HHS Public Access

Author manuscript

Acad Pediatr. Author manuscript; available in PMC 2018 July 25.

Published in final edited form as:

Acad Pediatr. 2017 ; 17(7): 732–738. doi:10.1016/j.acap.2017.02.007.

Housing Instability and Children's Health Insurance Gaps

Anne Carroll, PhD, **Hope Corman, PhD**, **Marah A. Curtis, PhD**, **Kelly Noonan, PhD**, and **Nancy E. Reichman, PhD**

Department of Finance and Economics, Rider University, Lawrenceville, NJ (Dr Carroll, Dr Corman, and Dr Noonan); National Bureau of Economic Research, New York, NY (Dr Corman and Dr Noonan); School of Social Work, University of Wisconsin at Madison, Madison, Wis (Dr Curtis); and Department of Pediatrics, Rutgers University, Robert Wood Johnson Medical School, Child Health Institute of New Jersey, New Brunswick, NJ, and Institute for Health Policy, Management and Evaluation, Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada (Dr Reichman)

Abstract

Objective: To assess the extent to which housing instability is associated with gaps in health insurance coverage of preschool-age children.

Methods: Secondary analysis of data from the Early Childhood Longitudinal Study—Birth Cohort, a nationally representative study of children born in the United States in 2001, was conducted to investigate associations between unstable housing—homelessness, multiple moves, or living with others and not paying rent—and children's subsequent health insurance gaps. Logistic regression was used to adjust for potentially confounding factors.

Results: Ten percent of children were unstably housed at age 2, and 11% had a gap in health insurance between ages 2 and 4. Unstably housed children were more likely to have gaps in insurance compared to stably housed children (16% vs 10%). Controlling for potentially confounding factors, the odds of a child insurance gap were significantly higher in unstably housed families than in stably housed families (adjusted odds ratio 1.27; 95% confidence interval 1.01–1.61). The association was similar in alternative model specifications.

Conclusions: In a US nationally representative birth cohort, children who were unstably housed at age 2 were at higher risk, compared to their stably housed counterparts, of experiencing health insurance gaps between ages 2 and 4 years. The findings from this study suggest that policy efforts to delink health insurance renewal processes from mailing addresses, and potentially routine screenings for housing instability as well as referrals to appropriate resources by pediatricians, would help unstably housed children maintain health insurance.

Keywords

children's health insurance; health insurance gaps; housing instability

Address correspondence to Nancy E. Reichman, PhD, Department of Pediatrics, Robert Wood Johnson Medical School, Child Health Institute of New Jersey, Rutgers University, 89 French St, Room 3272, New Brunswick, NJ 08903 (reichmne@rwjms.rutgers.edu).

Conflict of Interest: The authors declare that they have no conflict of interest.

HEALTH INSURANCE IS an important gateway to health care.[1] For children, access to routine health care, which includes immunizations, checkups, and screenings is considered critical for optimal health and development,[2] particularly in the preschool years.[3] In recognition of the importance of health care for children, expansions of public health insurance for children have taken place in the United States with the creation of the Children's Health Insurance Program (CHIP) in 1997 and extensions of the program in 2009 and 2015. While CHIP has been successful in increasing health insurance coverage rates for children, many children still experience gaps in coverage,[4–6] even at very young ages.[7] Continuous coverage is important because studies have found that children's health insurance gaps are associated with not having routine care,[8–11] lack of a usual source of care,[8,9,11] unmet need for health care,[9–12] and not having up-to-date immunizations.[13,14] Maintaining continuous coverage is particularly challenging for low-income households.[15]

We are aware of no existing studies of the effects of children's health insurance gaps on children's health outcomes, although studies of the Medicaid/CHIP expansions in the 1990s found short-term improvements in some measures of health status among children,[16] and a very recent study found that children's enrollment in Medicaid/CHIP has positive long-term effects on health.[17] These findings, in concert with those on children's insurance gaps and health care utilization, suggest that children's health insurance gaps have adverse effects on health.

