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Quality Health Care for Homeless Children: Achieving the AAP Recommendations for Care of Homeless Children and Youth

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Abstract: Background. We assessed whether and how health care organizations serving homeless pediatric patients meet recommendations issued by the American Academy of Pediatrics (AAP). Methods. We conducted a web-based survey of Health Care for the Homeless (HCH) Program grantees serving children. Results. Of 169 grantees, 77 (46%) responded. All organizations reported connecting patients to specialty services. Nearly all reported screening for homelessness (90%), facilitating Medicaid enrollment (90%), connecting patients to benefits (94%), addressing underlying causes of homelessness (83%), assisting with transportation (83%), and knowing about the causes of homelessness (76%). Fewer reported integrating comprehensive care into acute visits (61%) or having medical-legal partnerships (57%). Federally qualified health center status was associated with meeting more recommendations. We described barriers and facilitators to meeting recommendations. Discussion. Health care organizations serving homeless children largely meet AAP recommendations, but integrating comprehensive care into acute visits remains an area for improvement. Disseminating best practices may support guideline adherence.

Key words: Homeless children, homeless youth, quality of health care.

H omelessness among families remains a persistent social and public health challenge. While most recent Department of Housing and Urban Development point-in-time estimates indicate that the number of people in families who are homeless have declined from 2007–2015, progress remains heterogeneous, with declines observed in 34 states and increases in 17 states in the past year.¹ Moreover, the number of families each year who experience homelessness remains higher than any other developed country, representing 2.5 million children nationwide.²

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Homelessness can be particularly harmful for families, nearly half of which include children under the age of six.3 Such families can have short- or longer-term living situations—including shelters or homes of friends or family—that are far from their social support networks and their medical homes, making optimal medical care difficult. For decades, the medical and public health literature have documented a range of challenges associated with homelessness in childhood, distinct from that of low-income children more broadly. Homeless children are at greater risk for health concerns including under- and overnutrition, 4-6 chronic illness, 7,8 internalizing and externalizing behavior problems, 9-11 and dental decay. 6 In addition, homeless children perform worse academically^{12,13} and often struggle with social functioning¹⁴ compared with housed peers. Homeless parents also face their own challenges, with elevated rates of health issues consistent with that of their children as well as increased sexual risk behaviors,8 smoking rates, and psychopathology.15 Given the wellspring of knowledge and national attention regarding the lifelong negative consequences of poverty and instability in early life, 16,17 homeless families represent a uniquely vulnerable population.

The medical and social needs of homeless families can best be addressed by primary care providers who provide comprehensive, longitudinal, collaborative care. Accessing this care can be difficult for families given the traumatic stressors (e.g., eviction from previous home, 9,20 domestic violence 15,21) that frequently set the stage for a period of homelessness. Higher outpatient and emergency care use is observed for these families compared with non-homeless, low-income counterparts. Given that families may need a broader range of social services than homeless adults (e.g., child care, schools) and are more often linked into residential programs that frequently work with health care services, coordinated models of care have been recommended for such families for several decades.

In June 2013, the Council on Community Pediatrics of the American Academy of Pediatrics (AAP) released a policy statement outlining recommendations for optimal care of homeless children and adolescents.²³ Guided by the evidence on risk factors for homelessness and its subsequent health effects, the AAP suggests that pediatricians are uniquely positioned to address the health needs of homeless children through both clinical strategies and advocacy for improved systems and policies. The recommendations (Box 1), which emphasize strategies to identify and surmount health challenges affiliated with unstable housing, are consistent with the Agency for Healthcare Research and Quality's (AHRQ) definition of quality health care: "doing the right thing for the right patient, at the right time, in the right way to achieve the best possible results."²⁴

Despite the existence of the AAP recommendations and the persistent problem of child homelessness, we were unable to find literature describing the characteristics of organizations that are taking care of homeless children, how well these organizations meet the needs of such children and their families, and the ways in which these needs are met. To begin to fill this gap, we conducted a nationwide survey of provider organizations competitively funded by the Health Resources and Services Administration's (HRSA) Bureau of Primary Care specifically to provide care to homeless patients via the Health Care for the Homeless (HCH) Program. Twelve percent of patients

Box 1.

