

Health, Social, and Economic Outcomes Experienced by Families as a Result of Receiving Assistance from a Community-Based Diaper Bank

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Abstract *Objectives* This paper aims to describe low-income recipients of a community-based diaper bank and the multiple daily challenges they face. Our paper seeks to document the health, social, and financial outcomes recipients experienced after receiving assistance. *Methods* We surveyed families (n=150) about their experiences receiving diapers from a diaper bank in the southeastern United States. Additionally, we conducted short, focused interviews with families (n=15) about outcomes after receiving diapers. *Results* Families experience regularly a range of challenges meeting basic needs. These difficulties include high unmet needs for transportation, food, and nonfood essentials such as personal hygiene items. Families experiencing the greatest difficulty in paying utility or medical bills were significantly more likely to have a high level of diaper need compared to families facing these challenges less often (AORs ranging from 3.40 to 9.39). As a result of receiving diapers, families reported positive health, social, and economic outcomes. Families reported positive changes in parental mood; improved child health and happiness; increased opportunities for childcare, work, and school attendance; and the ability to divert household

finances toward other basic needs, including utilities and medical care. *Conclusions for Practice* The monetary value of the supplemental provision of diapers is a small investment in affected families' economic, social, and health outcomes. The positive effects continue far longer than the diapers provided. We demonstrate the social value of such an operation, and recommend the expansion of federal, state, and local safety net programs to help low-income families secure a steady supply of diapers.

Keywords Diaper need · Diaper bank · Low-income · Infant health · Child health

Significance

What is already known on this subject? Low-income families experience the impact of diaper need when they reduce spending on food and other basic necessities to instead purchase this particular essential. The burdens of diaper need span the physical, emotional, social, and economic domains of an affected family.

What this study adds? This paper describes, for the first time, the benefits to recipients of a community-based diaper bank, and documents the outcomes they experienced as a result of receiving assistance. Providing low-income families with free diapers influences a range of positive social outcomes for these families, such as positive changes in parental mood; improved child health and happiness; and increased opportunities for childcare, work, and school attendance.

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Introduction

When low-income families with young children do not have a sufficient supply of clean diapers, they face difficult decisions about the allocation of household resources. Maternal and child-health practitioners consider families to experience “diaper need” when the purchase of these items would or does result in reduced spending on other basic needs including food, housing, and utilities (Raver et al. 2010). Children wearing diapers require on average 6–12 daily, at a cost of up to \$125 per month (Porter and Steefel 2015; Smith et al. 2013). This expense is not a covered benefit under federal nutrition safety net programs, including the Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (Porter and Steefel 2015). Only one U.S. municipality, San Francisco, California, designates Temporary Assistance for Needy Families (TANF) funds specifically for diapers (City and County of San Francisco 2015).

Nearly half of all children in the United States under the age of 6 years are members of low-income families (Jiang et al. 2015). According to the U.S. Bureau of Labor Statistics, in 2014 the poorest 20% of families spent 13.9% of their household income on diapers (Cashman 2015). Because low-income families often lack access to cost-saving measures available to their middle- and upper-income counterparts, such as purchasing diapers online, in bulk, and at discount clubs, these families often pay a higher cost per diaper (Porter and Steefel 2015). Although some families in higher income brackets opt for cloth diapers to address environmental and cost concerns, low-income families encounter a number of deterrents to using this type, including daycare facilities that refuse to allow them and barriers to using shared laundry facilities (Raver et al. 2010). As a result, families often utilize other mechanisms to cope with diaper need.

Consequences of diaper need impact the physical, emotional, social, and economic domains of a family (Porter and Steefel 2015). Extended time between changings prolongs babies’ and young children’s contact with urine and feces, which can cause urinary tract infections (Sugimura et al. 2009) and dermatological problems (Adalat et al. 2007; Friedlander et al. 2009). The persistence of diaper rash is a source of anxiety for parents (Adalat et al. 2007). Babies and young children experiencing prolonged discomfort in a wet or soiled diaper may become more irritable or fussy, and cry or wake more frequently during the night, further increasing stress and fatigue in parents and caregivers (Porter and Steefel 2015). Deficiency in supply also has a documented association with poor maternal mental health (Smith et al. 2013). A study of urban, low-income mothers found that women with mental health needs were

statistically significantly more likely to experience diaper need than women without mental health needs (Smith et al. 2013).