Rising housing costs and stagnant incomes have made housing unaffordable for many families. A growing proportion of poor families spends at least half of their income on housing, and about 1 in 8 poor renting families in America reported in 2013 that it was likely they would be evicted in the near future.[18,19] "Doubling up" (living with family or friends) to make ends meet is common in low-income families; in an urban US birth cohort of mostly nonmarital births, 50% of mothers reported at least one instance of doubling up by the time their child was 9 years old.[20] The US Department of Education reported that, during the 2013–2014 school year, almost 1.3 million children lived in the primary nighttime residence categories used to provide service under the McKinney-Vento Homeless Assistance Act, up 8% from the prior year. Most were doubled up because of loss of housing or economic hardship; others resided in shelters or transitional housing, were awaiting foster care placement, lived in unsheltered locations, or lived in a hotel or motel owing to the lack of other adequate housing[21].

To our knowledge, housing instability, which can include homelessness, eviction, frequent moves, and doubling up, has not been explored as a potential determinant of gaps in children's health insurance, despite past research finding associations between other sources of family instability, such as job loss and divorce, and children's health insurance gaps,[6,22] studies finding associations between housing instability and health care utilization for children,[23–26] and the studies mentioned above finding links between children's insurance gaps and health care utilization. Together, these findings suggest that insurance gaps could be a pathway between housing instability and children's health care utilization. In this study, we use nationally representative data to investigate associations between housing instability and subsequent gaps in health insurance coverage of preschool-aged children.

Two potential mechanisms by which housing instability could be associated with health insurance gaps are 1) missing renewal notices and 2) changes in employment status. Renewal notices for public insurance (or potentially non-employer-based private insurance) often arrive by US mail and do not get forwarded. It is also plausible that housing instability makes it difficult or impossible for parents to maintain stable or full-time employment and therefore to maintain employer-based private health insurance.

Methods

Data

The Early Childhood Longitudinal Study—Birth Cohort (ECLS-B) is a nationally representative panel study of >10,000 children born in the United States in 2001. Births were sampled from Vital Statistics natality records of children born in 2001 who were alive at 9 months, had not been placed for adoption, and were born to mothers aged ≥ 15 years.[27] Twins, low birthweight infants, and American Indian/Alaskan Native and Asian/Pacific Islander mothers were oversampled. The initial survey was conducted when the child was 9 months old, and follow-up surveys were completed when the child was 2, 4, and 5 years old (the 5-year follow-up data are not used in our study, which focuses on preschool children). Additionally, the ECLS-B includes data on maternal and infant health and some demographic factors from a birth certificate module. All sample sizes are rounded to the nearest 50 as required by the National Center for Education Statistics.

Given our focus on preschool children and lack of necessary data elements at 9 months, we focused on children's insurance gaps between the 2- and 4-year surveys. We restricted the sample to families with children whose mothers reported at 9 months that the child was currently insured and had not experienced any insurance gaps between birth and 9 months. Of the 9600 mothers who participated in the 2-year survey, 8700 also completed the 4-year survey. Of the 8700 mothers, 750 reported that their children had experienced insurance gaps between birth and 9 months and were therefore excluded from the analyses. Of the remaining 7950 mothers, 200 were excluded because of missing data on key variables, leaving 7750 mothers for analyzing associations between housing instability (reported at 2 years) and children's health insurance gaps between 2 and 4 years.

Measures

Exposure Variable—Our measure of housing instability includes homelessness, multiple moves, and doubling up with family and friends and not paying rent, as reported in the 2-year survey. Homelessness, as defined by the US Department of Housing and Urban Development (HUD), is the lack of a fixed, regular, and adequate nighttime residence or residence in a temporary accommodation or space not intended for residence. In the 2-year interview, the mother was asked "In what type of housing do you live?" Response choices included living in a community shelter, a hotel or a motel room or being homeless. She was also asked "What is your current housing situation?" One response choice was living in temporary housing or a shelter. If she responded affirmatively to any of these response choices, she was coded as homeless. Moving more than once per year is a risk factor for homelessness;[28,29] we thus considered families to have had multiple moves if the mother

reported that she moved at least twice between the 9-month and 2-year interviews. The family was considered to have doubled up if the mother reported currently living with friends or relatives and not paying rent.

