ROOT CAUSES OF OVERWEIGHT AND OBESITY:

Community-Driven Solutions to Address Racial and Ethnic Disparities in Rhode Island

Health care only accounts for 10-20% of an individual's overall health outcomes and is just one of the **social determinants of health**, which is defined as the conditions and environments where people are born, live, learn, work, and play that greatly impact health outcomes.[1] These social determinants of health, including economic stability, education access, neighborhood and the built environment, and social context account for over 80% of health outcomes.[2] Most of these factors that impact healthy living are out of the individual's control and are related to a child's socioeconomic status and the availability of healthy food and safe play areas in their community.[3,4] These structural factors or root causes are important to understanding and addressing healthy weight and healthy living in childhood.[5]

- **Food Access/Food Insecurity and Nutrition** (affordability, food deserts, cultural competence)
- **Built Environment** (green space, access to transportation, walkability of neighborhood, air pollution, noise pollution, safety)
- **Poverty/Socioeconomic Stress Factors and Barriers** (depression, anxiety, trauma, lack of sleep)
- **Weight-stigma and Discrimination** (bullying and marginalization, inaccessibility of environment)

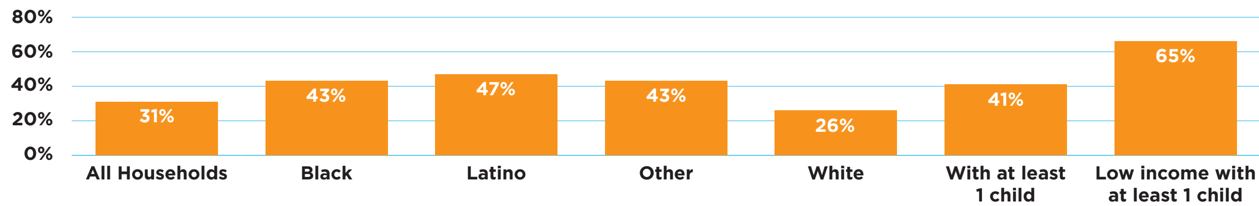
COMMUNITY CONVERSATIONS

Over the past six months, Rhode Island KIDS COUNT partnered with trusted community organizations to gather input on the root causes of childhood overweight and obesity in Central Falls, Pawtucket, and Providence. A Community Advisory Committee was established and made up of **Health Equity Zones** -- place-based, community- driven initiatives focused on improving conditions that result in health disparities -- and other community partners.[6] This group met monthly and helped plan community conversations with residents. We held an in-person community conversation at Progreso Latino to gather input from Central Falls and Pawtucket parents and a virtual conversation to gather input from Providence youth and parents. Spanish interpretation was provided. These conversations allowed us to better understand the barriers families face and the community's own recommendations for removing them. Quotes from these sessions are highlighted throughout this report.

ROOT CAUSE: FOOD ACCESS

Access to nutritious food is an important determinant of children's healthy eating and living.[7,8] The U.S Department of Agriculture defines **food insecurity** as not always having enough food for an active, healthy life.[9] Food insecurity in childhood can lead to disruptions in eating patterns and habits that can contribute to poorer long-term health outcomes.[10,11]

FOOD INSECURITY IN RHODE ISLAND BY HOUSEHOLD CHARACTERISTICS, 2022



Source: Blue Cross & Blue Shield of Rhode Island and Brown University School of Public Health, Rhode Island Life Index, 2022.

Households of Color, low-income households, and households with children in Rhode Island were more likely to report being food insecure in 2022.[12]

Families who experience food insecurity have less access to nutritious, high-quality foods because of barriers including the high cost of healthy foods and the distance to stores that sell fresh foods. Low-income communities frequently lack full-service grocery stores and farmers' markets, so families may be limited to shopping at convenience stores where fresh produce and other healthy foods are limited, if available at all.[13] These families may have difficulty finding healthy food choices to support their children's diets. Resources such as food banks and food pantries can help support families experiencing food insecurity, especially if they offer culturally relevant healthy food options.[14]