Aside from these health repercussions, diaper need also affects families’ abilities to fully participate and thrive in society. Daycare facilities generally require parents to supply diapers for the entire time the child is in care, even if the cost of attendance is subsidized (Smith et al. 2013). When families cannot supply the requisite number, parents may stay home from work or school and care for the child at home (Raver et al. 2010).

Other strategies to manage diaper need may result in poor social and emotional outcomes for families. In an attempt to reduce household spending on diapers, parents may attempt toilet training before a child exhibits developmental signs of readiness (Horn et al. 2006; Porter and Steefel 2015). Toilet training before a child is ready is unlikely to prove successful, and places the child at risk of abuse (American Academy of Pediatrics n.d.; Schmitt 2004). Caregivers and children alike may find the toilet training process stressful and laden with power struggles (Stadtler et al. 1999). This additional stress may manifest in children as regression in toilet-training skills, often increasing both the amount of time the child requires diapers and the length of the training period (Stadtler et al. 1999).

Fortunately, some community-based resources exist to address diaper need. A growing number of U.S. communities have diaper banks, which operate using the model of many food banks. A food bank does not intend to provide every meal a person needs, but rather to provide a short-term supply (Shackman et al. 2015). Similarly, diaper banks operate to provide a supplemental supply of diapers to families in need. Community-based organizations, pediatric nurses, and other healthcare providers are well suited to refer families in need to diaper banks (Massengale et al. 2017; Porter and Steefel 2015; Smith et al. 2013).

The more than 320 banks that are members of the National Diaper Bank Network strive to address diaper need (National Diaper Bank Network 2015). Each bank operates differently in terms of how diapers are distributed, to whom, and what items are provided (National Diaper Bank Network 2015). For example, diaper banks may provide disposable and/or cloth diapers, adult incontinence products, diaper-rash cream, and/or baby wipes. Considering that low-income families often have additional needs, diaper banks operate on a model in which they provide items to community-based organizations that are already working with low-income families to address one or more other needs. The community-based organizations, in turn, give the diapers to families they identify in need. In addition to providing diapers, community-based organizations offer a range of services including: housing, parenting education, food, clothing, healthcare, and case management.

The body of peer-reviewed literature about diaper banks and diaper need is minimal (Massengale et al. 2017; Porter and Steefel 2015; Smith et al. 2013). The purpose of this paper is to describe in the literature, for the first time, recipients of a community-based diaper bank and to document the outcomes they experienced as a result of receiving assistance. Specifically, based on a formative evaluation of a community-based diaper bank in the southeastern US, this paper addresses the following research questions: (1) who are the families receiving diapers from the Diaper Bank of North Carolina and what are their needs, including needs for diapers? and (2) what are the health, social, and economic outcomes experienced by families who received assistance from the Diaper Bank of North Carolina? In addressing these questions, we analyzed multiple sources of quantitative and qualitative data.

Methods

Organizational Setting

The Diaper Bank of North Carolina is a 501(c)3 nonprofit organization that currently operates three branches across the state, each working to provide a free, supplemental supply of disposable diapers, diaper-rash cream, and baby wipes to low-income families in need. Each branch distributes diapers to local community-based social services organizations, who in turn distribute the items to the families they serve. At the time of this evaluation, the diaper bank's primary source of support was individual community members, who donated diapers and money to purchase them. The present study took place at the main branch, located in Durham, North Carolina. The size of the supplemental supply provided was generally 25 diapers each time a family received assistance except for families interviewed in December 2016 who received 50 diapers.

Study Design

The present study, a formative evaluation of the Diaper Bank of North Carolina, employed a mixed methods multiphase design (Creswell and Plano Clark 2011). We conducted the study in three consecutive phases, utilizing both quantitative and qualitative research methods to provide a more comprehensive understanding of diaper recipients' experiences than could be achieved by using either quantitative or qualitative methods alone (Creswell and Plano Clark 2011; Johnson et al. 2007). Well suited for evaluation, the multiphase design enabled the second and third phases to be informed by the results of the previous phases (Creswell and Plano Clark 2011). Prior to implementation,

this study was approved by The University of North Carolina at Greensboro Institutional Review Board.