Our measure of housing instability (which includes homelessness as defined by HUD, multiple moves, and doubling up) is consistent with, but not quite as broad as, the Homeless Emergency Assistance and Rapid Transition to Housing Act of 2009 (PL 111–22, Section 1003) definition of homelessness that is used for eligibility for programs funded by HUD. That definition includes families with children with long periods of not living independently in permanent housing, who have frequently moved, and who are expected to have housing difficulties in the future owing to chronic disabilities, physical or mental health conditions, substance abuse, domestic violence, presence of a disabled child, or multiple barriers to employment.

Outcomes—In the 4-year survey, the mother was asked, “Since [child] turned 2 years old, was there any time when [he/she] did not have any health insurance coverage?” She was also asked, “Is [child] covered by any kind of health insurance or some other kind of health care plan?” If she responded affirmatively to the first question or negatively to the second question, the child was coded as having had a gap in health insurance between the 2- and 4-year surveys. If the answer to the first question was yes, the mother was asked, “Since [he/she] turned 2 years old, about how many months was [he/she] without coverage?”

Other Analysis Variables—We estimated 2 main models. The first included maternal and household characteristics that were assessed from the 9-month survey or the birth certificate module of the ECLS-B, to ensure that these factors preceded (and thus were not consequences of) housing instability status. Maternal characteristics included age, race/ethnicity, foreign-born status, English as the primary language in the household, first delivery, multiple birth, education, current employment, relationship status, depression, and suboptimal physical health (Table 1).

Suboptimal physical health was based on self-reported health status (good, fair, or poor, vs excellent or very good). Depression was assessed using an abbreviated form of the Center for Epidemiological Studies Depression Scale that assesses depressed affect, positive affect, somatic symptoms, psychomotor retardation, and interpersonal activity.[30] The instrument contains 12 items describing symptoms; each item is coded on a 4-point scale between 0 and 3, for the symptom occurring never (score of zero), 1 to 2 days (score of 1), 3 to 4 days (score of 2), or 5 to 7 days (score of 3) during the past week, with total scores ranging from 0 to 36. Using validated cutoff scores provided by the ECLS-B, a score ≥ 15 suggests severe depression and a score ≥ 10 suggests moderate or severe depression. We used the latter cutoff in our main models.

Household characteristics included urban residence status, total number of adults in the household, and income (in $10,000s). Urban residence was characterized as living in an urban area and living in an urban cluster, both compared to living in a nonurban area. Urban area refers to a densely populated urban area and urban cluster refers to a less densely populated urban area, as classified by the ECLS-B based on US Census categories.

The second model added measures of maternal employment, parents' relationship status, and household income at 2 years that corresponded to the measures of employment, relationship status, and income at 9 months. This model allowed us to test, to the extent possible, the role of changes in employment situations as a mechanism underlying the association between housing instability and children's insurance gaps. It also addressed the potential confounding roles of these factors.

Statistical Analysis

First, we compared attrition rates for mothers who were stably and unstably housed in the initial 9-month survey. Then we compared characteristics of mothers in our sample who were stably and unstably housed at 2 years; statistically significant differences were ascertained by chi-square tests. For these descriptive statistics, we used sample weights provided by the ECLS-B to produce nationally representative figures. Next, we estimated logistic regression models that controlled for the sets of maternal and household characteristics described above, as well as a quadratic term for maternal age, an indicator variable for missing data on maternal depression, and indicators for state of residence to control for potentially confounding state-level factors. Regression analyses were unweighted. Estimates are presented as adjusted odds ratios and 95% confidence intervals. Finally, we estimated models with alternative specifications in order to assess sensitivity of our estimates. All analyses were conducted using Stata Version 14.0 statistical software. The authors' Institutional Review Boards determined this study to be exempt.

Results

Mothers with unstable housing at 9 months (defined as homeless or doubling up and not paying rent; information on multiple moves was not available at 9 months) were less likely to be in our analysis sample than were those with stable housing (not shown). Thus, our analyses may underestimate the associations between housing instability and children's insurance gaps.

