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

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Abstract

Background.—In 2013, the American Academy of Pediatrics released recommendations for optimal care of children and youth experiencing homelessness. We assessed whether and how health care organizations that serve homeless pediatric patients meet those recommendations.

Methods.—We conducted a web-based survey of the 169 organizations that provide services to children funded by the Health Resources and Services Administration's Health Care for the Homeless Program.

Results.—Of 169 grantees, 77 (46%) responded to the survey. All organizations reported being able to connect patients to specialty services. Nearly all organizations reported screening for homelessness (90%), helping families apply for Medicaid (90%), connecting patients to benefits (94%), addressing the underlying causes of homelessness (83%), assisting patients with transportation (83%), and having staff who know 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 (FQHC) status was associated with meeting more of the recommendations, but other organizational factors were not. Respondents cited lack of time, knowledge, and local/state resources, as well as patient immigration status as barriers to meeting recommendations. Electronic medical record tools, inter-professional teams, and relationships with community organizations were cited as practices that facilitated meeting recommendations.

Discussion.—Organizations that provide health care to homeless children are doing well at meeting AAP recommendations, but integrating comprehensive care into acute visits and implementing medical-legal partnerships remain areas for improvement. Disseminating best practices may help organizations achieve greater success.

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Homelessness 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

Homelessness can be particularly deleterious for families, nearly half of which include children under the age of six.³ Such families can have transient living situations—shelters, 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 more poorly academically^{12,13} and often struggle with social functioning¹⁴ compared to 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.¹⁸ Accessing this care can be difficult for families given the instability and violence that frequently sets the stage for a period of homelessness. Higher outpatient⁸ and emergency care¹⁹ use is observed for these families compared to non-homeless low-income counterparts. Given that families may need to access to a broader range of social services than homeless adults (e.g., child care, schools) and are more often linked into residential programs that frequently partner with healthcare services, coordinated models of care have been recommended for such families for several decades.^{18–20}

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.²⁰ Guided by the evidence on risk factors for homelessness and its subsequent health impacts, 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 (Table 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 healthcare: “doing the right thing for the right patient, at the right time, in the right way to achieve the best possible results.”²¹

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 nationwide receiving care at HCH-funded facilities are children and youth under 18 years.²²

The specific aims of this study were to (1) describe characteristics of organizations taking care of homeless children, (2) assess the extent to which organizations that take care of homeless children meet the AAP recommendations for optimal care, (3) evaluate what organizational and other factors are predictors for whether organizations providing care for homeless patients meet the AAP recommendations, and (4) highlight organizational best practices in meeting the 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.²² Organizations on this list might take care of homeless adults, children, or both, and vary greatly in size, location and scope of services offered.²³ 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 healthcare staff, who often have demanding work schedules.^{24,25} 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,²⁶ reminding the organizational contact about the survey, asking if they had any

questions about the survey, and 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 (Table 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.

Covariates.

We also assessed a number of covariates that we deemed likely to be associated with our predictor and/or our 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), 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 is 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 Board of the Harvard Longwood Medical Area and Harvard Pilgrim Health Care Institute 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 organization 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, including Seattle, Washington; Birmingham, Alabama; and Bridgeport, Connecticut. 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 2).

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 different employee types 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, $p=0.04$) (Table 3).

When asked for factors that facilitated meeting recommendations, many organizations cited electronic health record (EHR) 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” (Table 4). Respondents were typically more succinct when describing barriers to meeting recommendations, but frequently cited lack of time, and lack of local and state resources, as well as 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 wholly surprising, given the HCH program’s documented successes in meeting the needs of homeless populations.²⁷ 76.5% of organizations meeting at least 7 of the 9 guidelines (Figure 2). 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 being efficacious for children living in poverty.^{28–30} Promoting and disseminating best practices — EMR tools, inter-professional teams, and strong relationships with community organizations, for example — might help other organizations to achieve greater success. Improved online and in-person networking tools, such as collaborative listservs or conference calls, might help organizations share their lessons learned and challenges, and offer inter-agency guidance in meeting additional AAP guidelines.³¹

