# Moving Because of Unaffordable Housing and Disrupted Social Safety Net Access Among Children

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**OBJECTIVES:** To measure associations between residential moves because of unaffordable housing costs and disruptions in access to the Supplemental Nutrition Assistance Program; the Special Supplemental Nutrition Program for Women, Infants, and Children; and Medicaid in a health care-based sample of families with young children.

**METHODS:** We used cross-sectional survey data on social safety net-eligible caregivers and children recruited into the Children's HealthWatch study from emergency departments and primary care clinics in Baltimore and Philadelphia (2011–2019). Children's HealthWatch measured residential moves (cost-driven and noncost-driven) in the past year and disruptions in safety net access. We used logistic regression to estimate associations between each type of move and disrupted access to social safety nets.

**RESULTS:** Across 9344 children, cost-driven residential moves were associated with higher odds of disrupted access to at least 1 safety net program (Supplemental Nutrition Assistance Program; the Special Supplemental Nutrition Program for Women, Infants, and Children; or Medicaid; adjusted odds ratio 1.44; 95% confidence interval 1.16–1.80), as well as higher odds of disruption to each program separately. Noncost-driven moves were also associated with disruptions to at least 1 safety net program, but less strongly so (adjusted odds ratio 1.14; confidence interval 1.01–1.29; *P* value for comparison with cost-driven = .045).

**CONCLUSIONS:** Residential moves, particularly cost-driven moves, are associated with social safety net benefit disruptions. The association between these events suggests a need for action to ensure consistent safety net access among children facing cost-driven moves and vice versa (ie, access to housing supports for children with disrupted safety net access).

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Dr Leifheit conducted conceptualization, methodology, and analysis, writing, review, and editing of the original draft, visualization, and funding acquisition; Drs Schwartz and Pollack conducted conceptualization, methodology, and writing, review, and editing of the manuscript; Dr Althoff conducted conceptualization, supervision, methodology, and writing, review, and editing of the manuscript; Dr Lê-Scherban conducted data collection and Philadelphia curation, project administration, and writing, review, and editing of the manuscript; Dr Black conducted conceptualization, supervision, data collection and Baltimore curation, project administration, funding acquisition, and writing, review, and editing of the manuscript; Dr Jennings conducted conceptualization, supervision, (Continued) WHAT'S KNOWN ON THIS SUBJECT: For children in lowincome families, moving because of unaffordable housing is common and damaging to health. Social safety nets have the potential to prevent cost-driven moves or mitigate harms, but access may be disrupted in the time surrounding a move.

WHAT THIS STUDY ADDS: Children who experienced costdriven moves in the past year were more likely to have lost Supplemental Nutrition Assistance Program; Special Supplemental Nutrition Program for Women, Infants, and Children; and Medicaid benefits than children who stayed in place, suggesting a need to help children at risk for cost-driven moves retain safety net benefits.

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The United States is facing a housing affordability crisis. A growing share of children in low-income families are being displaced from their homes as high housing costs outpace what families can afford.<sup>1</sup> These cost-driven moves (moves because of unaffordable rents, evictions, or foreclosures) have a negative impact on children's well-being, including adverse birth outcomes,<sup>2,3</sup> greater food insecurity,<sup>4</sup> worse parent-reported child health,<sup>5</sup> and suboptimal cognitive development.<sup>6</sup>

Social safety net programs that provide nutrition and health insurance to low-income families, such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); the Supplemental Nutrition Assistance Program (SNAP); and Medicaid, rein in food and health care costs. In doing so, these programs can prevent cost-driven moves altogether, or at minimum, may mitigate cost-driven moves' harms to children's well-being.

