

Abstract

Children that do not have access or transportation to the doctor's office tend to miss appointments. Often they end up in the emergency room (ER) which results in avoidable ER cost which is incurred by the insurance companies and state and federal payers. The hypothesis is: transporting pediatric patients in need of same or next day primary care would create cost savings from preventable ER visits. This study examines the results from a pilot transportation project conducted at a rural Oklahoma pediatric clinic and attempts to extrapolate these results to predict Oklahoma's statewide Medicaid pediatric no-show rate from a confirmed no-ride rate. Using rural clinic data and publicly available state Medicaid data, we predicted the number of statewide pediatric missed visits, the number of sick children visits, and incurred avoidable ER visit costs. These data suggest there are 52,386 missed visits which totals to \$5,066,808 of lost clinic revenue. Of these, 36,908 are estimated to be sick visits and 16.7% of these children will incur an ER visit at a cost of \$1,316 per visit according the Oklahoma Health Care Authority published data. This translates into \$8,095,279 in avoidable ER visit costs. The results suggest the lack of transportation for sick Medicaid children in need of same day or next day primary care generates higher health care cost. Moreover, a sick child's lack of health care will result in long term secondary and tertiary impacts and implications on family, community, and state.

Introduction

OSU Center for Health Systems Innovation (CHSI) determined the rural pediatric clinic rate and frequency of transportation need. In addition, who and when transportation was most needed was identified.

The needs discovered consist of:

- All patients without a ride to appointments were enrolled in Sooner Care state Medicaid
- The majority of patients had intermittent need, sometimes needed a ride, and sometimes did not.
- All of the patients given rides reported missing previous appointments due to lack of transportation.
- 70.45% of the patients that were given rides were sick patients

Given the 3 days ahead scheduling restrictions of the current Sooner Ride program, it was determined:

- Oklahoma Medicaid transportation solutions do not solve over half of the pediatric intermittent transportation need.
- Oklahoma Medicaid transportation gap in pediatric primary care impacts the sick children the greatest extent.

Given that 66% of OK Medicaid enrollees are children and that OSU CHSI discovered that the most significant transportation need to pediatric primary care was when a child is sick, we wondered the potential statewide impact to children of the Medicaid transportation restrictions, specifically the three-day required notice for authorization and scheduling of Medicaid provided rides, and the healthcare costs related to subsequent emergency room use.

Methods

Oklahoma State University CHSI conducted a transportation pilot in a rural pediatric clinic, capturing detailed data to describe the population in need of transportation, pace and volume of demand, and financial costs and revenue. This data was applied to published statewide 2018 Sooner Care pediatric enrollment number to estimate number of statewide pediatric no-shows are created by lacking transportation as well as number of those visits for "Well" and "Sick" patients. Average revenue rates of transported patients were applied to the projected missed visit number to estimate statewide lost clinic revenue. Clinic provided rate at which their Sooner Care no show patients go to ER and this was applied to the projected sick missed visits to project incurred ER costs.

Methods (cont.)

