

Healthcare Utilization Among Children Receiving Permanent Supportive Housing

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abstract

BACKGROUND AND OBJECTIVES: Permanent supportive housing (PSH) integrates long-term housing and supports for families and individuals experiencing homelessness. Although PSH is frequently provided to families with children, little is known about the impacts of PSH among children. We examined changes in health care visits among children receiving PSH compared with similar children who did not receive PSH.

METHODS: We analyzed Pennsylvania Medicaid administrative data for children entering PSH between 2011 and 2016, matching to a comparison cohort with similar demographic and clinical characteristics who received non-PSH housing services. We conducted propensity score-weighted difference-in-differences (DID) analyses to compare changes in health care visits 3 years before and after children entered PSH versus changes in the comparison cohort.

RESULTS: We matched 705 children receiving PSH to 3141 in the comparison cohort. Over 3 years following PSH entry, dental visits among children entering PSH increased differentially relative to the comparison cohort (DID: 12.70 visits per 1000 person-months, 95% confidence interval: 3.72 to 21.67). We did not find differential changes in preventive medicine visits, hospitalizations, or emergency department (ED) visits overall. When stratified by age, children ≤ 5 years old at PSH entry experienced a greater decrease in ED visits relative to the comparison cohort (DID: -13.16 visits per 1000 person-months, 95% confidence interval: -26.23 to -0.10). However, emergency visit trends before PSH entry differed between the cohorts.

CONCLUSIONS: Children in PSH had relatively greater increases in dental visits, and younger children entering PSH may have experienced relative reductions in ED visits. Policymakers should consider benefits to children when evaluating the overall value of PSH.



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WHAT'S KNOWN ON THIS SUBJECT: Permanent supportive housing (PSH) reduces homelessness and is associated with changes in healthcare utilization in adults. Approximately one-third of PSH beds in the United States are designated for families with children, however little is known regarding how PSH impacts these children's healthcare utilization.

WHAT THIS STUDY ADDS: Compared with a matched cohort receiving other housing supports, children in PSH had greater increases in dental visits, and relative reductions in emergency department visits in the youngest children. Benefits to children should contribute to the valuation of PSH programs.

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Homelessness is a substantial problem for children in the United States, with over 100 000 children under age 18 estimated to have experienced homelessness in 2020.¹ Homelessness may affect health through multiple mechanisms, including its impacts on a child's physical living environment, exposure to stress, and access to health care.² Homelessness among children is associated with worse self-reported health,^{3,4} increased severity of asthma exacerbations,⁵ and poorer vision, dental, and mental health.⁶ The adverse effects of homelessness may persist several years after exposure to homelessness⁷ and are likely to be more severe among children in poorer baseline health.^{8,9}

Permanent supportive housing (PSH) aims to address chronic homelessness and its adverse effects on wellbeing by integrating long-term housing—without a time limit on residency—with supportive services, such as case management, substance use disorder treatment, and employment assistance.^{10,11} PSH has been shown to be effective in reducing homelessness compared with other housing supports.¹² Emerging evidence suggests that PSH is also associated with reductions in Medicaid spending¹³—of importance to states considering whether to pay for PSH services with limited Medicaid funds.¹⁴ Furthermore, prior studies of PSH and healthcare utilization, nearly all of which focused on adults, found that receiving PSH is associated with increases in outpatient behavioral health care and reductions in emergency department (ED) visits¹⁵ and hospitalizations,^{16,17} suggesting that PSH improves management of health conditions.^{13,18,19}

PSH programs do not exclusively serve adults. In 2020, approximately one-third of PSH beds in the United States were designated for families

with children.¹ Several features of PSH may improve children's health and access to health care. First, PSH programs may directly provide or facilitate referrals to healthcare.²⁰ Second, PSH may promote health and safety by improving a child's living environment or through complementary provision of services such as childcare.^{20,21} Third, children may benefit from PSH if increased family stability and parental connection to supportive services leads to improvements in family connection, school attendance, and children's access to health care.^{22,23} However, no studies have examined whether family receipt of PSH is associated with changes in health care utilization among children.