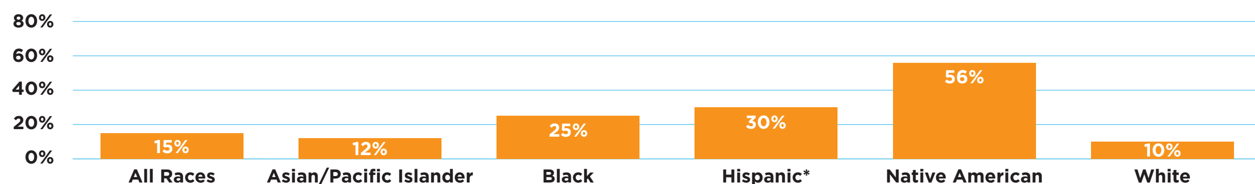
"For people that go to food pantries there aren't that many options... It's a lot of canned foods. It's difficult to get fresh food from a food pantry."
- Providence Parent

"Not all students qualify for school lunch... so students would rather go to the corner store and get chips and soda for a dollar or two."
- Providence Teacher

ROOT CAUSE: POVERTY AND SOCIOECONOMIC STRESS

Children who live in poverty, especially those who experience deep poverty in early childhood, are more likely to have health, behavioral, educational, economic, and social problems and often lack access to healthy foods and recreational opportunities.[15]

CHILDREN IN POVERTY, BY RACE AND ETHNICITY, RHODE ISLAND, 2017-2021



Source: U.S. Census Bureau, American Community Survey, 2017-2021. Tables B17020, B17020A, B17020B, B17020C, B17020D, B17020E, B17020F, B17020G and B17020I. *Hispanic children may be included in any race category.

Between 2017 and 2021, 15% of all Rhode Island children lived in poverty, 76% of whom were Children of Color.[16] In 2020, more than half (59%) of Rhode Island's Children of Color lived in one of the **four core cities** (Central Falls, Pawtucket, Providence, and Woonsocket, the cities with the highest child poverty rates), and more than three quarters of the children in Central Falls (90%) and Providence (85%) were Children of Color.[17]

"Full-time working parents don't have the time, running kids to school, working, coming home and sometimes parents don't think of the best options because of time, stress, issues that might be happening in their personal life."
- Providence Parent

"It was very shocking that the resources to keep children physically active here are very limited and inaccessible. In the Dominican Republic, there was swimming and it was affordable, but it's shocking how expensive it is here." - Central Falls Parent

ROOT CAUSE: THE BUILT ENVIRONMENT

There are disparities in the resources available in different Rhode Island communities and neighborhoods. Each of these factors in a family's environment can impact their health and well-being. The inequities in these factors (green space, air pollution, noise pollution, and safety) stem from historical policies and racism (e.g., redlining and urban planning policies) that have marginalized Black, Latino, Native American, and People of Color.[18,19]

- Low-income communities and Communities of Color are less likely to have access to **green space** to play in and this makes it difficult for children and families to be physically active. When there are green spaces in these communities, they are often of poorer quality and offer fewer amenities and opportunities for safe play than neighborhoods in higher-income communities. The **walkability** and **safety** of a neighborhood are important factors that affect a child's ability to be physically active and healthy.[20,21]
- **Air pollution** (poor air quality) and **noise pollution** (unwanted or disturbing sound) are both key determinants of a built environment and limit access and opportunity for healthy habits and living conditions. Problems related to noise include stress-related illnesses, high blood pressure, hearing loss, sleep disruption, and lost productivity. The communities in Providence with the highest levels of noise are low-income communities and Communities of Color.[22,23,24]

"If you are in a place where there is no backyards, I personally wouldn't send my kids outside to play knowing there's no safe area to play and maybe taking them to the park is not accessible to me." - Providence Parent

"I'm not okay with them walking on the sidewalk because it's very busy and it's not safe. The environment for them to be physically active is not there."
- Central Falls Parent

ROOT CAUSE: WEIGHT-STIGMA AND WEIGHT STATUS

Childhood overweight and obesity can put children at risk of poor long- and short-term health problems, However, not all children who are overweight or obese have health problems, and can be healthy.[25]

Children who are overweight or obese may experience prejudice, bullying, and **weight-based discrimination and stigma** from society based on their weight that can impact their school performance, quality of life, health care access, and mental health and well-being. Many in educational, workplace, health care, and community settings, perpetuate weight-based stigma rather than recognizing the complex root causes of overweight and obesity and the social determinants that are beyond an individual's control.[26,27]

"Physical appearance also impacts how children participate in activities in schools, being made fun of, or bullied impacts if they do sports." - Providence Parent