In our analysis, FQHC status was also associated with meeting more guidelines. Indeed, it would be reasonable to conceive that FQHCs would be effective in meeting the AAP guidelines; FQHCs have been shown to meet or exceed the performance of private practice primary care providers on established quality measures.²⁴ Adopting FQHC status may be a strategy for organizations to provide the highest quality care to homeless children and families. On the other hand, FQHC status may simply be an indicator for a health center with the capacity to meet necessary administrative requirements of an FQHC—which may also signify additional resources helpful for meeting guidelines.^a Other factors that we hypothesized might affect how well an organization 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 location of the program in a state that expanded Medicaid, did not seem to be associated with meeting additional guidelines. 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), Medicaid expansion may have had less of an impact on their care.³²

Respondents cited a paucity of both time and local/state resources, as well as patient immigration/insurance status as common barriers to meeting AAP 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 health insurance, shelter, dental care, mental health care, and other factors important for meeting health needs. Immigration status is known to be associated with worse quality of care, because of factors such as lack of access to insurance and government benefit programs, as well as limited English proficiency and the impact that has on health care delivery.³³

Respondents frequently cited electronic medical record tools such as special forms and decision support tools as helpful in meeting guidelines. This finding is consistent with the general opinion of health care providers that the use of EMRs improves the quality of care.³⁴ Respondents also cited the use of inter-professional teams as helpful; literature has demonstrated that they facilitate improve access to and quality of care for urban, underserved patients.³⁵ Strong relationships with community organizations were also frequently cited as best practices for achieving the recommendations, which stands to reason given the multi-sector involvement needed to comprehensive address the medical and psychosocial needs of these children.²⁰

^aCurrently, 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.⁴⁹

Most of the organizations that participated 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 at this point to claim that homeless children and adolescents are receiving sufficiently high-quality care. Many young people experiencing homelessness continue to experience worse health outcomes than their peers.^{8,18,36} There are several possible explanations for this persistent disparity.

First, it may be that organizations still need more support to meet all of the AAP recommendations in order to further optimize care. Collaboration and sharing of best practices may be a way for organizations to better meet guidelines. Some tools for collaboration exist, such as the annual meeting of the National Health Care for the Homeless Council. Additional in-person and online tools for collaboration (e.g., learning communities) may help HCH organizations collaboratively learn how to best meet guidelines, and have been shown to be useful in improving quality in primary care.³⁷

Second, there may be additional strategies, not already outlined in the AAP guidelines that help organizations take better care of patients. In-depth exploration—whether through qualitative inquiry or further quantitative analysis—of how the most effective organizations attain good outcomes for their patients, may yield additional strategies for optimizing care of homeless children. It is reasonable to consider reassessment of the guidelines set forth by the AAP on a periodic basis to continually improve our approach to the health care of homeless children and families. Notably, the AAP recommendations (Table 1) differ from explicit AAP Clinical Practice Guidelines, which are evidence-based guidance for specific medical conditions (e.g., obesity). This makes sense given that many of the recommendations for homeless children come from a minimal or nascent evidence-base,³⁸ but it means that they should be interpreted as helpful approaches, rather than guidelines with demonstrated effectiveness. There is significant room for research into which clinical practices yield measurable improvements in health outcomes for children experiencing homelessness.

Finally, it may be that factors outside of medical care impact the health of children experiencing homelessness, such that even optimally delivered health care cannot eliminate disparities in health outcomes. This is reflected by increased recognition and goal-setting (e.g., Healthy People 2020) targeted to address the social, behavioral, and environmental factors influencing children's health as a means to advance health equity.³⁹ 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—such as education, exposure to crime, and the built environment—may not. However, increased awareness of the role that pediatric primary care can play in addressing social determinants of health have prompted novel investigation into the efficacy of strategies such as intersectoral partnerships.⁴⁰ For families who are homeless, this need for coordination across systems was well articulated in the Family Connection toolkit developed by the United States Interagency Council on Homelessness.⁴¹ Practice-based tools to measure community needs such as the Child Opportunity Index⁴² may support organizations in addressing these factors that have historically remained outside the realm of standard medical care. As outlined in such resources, ultimate success of these efforts to improve the health of homeless families outside of the clinic necessarily involve the identification of policy goals,

prioritization of levers to effect policy change, and building of relationships with the contacts and organizations necessary to effect system-wide change.