In this study, we used linked administrative data from Medicaid and housing programs in Pennsylvania to examine changes in health care utilization among children before and after they and their families received PSH. Using a difference-in-differences design, we compared changes in utilization among children receiving PSH to a comparison cohort of children at risk for homelessness but without PSH enrollment. We examined ED and inpatient hospital utilization (as markers of illness) and dental and preventive medicine visits (which might facilitate health through disease prevention and management). We hypothesized that receiving PSH would be associated with increased preventive health utilization and decreased ED visits and hospital utilization.

METHODS

This study was reviewed by the University of Pittsburgh Institutional Review Board and deemed exempt because it is a secondary analysis of deidentified data.

Context

More than 1 in 3 children in Pennsylvania are covered by Medicaid or the Children's Health Insurance Program.²⁴ Since 2006, the Pennsylvania Department of Human Services has supported PSH programs targeted toward households in which the head of household is experiencing mental illness, substance abuse or other chronic conditions, or other significant "barriers to employment or housing stability."²⁵ Although federal law prohibits using Medicaid funds directly for housing, Pennsylvania Medicaid funds are used for some PSH-associated services, such as case management, therapy, and medical transportation.^{26,27}

Data

We analyzed Pennsylvania Homeless Management Information System (HMIS) data from 2011 to 2016 and Pennsylvania Medicaid enrollment and claims data from 2008 to 2018. HMIS data capture federally-financed housing services received by individuals who are homeless or at risk for homelessness, and include information about the types of housing services provided (eg, PSH, emergency shelters) and dates of residence associated with these services.²⁸ When we conducted this analysis, HMIS data were available from 54 of Pennsylvania's 67 counties, including counties in the Pittsburgh but not the Philadelphia metropolitan area. Medicaid and HMIS data were linked by the Pennsylvania Department of Human Services using individual-level identifiers and provided to the University of Pittsburgh on a deidentified basis. Further details on our data sources have been published elsewhere.¹³

Intervention Cohort

Our intervention cohort consisted of children enrolled in the Pennsylvania

Medicaid program who received at least 1 PSH service for ≥ 180 days during 2011 to 2016 and were under age 18 at the time of PSH entry. The median duration in PSH among all children linked across our HMIS and Medicaid data were 650 days. We limited the sample to children with at least 1 parent or guardian who had a contemporaneous record of PSH entry (Supplemental Information 1). Because we wanted to examine changes in care patterns before and after children entered PSH, we further restricted the sample to children who were enrolled in Pennsylvania Medicaid for at least 12 of the 15 months before and 24 of the 36 months after PSH entry. The first criterion ensures a minimum of 12 months of baseline data in all children, while allowing for the analysis of children as young as 12 months at the time of PSH receipt. Both criteria purposefully allow for some non-continuous Medicaid enrollment, given well-documented patterns of churn into and out of Medicaid.²⁹ For a given individual, analysis focused on only the first episode of PSH enrollment.

Comparison Cohort

We compared changes in health care visits in our intervention cohort to changes in a matched cohort of children who experienced homelessness or were at risk for homelessness but did not receive PSH. We selected this comparison cohort among children and linked parents in the HMIS dataset who, during our study period, received only non-PSH housing services (eg, emergency shelter stays) indicative of periodic or chronic homelessness. We matched these children many-to-1, without replacement, to the intervention cohort based on the following criteria: date of birth (within 12 months); gender; region; a parent or guardian's diagnosis of mental illness and substance use

disorder; and having at least 1 parent who qualified for Medicaid based on disability. (Additional details about the matching criteria are in Supplemental Table 3.) We matched on age so that our comparison cohort controlled for age-related trends in health care use (eg, decreasing frequency of recommended preventive visits by age, as well as known decreases in acute visits and increases in dental visits as children age),^{30–32} which we wanted to distinguish from changes in utilization associated with receiving PSH. We assigned each child from this candidate comparison cohort an index date, defined as the date that their matched counterpart from the intervention cohort entered PSH. We retained children who (1) received a non-PSH housing service (in the HMIS) within 6 months of the index date and (2) were also enrolled in Medicaid for at least 12 of the 15 months before and 24 of the 36 months after the index date.