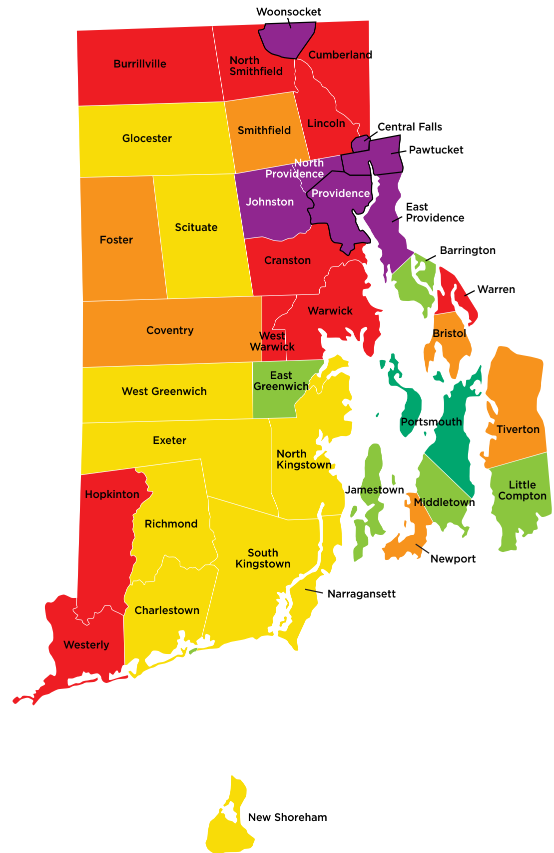
LIMITATIONS OF BODY MASS INDEX (BMI) AS A MEASURE OF CHILDREN'S HEALTH

The CDC defines obesity as an abnormal or excessive fat accumulation. Body Mass Index (BMI) is one of the proxy measures used to estimate body fat because it is a low cost, simple, measure, that is widely available. **Although it is currently the most widely used and accepted measure of population-level obesity and risk for adverse outcomes, it has limitations that contribute to misconceptions, biases, and inequities about weight and healthy living**.[28] The BMI measure does not factor in a person's gender, sex, race, or ethnicity, which affects one's weight and fat composition, and was created with measures on only white male adults.[29,30]

Reporting and interpreting data on weight (like the BMI data presented in this brief) should be done within the context of population-level data that measure the underlying root causes of children's health outcomes and well-being (e.g., food insecurity, child poverty, social determinants of health) in order to better understand how and why children are overweight and how to support the health of all children and youth no matter where they live or the size of their body.

PREVALENCE OF OVERWEIGHT AND OBESITY IN RHODE ISLAND CHILDREN AGES 2 TO 17, 2021

	Core Cities	Remainder of State	Rhode Island
OVERWEIGHT	18%	15%	16%
OBESE	32%	19%	23%
COMBINED	49%	34%	39%



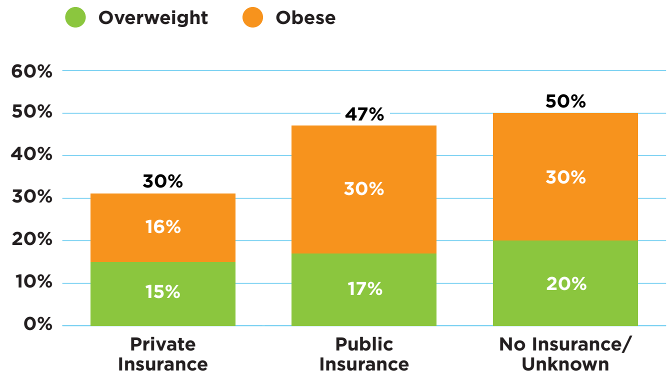
Legend
PERCENT OVERWEIGHT AND OBESE COMBINED
- 15%-20%
- 21%-25%
- 26%-30%
- 31%-35%
- 36%-40%
- 41%+
- Core City

Notes: Core cities are Central Falls, Pawtucket, Providence, and Woonsocket.

Source: Brown University School of Public Health analysis of BMI clinical and billing records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross & Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, United Healthcare, and Tufts Health Plan collected by the Department of Health, 2021.

