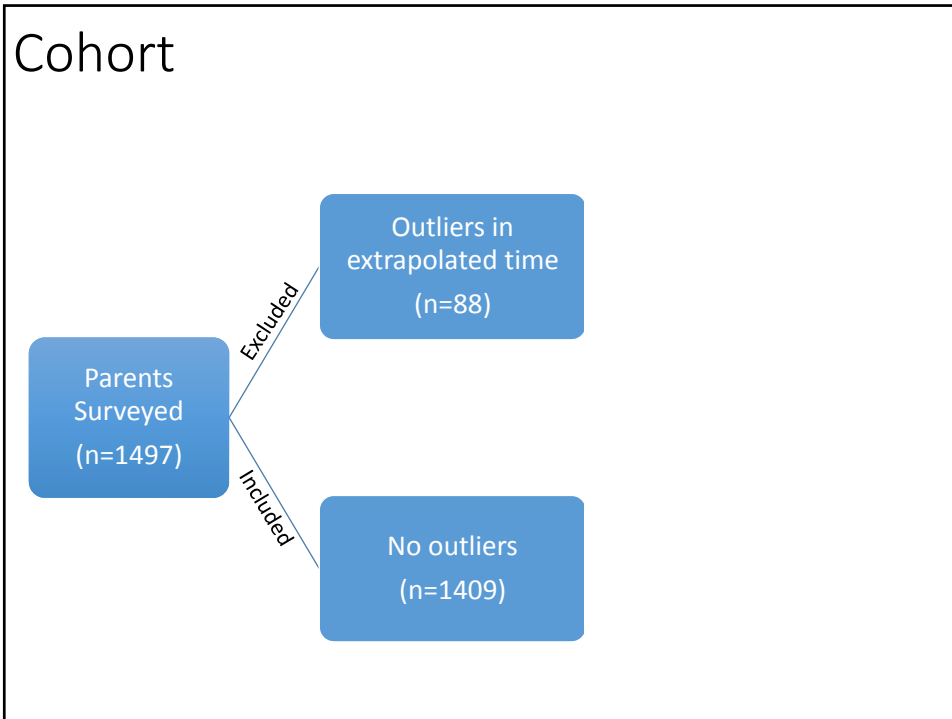
## Analysis

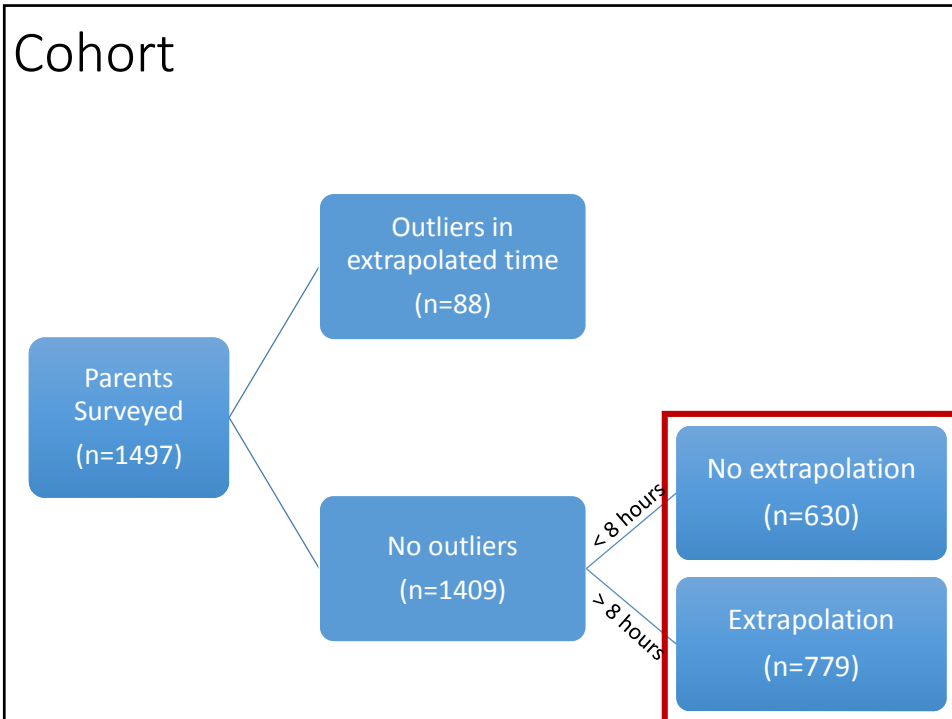
- Compare sample extrapolated tCB and tCB relative to weekly income by sociodemographic factors
  - Race
  - Insurance
  - Marital status
  - Financial and Social Strain
- Kruskal Wallis Test