AMERICAN ACADEMY OF PEDIATRICS RECOMMENDATIONS FOR OPTIMAL CARE OF HOMELESS CHILDREN, ADAPTED FROM AAP COUNCIL ON COMMUNITY PEDIATRICS (2013)

AAP Recommendation

- 1 Pediatricians should help homeless children increase access to health care services by promoting and, when possible, facilitating Medicaid enrollment to eligible children and families.
- Pediatricians should familiarize themselves with best practices for care of homeless populations and the management of chronic diseases in homeless populations.
- 3 Pediatricians should optimize acute care visits to best resolve patient concerns and provide comprehensive care when possible.
- 4 Pediatricians should seek to identify the issues of homelessness and housing insecurity in their patient populations.
- 5 Pediatricians should seek to identify underlying causes of homelessness in specific families and help facilitate connection to appropriate resources.
- 6 Pediatricians should partner with families to develop care plans that acknowledge barriers posed by homelessness.
- 7 Pediatricians should become familiar with government and community based services that assist families with unmet social and economic needs.
- 8 Pediatricians should support and assist in the development of shelter-based care, including partnering with mental health, dental, and other health programs when possible.
- 9 Pediatricians can learn about the causes and prevalence of homelessness in their communities.

nationwide receiving care at HCH-funded facilities are children and youth under 18 years.²⁵

The specific aims of this study were (1) to describe characteristics of organizations taking care of homeless children, (2) to assess the extent to which organizations that take care of homeless children meet the AAP recommendations for optimal care, (3) to evaluate what organizational and other factors are predictors for whether organizations providing care for homeless patients meet the AAP recommendations, and (4) to highlight organizational best practices that facilitate meeting AAP recommendations.

Methods

Participants. We obtained a publicly available list of 263 organizations receiving funding from the Health Resources and Services Administration's (HRSA) HCH Program in 2014. Through a Cooperative Agreement with the National Health Care for the

Homeless Council, the program funds grantees in all 50 states, the District of Columbia, and Puerto Rico, and serves over 800,000 patients annually.²⁵ Organizations on this list might take care of homeless adults, children, or both, and vary greatly in size, location and scope of services offered.²⁶ We used information from services listed on organization websites, supplemented by phone calls to organization contacts when a website did not provide this information or was non-functional. Through this process, we determined that 169 of the 263 grantee organizations took care of pediatric patients.

In order to maximize our response rates we employed several techniques informed by the literature on web-based survey administration to physicians and health care staff, who often have demanding work schedules.^{27,28} From the information provided to HRSA, we sent an email to the organization's primary contact describing the study and containing a link to an online consent form. Four of these contact emails were not up-to-date or accurate, so those sites were excluded from our sample. Organization contacts who agreed to participate in the study then proceeded to answer the questions on the online survey. We sent the initial e-mail in September of 2015, which yielded 66 (39%) responses within the first month the survey was open. We then sent three subsequent reminders each month afterwards.

For organizations that did not respond to the email, we called them using a standardized phone script,²⁹ reminding the organizational contact about the survey, asking if they had any questions about the survey, and/or asking if they needed assistance filling out the survey over the phone. Telephone reminders yielded an additional 11 (7%) responses. We entered all participating organizations into a lottery for a \$100.00 gift certificate for completing the survey.

Survey. We used the online Qualtrics software (Version 9, 2015, Provo, Utah) to design the survey instrument. It contained questions soliciting sociodemographic information about the provider organization, relevant covariates, and our primary outcome of interest—whether the organization met each of the nine AAP recommendations (Box 1). In addition, we solicited best practice recommendations that enabled providers to achieve the guidelines as open-ended questions (e.g., "Please describe any 'best practices' in screening for housing instability that your organization might like to share with other organizations"). Prior to administration, staff members at two HCH grantee sites (i.e., the target audience) pilot-tested the instrument for clarity, relevance, and succinctness, to maximize likelihood of response.³⁰

Covariates. We also assessed a number of covariates that we deemed likely to be associated with our predictor and/or outcomes. We asked whether the organization took care of patients in an urban, rural, or suburban area; what classification(s) best described the clinic (mobile clinic, federally qualified health center, university/academic clinic, non-profit organization or charity, for-profit organization); and whether nurse practitioners (NPs), physician assistants (PAs), nurses, advanced practice nurses, pharmacists, social workers, community health workers (CHWs), medical assistants (MAs), physicians (MD or DO), or medical educators were part of the care team. We also asked the number of unique homeless pediatric patients seen by the organization in the past calendar year and the number of outpatient pediatric visits in the past calendar year.