Study Phases

The first study phase, the Planning Phase, involved key informant interviews with staff members from community-based organizations distributing from the Diaper Bank of North Carolina. Analysis of these interviews informed the creation of two independent surveys distributed during the second phase, the Quantitative Evaluation Phase. One survey captured the experiences of staff members from community-based organizations, and the second, those of diaper recipients. Finally, the Qualitative Evaluation Phase concluded with short, focused interviews with recipient families. This paper focuses on the data collected from families during the Quantitative and Qualitative Evaluation Phases. Although prior to this evaluation, the diaper bank maintained records on the number of products provided to each community-based organization, no data had been collected that described recipients' outcomes. Whether, and how, diaper recipients benefited from the donations was unknown. Further, because the community-based organizations were solely responsible for the direct distribution to families, the Diaper Bank of North Carolina lacked prior data about the recipients.

Quantitative Evaluation Phase

Beginning in October 2014, diaper recipients were recruited for study participation at the time they received assistance. Staff members from 10 different community-based organizations delivered 214 diaper bundles to families, each with a recruitment postcard and paper survey. Of these surveys, 84 were returned via U.S. mail, for a response rate of 39%. At two community-based organizations, research staff collected completed surveys directly from participants ($n=66$). In total, $n=150$ diaper recipient families completed surveys. Completed surveys were received from all 12 community-based organizations who distributed diapers. Materials provided to recipients were printed in both Spanish and English. A native Spanish speaker translated the initial survey into Spanish and later translated participants' survey comments. Of the surveys administered, ($n=55$) were completed in Spanish. Survey questions inquired about: frequency and duration of receiving diapers, the location(s) at which assistance was received, the frequency with which families experienced various challenges of daily living, experiences of diaper need and means of addressing this need, any outcomes experienced, satisfaction receiving assistance, and demographic and household characteristics. Preliminary analysis of the survey results informed the creation of a

semi-structured interview guide later used for interviewing families during the Qualitative Evaluation Phase. Diaper recipient survey collection continued until June 2015.

Qualitative Evaluation Phase

In the final study phase, brief face-to-face interviews with diaper recipient families ($n=15$) expanded upon the information collected during the Quantitative Evaluation Phase. Focused interview questions (Merton et al. 1990) explored families' day-to-day lives including daily challenges they faced, need for diapers, experiences receiving assistance, knowledge of other services provided by the diaper bank, any noticeable changes experienced as a result of receiving assistance, and any outcomes attributable to the donated diapers. We initially attempted to recruit families for face-to-face interviews by soliciting contact information at the time of survey completion. However, in many cases the information was no longer current when we attempted to contact families for interviews. For this reason, we instead utilized a convenience sampling method and visited community-based organizations at times when families were receiving services. Interview participants were eligible if they spoke English and had received diapers at least one time prior to the interview date. Interviews took place from December to April 2015 and in December 2016. To enhance participation rates, the interviews were kept intentionally short, mindful of families' concerns about maintaining their places in line to receive services, public transportation schedules, and/or attending to any small children present. We offered each diaper recipient family a new children's book or a gift bag of skin care products in appreciation of their time. Although we conducted each of the interviews in English, the racial identities of the interview participants reflected those of the diaper recipient families in the Quantitative Evaluation Phase.

Quantitative Data Analysis

We summarized characteristics of diaper recipient families including: demographics, household composition, employment status, and safety net program eligibility using descriptive statistics. Next, we evaluated families' experiences of diaper need and strategies for coping by using descriptive statistics. Then, we assessed the relationships between diaper need and challenges of daily living using logistic regression, controlling for demographic characteristics found to be statistically significant during bivariate analysis. We reported the results of logistic regression analyses as adjusted odds ratios. Last, using descriptive statistics we assessed outcomes experienced as a result of receiving diapers. All quantitative data were analyzed using SPSS version 23 (IBM Corp. 2015).

Qualitative Data Analysis

After creating a codebook of themes, two researchers independently coded the transcripts from the brief face-to-face interviews for themes (Creswell 2013). The two researchers then compared analyses to discuss any coding that differed, reaching mutual consensus on all themes.

Measures

Demographics

The evaluation assessed demographic characteristics of diaper recipient families, including race and ethnicity, household composition, employment status, and qualification for federal and state safety net programs to better understand families' identities and to make comparisons with the local population. Diaper recipient families were provided with a list of racial and ethnic identities and asked to check all with which they identified. Space provided also captured additional written responses.