## Cohort

Parents  
Surveyed  
(n=1497)





## Demographics

Sociodemographic Characteristic	N (%)
Total Sample	1409 (100)
Patient Age (y)	
< 3	<b>849 (56)</b>
3-10	361 (25)
> 10	287 (19)
Child race	
<b>White</b>	<b>909 (61)</b>
Black	507 (34)
Other	64 (4)
Child insurance	
Private	641 (43)
<b>Public/Self-pay</b>	<b>856 (57)</b>

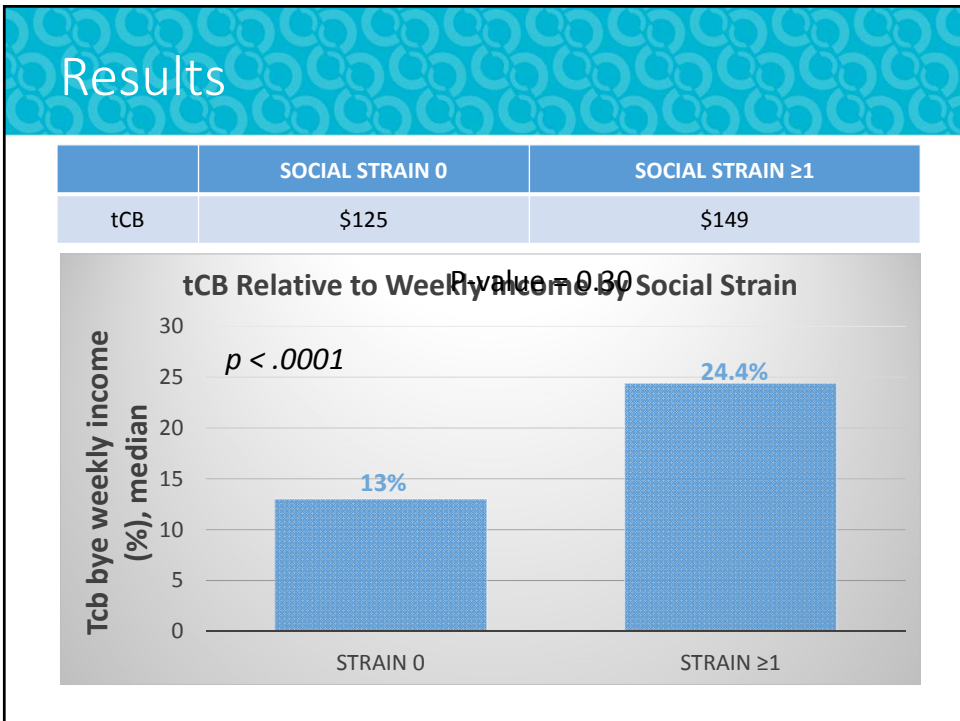
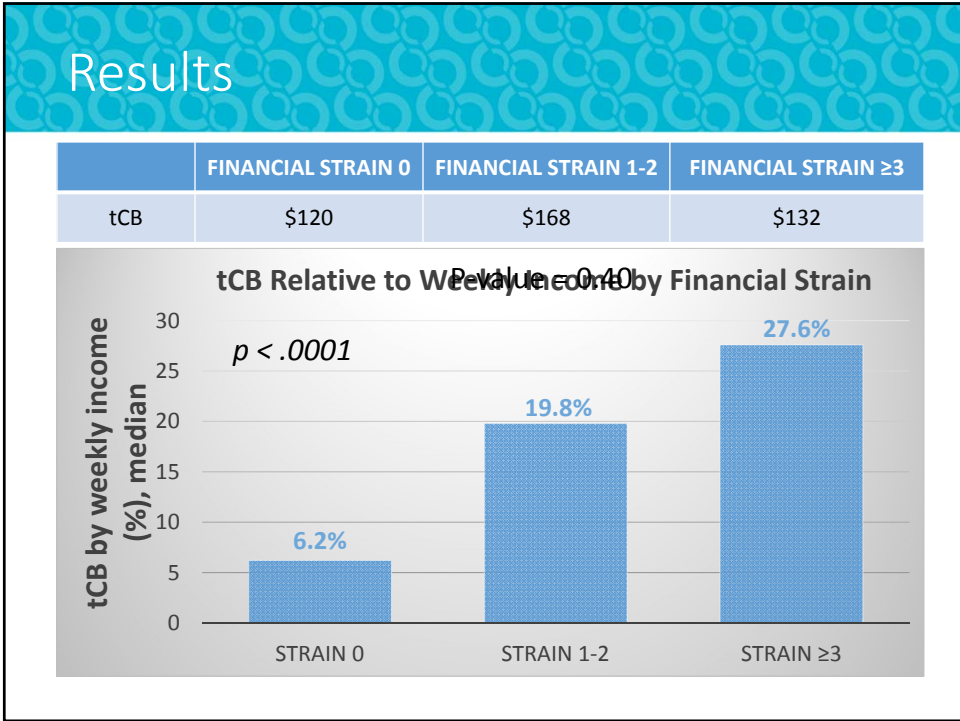
## Demographics