HCH grantees have a track record of success working with state and local organizations to catalyze policies to improve the health of individuals experiencing homelessness in domains outside of the clinic. Examples include efforts to implement Housing First initiatives in Greater Boston in which the Boston Health Care for the Homeless Program was centrally involved,⁴³ as well as Colorado Coalition for the Homeless' range of models to link provision of treatment to permanent supportive housing.⁴⁴

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's findings should be interpreted in light of its limitations. Namely, the response rate for survey completion was relatively low and based predominantly on self-report measures, reducing this study's inferential value. Nonetheless, the responses we did receive appeared to be representative—respondent organizations came from a wide geographic area, had a variety of clinic sizes and reflected a broad set of strategies by which organizations met AAP guidelines. Survey research indicates that these response rates are not uncommon in physician surveys⁴⁵ and that response bias resulting from low response rates may be minimal for child healthcare providers.⁴⁶ Moreover, Asch and colleagues' (2000) review examining the recruitment of community-based providers into survey research indicated primary care response rates consistent with ours, from 45–65%.⁴⁷ Although we did use methods consistent with web-based survey best practices given time and cost constraints (e.g., offering alternative formats for response), future research could employ additional techniques to increase response rates in this population, such as unconditional fixed payments for returned surveys rather than a lottery-based incentive,⁴⁸ to illuminate a more representative picture of homeless pediatric care.

An additional limitation to generalizability of our findings 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., referrals to mental health providers, services to facilitate access such as translation and outreach) so this sample may reflect a higher quality of care (HRSA, 2016). 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 improvement areas of HCH programs that take care of children. Finally, an additional consideration is the exact definition of children and adolescents in the care of these organizations. While we specified that we were interested in the care of young people under 18 years of age, some homeless youth service providers serve those up to age 25 and may have included services for young adults in their responses.

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 of the 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? Would interventions that help organizations meet more of the AAP guidelines also improve the health of the children who receive care there? Do organizations dedicated to the care of homeless children achieve better outcomes than clinics, such as community health centers, that see a lot of children experiencing homelessness but whose care models are not dedicated solely to that task? Partnerships between academic investigators, organizations taking care of homeless children, stakeholders (such as state Medicaid agencies) with claims data, and families experiencing homelessness themselves may all be needed to investigate these and other relevant 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 most AAP recommendations. Team-based care and incorporating comprehensive care into acute care visits are areas for improvement. Disseminating best practices—EMR tools, inter-professional teams, strong relationships with community organizations, and adoption of FQHC status, for example—might help organizations to achieve greater success. While optimizing health care delivery to homeless children and families by implementing AAP guidelines is important, additional work to address broader issues that affect the health of homeless children—including strategies to end family homelessness altogether—will be vitally important.

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References

1. Henry M, Shivji A, de Sousa T, Cohen R, Khadduri J, Culhane D. The 2015 Annual Homelessness Assessment Report (AHAR) to Congress, Part 1: Point-in-Time Estimates of Homelessness. Washington, DC; 2015 https://works.bepress.com/dennis_culhane/192/.
2. Bassuk E, DeCandia C, Beach C, Berman F. America's Youngest Outcasts: A Report Card on Child Homelessness. Waltham, MA: The National Center on Family Homelessness, American Institutes for Research; 2014.
3. The National Center on Family Homelessness. The Characteristics and Needs of Families Experiencing Homelessness. Waltham, MA; 2011 www.familyhomelessness.com.
4. Drake MA. The nutritional status and dietary adequacy of single homeless women and their children in shelters. Public Health Rep. 1992;107(3):312–319. <http://www.ncbi.nlm.nih.gov/pubmed/1594741>. Accessed October 15, 2016. [PubMed: 1594741]