Finally, we used propensity score methods to weight children in the comparison cohort to resemble children in the intervention cohort. The propensity score model used to construct these weights included all variables from the matching procedure, as well as race and ethnicity, urbanicity, and a 3-level variable representing the presence and complexity of chronic conditions according to the Pediatric Medical Complexity Algorithm (PMCA), in the year before the PSH entry date or index date (details of the propensity score model are in Supplemental Information 1).³³ These variables were included to account for differences in regional housing programs, factors such as age that influence health utilization, and historic and ongoing effects of racism on housing and access to health care.^{34,35}

Differential disenrollment from Medicaid between the intervention and comparison cohorts might bias estimates of differential changes in utilization. Additionally, since health utilization is linked to age, differential changes in the age composition of our 2 cohorts over the study period (eg, because of different age-dependent patterns of disenrollment) could bias our estimates. To assess these sources of bias, we compared trends in the number of children and the ages of Medicaid-enrolled children in each cohort over time.

Outcome Variables

We assessed hospitalizations and ED visits, both of which have been found to decrease when adults receive PSH.^{13,17} We also examined dental and preventive medicine visits, whose rates of completion are affected by homelessness.² Moreover, increasing access to dental and preventive care are Healthy People 2030 goals.³⁶ Similar to other analyses of dental care use, we separately analyzed preventive dental visits (eg, visits including application of prophylactic fluoride varnish) and treatment dental visits (eg, visits including fillings).³⁷ We measured all outcomes at the person-month level for months in which children were enrolled in Medicaid. To facilitate interpretation, we report estimates as rates per 1000 person-months. Technical definitions for each measure are in Supplemental Information 2.

STATISTICAL ANALYSIS

To estimate changes in study outcomes associated with receiving PSH, we performed a difference-in-differences analysis. The analysis compared changes in outcomes (1) in the intervention cohort from the baseline period (up to 3 years before PSH entry) to a postintervention period (spanning

up to 3 years after PSH entry), to (2) changes in the comparison cohort (up to 3 years before and after the index date). The difference-in-differences design holds all fixed (eg, baseline) differences between the intervention and comparison cohorts constant, giving an estimate of relative changes between the cohorts attributable to receiving PSH.

We estimated these changes using linear difference-in-differences models. We specified the models with an indicator for the period following PSH entry, an indicator for membership in the intervention cohort, and an interaction between these indicators. Estimates for this interaction term represent the average change in each outcome from baseline to the postintervention period in the intervention cohort, relative to changes in the comparison cohort. Hereafter, we refer to these estimates as differential changes in utilization in the intervention versus comparison cohorts. We adjusted all models for the same characteristics of children and parents used for matching and the construction of propensity score weights, as well as year and quarter fixed effects to adjust for secular trends in utilization. Statistical inferences were conducted using cluster-robust standard errors (each child in the intervention cohort and their set of matched comparators was defined as 1 cluster).

SENSITIVITY ANALYSES

We conducted 2 sensitivity analyses. First, because changes in health care use associated with PSH may differ by age and baseline level of health needs,³⁸ we ran separate difference-in-differences models for 3 age groups (defined based on age at PSH entry: children ages ≤ 5 years, 6–11 years, and 12–17 years) and for children with versus without chronic conditions based on the PMCA. Second, to assess whether

our difference-in-differences design isolated changes in utilization associated with receiving PSH from baseline trends, we visually compared utilization trends between the 2 cohorts during the baseline period. Evidence of parallel baseline trends provides support for the assumption that the difference-in-differences design isolated changes in utilization specifically associated with PSH entry.³⁹

RESULTS

Cohort Demographics

Our analysis sample included 705 children who received PSH and 3141 children in the matched comparison cohort. Children resided in 48 of the 54 Pennsylvania counties included in the HMIS dataset. Before weighting, 51.6% of children in the intervention cohort were female, 51.5% were non-Hispanic white, and 31.3% were 6 to 11 years old when they entered PSH. In the comparison cohort, 51.6% of children were female, 47.2% were non-Hispanic white, and 34.9% were 6 to 11 when they entered PSH (Table 1). After weighting, standardized mean differences for measured baseline characteristics were all ≤ 0.072 in absolute value. The mean age and the number of children enrolled in Medicaid showed similar trends across study years in the 2 cohorts, indicating no compositional changes between the cohorts because of differential disenrollment from Medicaid over time (Supplemental Table 4).