Diaper Need

Families' responses to the question, "how often have you needed diapers for your child or children but you did not have them?" measured experiences of diaper need. High diaper need was defined as not having them daily, either a few times per month or once per month. Low need was defined as lacking sufficient diapers a few times per year or never.

Challenges of Daily Living

We assessed challenges to meeting basic needs to determine any patterns among families experiencing diaper need. For each of ten challenges listed, families were asked to indicate the frequency (*daily, a few times a month, once a month, a few times a year, once a year, or never*) with which they may have experienced the situation. For each challenge, high need was defined as having experienced the challenge daily, a few times a month, or once a month. Low need was defined as having experienced the challenge a few times a year, once a year, or never.

Outcomes

We assessed positive benefits experienced as a result of receiving diapers to determine any outcomes families attributed to the donated diapers. Potential outcomes, as identified during the Planning Phase, were listed on the survey distributed during the Quantitative Evaluation Phase,

along with space to record additional outcomes. Recipients were asked to specify which, if any, of the outcomes they had experienced. In addition, recipients indicated the degree to which “receiving diapers from the Diaper Bank of North Carolina helped your household?” by specifying “it has not helped us,” “it has helped us a little,” or “it has helped us a lot.”

Results

Characteristics of Diaper Recipient Families

Demographics

Most diaper recipient survey respondents were female (90% female, 9% male, 1% agender). The average age was 29.5 years (range 18–62). Among this racially and ethnically diverse sample, families identified as Black or African American (42%), Hispanic or Latino (41%), White (9%), Asian (3%), American Indian or Alaska Native (1%), and of two or more races (4%). More than one-third of participants completed the survey in Spanish (37%), the remainder in English (63%). Further, 80% of Latino respondents preferred communicating in Spanish. According to census data, 53% of residents in the local community identified as Non-Hispanic White and 19% spoke a language other than English at home (United States Department of Commerce 2015). Compared against these data, a greater percentage of diaper recipient families self-identified with a racial or ethnic minority group or spoke a language at home other than English.

Household Composition

Household composition varied widely among recipients. Families ranged in both number of adults (range 1–9) and children (range 1–9) living in the home. One-third of households were headed by a single parent; most single parents were female (93%). A quarter of households had more than two adults living in the home. Some families had one child (21%) while others had 2 (31%), 3 (22%), or more than three children (26%). Two-thirds of households had only one child wearing diapers, while a third of families provided diapers for two or more children.

Employment Status and Safety Net Programs

The majority of households (75%) contained at least one working adult. In addition, 54% of families had an adult currently seeking employment. Of families seasonally employed (9%), the season(s) of employment varied: spring (44%), summer (63%), fall (13%), and winter

(35%). Families reported qualification for a number of traditional safety net programs, including: WIC (94%), SNAP (78%), Medicaid (94%), unemployment benefits (7%), and the state-funded North Carolina Subsidized Childcare Program (45%).

Diaper Need

Families experienced varying degrees of diaper need. Low diaper need, experienced by 40% of families, was defined as needing diapers but lacking them, at most, a few times per year. High diaper need, defined as needing but not having them on a daily, weekly, or monthly basis, was experienced by 60% of families. As a result of diaper need, families encountered a range of health, economic, and social consequences and employed a variety of strategies to cope (see Table 1). Diaper need contributed not only to parental stress, but also to children’s stress as one mother described her daughter, “She knows when she’s wet or when she poops, so she’s like, ‘get this off of me.’” For other families, a child’s medical condition exacerbated diaper need: “There has been times when she’s been very ill and I mean, she was going through a diaper every 15 min because she had such chronic diarrhea.”

Table 1 Consequences experienced and strategies employed by families as a result of diaper need

Consequence	Diaper recipients experienced (N = 136) n (%)
Asked a family member for money/diapers	60 (45%)
Asked a friend for money/diapers	58 (43%)
Child wore a diaper longer than usual	38 (28%)
Used a cloth or a towel instead of a diaper	32 (24%)
Used a diaper that was too big	28 (21%)
Used a diaper that was too small	29 (21%)
Asked a neighbor for money/diapers	27 (20%)
Child got a rash	21 (15%)
Child was unhappy	20 (15%)
Child did not wear a diaper	16 (12%)
Child could not go to childcare	11 (8%)
Adult had to miss work or school	9 (7%)
Cleaned and reused a soiled diaper	4 (3%)
Used a plastic bag instead of a diaper	2 (2%)

Participants were presented with a list of potential consequences and asked to specify which they had experienced. Participants could indicate multiple consequences; therefore, percentages exceed 100%.