Yet, children's access to these programs may be disrupted precisely when they need them most. Qualitative research suggests that families may lose coverage in the tumult surrounding cost-driven moves.<sup>7</sup> Maintaining benefits through SNAP, WIC, and Medicaid requires caregivers to recertify their eligibility 1 to 2 times per year via mailed forms and documentation, phone calls, and/or in-person appointments. (Online recertification is a relatively recent innovation, expanded during the coronavirus disease 2019 pandemic [COVID-19].) Several states additionally require users to report to WIC offices in person every 3 to 4 months to "reload" electronic benefits cards. Moving may disrupt receipt of mail-based communications from social service agencies or push families to a new social service office; moves across state lines could further disrupt social safety net access through differences in income eligibility or recertification processes. Cost-driven moves present a particular challenge to social safety net retention because they are often involuntary, stressful, and sudden.<sup>2</sup> Faced with finding new housing, caregivers may deprioritize administrative tasks necessary to maintain benefits. Indeed, a recent analysis of linked administrative data found that residential evictions were associated with 63% increased odds of losing Medicaid coverage among New York City adults after an eviction.<sup>8</sup>

Just as moves may disrupt service access, the reverse may also be true: Disruption in services could harm family finances, necessitating a cost-driven move. Evidence from Medicaid expansion suggests that Medicaid coverage reduced eviction risk at the state level, likely by reining in medical expenses and preventing illness-induced reductions in working hours.<sup>9-11</sup> It follows that lapses in Medicaid might increase the risk of evictions and costdriven moves. Losing WIC or SNAP may similarly make it more difficult to put food on the table while keeping a roof overhead, a balancing act that could end in eviction or foreclosure. Consistent with this reasoning, a study of families with young children found that enrollment in food benefits (WIC and SNAP) was associated with improved access to stable and adequate housing.<sup>12,13</sup>

If cost-driven moves are associated with disrupted safety net access, these shocks could compound families' disadvantage, with significant implications for children's health. In this study, we thus investigated associations between residential moves and disruptions in access to 3 social safety net programs (WIC, SNAP, and Medicaid) among safety neteligible families with young children. By studying 2 types of moves separately, cost-driven moves and moves not driven by cost, we aimed to understand whether cost-driven moves pose a unique challenge to social safety net retention, above and beyond the disruption associated with moving per se.

### **METHODS**

### **Source Population and Study Sample**

We analyzed pre COVID-19 pandemic (2011–2019) survey data from the Baltimore, Maryland, and Philadelphia, Pennsylvania, sites of Children's HealthWatch. Children's HealthWatch is a serial cross-sectional study of families recruited from pediatric primary care clinics (Baltimore) and pediatric emergency departments (Baltimore and Philadelphia). Eligible caregivers had children aged <4 years, were proficient in English or Spanish, and resided in Maryland or Pennsylvania.

We limited the sample to children likely to be eligible for all 3 safety net programs ("social safety net eligible"); that is, who met 3 criteria: (1) caregivers or children ever received WIC, (2) caregivers or children ever received SNAP, and (3) the child was ever publicly insured in the past year. We excluded children whose caregivers reported transitioning out of WIC or SNAP because they became income-ineligible and children who became privately insured in the past year.

### **Dependent Variables**

Disruptions in access to WIC and SNAP were defined as current nonreceipt of benefits among previously enrolled participants. Disruptions in Medicaid access were defined as noncontinuous receipt of public insurance over the past year, including coverage that was lost, lost and regained, or absent at any time.

#### **Independent Variables**

Caregivers with children who lived in >1 place in the past year were asked, "The most recent time the child moved, which of the following was the most important reason for the move?" We defined cost-driven moves as moves because of: Issues related to paying the rent or mortgage, eviction or avoiding eviction, foreclosure, becoming homeless, or lack of housing subsidies. Noncost-driven moves included moves for any other reason (such as moving to a larger home or a neighborhood with more resources; see

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Prevalence and Reasons for Cost-Driven and Noncost-Driven Moves in the Results section). Past research on cost-driven moves and health has employed a similar categorization.<sup>14</sup> Given the way the question was asked ("the [single] most important reason for the [most recent] move"), our categorization of cost-driven and noncost-driven moves is mutually exclusive, with no children experiencing both types. Children who lived in a single location over the past year were considered nonmovers.