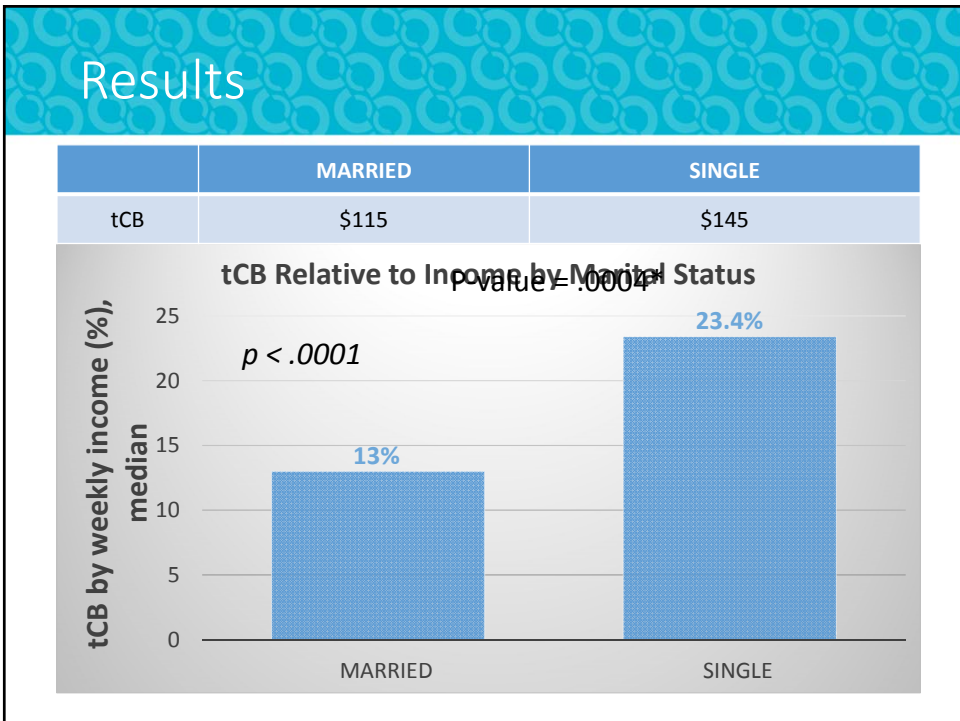
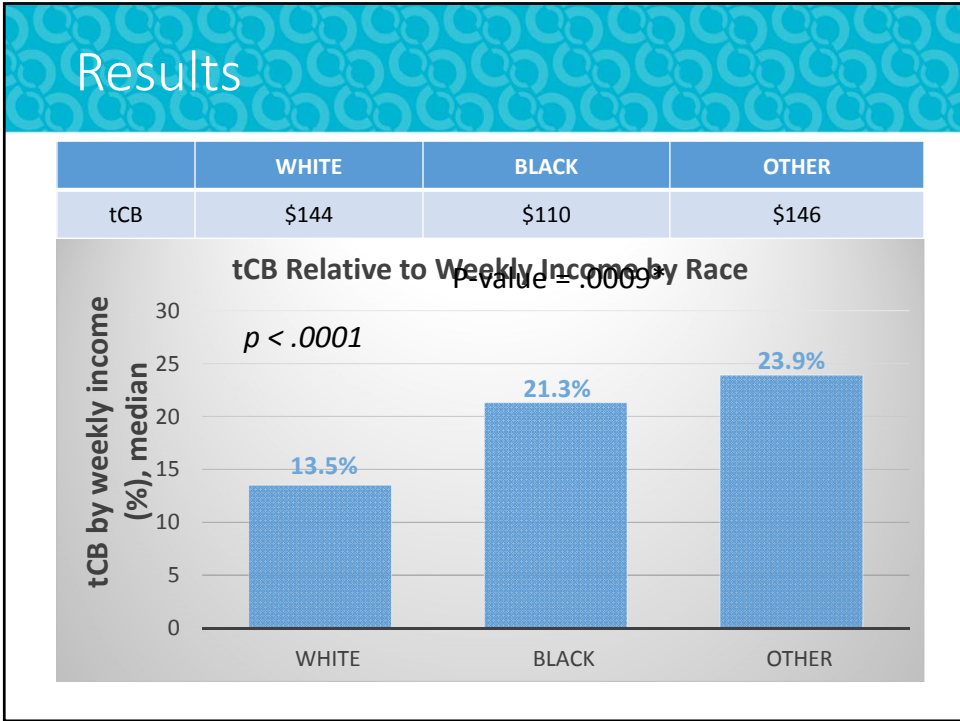
Sociodemographic Characteristic	N (%)
LOS (days)	
0-1	239 (17)
<b>1-2</b>	<b>823 (58)</b>
> 3	247 (25)
Caregiver marital status	
<b>Married</b>	<b>862 (61)</b>
Single	547 (39)
Number of financial hardships reported	
0	438 (31)
<b>1-2</b>	<b>496 (35)</b>
≥3	475 (34)
Number of social hardships reported	
<b>0</b>	<b>871 (62)</b>
≥1	533 (38)