Low-Income Status

During interviews with recipient families, some families related that their economic situations fluctuated. One mother described,

We are not always in low-income status. For example, I got fired from my full-time job when I was pregnant with the twins. And he got fired from his full-time job right before the twins were born. So, it's been that, and then I finally found a job and he's at home with the twins when I'm at work, but then our van just broke down. So, there's only one income, I'm on the bus, and then we have a teen and a tween and then there are their after-school things and no vehicle and he's at home with the twins.

Another mother explained, “Some weeks we may make more money than we do other weeks and so that may affect us with getting diapers, wipes, or anything for our children.”

Challenges of Daily Living

In the past year, diaper recipient families struggled with food insecurity, transportation, housing, affordable child-care, unemployment, neighborhood violence, paying utility and medical bills, meeting educational goals, and purchasing nonfood basic necessities such as soap and toilet paper (see Table 2). Logistic regression evaluated associations between high and low diaper need and high and low challenges of daily living. We assessed the bivariate relationship between demographic characteristics and diaper need. The only variables significant at $p < 0.10$ were the number of adults in the household (one adult versus more than one adult in the household, $p = 0.005$), and racial or ethnic identity (Black or African American versus Latino, $p = 0.093$). Thus, these covariates were included in all logistic regression analyses. Families experiencing high unmet needs for transportation, food, and nonfood essentials such as soap and toilet paper, or who had the highest difficulty paying utility or medical bills, were significantly associated with a high level of diaper need compared to families who experienced these challenges less often (AORs ranging from 3.40 to 9.39).

Outcomes of Receiving Diapers

As a result of receiving diapers, families experienced a range of positive outcomes (see Table 3). While 30% of families indicated it helped “a little,” 68% indicated it had “helped us a lot.” At the time of this evaluation, 56% of recipient families had received a supplemental supply of diapers five or fewer times. Most families (71%) received

them once a month or every few months. This benefit reduced the likelihood that families needed to ask others for diapers or for money to purchase them. One family described, “It's helped us make it through. Instead of us having to ask somebody else to help us, we've been able to carry forward on our own.”

The most frequently cited outcome was an increase in caregivers' happiness. During face-to-face interviews, families described the source of this happiness as a reduction in their stress. One mother said of the day she first received diapers, “It's less stressful. I don't have to worry about, ‘oh, I have to go get this for my baby.’” Another mother related, “I would say the main difference is in the stress. I feel less stress when I know for a fact that there are diapers on the shelf as opposed to, we have all of this going on and we're out of diapers, too.” The reduction in parental stress affected how parents and caregivers interacted with their children. One mother noted, “I think being happier and not stressed out, it's contagious so everyone is happier.”

Discussion

The statistically significant associations we found between high diaper need and families' high unmet needs for transportation, food, and nonfood essentials, and with their difficulty paying utility bills, demonstrate that families who struggle to meet the basic need of diapers also struggle to provide other basic needs. This finding affirms the operational model of the Diaper Bank of North Carolina in providing diapers to community-based organizations to then distribute to their clients, ensuring diaper recipient families are connected to other organizations that can work with families to meet some of their other basic needs and/or help families work toward meeting other short-term or long-term goals related to housing, employment, education, or financial stability.

The quantity of the supplemental supply of diapers provided to families on average, once a month or less often, was enough to last only 2 or 3 days. That more than two-thirds of families described the effect as helping “a lot,” coupled with the fact that most families had received diapers five or fewer times, indicates that families are not reliant upon the service for meeting all of their children's diaper needs. Diaper banks provide a stopgap solution for families experiencing a temporary need; families do not expect to receive every diaper required until their children outgrow the need.