About 10% (750 of 7750) of the children in our sample had unstable housing at 2 years (Table 1). Of the 750 children, fewer than 50 had been homeless, almost 500 had experienced multiple moves, and about 250 were in families that had doubled up and did not pay rent. The majority experienced 1 of these situations, about 50 experienced 2, and no children experienced all 3 situations (not shown).

About 800 children had a gap in health insurance coverage between the 2- and 4-year surveys; of those, 33% had private insurance, 49% had public insurance, 6% had another type of insurance, and 12% had no health insurance at the time of the 2-year survey, and about half were uninsured for 4 months or more (not shown). Children who were unstably housed were significantly more likely to have gaps in health insurance coverage compared to children who were stably housed (16% vs 10%). Mothers who were unstably housed were younger (23 years) than those who were stably housed (29 years). They were more likely to be non-Hispanic black and to reside in English-speaking households, and less likely to be Hispanic and foreign born. They were more likely to be having first deliveries (55% vs 40%), to report suboptimal health (39% vs 29%), and to be depressed (20% vs 13%), than

mothers than who were stably housed. Unstably housed mothers were less educated, less likely to be employed, less likely to be married, less likely to have a married or cohabiting partner (63% vs 84%), and less likely to have lived in urban areas than stably housed mothers. There were significantly more adults in the households of unstably housed families than in the households of stably housed families.

Results from the logistic regression models indicate that the odds of a child health insurance gap were significantly higher in unstably housed families than in stably housed families (model 1; adjusted odds ratio 1.27; 95% confidence interval 1.01–1.61). Maternal depression at 9 months significantly increased the odds of the child having a gap in insurance coverage (adjusted odds ratio 1.55; 95% confidence interval 1.27–1.89). Household income at 9 months, non-Hispanic black race/ethnicity, and multiple births were associated with lower odds of children's health insurance gaps. Measures of employment, relationship status, and income at 2 years did not explain any of the association between housing instability and children's health insurance gaps (ORs for housing instability were virtually identical in models 1 and 2), although higher income at 2 years was significantly associated with lower odds of insurance gaps (model 2).

The associations between housing instability at 2 years and children's health insurance gaps between 2 and 4 years were similar to those in Table 2 in models that restricted the sample to children who were neither homeless nor doubled up at 9 months and that alternatively 1) excluded the multiple moves component from the housing instability measure, 2) excluded the doubled up component, and 3) included dummy variables for each of the 3 components of the housing instability measure instead of the combined measure. In 1) and 2), housing instability was positively associated with children's health insurance gaps with similar magnitudes as in Table 2, but not statistically significant at conventional levels. In 3), both multiple moves and doubling up were positively associated with children's insurance gaps with similar magnitudes, but only multiple moves was statistically significant at conventional levels. The estimates were insensitive to the use of the more severe measure of maternal depression. We also estimated supplementary models with the number of months the child had no insurance as the outcome and found positive associations between housing instability and the amount of time the child was uninsured. Finally, the estimates were insensitive to model specifications that used sample weights and that accounted for clustering by household as a result of the oversampling of multiple births (not shown).

Discussion

In a US nationally representative birth cohort, children who were unstably housed at age 2 had 27% higher odds than their stably housed counterparts of experiencing health insurance gaps between 2 and 4 years of age. As far as we know, associations between housing instability and children's health insurance gaps have not previously been explored, although previous studies have found that homeless families are much more likely than nonhomeless families to use the emergency department as a source of care,[23] and that homeless children experience more acute illnesses, use the emergency department more for common conditions, and have lower immunization rates than nonhomeless children.[24–26] Given the importance of health insurance for health care utilization and numerous studies linking

insurance gaps to suboptimal health care use among children,[8–14] the findings from our study of housing instability and children's health insurance gaps suggest that insurance gaps are a potential mechanism underlying the observed links between housing instability and children's health care utilization.

Changes in maternal employment, parents' relationship status, and income did not explain any of the association between housing instability and children's health insurance gaps. Thus, the observed association may reflect missing renewal applications (a mechanism we could not test) or changes in parents' employment situations that our measures of maternal employment, parents' relationship status, and household income did not capture.