Baseline Trends

Unadjusted trends in utilization before and after PSH enrollment in the intervention and comparison cohorts are shown in Fig 1. Baseline utilization trends (during the 36 months before PSH entry or index dates) were comparable between the intervention and

comparison cohorts for all outcomes except for ED visits, for which the intervention cohort showed a greater increase in visits relative to the comparison cohort in the year before PSH entry (Fig 1). The similar baseline trends in dental, preventive medicine, and inpatient visits satisfied the key difference-in-differences assumption of parallel preintervention trends for these outcomes. Baseline utilization levels did not vary significantly between the intervention and comparison cohorts (Table 2).

Difference-in-differences Estimates

Adjusted difference-in-differences estimates, which reflect differential changes in study outcomes between the intervention and comparison cohorts, are reported in Table 2 (full regression estimates are in Supplemental Table 5). Among children receiving PSH, dental visits increased by 22.80 visits per 1000 person-months between the baseline period and the 36 months after PSH entry. Among children in the comparison cohort, dental visits increased by 10.10 visits per 1000 person-months from the baseline to the 36 months after index date. The resulting differential change of 12.70 visits per 1000 person-months (95% confidence interval [CI] 3.72 to 21.67) indicates a greater increase in dental visits among children after entering PSH. When separate regressions were performed for preventive and treatment dental visits, a significant difference-in-differences was found in preventive dental visits only (differential increase of 7.65 visits per 1000 person-months; 95% CI: 2.02 to 13.28, Supplemental Table 6). We found no differential change in preventive medicine visits, inpatient admissions, or ED visits.

TABLE 1 Baseline Characteristics of Children Receiving PSH and Matched Comparison Cohort

Characteristic	Matched Cohorts, Before Weighting <i>N</i> (%)				Matched Cohort, After Propensity Score Weighting %		
	Intervention Cohort (Received PSH), <i>N</i> = 705, <i>n</i> (%)	Comparison Cohort, <i>N</i> = 3141, <i>n</i> (%)	<i>P</i> ^a	SMD ^b	Intervention Cohort (Received PSH), <i>N</i> = 701, <i>n</i> (%)	Comparison Cohort, <i>N</i> = 3120, <i>n</i> (%)	SMD ^b
Female	364 (51.6)	1621 (51.6)	.991	−0.000	51.5	51.4	0.001
Age at time of PSH entry			.609				
≤2 y old	140 (19.9)	609 (19.4)		0.012	19.8	19.1	0.018
3–5 y old	169 (24.0)	687 (21.9)		0.049	24.0	21.0	0.070
6–11 y old	221 (31.3)	1095 (34.9)		−0.076	31.2	34.6	−0.072
12–18 y old	175 (24.8)	750 (23.9)		0.022	25.0	25.3	−0.009
Race and Ethnicity			.051				
Non-Hispanic white	363 (51.5)	1481 (47.2)		0.087	51.4	51.5	−0.002
Non-Hispanic black	300 (42.6)	1497 (47.7)		−0.103	42.7	42.7	−0.000
Hispanic	22 (3.1)	68 (2.2)		0.055	3.1	3.0	0.007
Others	20 (2.8)	95 (3.0)		−0.011	2.9	2.9	−0.000
Urban ^c	613 (87.0)	2749 (87.5)	.626	−0.020	87.4	86.5	0.028
Within Southwest Managed Care Region	624 (88.5)	2930 (93.3)	<.001	−0.150	88.4	87.6	0.025
Resides in Pittsburgh or surrounding county	512 (72.6)	1755 (55.9)	<.001	0.376	73.0	72.3	0.016
Medical complexity ^d			.009				
Complex chronic disease	62 (8.8)	226 (7.2)		0.056	8.8	8.6	0.007
Noncomplex chronic disease	209 (29.6)	793 (25.2)		0.096	29.5	29.2	0.007
No chronic disease	434 (61.6)	2122 (67.6)		−0.123	61.6	62.1	−0.011
Parental diagnosis							
Mental illness	683 (96.9)	3043 (96.9)	.999	0.000	96.9	96.8	0.002
Substance use disorder	505 (71.6)	1959 (62.4)	<.001	0.205	71.5	71.6	−0.004
Parent enrolled in Medicaid and Medicare ^e	128 (18.2)	368 (11.7)	<.001	0.167	18.1	18.5	−0.009
Parent with disability	205 (29.1)	969 (30.9)	0.356	−0.039	29.1	29.1	0.000

^a *P* value for differences in means or proportions between children in the intervention and comparison cohorts before propensity score weighting.