Rural Pediatric Clinic Rates (RPCR)				PROJECTIONS			
Transported Patients enrolled in Medicaid	44	44	100.00%	Projection of Total Needed Transportation Days in a Year (MR for percentage of transportation need days x total days of primary care in a year)	77.42%	253	196
Days of Transportation Need	24	31	77.42%	Projection of Total SoonerCare child visits in Need of Transportation per each Transport Day (MR of need applied to total child soonerCare enrollment)	509,365	0.05%	267
Average number of transported patients per Transportation Day	2	2	200.00%	Projection of annual need of transportation for visits (Projection of TD need x total TDs projected in a year)	267	196	52,386
Ave Patients Transported on Transport Day/SoonerCare Total Enrolled at Clinic	2	3,809	0.05%	Projected number of SoonerCare pediatric visits in a year needed due to illness (MR in percentage of sick visits of transported patients x projected annual need of transportation for visits)	70.45%	52,386	36,909
Sick transported Visits/total transported visits	31	44	70.45%	Projected number of SoonerCare kids with no show sick visits that go to the ER (Projected number of sick visits without transportation x MR percentage of no show sick that go to the ER)	36,909	16.67%	6,151
Well transported visits/total transported visits	7	44	15.91%	Projected Cost of kids without transportation when sick going to ER	6,151	\$ 1,316	\$ 8,095,280
new transported visits/total transported visits	3	44	6.82%	Projected Total Primary Care visit cost of all visits of children without transport in need of primary care (MR visit average claim paid by Sooner Care x total projected number of annual visits without rides)	\$ 96.72	52,386	\$ 5,066,808
adhd transported visits/total transported visits	1	44	2.27%	Projected Cost of Transportation for Kids without transport (MR YCC transportation 2 way cost x projected number of visits need without transport)	\$ 19.44	52,386	\$ 1,018,391
lab transported visits/total transported visits	2	44	4.55%				
sick no show visits that presented at the ER/total sick no show visits (HAN July-September 2018)	25	150	16.67%				
Primary Care Visit Average claim paid for transported child							
Average cost of transporting patient in need of care (one way YCC cost x 2 ways)	\$ 9.72	2	\$ 19.44				
OTHER DATA							
Number of Care Days in a Calendar Year (less weekends and holidays)	365	112	253				
Total SoonerCare Choice Kids (not ABD or other) OHCA "total enrollment" report posted online 12/2018			509,365				
Cost of ER visit on average (from OHCA 2013 powerpoint presentation online)			\$ 1,316.00				

Figure 1: Data and Rate Calculations for Rural Pediatric Clinic (RPCR)

Figure 2: Application of RPCR to State Data

Results

By utilizing the data of the free-ride program at the rural pediatric clinic, applying those to primary care operating days in a year, and statewide child enrollment figures, we projected:

- Number of visits in a year in Oklahoma where pediatric patients were unable to access primary care due to no transportation - 52,386
- Number of visits in a year in Oklahoma sick pediatric patients were unable to attend - 36,909
- Number of patients who are sick without transport to their primary care appointment who go to the ER - 6,151
- The number of pediatric patients in Oklahoma in need of transport per primary care operating day - 267