Our study has several strengths, including the use of rich, prospective nationally representative longitudinal data, information on multiple types of housing instability, and a direct question about children's insurance gaps between surveys. However, we were unable to precisely establish the ordering of insurance and housing status between the 9-month and 2-year surveys, so some children could have experienced their first insurance gap between 9 months and 2 years and then experienced housing instability. Another limitation was our inability to fully test hypothesized mechanisms, particularly that involving missing renewal notices.

The time period studied was before the implementation of the Affordable Care Act (ACA). Although much of the health insurance landscape for children has remained the same since the late 1990s, the ACA introduced new eligibility complexities that may have increased the potential for children's insurance gaps. However, it also established simplified renewal rules for Medicaid and CHIP that were explicitly designed to keep individuals enrolled as long as they are eligible.[31,32] Such streamlining can be highly cost efficient, as coverage instability and redetermination can result in significant costs to states.[31,33] Most states have been successful at streamlining enrollment processes, but have experienced delays in the implementation of streamlined renewal procedures.[32]

The 2016 US presidential election raised much uncertainty over the future of public health insurance in the United States. President Trump has proposed to convert Medicaid to a block-grant program, a system that may result in significant retrenchments of public health insurance for children. In addition, CHIP expires in October 2017 and it is not clear that it will be renewed. The potential for these cutbacks in both Medicaid and CHIP is at odds with recommendations from the American Academy of Pediatrics (AAP), which has advocated for both assurance of adequate funding and extension of CHIP benefits to uninsured children at higher income levels.[34]

Despite the uncertain future of the public health insurance system in the United States, policy efforts to address children's insurance gaps among unstably housed families would more expediently come from the health insurance and health care systems than from the housing side. The housing safety net in the United States, which also faces an uncertain future under the new administration, consists of 3 primary housing assistance programs—the public housing program, the Housing Choice Voucher Program, and Section 8 project-based rental assistance, all of which have long waiting lists and serve far fewer families than are

eligible. Given the inadequate public housing support system in the United States, the most promising policy approach for maintaining insurance of children in families with unstable housing would be through streamlined enrollment and renewal processes for public insurance, which can increase coverage while reducing costs. Any processes that make renewals less tied to mailing addresses (perhaps by sending backup renewal reminders by text message to a designated contact person) have the potential to keep unstably housed children insured. We hope that the economically efficient gains made in terms of streamlining renewal processes for public insurance will continue despite the uncertain future of the ACA and CHIP.

The AAP outlined best practices for pediatricians that included recognizing housing instability as part of their routine duties owing to associations between homelessness and poor health outcomes.[35] The findings from this study point to a potential role for pediatricians in the form of screening for housing instability and referring affected families to social work or other relevant resources to ensure that their children maintain stable insurance coverage. The Veterans Administration's universal 2-question screener for current homelessness or imminent risk, which is administered regularly to all veterans accessing outpatient care, is a potential model, with the caveat that it is used within a comprehensive system that ties a positive screen to services as part of a federally funded initiative to end homelessness among veterans. In contrast, there is no current initiative or existing system to address homelessness or housing stability among children and their families.

Conclusions

This study revealed a link between housing instability of children at age 2 and gaps in their health insurance coverage between ages 2 and 4 years. A promising policy approach for maintaining insurance of children in families with unstable housing would involve streamlined enrollment and renewal processes for public insurance, which can increase coverage while reducing costs. In terms of practice, the findings from this study suggest a potential role for pediatricians in the form of screening for housing instability and referring affected families to social work or other resources to help children maintain insurance coverage.

Acknowledgments

Dr Reichman acknowledges indirect support from the Robert Wood Johnson Foundation for this research through its support of the Child Health Institute of New Jersey (grants 67038 and 74260).