Data analysis. We calculated descriptive statistics of organizations that provide care to homeless families and determined how many organizations met each of the recommendations. We also conducted bivariate Poisson regression analysis to investigate the extent to which clinic characteristics were associated with meeting additional AAP recommendations. The characteristics we examined were being an urban/rural/suburban location, what region of the country the clinic was in, whether the state expanded Medicaid, type of clinic, and number of patients seen each year. Finally, we used *ad hoc* groupings to organize the best practices cited by organizations for meeting AAP guidelines into categories. The institutional review boards of the Harvard Pilgrim Healthcare Institute and Harvard Longwood Medical Area reviewed and approved study procedures as exempt. Participants indicated informed consent by reviewing information about study procedures, risks, and benefits and clicking a button if they desired to initiate the survey.

Results

Of those 169 homeless health care organizations that received email invitations to participate and take care of homeless children, 77 (46%) answered at least one question from the survey and 34 (20.1%) completed the entire survey. Respondents who filled out the survey included staff identifying as Director (N = 21), Executive (N = 9), Coordinator (N = 4), Case Manager (N = 3), or Other (N = 2). Participating organizations represented all 10 U.S. Department of Health and Human Services (HHS) Public Health Service Regions, 25 states, and 43 cities. Eighty-six percent reported taking care of patients in urban areas, 22% in suburban areas, and 27% in rural areas. Twenty-three percent reported being mobile clinics, 17% report being federally qualified health centers (FQHCs), 9% reported being community health centers but not FQHCs, 10% reported being clinics associated with public health departments, 3% reported being university-affiliated clinics, and 38% reported being another type of non-profit (Table 1).

All organizations reported being able to connect patients to oral health, mental health, and subspecialty services. The majority of organizations reported screening for homelessness (90%), helping children apply for Medicaid (90%), and connecting patients to government/community-based services (e.g., WIC, SNAP, TANF or a medical-legal clinic) (94%)—though only 60% reported helping patients with all four. Most organizations reported addressing underlying causes and severity of homelessness (83%), assisting patients with transportation (83%), and having staff who know about the causes of homelessness (76%). Fewer reported creating care plans integrating comprehensive and acute care (61%) (Figures 1 and 2). Poisson regression results indicated that number of patients seen, Census region, being in a state that has expanded Medicaid, and number of full-time equivalents (FTEs) of each employee type were not associated with increases in number of AAP guidelines met. In contrast, FQHC status did seem to be important; clinics with FQHC status reported meeting 73% more guidelines than clinics without FQHC status (RR: 1.73; 95% CI: 1.01, 2.69, p = .04) (Table 2).

When asked for factors that facilitated meeting recommendations, many organizations

Table 1.

CHARACTERISTICS OF HEALTH CARE FOR THE HOMELESS PROGRAM GRANTEE RESPONDENTS TO A WEB-BASED SURVEY

Characteristic	Count	
HHS Region, ^a N (%)		
Region 1 (CT, ME, MA, VT, NH, RI)	3 (6)	
Region 2 (NY, NJ, PR, VI)	6 (13)	
Region 3 (DE, DC, MD, PA, VA, WV)	3 (6)	
Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)	7 (15)	
Region 5 (IL, IN, MI, MN, OH, WI)	10 (21)	
Region 6 (AR, LA, NM, OK, TX)	4 (9)	
Region 7 (IA, KS, MO, NE)	1 (2)	
Region 8 (CO, MT, ND, SD, UT, WY)	2 (4)	
Region 9 (AZ, CA, HI, NV, and US territories)	9 (19)	
Region 10 (AK, ID, OR, WA)	2 (4)	
Area Served, N (%)		
Urban	38 (86)	
Suburban	10 (23)	
Rural	12 (27)	
Organization Type, N (%)		
Mobile health clinic	16 (17)	
Federally qualified health center (FQHC)	12 (13)	
Other health center (not FQHC)	6 (7)	
Health department (City, County, or State)	7 (7)	
Academic/university of hospital-affiliated clinic	2 (2)	
For-profit company or hospital	0 (0)	
Other nonprofit or charity	26 (28)	
Full-Time Equivalents, Mean (Range)		
Physician (MD or DO)	7 (0-59)	
Nurse Practitioner (NP)	5 (0-26)	
Physician Assistant (PA)	2 (0-16)	
Nurse (RN or LPN)	6 (0-40)	
Social Worker (MSW, LCSW)	6 (0-75)	
Community Health Worker	5 (0-104)	
Medical Assistant (MA)	17 (0-171)	
Past Year Patient Visits, Mean (Range)		
Homeless Pediatric Patients	510 (0-3221)	
Outpatient Homeless Pediatric Visits	490 (0-5324)	
Language Spoken By Patients, N (%)		
Patients Primarily Speak English	3 (7)	
Some or Half Primarily Speak Another Language	34 (79)	
Most or All Speak Another Language	6 (14)	