5. Taylor ML, Koblinsky SA. Food consumption and eating behavior of homeless preschool children. *J Nutr Educ*. 1994;26(1):20–25. doi:10.1016/S0022-3182(12)80830-2.
6. Chiu SH, DiMarco MA, Prokop JL. Childhood Obesity and Dental Caries in Homeless Children. *J Pediatr Heal Care*. 2013;27(4):278–283. doi:10.1016/j.pedhc.2011.11.007.
7. Wright J. Poverty, Homelessness, Health, Nutrition, and Children In: Kryder-Coe J, Salamon L, Molnar J, eds. *Homeless Children and Youth: A New American Dilemma*. New Brunswick, NJ: Transaction Publishers; 1991:71–104.
8. Weinreb L, Goldberg R, Bassuk E, Perloff J. Determinants of health and service use patterns in homeless and low- income housed children. *Pediatrics*. 1998;102(3 I):554–562. doi:10.1542/peds.102.3.554. [PubMed: 9738176]
9. Zima BT, Wells KB, Freeman HE. Emotional and behavioral problems and severe academic delays among sheltered homeless children in Los Angeles County. *Am J Public Health*. 1994;84(2):260–264. doi:10.2105/AJPH.84.2.260. [PubMed: 7507648]
10. Bassuk EL, Weinreb LF, Dawson R, Perloff JN, Buckner JC. Determinants of Behavior in Homeless and Low-income Housed Preschool Children. *Pediatrics*. 1997;100(1).
11. Bassuk EL, Rosenberg L. Psychosocial Characteristics of Homeless Children and Children With Homes. *Pediatrics*. 1990;85(3).
12. Rubin DH, Erickson CJ, Agustin MS, Cleary SD, Allen JK, Cohen P. Cognitive and Academic Functioning of Homeless Children Compared With Housed Children. *Pediatrics*. 1996;97(3).
13. Murphy J Homeless Children and Youth at Risk: The Educational Impact of Displacement. *J Educ Students Placed Risk*. 2011;16(1):38–55. doi:10.1080/10824669.2011.554143.
14. Koblinsky SA, Gordon AL, Anderson EA. Changes in the Social Skills and Behavior Problems of Homeless and Housed Children During the Preschool Year. *Early Educ Dev*. 2000;11(3):321–338. doi:10.1207/s15566935eed1103_6.
15. Vostanis P, Tischler V, Cumella S, Bellerby T. Mental health problems and social supports among homeless mothers and children victims of domestic and community violence. *Int J Soc Psychiatry*. 2001;47(4):30–40. <http://www.ncbi.nlm.nih.gov/pubmed/11694056>. Accessed October 15, 2016. [PubMed: 11694056]
16. McDonough P, Sacker A, Wiggins RD. Time on my side? Life course trajectories of poverty and health. *Soc Sci Med*. 2005;61(8):1795–1808. doi:10.1016/j.socscimed.2005.03.021. [PubMed: 16029777]
17. Shonkoff JP, Garner AS, Siegel BS, et al. The Lifelong Effects of Early Childhood Adversity and Toxic Stress. *Pediatrics*. 2011;129(1).
18. Grant R, Gracy D, Goldsmith G, Shapiro A, Redlener IE. Twenty-Five Years of Child and Family Homelessness: Where Are We Now? *Am J Public Health*. 2013;103(S2):e1–e10. doi:10.2105/AJPH.2013.301618.
19. Miller DS, Lin EHB. Children in Sheltered Homeless Families: Reported Health Status and Use of Health Services. *Pediatrics*. 1988;81(5).
20. American Academy of Pediatrics Council on Community Pediatrics. Providing Care for Children and Adolescents Facing Homelessness and Housing Insecurity. *Pediatrics*. 2013;131(6).
21. Agency for Healthcare Research and Quality. Your Guide to Choosing Quality Health Care. <http://archive.ahrq.gov/consumer/qnt>.
22. Health Resources and Services Administration. 2014 Health Center Data: National Health Care for the Homeless Program Grantee Data. 1 <http://bphc.hrsa.gov/uds/datacenter.aspx?fd=ho#ft>. Published 2014.
23. Fact Sheet: Health Care for the Homeless Program. Nashville, TN; 2011 <http://www.nhchc.org/wp-content/uploads/2011/09/HCHFactSheetMay2011.pdf>.
24. Goldman LE, Chu PW, Tran H, Romano MJ, Stafford RS. Federally qualified health centers and private practice performance on ambulatory care measures. *Am J Prev Med*. 2012;43(2):142–149. doi:10.1016/j.amepre.2012.02.033. [PubMed: 22813678]
25. Flanigan TS, McFarlane E, Cook S. Conducting survey research among physicians and other medical professionals: a review of current literature In: *Proceedings of the Survey Research Methods Section, American Statistical Association*. Alexandria, VA: American Statistical Association; 2008:4136–4147.