References

1. Bernstein AB, Hing E, Moss AJ, Health Care in America: Trends in Utilization Hyattsville, Md: National Center for Health Statistics; 2003.
2. Newacheck PW, Stoddard JJ, Hughes DC, Health insurance and access to primary care for children. N Engl J Med. 1998;338:513–519.9468469
3. Regalado M, Halfon N. Primary care services promoting optimal child development from birth to age 3 years: review of the literature. Arch Pediatr Adolesc Med. 2001;155:1311–1322.11732949
4. Satchell M, Pati S. Insurance gaps among vulnerable children in the United States, 1999–2001. Pediatrics. 2005;116:1155–1161.16264003

5. Short PF, Graefe DR, Swartz K, New estimates of gaps and transitions in health insurance. Med Care Res Rev. 2012;69:721–736.22833452
6. Hill HD, Shaefer L. Covered today, sick tomorrow? Trends and correlates of children's health insurance instability. Med Care Res Rev. 2011;68:523–536.21903663
7. Carroll A, Corman H, Noonan K, Why do poor children lose health insurance in the SCHIP era? The role of family health. Am Econ Rev. 2007;97:398–401.29135210
8. Kogan MD, Alexander GR, Teitelbaum MA, The effect of gaps in health insurance on continuity of a regular source of care among preschool-aged children in the United States. JAMA. 1995;274: 1429–1435.7474188
9. Cassedy A, Fairbrother G, Newacheck PW. The impact of insurance instability on children's access, utilization, and satisfaction with health care. Ambul Pediatr. 2008;8:321–328.18922506
10. Federico SG, Steiner JF, Beaty B, Disruptions in insurance coverage: patterns and relationship to health care access, unmet need, and utilization before enrollment in the State Children's Health Insurance Program. Pediatrics. 2007;120:e1009–e1016.17908722
11. Leininger LJ. Partial-year insurance coverage and the health care utilization of children. Med Care Res Rev. 2009;66:49–67.18981264
12. Honberg L, McPherson M, Strickland B, Assuring adequate health insurance: results of the National Survey of Children With Special Health Care Needs. Pediatrics. 2005;115:1233–1239.15867029
13. Smith PJ, Stevenson J, Chu SY. Associations between childhood vaccination coverage, insurance type and breaks in health insurance coverage. Pediatrics. 2006;117:1972–1978.16740838
14. Blewett LA, Davidson G, Bramlett MD, The impact of gaps in health insurance coverage on immunization status for young children. Health Serv Res. 2008;43(5 pt 1):1619–1636.
15. Leininger L, Levy H. Child health and access to medical care. Future Child. 2015;25:65–90.27516723
16. Howell EM, Kenney GM. The impact of the Medicaid/CHIP expansions on children a synthesis of the evidence. Med Care Res Rev. 2012;69:372–396.22451618
17. Thompson O. The long-term health impacts of Medicaid and CHIP. J Health Econ. 2017;51:26–40.28040620
18. Desmond M. Unaffordable America: Poverty, Housing, and Eviction. Fast Focus 22-2015. Madison, Wis: University of Wisconsin, Madison, Institute for Research on Poverty; 2015.
19. Desmond M. Evicted: Poverty and Profit in the American City. New York, NY: Crown; 2016.
20. Pilkauskas NV, Garfinkel I, McLanahan SS. The prevalence and economic value of doubling up. Demography. 2014;51:1667–1676.25165015
21. Ingram ES, Bridgeland JM, Reed B, Hidden in plain sight: homeless students in America's public schools. Civic Enterprises with Hart Research Associates. 2016 Available at: http://civicenterprises.net/MediaLibrary/Docs/HiddeninPlainSightOfficial.pdf. Accessed July 31, 2016.
22. Fairbrother GL, Carle AC, Cassedy A, The impact of parental job loss on children's health insurance coverage. Health Aff. 2010; 29:1343–1349.
23. D'Amore J, Hung O, Chiang W, The epidemiology of the homeless population and its impact on an urban emergency department. Acad Emerg Med. 2001;8:1051–1055.11691667
24. Morris DM, Gordon JA. The role of the emergency department in the care of homeless and disadvantaged populations. Emerg Med Clin North Am. 2006;24:839–848.16982342
25. Wise PH, Kotelchuck M, Wilson ML, Racial and socioeconomic disparities in childhood mortality in Boston. N Engl J Med. 1985;313:360–366.4010752
26. Wood D, Valdez RB, Hayashi T, Health of homeless children and housed, poor children. Pediatrics. 1990;86:858–866.1701236
27. Bethel J, Green J, Kalton G, Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), Sampling Volume 2 of ECLS-B Methodology Report for the 9-Month Data Collection, 2001–02 (NCES 2005-147). Washington, DC: US Department of Education; National Center for Education Statistics; 2005.
28. Weinreb L, Goldberg R, Bassuk E, Determinants of health and service use patterns in homeless and low-income housed children. Pediatrics. 1998;102:554–562.9738176