^b SMD: standardized mean difference, calculated as the mean difference between the intervention and comparison cohorts, divided by the SD of the characteristic in the pooled intervention and comparison samples. Small SMD (less than 0.2) indicate similar intervention and control groups.⁴⁸

^c Four children (0.6%) in the intervention cohort and 21 children (0.7%) in the comparison cohort lived in ZIP codes without urban or rural classification in Medicaid records.

^d Medical complexity determined using the Pediatric Medical Complexity Algorithm (PMCA).⁵³ PMCA classifications are described in detail in Supplemental Information 1.

^e Parental enrollment was defined as any Medicare enrollment during from 2011 to 2018.

Subgroup Analysis by Age and Presence of Chronic Conditions

In subgroup analyses by age and baseline presence of chronic conditions, children 0 to 5 years on PSH entry showed a significantly greater decrease in ED visits versus the comparison cohort (a differential change of −13.16 visits per 1000 person-months, 95% CI: −26.23 to −0.10). PSH receipt was also associated with significantly greater increases in dental visits among children aged 12 to 17 years (34.13 more visits per 1000 person-months, 95% CI 9.30 to 58.97, Supplemental Information 6; Supplemental Table 7). Subgroups of children with and without chronic conditions showed similar increases in dental visits (12.33 visits per 1000 person-months, 95% CI

−2.02 to 26.68 and 12.90 visits per 1000 person-months, 95% CI 1.39 to 24.41, respectively), although this difference only reached significance among children without chronic conditions.

DISCUSSION

In this analysis of health care utilization among children receiving PSH, we found increases in overall and preventive dental visits and some evidence of decreases in illness-related care (ED visits among the youngest children) in the 3 years after children entered PSH, relative to changes in a matched cohort of children who did not receive PSH. Differential increases in overall dental visits were driven by preventive dental visits, particularly among adolescents. Because the

cohorts showed similar baseline trends in dental visits, the subsequent differences we found may be attributable to PSH. In contrast, because there were differences in ED visits between cohorts even preceding PSH entry, we have less confidence in attributing the subsequent differential reduction in ED visits specifically to receiving PSH.

This study adds to current understanding of the impact of PSH on families by examining how PSH entry is associated with changes in children’s health care use. To our knowledge, the only prior study examining health care use among children in PSH did not examine changes before and after PSH entry and did not include a comparison cohort.²² Multiple studies, however,