26. Ziegenfuss JY, Burmeister KR, Harris A, et al. Telephone follow-up to a mail survey: when to offer an interview compared to a reminder call. *BMC Med Res Methodol.* 2012;12(1):32. doi: 10.1186/1471-2288-12-32. [PubMed: 22433024]
27. Zlotnick C, Zerger S, Wolfe PB. Health Care for the Homeless: What We Have Learned in the Past 30 Years and What's Next. *Am J Public Health.* 2013;103(S2):S199–S205. doi:10.2105/AJPH.2013.301586. [PubMed: 24148056]
28. Zuckerman B, Sandel M, Smith L, Lawton E. Why Pediatricians Need Lawyers to Keep Children Healthy. *Pediatrics.* 2004;114(1).
29. Grumbach K, Bodenheimer T. Can Health Care Teams Improve Primary Care Practice? *JAMA.* 2004;291:1246–1251. [PubMed: 15010447]
30. Patterson BL, Gregg WM, Biggers C, Barkin S. Improving Delivery of EPSDT Well-Child Care at Acute Visits in an Academic Pediatric Practice. *Pediatrics.* 2012;130(4).
31. Taylor E, Peikes D, Geonnotti K, McNellis R, Genevero J, Meyers D. Why is quality improvement important for primary care practices?
32. Hudson JL, Selden TM, Banthin JS. The impact of SCHIP on insurance coverage of children. *Inquiry.* 2005;42(3):232–254. [PubMed: 16353761]
33. Derose KP, Escarce JJ, Lurie N. Immigrants and health care: Sources of vulnerability. *Health Aff.* 2007;26(5):1258–1268. doi:10.1377/hlthaff.26.5.1258.
34. DesRoches CM, Campbell EG, Rao SR, et al. Electronic Health Records in Ambulatory Care — A National Survey of Physicians. *N Engl J Med.* 2008;359(1):50–60. doi:10.1056/NEJMsa0802005. [PubMed: 18565855]
35. Iddins BW, Frank JS, Kannar P, et al. Evaluation of Team-Based Care in an Urban Free Clinic Setting. *Nurs Adm Q.* 2015;39(3):254–262. doi:10.1097/NAQ.000000000000103. [PubMed: 26049603]
36. Coker TR, Elliott MN, Kanouse DE, et al. Prevalence, Characteristics, and Associated Health and Health Care of Family Homelessness Among Fifth-Grade Students. *Am J Public Health.* 2009;99(8):1446–1452. doi:10.2105/AJPH.2008.147785. [PubMed: 19542035]
37. Mold JW, Peterson KA. Primary care practice-based research networks: working at the interface between research and quality improvement. *Ann Fam Med.* 2005;3 Suppl 1(suppl 1):S12–S20. doi: 10.1370/afm.303.
38. Homer CJ, Lannon CM, Harbaugh N, et al. Classifying Recommendations for Clinical Practice Guidelines. *Pediatrics.* 2004;114(3).
39. Koh HK, Piotrowski JJ, Kumanyika S, Fielding JE. Healthy people: a 2020 vision for the social determinants approach. *Health Educ Behav.* 2011;38(6):551–557. doi: 10.1177/1090198111428646. [PubMed: 22102542]
40. Sandel M, Faugno E, Mingo A, et al. Neighborhood-Level Interventions to Improve Childhood Opportunity and Lift Children Out of Poverty. *Acad Pediatr.* 2016;16(3):S128–S135. doi:10.1016/j.acap.2016.01.013. [PubMed: 27044690]
41. United States Interagency Council on Homelessness. Family Connection: Building Systems to End Family Homelessness. 1 <https://www.usich.gov/tools-for-action/family-connection>. Published 2016.
42. Acevedo-Garcia D, McArdle N, Hardy EF, et al. The child opportunity index: improving collaboration between community development and public health. *Health Aff (Millwood).* 2014;33(11):1948–1957. doi:10.1377/hlthaff.2014.0679. [PubMed: 25367989]
43. Doane S. Mass. doctors prescription for homelessness. *CBS News.* 2 24, 2012.
44. Post P. Defining and Funding the Support in Permanent Supportive Housing: Recommendations of Health Centers Serving Homeless People. New York, NY; 2008 National Health Care for the Homeless Council for the Corporation for Supportive Housing.
45. VanGeest JB, Johnson TP, Welch VL. Methodologies for improving response rates in surveys of physicians: a systematic review. *Eval Health Prof.* 2007;30(4):303–321. doi: 10.1177/0163278707307899. [PubMed: 17986667]
46. Cull WL, O'Connor KG, Sharp S, Tang SS. Response Rates and Response Bias for 50 Surveys of Pediatricians. *Health Serv Res.* 2005;40(1):213–226. doi:10.1111/j.1475-6773.2005.00350.x. [PubMed: 15663710]