^a The HHS Public Health Service Regions represent areas of the country, led by Regional Directors, addressing the health needs of communities and individuals through state and local organizations (http://www.hhs.gov/about/agencies/regional-offices/).

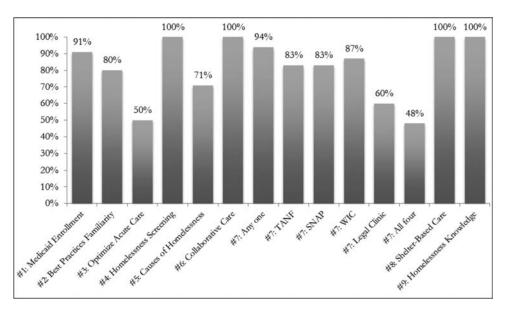


Figure 1. Percentage of Health Care for the Homeless Program grantee respondents that reported meeting each of the nine AAP guidelines for care of homeless children as described in Box 1.

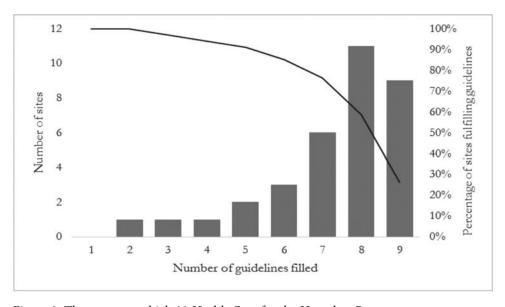


Figure 2. The extent to which 33 Health Care for the Homeless Program grantee respondents reported fulfilling AAP guidelines for health care of homeless and unstably housed children. The bars show how many organizations filled that number of recommendations (left axis). The curve traces the percentage of organizations filling that number of recommendations (right axis).

Table 2.

SELECTED POISSON REGRESSION RESULTS FOR HEALTH CARE FOR THE HOMELESS PROGRAM GRANTEE RESPONDENT CHARACTERISTICS ASSOCIATED WITH ACHIEVING AAP GUIDELINES FOR CARE OF HOMELESS CHILDREN

Characteristics	Relative Risk (95%CI)	P-Value
Number of pediatric visits per year (tertiles)	1.20 (0.83, 1.68)	0.28
Clinic type—Federally qualified health center	1.73 (1.01, 2.69)	0.04
Census region	0.95 (0.66, 1.38)	0.81
Clinic in a state that has expanded Medicaid	1.04 (0.77, 1.40)	0.81
Number of Physician Full-Time Equivalents	1.00 (0.88, 1.15)	0.48
Number of Community Health Worker Full- Time Equivalents	1.00 (0.99, 1.01)	0.67

cited electronic health record (EHR) tools such as special forms and decision support tools. Respondents also referenced inter-professional teams as important to success, citing factors such as "integrated behavioral health 'warm handoffs'" (in-person discussions of transitions of care), "regular interdisciplinary meetings," and "the team approach." Finally, respondents described strong relationships with community organizations as important for meeting recommendations, noting "many partnerships and MOU's [Memoranda of Understanding] with Community Based Organizations," or that "We attend and collaborate with the Homeless Coalition" (Box 2). Respondents were typically more succinct when describing barriers to meeting recommendations, but frequently cited lack of time, lack of local and state resources, and patient immigration status as common barriers to meeting AAP guidelines.

Discussion

Organizations that provide health care to homeless children are doing well at meeting most AAP recommendations. These results are not surprising, given the HCH program's documented successes in meeting the needs of homeless populations.³¹ Three-quarters of organizations met at least seven of the nine recommendations. Team-based care, medical-legal partnerships, and incorporating comprehensive care into acute care visits are areas for improvement that have been corroborated by others as efficacious for children in poverty.^{32–34} Promoting and disseminating best practices—EHR tools, inter-professional teams, and strong relationships with community organizations, for example—might help other organizations achieve greater success. Improved networking strategies, such as collaborative listservs or conference calls, might facilitate knowledge-sharing across organizations towards meeting AAP guidelines.³⁵

Box 2.