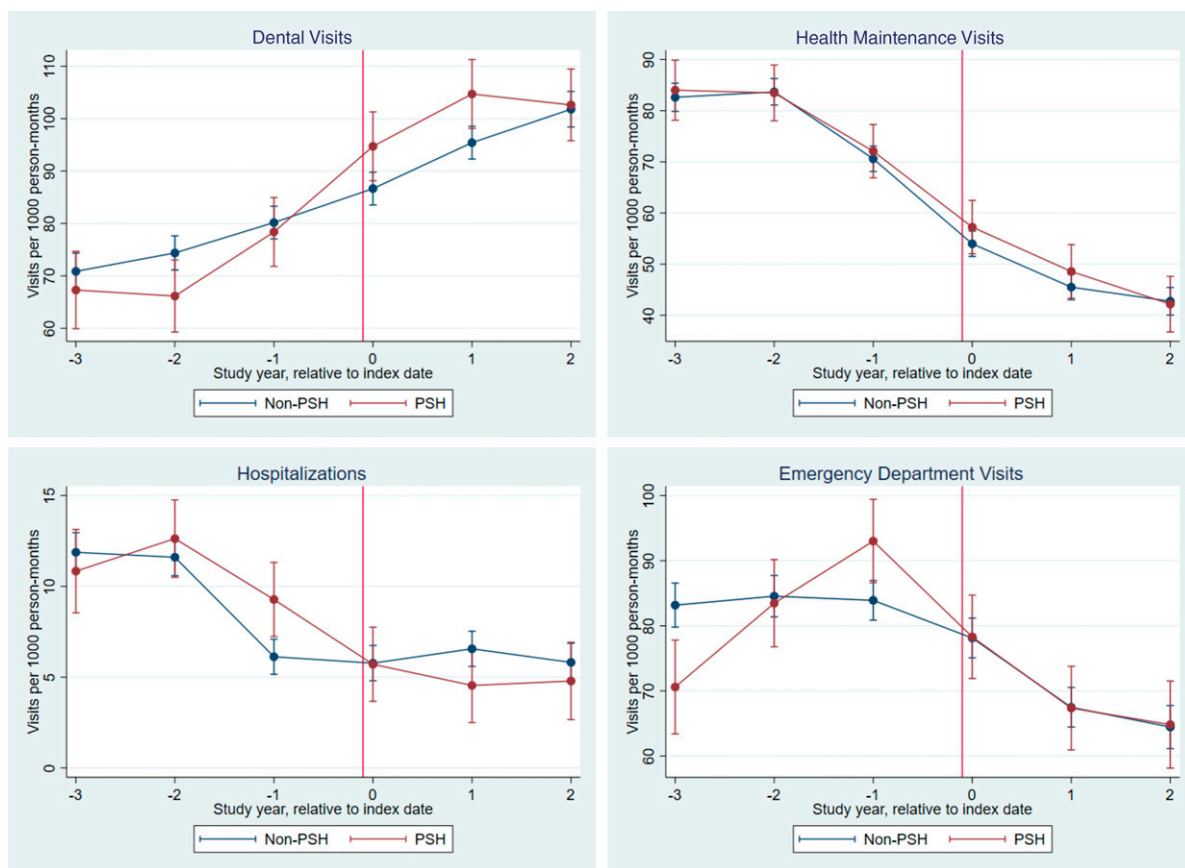


FIGURE 1

Unadjusted utilization by year. Figures show unadjusted trends in our main utilization outcomes before and after entry into PSH (intervention cohort) and before and after the index date (comparison cohort), with entry or index date represented as a red, vertical line. Negative numbers on the horizontal indicate years before PSH entry or the index date, positive numbers indicate years following PSH entry or the index date, and 0 indicates the year beginning on the day of PSH entry or index date. Estimates plotted on the vertical axis represent unadjusted mean rates of utilization per 1000 person-months. The error bars represent 95% confidence intervals which account for clustering (each child in the intervention cohort and their set of matched comparators was defined as 1 cluster).

have examined health care use among adults in PSH. Two studies using a similar approach to ours (difference-in-differences with a matched comparison cohort) found that entering PSH was associated with a differential reduction in ED visits, and one also found that PSH was associated with overall cost savings because of reductions in inpatient spending.^{13,40} Both studies also found increases in prescription drug and behavioral health care spending, suggesting that reductions in hospital use associated with PSH were mediated by improvements in disease management.

Our study was designed to examine key markers of pediatric health care use and health outcomes (eg,

hospitalizations) that we could measure for all children. Although other outcomes, such as the receipt of guideline-concordant asthma management, behavioral health care, and immunizations, are also critical to examine, these outcomes apply to specific subpopulations of children, ages, or times of year, increasing the sample size which would be necessary to detect differential changes between cohorts. Future research examining changes in additional outcomes among larger cohorts of children could add to evidence about how PSH is associated with changes in care for children.