In the absence of tangible government-funded support for diapers (Porter and Steefel 2015), diaper banks provide an informal, community-based safety net for families with young children. The monetary value of the supplemental supply of diapers is a small investment in the economic,

Table 2 Associations between challenges of daily living and primary outcome: high diaper need (frequencies and adjusted odds ratios)

Other family-reported needs	Family diaper need			AOR	95% CI
	Low diaper need n (%)	High diaper need n (%)	Total n (%)		
Transportation need				3.91	(1.62–9.43)
High	16 (34%)	46 (65%)	62 (53%)		
Low	31 (66%)	25 (35%)	56 (47%)		
Food need				4.21	(1.49–11.91)
High	10 (21%)	32 (46%)	42 (36%)		
Low	38 (79%)	38 (54%)	76 (64%)		
Nonfood basic essentials need				4.47	(1.75–11.42)
High	14 (29%)	44 (61%)	58 (48%)		
Low	35 (71%)	28 (39%)	63 (52%)		
Employment need				1.87	(0.78–4.46)
High	18 (39%)	34 (49%)	52 (45%)		
Low	28 (61%)	36 (51%)	64 (55%)		
Housing need				9.39	(2.00–44.09)
High	4 (9%)	23 (35%)	27 (25%)		
Low	39 (91%)	43 (65%)	82 (75%)		
Childcare need				2.22	(0.84–5.91)
High	10 (23%)	27 (40%)	37 (33%)		
Low	34 (77%)	40 (60%)	74 (67%)		
Meeting educational goals need (self)				3.40	(1.18–9.79)
High	8 (18%)	30 (44%)	38 (34%)		
Low	36 (82%)	38 (56%)	74 (66%)		
Neighborhood violence				1.16	(0.37–3.62)
High	6 (14%)	17 (27%)	23 (22%)		
Low	38 (86%)	45 (73%)	83 (78%)		
Paying utility bills need				5.28	(1.72–16.20)
High	5 (11%)	31 (44%)	36 (31%)		
Low	40 (89%)	40 (56%)	80 (69%)		
Paying medical bills need				3.73	(1.17–11.83)
High	5 (11%)	19 (28%)	24 (22%)		
Low	39 (89%)	48 (72%)	87 (78%)		

(1) N = (range 106–121). (2) Each family-reported need was assessed in a separate regression model, because these predictors are correlated. Sample sizes varied due to missing data (N=106–121). (3) Frequencies show the percentage of families with high or low diaper need, for each type of “other need” exposure. That is, for example, 65% of families who reported high transportation needs also reported high diaper need, compared with 35% of families who reported low transportation needs and high diaper need. (4) Adjusted odds ratios (results of logistic regression) adjust for race/ethnicity and the number of adults in the household. (5) Significant results are indicated in bold

social, and health outcomes achieved by meeting this non-food basic need. Low-income families are less likely than families with more income to have access to paid employment leave (Clemans-Cope et al. 2008), presenting challenges of potential income loss when children are sick from diaper rash or do not have enough diapers to attend childcare. For families wavering between low-income status and a greater degree of financial stability, diaper banks are equipped to make a meaningful impact on their financial statuses. The diapers helped bridge a gap in families’ diaper supplies, positively impacting household finances

by ensuring children can attend childcare so that parents do not have to miss work or school to stay home with their children. This allows families to allocate more funds toward other basic needs, and/or make payments on utility and medical bills.

Aside from the ability to direct money toward health-care costs, the health benefits from diaper provision span both mental and physical health. Parents’ specification that receiving diapers improved their children’s health and happiness may be an indication of a reduction in diaper rash incidence or a marker of decreased fussiness from wearing

Table 3 Health, economic, and social outcomes experienced by families as a result of receiving assistance from a community-based diaper bank

Outcome	Diaper recipients experienced (N = 137) n (%)
I felt happier	85 (62%)
I could spend more money on things I needed like food	84 (61%)
Child felt happier	59 (43%)
Child was healthier	38 (28%)
I could pay a nonmedical bill, such as a utility bill	37 (27%)
Child could go to childcare/preschool/daycare	25 (18%)
An adult in my household could go to work or school	21 (15%)
I could pay a medical bill	7 (5%)

Participants were presented with a list of potential outcomes and asked to specify which they experienced. As participants could indicate multiple outcomes, percentages exceed 100%

a soiled diaper in the absence of a clean one. Our finding that parents noticed an increase in their own happiness and described a reduction in stress as a result of receiving assistance supports the finding of Smith et al. (2013) that diaper need is linked to poorer maternal mental health. The reduction in stress that families experienced upon receiving diapers has a ripple effect on children's mood and happiness and positively affects the interactions between parents and caregivers and their children. Reducing the time families spend addressing diaper need allows families to enjoy more time together in which adults can focus attention solely on their children. In addition to these positive impacts on familial relationships, families also reported a range of benefits to other social relationships.