ILLUSTRATIVE COMMENTS FROM HEALTH CARE FOR THE HOMELESS PROGRAM GRANTEE RESPONDENTS' REPORTS OF BEST PRACTICES FOR MEETING AAP GUIDELINES ORGANIZED INTO THREE THEMATIC GROUPS.

Theme	Representative Quotations
Electronic Health Record tools	"We have an intake form which screens for housing instability on their first visit and is captured on EHR for every subsequent visit" "Presently we are utilizing [a specific] software, we
	have a registration and eligibility department that our case managers look for what is available that will meet the clients' needs based on [federal poverty level]."
	"We added a tool developed by the enabling support team members to the registration packet."
Interprofessional teams	"On site LCSW available for integrated behavior health "warm handoff" at the time of all visits"
	"Regular interdisciplinary team meetings" "Care coordination between medical staff and care management is key."
	"Our organization has the team approach to follow- up with clients for every referral, we have a dedicated person in the team care approach that manages the patients care."
Strong relationships with community organizations	"Many partnerships and MOU's with Community
	Based Organizations" "We attend and collaborate with the homeless coalition and maintain our outreach and case managers aware of as well as continues training, as well as attending the QA/QI and QM meetings'

In our analysis, FQHC status was associated with meeting more guidelines. It is conceivable that FQHCs would be effective in meeting the AAP guidelines; FQHCs are known to meet or exceed the performance of private practice primary care providers on established quality measures.²⁷ Adopting FQHC status may be a strategy for organizations to provide quality care for this population. Conversely, FQHC status may simply be an indicator of having the resources to meet FQHC administrative requirements—

which may signify capacity to meet guidelines.* Other factors that might affect how well organizations met guidelines, such as size and scale of the program (measured as number of patients seen in a year or number of physician FTEs) and program location in a state that expanded Medicaid, were not associated with guideline adherence. In the case of Medicaid, since many children living in poverty are covered under traditional Medicaid or by State Children's Health Insurance Programs (SCHIPs), expansion may have had less of an impact on their care.³⁶

Respondents reported a paucity of time and local/state resources, as well as patient immigration/insurance status as barriers to meeting guidelines. Notably, our regression models did not demonstrate that state Medicaid expansion status was related to number of guidelines achieved, but it is reasonable to expect that variations in local and state resources would affect access to insurance, shelter, dental care, mental health care, and other factors important for meeting health needs. Immigrant status is known to be associated with worse quality of care, because of factors including lack of access to insurance and benefit programs, limited English proficiency, and low health literacy.³⁷ Respondents frequently cited EHR tools as helpful in meeting guidelines. This finding corroborates the view that EHRs improve quality of care.³⁸ The use of inter-professional teams was also noted as important; literature has demonstrated that they facilitate improved access to and quality of care for underserved patients.³⁹ Strong relationships with community organizations were also commonly cited as best practices, which stands to reason given the multi-sector involvement needed to address comprehensively the needs of these children.^{23,40,41}

Most of the organizations in our study are close to meeting all of the AAP recommendations. Although this is an important first step in filling the gap for homeless pediatric care, it would be premature to claim that homeless children and adolescents are receiving sufficiently high-quality care. Many young people experiencing homelessness continue to exhibit worse health outcomes than their peers. 8,18,42 There are several possible explanations for this persistent disparity.

First, it may be that organizations need additional support to meet all of the AAP recommendations. Collaboration and sharing of best practices via existing (e.g., National Health Care for the Homeless Council conference) and emergent (e.g., online communities of practice⁴³) approaches may enable organizations to meet guidelines more fully.

Second, there may be additional strategies, not already outlined in the AAP guidelines that help organizations provide quality services. Qualitative and quantitative investigations of how the most effective organizations attain positive outcomes for their patients may yield additional strategies for optimizing care. Periodic reassessment of the guidelines set forth by the AAP for this population is warranted. Notably, the AAP recommendations (Box 1) differ from clinical practice guidelines, which describe recommendations for specific conditions based on systematic evidence reviews. This makes

^{*}Currently, to be certified as a federally qualified health center, a non-profit entity must meet several requirements, including receiving a grant under Section 330 of the Public Health Service Act (42 U.S.C. §254b), providing comprehensive services and ongoing quality assurance, and meeting other service, management, finance, and governance requirements.⁵³

sense since many of the recommendations for homeless children come from a nascent evidence-base,⁴⁴ but it means that they should be interpreted as evidence-informed approaches, rather than guidelines with demonstrated effectiveness.