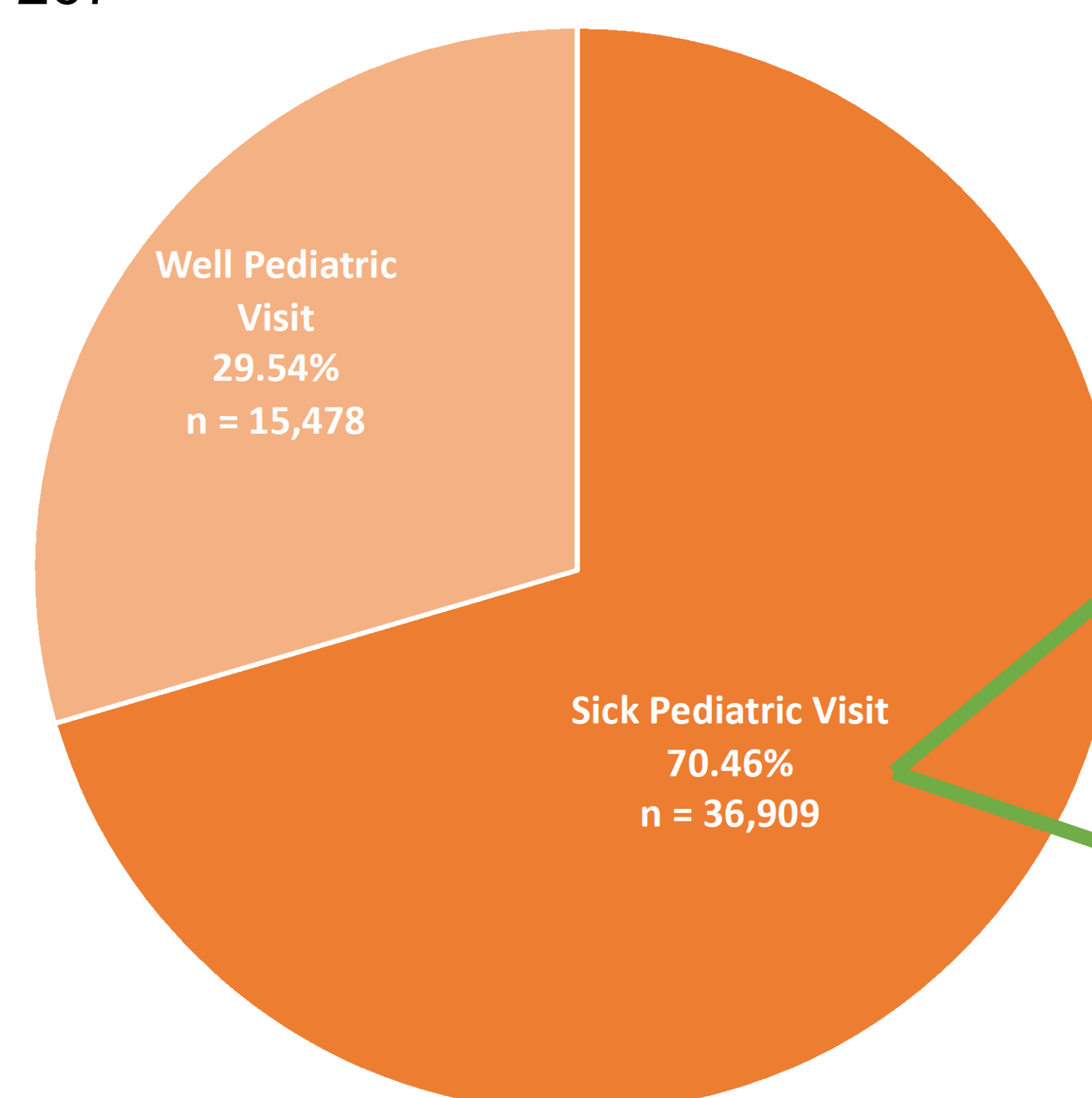


Figure 3: Predicted distribution of state-wide "Well" and "Sick" pediatric visits missed because need transportation to primary care