29. Wood D, Burgciaga V, Hayashi T, Homeless and housed families in Los Angeles: a study comparing demographic, economic, and family function characteristics. Am J Public Health. 1990;80:1049–1052.2382739

30. Radloff LS. The CES-D scale: a self-report depression scale for research in the general population. Appl Psychol Meas. 1977;1:385–401.

31. Cardwell A. Revisiting churn: an early understanding of state-level health coverage transitions under the ACA. National Academy for State Health Policy. 8 2016 Available at: http://www.nashp.org/wp-content/uploads/2016/08/Churn-Brief.pdf. Accessed January 25, 2017.

32. Ryan J, Artiga S. Renewals in Medicaid and CHIP: implementation of streamlined ACA policies and the potential role of managed care plans. Henry J. Kaiser Family Foundation; Kaiser Commission on Medicaid and the Uninsured. 6 26, 2015 Available at: http://kff.org/reportsection/renewals-in-medicaid-and-chip-issue-brief/. Accessed January 25, 2017.

33. Summer L, Mann C. Instability of public health insurance coverage for children and their families: causes, consequences, and remedies. Commonwealth Fund; Georgetown University Health Policy Institute. 6 2006 Available at: http://www.allhealth.org/BriefingMaterials/Churning-848.pdf. Accessed January 25, 2017.

34. American Academy of Pediatrics; Committee on Child Health Financing. Policy statement. Children's Health Insurance Program (CHIP): accomplishments, challenges, and policy recommendations. Pediatrics. 2014;133:e784–e793.24470647

35. American Academy of Pediatrics; Council on Community Pediatrics. Policy statement. Providing care for children and adolescents facing homelessness and housing insecurity. Pediatrics. 2013;131:1206–1210.23713108

What's New

Children with unstable housing—homelessness, multiple moves, or living with family or friends and not paying rent—are at increased risk of experiencing health insurance gaps between 2 and 4 years of age compared to children with stable housing situations.

Table 1.

Sample Characteristics

Characteristic	Full Sample (N = 7750)	Unstably Housed (n = 750)	Stably Housed (n = 7000)
Child health insurance gap ***	.105	.163	.099
Maternal characteristics			
Age, y, mean ***	28.4	23.4	29.0
Race/ethnicity ***			
Non-Hispanic white	.625	.609	.627
Non-Hispanic black	.148	.194	.143
Hispanic	.185	.158	.188
Asian or Pacific Islander	.034	.025	.035
American Indian	.007	.014	.007
Foreign born *	.179	.143	.183
Primary language English **	.836	.878	.831
First delivery ***	.412	.554	.398
Multiple birth	.033	.030	.034
Education ***			
Less than high school graduate			
High school graduate	.308	.380	.300
Any college	.512	.282	.536
Employment ***			
Full time	.332	.280	.338
Part time	.205	.160	.210
Not employed	.463	.560	.453
Relationship status ***			
Married	.684	.401	.713
Cohabiting	.132	.226	.123
Neither married nor cohabiting	.184	.373	.164
Depression ***	.135	.204	.128
Missing Depression	.152	.149	.152
Suboptimal self-reported health ***	.297	.386	.288
Household characteristics			
Urban residence ***			
Urban area	.735	.649	.744
Urban cluster	.121	.156	.117
Non-urban area	.144	.194	.139
No. of adults, mean ***	2.16	2.39	2.13
Income (in $10,000s), mean ***	5.21	3.69	5.37

All figures are weighted using sample weights provided as part of the ECLS-B. All sample sizes are rounded to the nearest 50, as required by the National Center for Education Statistics to protect subject confidentiality. Figures are proportions unless indicated otherwise. All measures other than outcome (child insurance gap), housing instability, race/ethnicity, foreign born, and first delivery were measured at the 9-month survey. The

child's insurance gap was measured at the 4-year survey, housing instability was measured at the 2-year survey, and race/ethnicity, foreign born, first delivery, and multiple birth were from the birth certificate module. Suboptimal self-reported health was defined as good, fair, or poor (vs excellent or very good). Urban area refers to a densely populated urban area, and urban cluster refers to a less densely populated urban area, as classified by the ECLS-B based on US Census categories.