### **Covariates**

Models included covariates that might simultaneously lead families to move and disrupt program access, including proxies for caregivers' resources and bandwidth for navigating health care and social service systems. These included educational attainment (less than, greater than, or equal to a high school education), household income (increments of \$12 000; top-coded above \$48 000), marital status (single, married, separated/divorced/other, cohabiting), child age in years, caregiver age (<20, 20-25, 26-35, or 36+ years), and biologic mother's nativity (United States-born or not). We also adjusted for caregiver race and ethnicity (Hispanic/Latino, non-Hispanic Black, non-Hispanic white, or another non-Hispanic race/ ethnicity) as a proxy for racial discrimination in housing markets and services.<sup>15–17</sup> We also included fixed effects for study site (Baltimore or Philadelphia) and year, recognizing that housing markets and safety net enrollment requirements might differ systematically between cities and over time. Finally, we controlled for visit type (acute care versus scheduled primary care). Because household income data were missing for 22% of our study population because of caregiver nonreport, we did not include income as a covariate in our primary analysis; we conducted a sensitivity analysis adjusting for income in the subsample with income data.

### **Statistical Analysis**

We first compared characteristics between children with cost-driven moves, those with noncost-driven moves, and nonmovers. We then modeled associations between each type of move (versus no move) and disruptions in program access using logistic regression. We modeled disruption in each type of program separately, as well as an overall indicator for experiencing disruption in at least 1 program. After regressions, we compared the estimated odds of disruption associated with cost-driven versus noncost-driven moves using a Wald test. We report unadjusted and covariate-adjusted results. We also report predicted probabilities of program disruption, derived from adjusted models with marginal standardization. All analyses were conducted in Stata SE, version 15.1.

### **Ethical Approval**

The study was approved by institutional review boards at the University of Maryland School of Medicine and Drexel University. Caregivers gave consent to participation.

### **RESULTS**

### **Sample Characteristics**

The Children's HealthWatch study Baltimore and Philadelphia sites had a combined response rate of 92% during the study period. Of 13675 children whose caregivers completed surveys during the study period, 12 118 (89%) had ever received WIC, 11093 (81%) had ever received SNAP, and 12 932 (95%) had been publicly insured in the past year, with 10 240 (75%) meeting all 3 inclusion criteria. Among these, 767 (7%) reported becoming ineligible for SNAP and/or WIC because of increased income, and an additional 16 (<1%) became privately insured in the past year, leaving 9457 eligible children. We additionally excluded 113 children (1%) with missing covariate information (caregiver age, education, marital status, or nativity; remaining covariates had complete information), resulting in 9344 children in our analytic sample. Given our criteria, included children were more socioeconomically disadvantaged than excluded Children's HealthWatch participants (Supplemental Table 2).

Thirty-six percent of study children were infants aged <1 year, 27% were aged 1 year, 20% were aged 2 years, and 17% were aged 3 years (Table 1). Eighty-eight percent of caregivers were aged 20 to 35 years, 31% were Hispanic or Latino, 59% were non-Hispanic Black, 93% were United States-born, 68% had a high school education or less, 80% had household incomes <\$24000 (among those with nonmissing income; n = 7250), and 63% were single. Forty-three percent were recruited from Baltimore and 56% from Philadelphia. Ninety-two percent were recruited from acute care settings or emergency departments.

### **Prevalence of Social Safety Net Disruptions**

A total of 1938 study children (21%) experienced a coverage gap for at least 1 social safety net program. Among these, 1461 (75%) had disrupted access to WIC, 390 (20%) had disrupted access to SNAP, and 304 (16%) had disrupted access to Medicaid (Fig 1).

## Prevalence and Reasons for Cost-Driven and Noncost-Driven Moves

Overall, 475 (5%) children experienced a cost-driven move in the past year and 2378 (25%) experienced a noncostdriven move. Reasons for cost-driven moves included issues paying the rent or mortgage (67%), eviction (17%), foreclosure (12%), entering a homeless shelter (4%), and issues with subsidy funding (1%). Primary reasons for noncost-driven moves included wanting a bigger or nicer house