Finally, it may be that factors outside of medical care impact the health of children experiencing homelessness (i.e., social determinants of health), such that even optimally delivered services cannot eliminate disparities in health outcomes. While connecting patients to relevant resources to help with housing, food (WIC, SNAP), and cash assistance (TANF) may fall under the purview of HCH organizations, other factors (e.g., education, crime, built environment) may not. However, increased awareness of the role that pediatric primary care can play in addressing social determinants have prompted investigations into novel strategies, such as intersectoral partnerships. ^{40,41} For homeless families, the need for coordination across systems was well-articulated in the Family Connection toolkit developed by the U.S. Interagency Council on Homelessness. ²¹ Practice-based tools to measure community needs such as the Child Opportunity Index ⁴⁵ may support organizations in addressing these factors that have historically remained outside the medical realm. The ultimate success of such non-clinical efforts involves the identification and prioritization of policy levers, and relationship-building with the organizations necessary to effect system-wide change.

HCH grantees have a record of success working with local organizations to catalyze policies to improve the health of individuals experiencing homelessness. Examples include the implementation of Housing First in Greater Boston in which the Boston Health Care for the Homeless Program was centrally involved,⁴⁶ and the Colorado Coalition for the Homeless' models linking treatment delivery and permanent supportive housing.⁴⁷

Strengths and limitations. The major strength of this study is its novel contribution. To our knowledge, this is the first assessment to explore how much and in what ways homeless pediatric care is consistent with guidance from the leading authority on children's medical needs. In addition, this is the first study to characterize the pediatric services that are administered by HCH grantees.

However, this study should be interpreted in light of limitations. Namely, the response rate for survey completion was relatively low, which may have limited our ability to detect significant findings. All responses were also self-reported, which may be subject to social desirability bias. Nonetheless the responses we did receive appeared to be representative—respondent organizations constituted a range of geographic areas, clinic sizes, and a broad set of strategies. Survey research indicates that these response rates are not uncommon in primary care physician surveys^{30,48} and that response bias resulting from low response rates may be minimal for pediatric providers.⁴⁹ Although we employed electronic survey best practices given time and cost constraints, future research could use additional techniques to increase response rates, such as unconditional fixed payments for returned surveys rather than a lottery-based incentive,⁵⁰ to illuminate a more comprehensive picture.

An additional limitation to generalizability is our use of the HRSA HCH grantees list to recruit participants. HCH grantees are competitively selected based on criteria relevant to quality care (e.g., services to facilitate access such as translation and outreach) so this sample of organizations may already be well-equipped to deliver comprehensive care.⁵¹ The quantitative analyses are difficult to interpret given the low response rate,

but the responses give us a good qualitative sense of the strengths, diversity, and needed improvements of HCH programs regarding pediatric care.

Directions for future research. The optimal goal for research on the health of children experiencing homelessness would be to examine how interventions in health care delivery affect health outcomes. Which guidelines yield the most improvement in health outcomes, and which may be less necessary? Do children who receive care at organizations meeting AAP guidelines have better health outcomes than those who do not? Do organizations dedicated to the care of homeless children achieve better outcomes than clinics, such as community health centers, that see many children experiencing homelessness but whose care models are not dedicated solely to that task? Finally, what other quality measures should be considered that could improve health for this vulnerable group (e.g., AAP guidance for age-appropriate preventive measures⁵²)? Partnerships between academia, organizations caring for homeless children, government agencies with claims data (e.g., Medicaid), and homeless families themselves will all be needed to investigate these questions, as we seek to improve the health of children experiencing homelessness.

Conclusion. This study provides preliminary support that organizations providing care to homeless children are doing well at meeting AAP recommendations. Teambased care and incorporating comprehensive care into acute care visits are areas for improvement. Disseminating best practices—EHR tools, inter-professional teams, strong relationships with community organizations, and adoption of FQHC status, for example—might help organizations achieve greater success. While optimizing health care delivery to homeless children by implementing AAP guidelines is important, additional work to address broader issues that affect their health—including strategies to end family homelessness—will be vitally important.

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