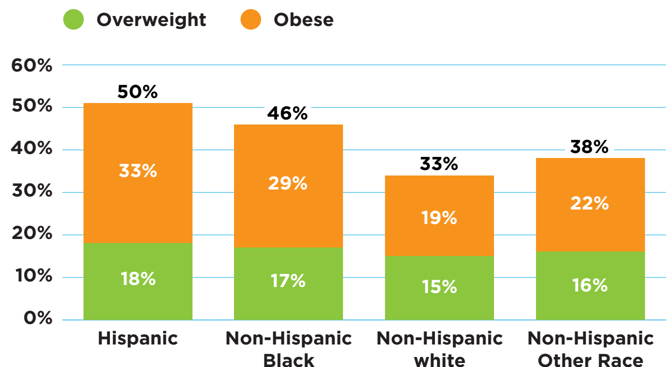
INSURANCE STATUS

Half (50%) of Rhode Island children with no insurance/unknown insurance status are overweight or obese, compared to 47% of children with public insurance and 30% of children with private insurance. Nationally, children living in poverty, Black and Hispanic children, foreign-born, and non-citizen children are most likely to be uninsured, and most children receiving public insurance are in low-income families.[31]



RACE AND ETHNICITY

In Rhode Island, Hispanic (50%) and Black (46%) children are more likely to be overweight or obese compared to white (33%) children.



Source: Brown University School of Public Health analysis of 2021 BMI clinical and billing records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, United Healthcare, and Tufts Health Plan collected by the Department of Health. Some percentages may not total or add to 100% due to rounding.

PREVALENCE OF COMBINED OVERWEIGHT AND OBESITY IN RHODE ISLAND CHILDREN AGES 2-17, 2016-2021

CITY/TOWN	2016	2018	2019	2020	2021	CHANGE FROM 2019-2021
Barrington	20%	20%	22%	22%	24%	N/S
Bristol	33%	23%	29%	33%	33%	▲
Burrillville	32%	32%	33%	36%	39%	▲
Central Falls	48%	51%	50%	52%	53%	▲
Charlestown	36%	24%	23%	29%	30%	▲
Coventry	27%	25%	25%	28%	31%	▲
Cranston	33%	28%	30%	35%	38%	▲
Cumberland	30%	31%	31%	35%	37%	▲
East Greenwich	22%	18%	20%	21%	21%	N/S
East Providence	36%	34%	34%	38%	42%	▲
Exeter	22%	20%	20%	23%	29%	▲
Foster	28%	23%	28%	30%	31%	N/S
Glocester	25%	23%	25%	31%	30%	N/S
Hopkinton	29%	22%	28%	32%	36%	▲
Jamestown	25%	16%	18%	21%	21%	N/S
Johnston	35%	31%	33%	39%	41%	▲
Lincoln	32%	30%	32%	35%	37%	▲
Little Compton	57%	19%^	24%	24%	25%	N/S
Middletown	37%	24%	21%	26%	25%	N/S
Narragansett	35%	28%	29%	27%	30%	N/S
New Shoreham	*	20%^	26%^	39%	27%	N/S
Newport	36%	27%	25%	34%	34%	▲
North Kingstown	21%	20%	20%	24%	26%	▲
North Providence	35%	36%	36%	43%	43%	▲
North Smithfield	29%	30%	31%	32%	37%	▲
Pawtucket	42%	42%	39%	43%	47%	▲
Portsmouth	33%	18%	16%	19%	18%	N/S
Providence	43%	32%	33%	36%	50%	▲
Richmond	30%	22%	26%	26%	27%	N/S
Scituate	25%	22%	24%	29%	29%	▲
Smithfield	24%	24%	25%	29%	31%	▲
South Kingstown	34%	27%	23%	27%	28%	▲
Tiverton	34%	24%	26%	33%	33%	▲
Warren	35%	32%	30%	37%	37%	▲
Warwick	30%	29%	30%	34%	37%	▲
West Greenwich	28%	24%	22%	26%	28%	▲
West Warwick	34%	30%	32%	36%	39%	▲
Westerly	28%	29%	27%	32%	40%	▲
Woonsocket	39%	41%	41%	48%	50%	▲
Core Cities	**43%**	**36%**	**37%**	**40%**	**49%**	▲
Remainder of State	**31%**	**27%**	**28%**	**32%**	**34%**	▲
Rhode Island	**35%**	**30%**	**31%**	**35%**	**39%**	▲

Source: **2016 and 2018 data:** Brown University School of Public Health analysis of BMI clinical and billing records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, United Healthcare collected by the Department of Health
2019-2021 data: Brown University School of Public Health analysis of BMI clinical and biling records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, United Healthcare, and Tufts Health Plan collected by the Department of Health.