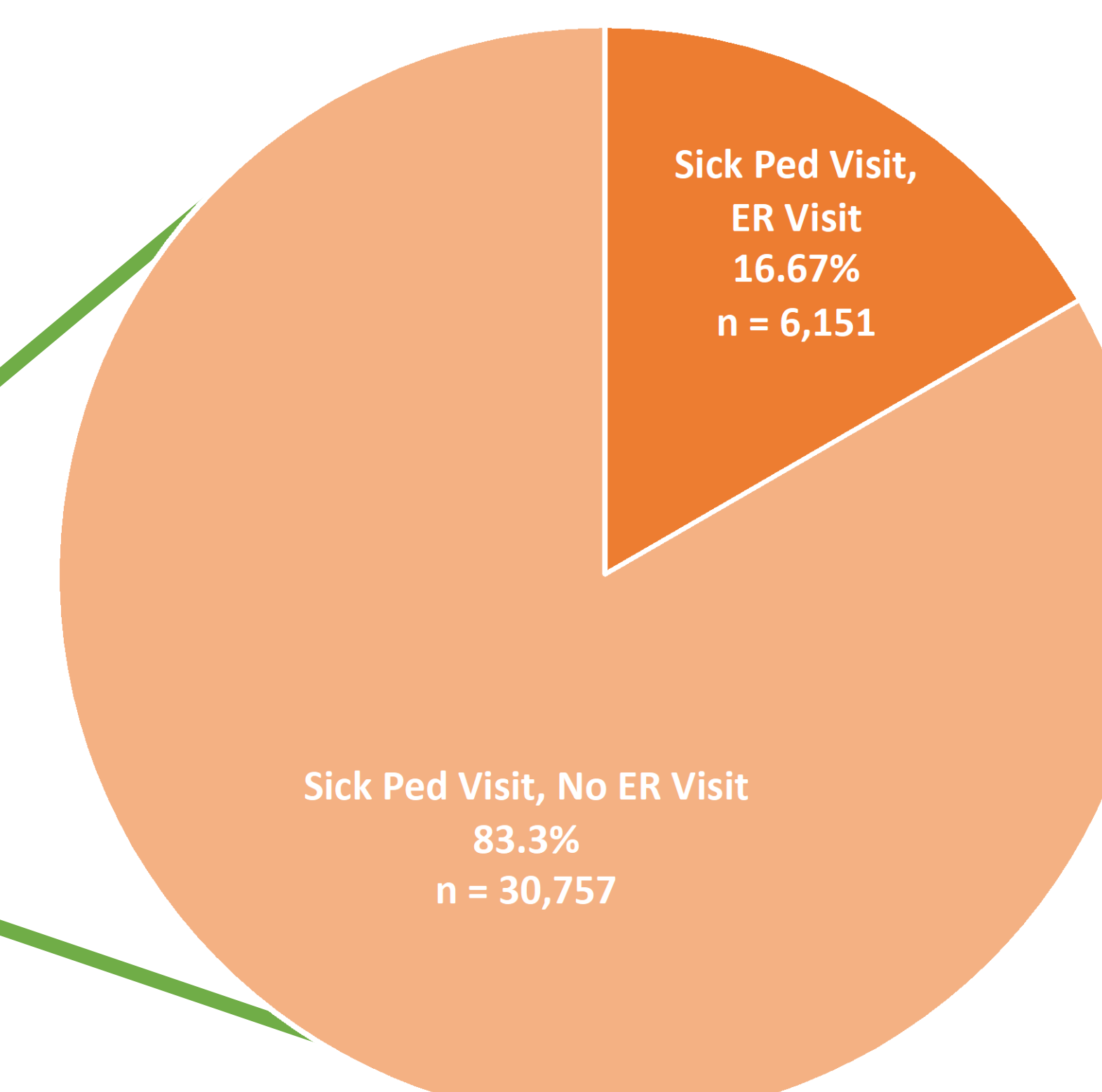


Figure 4: Predicted distribution of state-wide "Sick" pediatric visits without transportation to primary care who incur ER visits

Cost associated with 52,386 pediatric visits was estimated at \$5,066,808.38 based on the average revenue of transported patients in the pilot, \$96.72 per visit. Given the 6,151 of those total patients projected to utilize the ER and using the 2013 Oklahoma Health Care Authority published ER visit cost, \$1,316, ER cost of pediatric patients without transportation to primary care visits is \$8,095,279.51, \$3,028,471.13 more than primary care for the 52,386. Therefore, we estimate that while dramatically decreasing number of patients treated (36,235 missed appointments who don't go to the ER), cost of care is increased by 40%.

The result of the pediatric pilot showed the clinic owners how transporting patients generated revenue by decreasing no show as claim revenue far exceeded transportation cost. However, we estimate that even if Sooner Care paid to transport pediatric patients, there still would be cost savings. Applying the average round-trip cost from the pilot, \$19.44, and applying that to all 52,386 pediatric patients, we estimate transportation costs at \$1,018,391. Adding this to the cost of primary care, \$5,066,808 still generates \$2,010,080 in savings versus the projected cost of ER.

