Poverty and food insecurity have detrimental impacts on infant, child, and maternal health and well-being in both the short and long terms. One critical strategy to address these issues is connecting vulnerable families to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Decades of research have demonstrated the effectiveness of WIC in reducing food insecurity, and improving health, nutrition, development, and well-being.

This paper will provide background information on WIC; briefly summarize the harmful impacts of poverty and food insecurity; and highlight research demonstrating the effective role of WIC in improving food and economic security, dietary intake, weight outcomes, health, and learning.

Background of WIC

WIC provides low-income pregnant women, breastfeeding women, non-breastfeeding postpartum mothers, infants, and children up to the age of 5 with nutritious foods, nutrition education and counseling, and referrals to health care and social services. Women and children are eligible for the program if they meet the statutory income guidelines (i.e., at or below 185 percent of the federal poverty line) or are income-eligible based on participation in other programs, such as Medicaid, the Supplemental Nutrition Assistance Program (SNAP), or Temporary Assistance for Needy Families (TANF). In addition to being income-eligible, applicants must be at nutritional risk (e.g., underweight, overweight, anemic, poor dietary intake) as determined through a nutrition assessment conducted by a health professional. In fiscal year 2018, WIC provided services to approximately 1.6 million women, 1.7 million infants, and 3.5 million children in an average month.

How Poverty and Food Insecurity Impact Health and Well-Being

Poor nutrition during the critical first five years of a child’s life can negatively impact child health and development in both the short and long terms and hinder adult achievement and productivity. In addition, a considerable amount of research demonstrates that people living in or near poverty have disproportionately worse health outcomes and less access to health care than those who do not. During childhood, for example, low-income children are more likely to experience food insecurity, obesity, lead exposure, poor growth (e.g., low birth weight, short stature), asthma, developmental risk, behavioral and emotional problems, and unintentional injury.

Food insecurity is linked to poor health and development as well. Food insecurity — even marginal food security (a less severe level of food insecurity) — is associated with some of the most common and costly health problems among adults and pregnant women, including fair or poor health.

* For a comprehensive review of this topic, see FRAC’s The Impact of Poverty, Food Insecurity, and Poor Nutrition on Health and Well-Being at www.frac.org.
status, obesity (primarily among women), pregnancy complications (e.g., gestational diabetes, iron deficiency), and depression (including maternal depression). The consequences of food insecurity — and, again, even marginal food security — are especially detrimental to the health, development, and well-being of infants and children. For instance, research shows a link for young children between food insecurity and low birth weight, birth defects, iron deficiency anemia, more frequent colds and stomachaches, asthma, untreated dental caries (i.e., tooth decay), development risk, behavioral and social-emotional problems, increased hospitalizations, and higher special education and health care costs.

**WIC Improves Health and Well-Being**

A large body of research shows that WIC is a profoundly important program with well-documented benefits to the health and well-being of infants, children, pregnant women, and their families. The following selection of studies demonstrates these points.

**WIC Reduces Food Insecurity, Alleviates Poverty, and Supports Economic Stability**

- WIC reduces the prevalence of household food insecurity in recipient households with children under 5 years old by at least 20 percent.
- Pregnant women experiencing household food insecurity with hunger who enroll in WIC in the first or second trimester (versus the third trimester) have a reduced risk of any food insecurity post-partum.
- Nationally, WIC lifted 279,000 people above the poverty line in 2017, based on Census Bureau data on poverty and income in the U.S.
- Families receiving housing subsidies, SNAP, and WIC benefits were 72 percent more likely to be housing-secure, compared to those families receiving housing subsidies alone, based on a study of low-income caregivers of children younger than 3 years old. (Housing secure is defined as living without overcrowding or frequent moves within the last year.)
- WIC, along with other social safety net programs, is a buffer against the harmful impacts of economic hardship and responsive to increased need during economic downturns. For example, program participation increased among eligible children before and during the Great Recession.

**WIC Improves Dietary Intake**

- WIC participation is associated with better dietary intake and overall dietary quality, including increased iron density of the diet, increased consumption of fruits and vegetables, greater variety of foods consumed, and reduced added sugar intake.

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**The WIC program:**

- reduces food insecurity;
- alleviates poverty;
- supports economic stability;
- improves dietary intake;
- protects against obesity;
- improves birth outcomes;
- improves health outcomes;
- supports learning and development;
- reduces health care and other costs; and
- improves retail food environments.
The overall diets of young children enrolled in WIC are more nutrient-rich and lower in calories from solid fats and added sugars than the diets of income-eligible non-participants.55

Compared to low-income non-participants, young children participating in SNAP, WIC, or both programs have lower rates of anemia and nutritional deficiency.56

Breastfeeding rates have increased substantially over the past two decades among WIC participants. For instance, breastfeeding initiation rates among participants were 83 percent in 2013, compared to 56 percent in a 1994 study.57 (Breastfeeding is itself linked to a host of beneficial health outcomes for infants and children.58)

Multiple studies link the revised WIC food packages with improvements in the retail food environment, healthful food purchases, overall dietary quality, and the consumption of fruits, vegetables, whole-grains, and lower-fat milk.59,60 Research also finds improvements in infant feeding practices in terms of the appropriate introduction of solid foods as well as increases in breastfeeding initiation.