*** $P < .01$

** $P < .05$

* $P < .10$ for significant differences between unstably and stably housed mothers, based on chi-square tests.

Table 2.

Logistic Regression Estimates of Associations Between Housing Instability and Subsequent Child Health Insurance Gaps (N = 7750)

	Model 1		Model 2	
Characteristic	**OR**	**95% CI**	**OR**	**95% CI**
Housing instability	1.27	1.01, 1.61	1.28	1.01, 1.62
Maternal characteristics				
Age, y	0.95	0.85, 1.06	0.95	0.85, 1.06
Race/ethnicity				
Non-Hispanic black	0.71	0.55, 0.92	0.69	0.53, 0.89
Hispanic	1.18	0.90, 1.57	1.17	0.89, 1.55
Asian or Pacific Islander	0.78	0.55, 1.09	0.80	0.57, 1.12
American Indian	0.98	0.68, 1.40	0.97	0.67, 1.39
Foreign born	0.99	0.73, 1.35		0.72, 1.34
Primary language English	1.03	0.75, 1.41	1.05	0.77, 1.45
First delivery	0.92	0.78, 1.09	0.94	0.80, 1.11
Multiple birth	0.79	0.63, 0.98	0.79	0.63, 0.98
Education				
High school graduate	0.83	0.66, 1.03	0.85	0.68, 1.05
Any college	0.79	0.61, 1.02	0.86	0.66, 1.10
Employment				
Full time	1.04	0.87, 1.25	1.07	0.87, 1.32
Part time	0.99	0.80, 1.23	1.03	0.82, 1.29
Relationship status				
Married	1.08	0.85, 1.38	1.03	0.68, 1.55
Cohabiting	1.14	0.88, 1.48	1.03	0.76, 1.41
Depression	1.55	1.27, 1.89	1.53	1.26, 1.87
Missing data on depression	1.07	0.86, 1.34	1.05	0.84, 1.32
Suboptimal physical health	1.07	0.91, 1.26	1.05	0.89, 1.24
Household characteristics				
Urban residence				
Urban area	0.92	0.73, 1.15	0.93	0.74, 1.17
Urban cluster	0.77	0.58, 1.02	0.76	0.57, 1.01
No. of adults	0.99	0.90, 1.09	0.97	0.89, 1.07
Income (in $10,000s)	0.93	0.91, 0.96	0.99	0.96, 1.03
Additional measures				
Maternal employment at 2 y				
Full time			0.98	0.80, 1.20
Part time			0.95	0.76, 1.19
Household income at 2 y			0.91	0.87, 0.95
Relationship status at 2 y				
Married			1.20	0.80, 1.80

	Model 1		Model 2	
Characteristic	**OR**	**95% CI**	**OR**	**95% CI**
Cohabiting			1.25	0.91, 1.71

OR indicates odds ratio; CI, confidence interval.

Models included a quadratic term for age and indicators for the mother's state of residence at 9 months, with states with fewer than 100 observations grouped together (estimates not shown). Estimates are unweighted. All sample sizes are rounded to the nearest 50, as required by the National Center for Education Statistics to protect subject confidentiality. Unless indicated otherwise, all measures other than the outcome (child insurance gap), housing instability, race/ethnicity, foreign born, first delivery, and multiple birth were measured at the 9-month survey. The child's insurance gap was measured at the 4-year survey, housing instability was measured at the 2-year survey, and race/ethnicity, foreign born, first delivery, and multiple birth were from the birth certificate module. See Table 1 footnote for more detail.