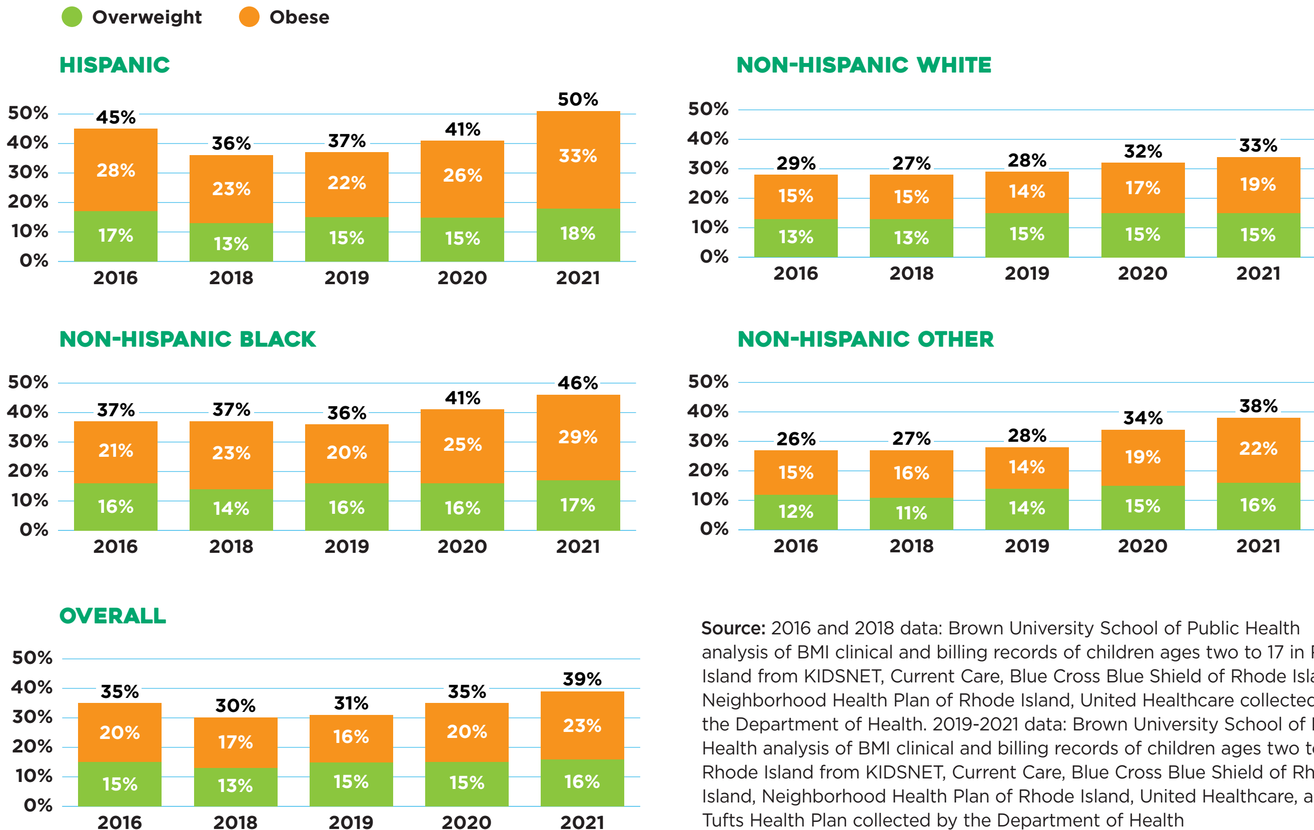
^The data are statistically unstable and the rates or percentages should be interpreted with caution
* The data are statistically unreliable and rates are not reported
▲ Statistically significant trend

IMPACT OF COVID-19 ON FAMILIES

As expected, data show that there has been a national increase in childhood overweight and obesity since the onset of the COVID-19 pandemic in 2020. Rhode Island children also saw an increase in overweight and obesity, halting the progress the state made on decreasing childhood overweight and obesity pre-pandemic.[32,33]

Some reasons the COVID-19 pandemic may have impacted childhood overweight and obesity are school closures, remote and hybrid learning, and limited access to school and recreational sports. The pandemic also highlighted the importance of addressing the systemic factors that contribute to childhood obesity, like access to healthy foods, safe environments, and chronic stress.[34,35]