Results

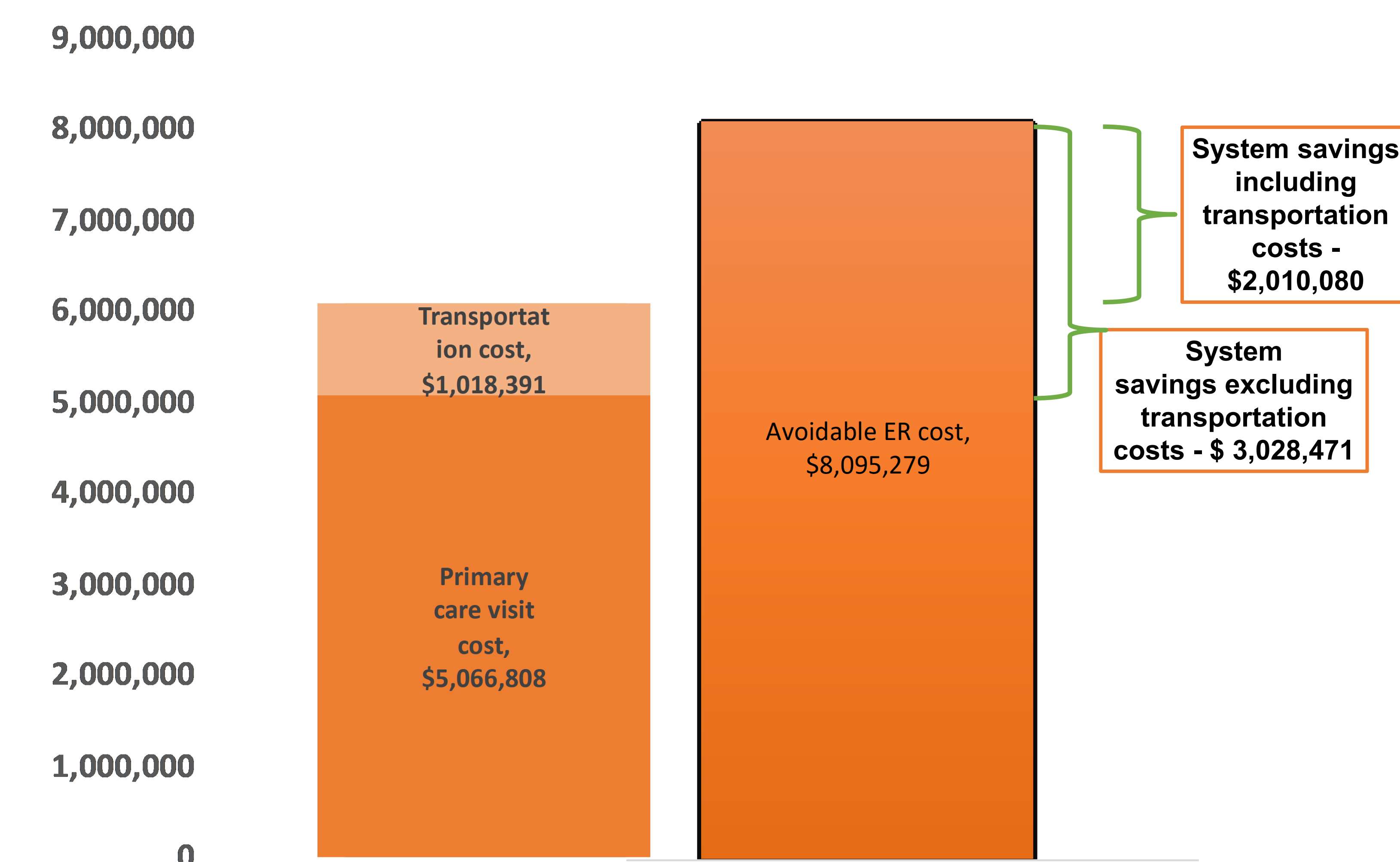


Figure 5: Cost comparison of primary care to ER and primary care plus transportation to ER

Conclusion

The lack of same day/next day availability in transportation prevents sick children enrolled in Sooner Care access to primary care. Additionally, it also prevents well children with intermittent transportation need access to well visits; over half of families with transportation need only need transportation intermittently. Every 2.5 minutes a pediatric patient misses their primary care visit due to lack of transportation.

When projecting the rural pediatric clinic rates to the number of children enrolled in Sooner Care, it was concluded that hundreds of children each day do not access needed pediatric care. These missed appointments are lost revenue to clinics but worse yet, they actually end up costing Sooner Care more in the end. Sooner Care could save as much as 3 million dollars in health care costs through ER avoidance alone and 2 million after accounting for transportation. Therefore, Sooner Care's policy to only authorize pediatric transportation to primary care with three day prior notice increases overall health care costs.

Studies have shown that health care access improvements result in better health for individuals: better health outcomes and higher rates of compliance. Studies have also demonstrated secondary benefits of improving health care access such as impact on school attendance and economic growth. It could be further researched how improvements to primary care pediatric access would positively impact parents, families and communities.

Acknowledgements

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