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TABLE 1 Characteristics of Social Safety Net-Eligible Children in the Children's HealthWatch Study by Past-Year Residential History, Baltimore and				
Philadelphia, 2011 to 2019 ( $N = 9344$ )				
		$\geq$ 1 Noncost-Driven	≥1 Cost-Driven	
	No Residential Moves	Residential Move	<b>Residential Move</b>	
Characteristics	( <i>N</i> = 6491)	(N = 2378)	( <i>N</i> = 475)	P <sup>a</sup>
Child age				<.001
<12 mo	2636 (40%)	592 (24%)	103 (22%)	
12–23 mo	1616 (25%)	744 (31%)	149 (31%)	
24–35 mo	1191 (18%)	593 (25%)	124 (26%)	
36–48 mo	1048 (16%)	449 (19%)	99 (21%)	
Mother's age				<.001
<20 y	301 (5%)	128 (5%)	18 (4%)	
20—25 у	2736 (42%)	1207 (51%)	233 (49%)	
26—35 y	2913 (45%)	923 (39%)	187 (39%)	
≥36 y	541 (8%)	120 (5%)	37 (8%)	
Mother's race/ethnicity				.019
Hispanic or Latino	2009 (31%)	809 (34%)	123 (25%)	
Non-Hispanic Black	3827 (59%)	1343 (56%)	298 (62%)	
Non-Hispanic white	425 (7%)	148 (6%)	36 (8%)	
Another race/missing	230 (4%)	78 (3%)	18 (4%)	
Mother's nativity				<.001
United States-born	5980 (92%)	2246 (94%)	451 (95%)	
Non-United States-born	511 (8%)	132 (6%)	24 (5%)	
Caregiver's education				.040
Less than high school	1471 (23%)	572 (24%)	135 (28%)	
High school	2959 (46%)	1073 (45%)	209 (44%)	
Greater than high school	2061 (32%)	733 (31%)	131 (28%)	
Annual household income				<.001
<\$12000	2170 (33%)	829 (35%)	209 (44%)	
\$12 000-\$23 999	1795 (28%)	671 (28%)	118 (25%)	
\$24 000-\$35 999	730 (11%)	237 (10%)	33 (7%)	
\$36 000-\$47 999	205 (3%)	68 (3%)	10 (2%)	
>\$48 000	132 (2%)	34 (1%)	9 (2%)	
Don't know/refused/ missing	1459 (22%)	539 (23%)	96 (20%)	
Caregiver history of depressive symptoms	1319 (21%)	654 (29%)	196 (44%)	<.001
Caregiver marital status				<.001
Single	4042 (63%)	1516 (64%)	304 (64%)	
Married	741 (11%)	236 (10%)	49 (10%)	
Separated/divorced/other	1164 (18%)	406 (17%)	57 (12%)	
Cohabiting	544 (8%)	220 (9%)	65 (14%)	
Site				<.001
Baltimore	2812 (43%)	1005 (42%)	257 (54%)	
Philadelphia	3679 (57%)	1373 (58%)	218 (46%)	
Visit type				<.001
Acute or emergency department	5925 (91%)	2257 (95%)	449 (95%)	
Scheduled primary care	565 (9%)	121 (5%)	26 (5%)	

Safety net-eligible children are those who met all of the following 3 criteria: (1) caregiver or child ever received WIC, (2) caregiver or child who ever received SNAP, and (3) child was publicly insured in the past year.

 $^a$  P value for  $\chi^2$  test comparing characteristics over the 3 categories of residential moves.

(26%), a family change (18%), moving into an independent household (17%), moving closer to work or school (10%), issues related to poor housing conditions (9%), and wanting a safer neighborhood (6%). The prevalence of

cost-driven moves declined over the study period (likely reflecting recovery from the 2007–2008 financial crisis), whereas the prevalence of noncost-driven moves was fairly stable (Supplemental Fig 3).

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### **FIGURE 1**

Venn diagram showing the distribution and overlap of disruptions in social safety net access among 1938 children in the Baltimore and Philadelphia samples who reported at least 1 past-year service disruption between 2011 and 2019. These 1938 children represent 21% of the total sample (N = 9344). In total, 1461 (75%) had disrupted access to WIC, 390 (20%) had disrupted access to SNAP, and 304 (16%) had disrupted access to Medicaid.