TRENDS IN CHILDHOOD OVERWEIGHT AND OBESITY BY RACE AND ETHNICITY, 2016-2021



Source: 2016 and 2018 data: Brown University School of Public Health analysis of BMI clinical and billing records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, United Healthcare collected by the Department of Health. 2019-2021 data: Brown University School of Public Health analysis of BMI clinical and billing records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, United Healthcare, and Tufts Health Plan collected by the Department of Health

Since the onset of the COVID-19 pandemic, obesity rates for Black, Hispanic, other/multiple race, and white children have all increased. However, there are notable differences in overweight and obesity rates by race and ethnicity, with Black and Hispanic children continuing to have higher rates of overweight and obesity, and since the COVID-19 pandemic the disparities have widened.[36]

Low-income families and Families of Color were hit hardest by the COVID-19 pandemic and by the resulting economic crisis, and Children of Color were more likely to attend schools that were doing fully remote learning or to miss school due to COVID-19 or fears of exposure by their families, limiting access to healthy meals and opportunities for exercise at school. These factors are likely among the reasons why disparities widened.[37]

SPOTLIGHT: PARTICIPATORY BUDGETING

Participatory Budgeting is a process that allows community members to decide how to spend part of a public budget. Community members submit and develop ideas into project proposals. The project proposals are then voted on by the whole community, and the selected projects get implemented.

Currently, participatory budgeting is being used by the Pawtucket/Central Falls HEZ and the Central Providence HEZ to improve the health and well-being of their neighborhoods.

RECOMMENDATIONS

- **Work with Communities of Color** to identify needs that are rooted in and exacerbated by systemic racism and develop community-driven, racially aware solutions.
- Increase the **accessibility of food banks and the quality and variety of food offered** (culturally competent, nutritious, expand hours and capacity).

"Thinking about newly immigrated families, kids can't have the foods they are used to the culturally specific food that they are accustomed to eating, so the food is going to waste." - Central Falls Parent

- **Provide access to free healthy school meals** to all Rhode Island children.
- **Improve the quality of school meals. Provide opportunities for students to work with school vendors** to sample and vote on healthy foods they would like to be included in school meal menus.

"Most food banks are during the day. Maybe if they had a couple at nighttime because parents are working during the day and so they may not have access." - Providence Parent

- **Support partnerships between food pantries, farmers markets, community health workers, and schools** to better support the nutrition needs of children with chronic or special needs.
- **Promote collaboration between schools and parents** to educate children on physical activity and nutrition.
- **Improve the built environment in low-income communities** by enacting intentional policies and providing urban planning resources that are equitable and mitigate the history of harm.
- Provide more **accessible, affordable, and safe recreation spaces** for children and families.
- **Expand grant programs** that could provide additional free or low-cost recreation activities for children and youth.
- **Promote community collaborations** (libraries, churches) to provide more engaging physical activity opportunities for children.
- **Provide education and financial support to parents** so they have the tools they need to provide nutritious foods for their children.
- **Provide opportunities for parents to get more involved** in advocacy opportunities.

"You look at the YMCA. You have to be a member just to have access to the pool. Your only option is to go to Slater Park. It's exclusive not inclusive. You gotta pay. Creating a space where families can go for free -- where kids can go and have space to play and be. Invest in some of the vacant building lots where kids can go."
- Pawtucket Parent

"Kids are stuck in the house all day and it is contributing to mental health outcomes. Maybe we need transportation in a centralized area so that they have just have a couple of hours out of the house."
-Pawtucket Parent

- **Improve the RI Works Program and increase Rhode Island's Earned Income Tax Credit (EITC)** to help Black, Latino, Asian, and Native American families meet their basic needs and move out of poverty.
- **Acknowledge and dismantle weight-based stigma and discrimination** by creating weight-inclusive policies, protections, and spaces.

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The Data Project: Clinical data is difficult to obtain for policy planning, population health, or programmatic purposes. While height, weight, and calculated BMI are some of the most frequently collected information at pediatric visits, there are very few national or state-level data sets that capture this clinical data. Most national and state-level data on childhood obesity come from self-reported survey data which can differ from clinical data. From 2016-2023 Rhode Island KIDS COUNT, the Rhode Island Department of Health's Center for Health Data and Analysis, Brown University School of Public Health, and four health insurance plans collaborated on a project to collect accurate childhood overweight and obesity data at the state and city/town level that could also be analyzed by race/ethnicity, age, gender, and health insurance status. The result of this unique collaboration was the first clinical/claims-based statewide dataset of childhood overweight and obesity in Rhode Island.

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