Our results underscore that children, like their adult guardians, may derive important benefits from receiving PSH,

particularly with regard to increased access to preventive dental care. Although Medicaid covers comprehensive dental care in every state,⁴¹ dental problems remain common among children experiencing homelessness, with approximately one-third of homeless youth experiencing “very bad” or “bad” dental health.⁴² Poor dental health is associated with decreased school attendance⁴³ and performance,^{44,45} which have long-term implications for wellbeing. Thus, the increases in dental care we found to be associated with PSH may facilitate long-term improvements in oral health and overall wellbeing.^{42,46,47} However, observing long-term benefits linked to these changes in dental visits, such as

TABLE 2 Difference-in-Differences Estimates of Changes in Utilization Associated With PSH Entry Among Children

Outcome (Visits per 1000 Person-Months)	Intervention Cohort (Received PSH)			Comparison Cohort (Received Non-PSH Housing Services)			Difference-in-Differences (95% CI)	P
	Years 1–3		Difference (95% CI)	Years 1–3		Difference (95%CI)		
	Baseline	After Baseline		Baseline	After Baseline			
Dental visits	71.01	100.62	22.80* (14.35 to 31.17)	75.48	94.25	10.10* (3.13 to 17.08)	12.70* (3.72 to 21.67)	.006
Preventive medicine visits	79.42	49.54	−27.74* (−33.54 to −21.93)	78.55	47.66	−30.23* (−34.00 to −26.46)	2.49 (−4.03 to 9.00)	.454
Hospitalizations	10.87	5.02	−4.85* (−7.40 to −2.31)	9.67	6.06	−2.84 (−6.55 to 0.88)	−2.02 (−6.36 to 2.31)	.361
Emergency department visits	83.25	70.32	−12.85* (−21.42 to −4.28)	83.92	70.32	−8.30* (−14.59 to −2.02)	−4.55 (−13.35 to 4.25)	.311

Model adjusted for age, race and ethnicity, gender, rural or urban dwelling status, residence in Pittsburgh and the surrounding county, indicators for Pennsylvania managed care region, medical complexity (PMCA categories of complex chronic condition and noncomplex chronic condition status), parental health conditions including mental health, substance use disorder, and disability status, parental enrollment in Medicaid and Medicare, calendar year fixed effects, and calendar quarter fixed effects. 95% confidence intervals and *P* values calculated using robust standard errors that account for clustering (each child in the intervention cohort and their set of matched comparators was defined as 1 cluster). Full regression model estimates are in Supplemental Information 4.

**P* < .05.

improved oral health status and reductions in emergency dental care, would likely require longer follow-up.

We did not find greater increases in preventive medical care among children receiving PSH. This negative finding stands in contrast to prior research on PSH, including a study in the Minneapolis-St. Paul metropolitan area, which found high rates of well-child visits among children living in PSH.²² Numerous factors, including the characteristics of families receiving PSH, the availability of local providers, and the components of individual PSH programs, could have contributed to this difference. The role of heterogeneity across PSH programs, which can differ in the services and housing offered, remains an understudied but potentially salient contributor to differences in outcomes associated with receiving PSH. Unfortunately, HMIS data did not allow us to observe programmatic differences among individual PSH programs. Further research characterizing these differences, using detailed program data, may help to illuminate what aspects of supportive housing (eg child-targeted services) may be

most beneficial for children's outcomes, which could be disseminated across programs.

Our study had several additional limitations. First, unmeasured time-varying confounders may have limited our ability to establish true causal relationship between PSH and in health care use. Although we used matching to select a comparison cohort with similar baseline characteristics that were plausibly linked to baseline utilization, and our intervention and comparison cohorts were similar in all measured baseline variables, their preintervention health care utilization showed some differences, visible especially in ED utilization (Fig 1). Because of these baseline trend differences, we cannot confidently attribute subsequent reductions in ED visits to PSH receipt. Second, our data only include administrative records of health care use. Future studies of changes in health status, unmet needs, or other, nonmedical outcomes such as family reunification or school performance, could further characterize the impacts of PSH, but would require alternative data sources.

CONCLUSION

In this cohort study comparing children receiving PSH to a matched cohort of children at risk for homelessness, we found that receiving PSH was associated with increases in dental visits over a 3-year period. Our data also suggest that PSH may be associated with ED visits in young children. Although eligibility for PSH is evaluated on the basis of adults' disabilities, benefits of PSH also accrue to children. To fully measure these benefits, future studies should examine changes in health care use and health status, beyond a period of 3 years, among individuals who received PSH as children.

ABBREVIATIONS

DID: difference-in-differences
 ED: emergency department
 HMIS: Homeless Management Information System
 PMCA: Pediatric Medical Complexity Algorithm
 PSH: permanent supportive housing

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