Receipt of diapers from the diaper bank allowed families to experience a number of social benefits, including reduced strain on social and familial relationships that may have occurred when families asked others for diapers or money to buy them, the most commonly reported strategy for coping with diaper need. Receiving diapers also allowed parents and caregivers to serve as productive members of society by attending work, and it contributed toward the accomplishment of educational goals by playing a role in parents' school attendance. Social outcomes experienced as a result of receiving diapers may lead to additional reciprocal health benefits for household members in the present (Mulatu and Schooler 2002), and in adulthood for diaper recipient children (Palloni et al. 2009).

Household income affects the well-being of all family members, because it influences access to healthcare and resources for prevention, health maintenance, and treatment (Pickett and Wilkinson 2015). Household income is a key social determinant of health—one of the conditions people are exposed to across their lifetimes in their homes, communities, and workplaces that explain differences in health outcomes (CDC 2016; Healthy People 2020 2017; WHO 2017). Addressing the social determinants of health

to improve equity in health outcomes is one of the United States' major long-term health goals (Healthy People 2020 2017), and healthcare providers may play a role in this. The first step is for providers to ask appropriate questions related to their patients' social determinants, including household income or diaper need. Although healthcare providers recognize the importance of asking patients about their social determinants of health, few have received adequate training in conducting such screening, and then linking patients to appropriate resources in response (Naz et al. 2016). In addition, screening tools designed to guide health-care providers to ask about social determinants of health fail to screen for access to nonfood essentials, including diapers (Chung et al. 2016). Maternal and child health practitioners are encouraged to respond to families' risk for diaper need and any challenges accessing other nonfood basic needs by making referrals to local resources. Considering that not all families experiencing diaper need live in communities containing diaper banks, policies amended and created to address diaper need would maximize the number of families able to experience the aforementioned financial, health, and social benefits.

Expanding existing and creating new federal and state policy safety net programs would provide low-income families with additional benefits, specifically for diapers, and positively impact families in need. As previously mentioned, WIC and SNAP benefits are designated to address families' nutritional needs and do not provide nonfood benefits. Although nearly all of the diaper recipient families in our sample were eligible for WIC benefits, an expansion of United States Department of Agriculture policy programs to include nonfood hygiene items such as diapers would run counter to the goals of this funding stream. However, targeting WIC eligible families via another policy program, such as TANF or the Public Health Act, would provide a mechanism for federal funding to address diaper need. Efforts in 2016 to amend Article IV of the Social Security

Act to address diaper need failed to garner bipartisan support (Impulse 2016). In the absence of a federal commitment to addressing diaper need, states and municipalities could choose to address the issue with measures such as the designation of TANF block grants to provide diapers (City and County of San Francisco 2015) and/or the repeal of sales tax on diapers (Weir 2014). Our study suggests that policies implemented to address diaper need would prove an investment in the health, societal participation, and economic outlooks of low-income families.

Limitations

To our knowledge, our study represents the first peer-reviewed publication documenting the experiences of diaper bank recipients. We explored characteristics of recipients accessing one specific diaper bank. Thus, the household characteristics documented may not reflect diaper bank recipients in other communities. Similarly, the outcomes documented are specific to the contexts of the families in our study. Diaper bank recipients in other communities may experience a different subset of outcomes unique to their own lives.

Future Directions

Although the mixed-methods design of our study allowed us to explore the characteristics and experiences of diaper bank recipients using multiple sources of data (Creswell and Plano Clark 2011), questions remain about the role(s) of diaper banks in mitigating some aspects of child poverty. Areas for future investigation include: the study of the outcomes experienced by the community-based organizations distributing diapers on behalf of diaper banks, experiences of diaper need among special populations, and innovative methods of distributing diapers to hard-to-reach populations.

Conclusion

Diapers provide a large return on investment when considering the long-term impact on families' health, economic outlook, emotional wellness, and abilities to participate in the workforce. Healthcare and public health practitioners are encouraged to assess families' experiences of, or risk for, diaper need and then to make referrals to local diaper banks. Increased support from federal, state, and local policy makers would equip community-based diaper banks to allow additional low-income families with young children to experience the numerous benefits of receiving a supplemental diaper supply. Expanding federal policies such as the Public Health Act to address diaper need, designating

TANF block grants to advance the work of diaper banks, and repealing state and municipal sales taxes on diapers stand to benefit both low-income families struggling to meet the basic need of diapers and society at large.

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