47. Asch S, Connor SE, Hamilton EG, Fox SA. Problems in recruiting community-based physicians for health services research. *J Gen Intern Med.* 2000;15(8):591–599. doi:10.1046/j.1525-1497.2000.02329.x. [PubMed: 10940152]
48. Halpern SD, Kohn R, Dornbrand-Lo A, Metkus T, Asch DA, Volpp KG. Lottery-Based versus Fixed Incentives to Increase Clinicians' Response to Surveys. *Health Serv Res.* 2011;46(5):1663–1674. doi:10.1111/j.1475-6773.2011.01264.x. [PubMed: 21492159]
49. Health Resources and Services Administration. Health Center Program: Health Center Program Requirements.

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 Table 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 red bars show how many organizations filled that number of recommendations (left axis). The blue curve traces the percentage of organizations filling that number of recommendations (right axis).

Table 1.

American Academy of Pediatrics Recommendations for Optimal Care of Homeless Children, adapted from AAP Council on Community Pediatrics (2013).²⁰

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.
2	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.

Table 2.

Characteristics of Health Care for the Homeless Program grantee respondents to a web-based survey.

Characteristic	Count
HHS Region ^a , <i>N</i> (%)	
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, <i>N</i> (%)	
Urban	38 (86)
Suburban	10 (23)
Rural	12 (27)
Organization Type, <i>N</i> (%)	
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 non-profit 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)
Annual Patients and Visits, Mean (Range)	
Homeless Pediatric Patients	510 (0-3221)
Outpatient Homeless Pediatric Visits	490 (0-5324)
Language Spoken By Patients, <i>N</i> (%)	
Patients Primarily Speak English	3 (7)
Some or Half Primarily Speak Another Language	34 (79)
Most or All Speak Another Language	6 (14)

^aThe 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/>).

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Table 3.

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

Table 4.

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 Quotes
Electronic Medical Record tools	<p>"We have an intake form which screens for housing instability on their first visit and is captured on EHR for every subsequent visit"</p> <p>"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]."</p> <p>"We added a tool developed by the enabling support team members to the registration packet."</p>
Interprofessional teams	<p>"On site LCSW available for integrated behavior health "warm handoff" at the time of all visits"</p> <p>"Regular interdisciplinary team meetings"</p> <p>"Care coordination between medical staff and care management is key."</p> <p>"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."</p>
Strong relationships with community organizations	<p>"Many partnerships and MOU's with Community Based Organizations"</p> <p>"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"</p>

EHR=Electronic Health Record; LCSW=Licensed Clinical Social Worker; MOU=Memorandum of Understanding; QA/QI=Quality Assurance/Quality Improvement; QM=Quality Monitoring