## Results

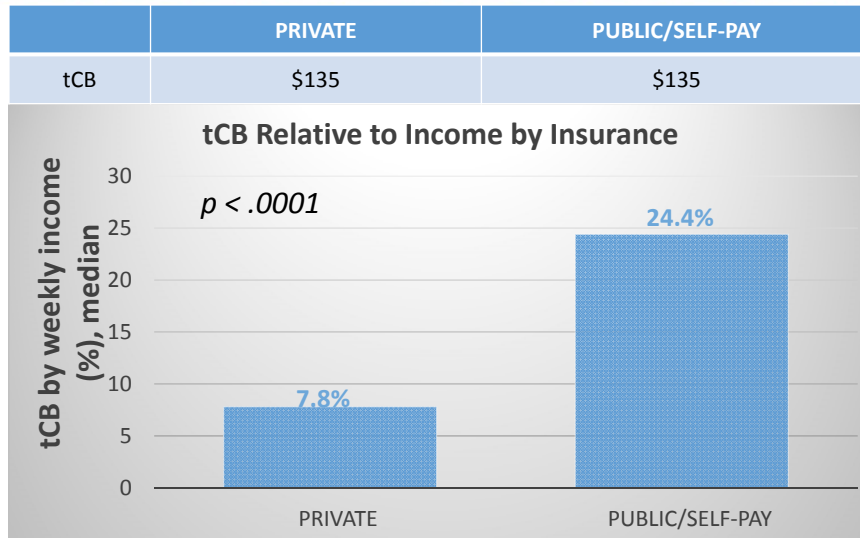
### Total Cost Burden (tCB)

N	Median	25%	75%	Range
Total Sample Not Extrapolated (n=1409)	\$78	\$30	\$245	\$0-\$7100
Total Sample Extrapolated (n=1409)	\$131	\$45	\$370	\$0-\$15,724





## Results



## Limitations

- Data obtained via parental report
- Data extrapolated from initial period of admission, and may not be representative of costs for the entire hospitalization
- Length of stay did not include time spent in the Emergency Room
- Costs did not account for follow up visits after discharge



## Conclusions

- Non-healthcare costs can burden families of hospitalized children
- These costs disproportionately affect
  - Racial minorities
  - Publically insured
  - Single parent households
  - Parents with financial and social hardship

Non-medical costs are often underestimated for at risk families



## Acknowledgements

- Hospital to Home Outcomes Study (H2O)
  - Anita Shah, DO
  - Lenisa V. Chang, PhD
  - Hadley S. Sauers-Ford, MPH
  - Samir S. Shah, MD MSCE
  - Jeffrey M. Simmons, MD MSc
  - Andrew F. Beck, MD MPH



## Acknowledgements

### H2O Study Team

- Samir Shah & Jeffrey Simmons, CCHMC Division of Hospital Medicine
- Susan Wade-Murphy, Jennifer Gold, JoAnne Bachus, Karen Sullivan, Monica Borell, Judy Heilman, CCHMC Home Care Services
- Margo Moore, Parent Partner
- Angela Statile, Christine White, Katherine Auger, CCHMC Division of Hospital Medicine
- Andrew Beck, CCHMC Division of General & Community Pediatrics
- Lauren Solan, University of Rochester School of Medicine
- Rita Pickler & Heather Tubbs Cooley, CCHMC Nursing Research
- Heidi Sucharew & Jane Khoury, CCHMC Division of Biostatistics & Epidemiology
- Lenisa Chang, University of Cincinnati Lindner College of Business
- Susan Sherman, Qualitative Methods Consultant
- Hadley Sauers, Stephanie Brunswick, Joe Jabour, Kathleen Bell, Corey Pfefferman, Allison Loechtenfeldt, Clinical Research Coordinators

The H2O study is supported by funding from the Patient-Centered Outcomes Research Institute (IHS-1306-0081 Shah, PI) and Cincinnati Children's Hospital.

## Questions or comments?

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