### Characteristics of Children With Cost-Driven and Noncost-Driven Moves, Relative to Children With no Moves

Compared with children with no past-year moves (Table 1), children with 1 or more cost-driven residential move were older, had younger and less educated caregivers, and had lower household incomes. They were more likely to have United States-born caregivers, live in Baltimore, and participate in Children's HealthWatch via an emergency or acute visit (as opposed to a primary care visit). Their caregivers were also more likely to have a history of depressive symptoms. Although children with noncost-driven moves resembled children with cost-driven moves with respect to child age, caregiver nativity, and visit type (Table 1), they had similar socioeconomic status to nonmovers.

## Association of Residential Moves With Disrupted Social Safety Net Access

Relative to children with no moves in the past year, children with cost-driven moves showed significantly higher odds of disrupted social safety net access (Fig 2, Supplemental Table 3). In adjusted models, we found cost-driven moves (versus no moves) were associated with 44% higher odds of disrupted access to at least 1 program (WIC, SNAP, or Medicaid; adjusted odds ratio [aOR] 1.44; 95% confidence interval 1.16-1.80). In absolute terms, these increased odds mean that 25.8% (22.2-29.4) of children with cost-driven moves experienced any program disruption, compared with 19.8% (18.9-20.8) among children with no residential moves. Analyzing each program separately, cost-driven moves were associated with 34% higher odds of disruption in WIC access (aOR 1.34; 1.05-1.71), 93% higher odds of disruption in SNAP access (aOR 1.93; 1.30-2.86), and 86% higher odds of disruption in Medicaid access (aOR 1.86; 1.24-2.78).

Noncost-driven moves were associated with a smaller but measurable increases in odds of disrupted access to any program (Fig 2, aOR 1.14; 1.01–1.28; *P* value comparing aOR to aOR for cost-driven moves = .045). In absolute terms, 21.9% (20.3–23.4) of children with noncost-driven moves experienced program disruptions 2 percentage points higher than the prevalence among children with no moves, but still



### **FIGURE 2**

Adjusted associations between residential moves (cost-driven and noncost-driven) and disruptions in social safety net access among social safety net-eligible children in the Children's HealthWatch Study (N = 9344). \* Adjusted for child and caregiver age, caregiver race/ethnicity, nativity, education, marital status, study site, visit type, and year. \*\* Denotes statistically significant (P < .05) P value for Wald test comparing effect estimates for cost-driven versus noncost-driven moves.

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4 percentage points below the prevalence among children with cost-driven moves. By program, noncost-driven moves (versus no moves) were significantly associated with disruptions in WIC and SNAP (aOR 1.15 [1.00–1.31] and 1.38 [1.10–1.74], respectively), but not with disruptions in Medicaid (aOR 0.96; 0.73–1.27). These point estimates are consistently lower than point estimates measuring associations between cost-driven moves and program disruption, although tests comparing the strength of associations by move type (cost-driven versus noncost-driven) showed that the associations differed significantly for Medicaid (P = .004), but not WIC or SNAP (P = .241 and .113, respectively).

A sensitivity analysis adjusting for household income in the subsample (n = 7250) with nonmissing income data yielded similar results (Supplemental Table 3).

### DISCUSSION

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In this mid Atlantic sample of social safety net-eligible families with young children, children whose families experienced cost-driven residential moves were substantially more likely than children with no past-year moves to have experienced a disruption in social safety net services (WIC, SNAP, and Medicaid). Although noncost-driven moves were also associated with higher odds of service disruption, point estimates for odds of losing access to at least 1 safety net program were significantly attenuated relative to those for cost-driven moves. Results therefore suggest that costdriven moves (versus moving per se) pose a particular challenge to program retention. This finding is concerning, because these programs are designed to protect children's health during times of hardship.

Our findings are consistent with qualitative research suggesting that families may struggle to maintain safety net enrollment after a cost-driven move,<sup>7</sup> as well as quantitative research finding an increased risk of disrupted Medicaid access among evicted patients.<sup>8</sup> We saw variation in the prevalence of disruption, as well as the magnitude of associations, between the 3 social safety net programs. Specifically, disruptions in WIC were more common, but less strongly associated with cost-driven residential moves than SNAP or Medicaid. The finding of greater disruptions is consistent with data showing that WIC participation drops off substantially after infancy (ie, WIC disruption is highly prevalent in general).<sup>18</sup> Further study is needed to understand the reasons underlying differential associations between cost-driven moves and disrupted access to each of the 3 programs.