**WIC Protects Against Obesity**

A growing body of evidence suggests that the WIC food package revisions are associated with favorable impacts on the prevalence of obesity among young children.55,62,63 For example, in a study using data from 2000 through 2014, obesity rates among 2-to-4-year-old WIC participants were increasing by 0.23 percentage points per year before the 2009 revisions, but obesity rates declined by 0.34 percentage points per year after the revisions.64

Other research suggests WIC may protect against obesity among young children in families facing multiple stressors (i.e., household food insecurity and caregiver depressive symptoms).65

In a small sample of preschoolers, children in households receiving WIC benefits weighed significantly less and had lower LDL (“bad”) cholesterol levels than children from nonparticipating households.66 The study’s authors conclude that the results “indicate WIC may be a piece of public health efforts to combat the childhood obesity epidemic and reduce other cardiovascular risk factors, such as blood lipids and blood pressure.”

A study set in eight New York City-area primary care practices found that food insecurity was significantly associated with increased body mass index only among those women who were not receiving food assistance (SNAP or WIC), suggesting that food assistance program participation plays a protective role against obesity among food-insecure women.67

**WIC Improves Birth Outcomes**

Investing $1 in prenatal WIC services saves about $2.48 in medical, educational, and productivity costs over a newborn’s lifetime by preventing preterm birth, based on simulations of WIC participation in California.68

WIC enrollment and greater WIC food package utilization during pregnancy are associated with improved birth outcomes, including lower risk of preterm birth, low birth weight, being small for gestational age, and perinatal death.69,70

A study in South Carolina found that WIC participation is associated with an increase in birth weight and length of gestation as well as a lower probability of low birth weight, preterm birth, and neonatal intensive care unit (NICU) admission.71 In this study, the positive effects of participation were larger for African American mothers.

Prenatal WIC participation is associated with lower infant mortality rates, especially for African Americans.72 Similarly, WIC participation is associated with lower odds of stillbirth among African American women.73

Based on administrate data in Missouri and Oklahoma, mothers who receive WIC during pregnancy are more likely to breastfeed their infant at hospital discharge than nonparticipants. In addition, fee-for-service Medicaid costs from birth through 60 days postpartum are significantly lower for WIC participants in Missouri ($6,676 for WIC participants versus $7,256 for similar nonparticipants).74
WIC Improves Health Outcomes

- Prenatal WIC participation is associated with increased infant health care utilization in the first year of life, in terms of increased well-child visits and vaccinations, based on a study using South Carolina Medicaid claims data. Prenatal participation also is linked to decreases in the average number of days an infant is hospitalized in the first year of life.

- Low-income children who currently participate in WIC have immunization rates that are comparable to higher-income children that are ineligible for the program (e.g., 94 and 92 percent, respectively, for the measles vaccination), whereas low-income children who never participated in the program have the lowest vaccination rates (e.g., 83 percent for the measles vaccination).

- Children who participate in WIC are more likely to have well-child and emergency room visits than similar nonparticipants, and also more likely to be diagnosed and treated for common childhood illnesses (e.g., ear infection, upper respiratory infection, asthma). The results, based on administrative data in Missouri and Oklahoma, demonstrate “that child WIC participants are better connected to the health care system than nonparticipants.”

- Young children participating in SNAP, WIC, or both programs have lower rates of failure to thrive and lower risk of abuse and neglect, when compared to low-income non-participants.

- Even in the face of family stressors, such as household food insecurity and maternal depressive symptoms, children who receive WIC, compared to those who do not, are less likely to be in fair or poor health and more likely to meet well-child criteria. (For this particular study, children met “well-child” criteria if they were in good or excellent health per parent report, were developing normally, were not overweight or underweight, and had not been hospitalized.)

- When compared to their non-WIC-siblings, children whose mothers participate in WIC during the prenatal period are less likely to be diagnosed with attention deficit hyperactivity disorder (ADHD) and less likely to have a moderate-to-severe infection as of 6–11 years of age.

WIC Supports Learning and Development

- Children whose mothers participate in WIC during the prenatal period are less likely to repeat a grade later in childhood, compared to their non-WIC-siblings.

- Among low-income families, households participating in WIC have more homework routines and consistent bed times than non-WIC households. These favorable family routines could be the result of the educational and service component of WIC.

- Maternal participation in WIC has a strong and direct effect on early childhood language development, especially for receptive communication outcomes (e.g., pointing to common objects or pictures of actions in a picture book).

- Prenatal and early childhood participation in WIC is associated with stronger cognitive development at 2 years old, and better performance on reading assessments in elementary school, leading researchers to conclude that “these findings suggest that WIC meaningfully contributes to children’s educational prospects.”

Conclusion

Protecting and improving the public’s health is critically important. Children, communities, and the nation are facing levels of poverty, food insecurity, inadequate dietary intake, and obesity that are far too high. Research shows that WIC can alleviate these problems for children, mothers, and their families, and improve overall health and well-being. Increasing access to, and strengthening, WIC would further the program’s role in improving the health of the nation.

This paper was prepared by FRAC’s Heather Hartline-Grafton, DrPH, RD, Senior Nutrition Policy and Research Analyst, with research assistance provided by Olivia Dean during a student internship. FRAC wishes to thank the Robert Wood Johnson Foundation for their generous support of this research brief.
**Endnotes**