There are several possible explanations for the identified associations. An address change might mean that caregivers miss communications about recertification or no longer know where to recertify regardless of what motivated a residential move. Stress surrounding a move may hinder caregivers' ability to recertify for social safety net programs, especially acute stress and the urgency of finding new housing in the context of cost-driven moves such as evictions and foreclosures.<sup>19</sup> It is also likely that, in the case of cost-driven moves, the observed association is at least partially driven by the reverse process: Disrupted social safety net access could lead to increased food and medical costs that compete with rent payments, necessitating a residential move. Studies finding that Medicaid expansionreduced eviction rates support this hypothesis,<sup>11</sup> as do findings linking loss of SNAP benefits with reduced housing security.<sup>12</sup> Regardless of the direction of the associations, our results indicate that children experiencing cost-driven moves are more likely to experience social support disruptions; these interconnected deprivations may weigh heavy on the health trajectories of affected children.

Our results point to a need for interventions in clinical practice and social policy. First, child health providers should follow guidelines to screen for housing security,<sup>20</sup> recognizing that families may be at joint risk for disruptions to safety net access. Providers and clinic-based social workers might prioritize outreach to families experiencing cost-driven moves to ensure continuous enrollment in safety net programs and vice versa (ie, prioritize families with lapsed safety net access for referrals to housing assistance). Previous research finds that children coenrolled in housing and food subsidies have the greatest odds of secure housing.<sup>12</sup> On a policy level, social safety net programs should be cognizant of cost-driven moves and housing insecurity in program implementation. Reducing administrative burden,<sup>21</sup> allowing for dual eligibility,<sup>22</sup> or shifting to remote delivery models<sup>23</sup> may facilitate retention among housing-insecure households. To prevent cost-driven moves, policymakers must work to increase the supply of affordable housing and make housing assistance available to all who need it. Because structural racism places Black and Latino households at increased risk of cost-driven moves (in particular, evictions),<sup>15</sup> future interventions ought to prioritize housing assistance and safety net retention in these communities.

Our research has several limitations. First, we could not determine temporality, because this is a cross-sectional study. Although our measure of disrupted Medicaid is specific to the past year, the timing of SNAP and WIC disruptions is more ambiguous: We could only define disruptions as current nonreceipt among children who had received the benefit previously. Longitudinal data are needed to understand the directionality of associations. Second, our approach to measuring social safety net disruptions is imperfect and could misclassify some voluntary or eligibility-related changes in participation as disruptions. For example, qualitative research on WIC demonstrates that eligible families sometimes opt out of the program.<sup>24</sup> Third, we classify evictions and entry into homeless shelters as cost-driven moves given evidence that the vast majority of evictions are because of nonpayment of rent,<sup>25</sup> and housing costs are the leading driver of homelessness in communities.<sup>26</sup> However, some of these moves may have been motivated by hardship unrelated to housing costs. Fourth, although we adjust for multiple covariates to proxy caregivers' resources and bandwidth for navigating health care and social service systems, we lacked data on some potential confounders (eg, recent divorce or separation), and cannot rule out potential residual confounding. Fifth, because recruitment occurred in health care settings, families with access to health care and, by extension, to social services, may be overrepresented. Resulting selection bias may at least partially account for the null association between noncost-driven moves and disrupted Medicaid access. Finally, our data were collected in Maryland and Pennsylvania, 2 states with relatively robust social safety nets. Results may not generalize to states with weaker safety nets, where program access may be more vulnerable to cost-driven moves.

### **CONCLUSIONS**

In this study of social safety net-eligible families with young children, cost-driven moves were associated with disrupted access to WIC, SNAP, and Medicaid. These results merit attention from policymakers, particularly given high levels of financial strain and housing insecurity among low-income families during the COVID-19 pandemic and subsequent period of inflation. Keeping children connected to housing, food, and health care is an urgent priority.

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### **ABBREVIATIONS**

aOR: adjusted odds ratio COVID-19: coronavirus disease 2019 SNAP: Supplemental Nutrition Assistance Program WIC: Special Supplemental Nutrition Program for Women, Infants, and Children

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