

# State Earned Income Tax Credit

## Evidence Review Findings: Effective / Roadmap Policy

A refundable state earned income tax credit (EITC) of at least 10 percent of the federal credit promotes healthier and more equitable birth outcomes, increases parents' workforce participation, and improves household economic security, with the greatest effects for single mothers and their children. The benefits of the federal EITC are more well established in the research than the impacts of state credits, but evidence shows that state EITCs also have significant, positive effects on prenatal-to-3 outcomes.

State earned income tax credits (EITCs) are tax credits for low-income workers and their families that build on the federal EITC. States determine whether to offer their own EITCs, set the generosity of their credits (typically a percentage of the federal credit), and determine whether their credits are refundable or can only reduce existing tax liability. States may also decide which groups are eligible for the supplement, such as workers with various immigration statuses, parenting statuses, or age ranges, within the constraints of federal law.

Federal and state EITCs are intended to incentivize labor force participation by increasing the financial returns to work and providing an annual lump-sum income benefit, which may reduce poverty among families with low incomes. These credits can improve the physical and mental wellbeing of parents and their children by alleviating poverty and improving families' access to needed resources.

Rigorous evidence demonstrates that a refundable state EITC set at 10 percent of the federal credit or higher leads to healthier and more equitable birth outcomes. Research also suggests that the impacts of state credits are positive for parent employment and generally positive for household resource indicators such as child poverty and earnings. Evidence for other outcomes, including parent and child health and nurturing child-parent relationships, are more mixed and show many null effects for state EITCs.

Decades of research in the field of child development have made clear the conditions necessary for young children and their families to thrive.<sup>1</sup> These conditions are represented by our eight policy goals, shown in Table 1. The goals positively impacted by state EITCs are indicated with a filled circle, and the goals theoretically aligned (but without evidence of effectiveness from strong causal studies) are indicated with an unfilled circle.

Table 1: Impacts of State Earned Income Tax Credits on Policy Goals

Positive Impact	Policy Goal	Overall Findings
	Access to Needed Services	Mostly null impacts on access to prenatal care and health care
	Parents' Ability to Work	Mostly positive impacts on parents' ability to work
	Sufficient Household Resources	Mixed impacts, with beneficial effects for increasing household earnings and reducing child poverty
	Healthy and Equitable Births	Positive impacts on birth outcomes and reducing racial disparities in low birthweight
	Parental Health and Emotional Wellbeing	Mixed impacts on parents' health and health behaviors, with increases in longevity and improvements in mental health
	Nurturing and Responsive Child-Parent Relationships	Null impacts on child-parent relationships
	Nurturing and Responsive Child Care in Safe Settings	No strong causal studies identified for this goal
	Optimal Child Health and Development	Mostly null impacts, with some positive effects on long-term health and reducing child maltreatment

## What Is a State Earned Income Tax Credit?

A state EITC is best understood as a supplement to the federal EITC, which is a refundable tax credit designed to help low-income workers keep more of their wages and reduce poverty. Households with at least one working adult can receive the federal credit as a reduction in tax liability or as a refund if the household has no tax liability or the credit amount exceeds total taxes owed.<sup>2</sup> The federal EITC was first enacted in 1975 and has become more generous over time in benefit size and eligibility through several expansions.<sup>17</sup> The credit amount increases as a percentage of income (phase-in) until a plateau income range is reached. As income increases, the credit amount decreases slowly until the credit phases out completely. The federal credit schedule varies by family size, marital status, and income. For example, for the 2022 tax year, a household with one child may benefit from the federal EITC (and state supplement, if applicable) if the family earned \$43,492 or less, whereas a family with two children could continue to benefit until an income of \$49,399.<sup>17</sup>

The most recent expansion of the federal EITC occurred under the American Rescue Plan Act (ARPA signed into law March 2021), which increased the eligibility threshold and maximum federal benefits for tax year 2021 for working individuals with no children in the home (and noncustodial parents), a population previously largely excluded from receiving credits.<sup>33,40</sup> However, the changes under ARPA were not extended and, for tax year 2022, the income eligibility ceiling with no qualifying children is \$16,480 and the maximum amount of credit is \$560.<sup>50</sup>

Beginning in 1986 with Rhode Island, a growing number of states<sup>i</sup> (now 31<sup>ii</sup>) have chosen to build on the federal EITC to offer their own tax credits to offset state and local tax liability, and 27 of those states provide refundable credits.<sup>30,46</sup> State EITCs are typically<sup>iii</sup> calculated as a percentage of the federal benefit an eligible family receives. For example, Colorado's EITC is 25% of the federal credit; if a family receives the maximum credit at the federal level, \$6,935 (with three or more qualifying children), they receive an additional \$1,733.75. If a state chooses to implement a nonrefundable EITC, the credit can eliminate state tax liability but cannot pay refunds in the absence of tax liability. Some states do not have a state income tax, and therefore may find alternative ways of paying for and administering state EITCs. Washington, for example, does not have a state income tax but will offer refundable state EITC benefits beginning in 2023, for tax year 2022.<sup>46</sup>

### ***Who Is Affected by State EITCs?***

#### **Most Beneficiaries of the Federal and State EITCs are Families with Children**

Most beneficiaries (97%) are families with children in the home, including many single-parent families.<sup>40</sup> A small credit is available to workers without dependents and to noncustodial parents, but it is more difficult to qualify for the EITC as an adult without custodial children.<sup>40</sup> To date, New York and the District of Columbia are the only states that offer an enhanced state credit to qualifying noncustodial parents rather than offering them the same benefit that workers without children receive.<sup>15,16</sup>

#### **States Can Expand Their EITCs to be More Inclusive of Workers with Various Immigration Statuses**

The federal EITC is only available to workers with a Social Security Number and workers whose spouses (if filing jointly) and dependent children also have a Social Security Number.<sup>36</sup> Almost all states have the same policy as the federal EITC for their credits, which means that many immigrants are excluded from the benefits, even if they work and pay taxes. Five states (California, Colorado, Maine, Maryland, and New Mexico) currently extend EITC eligibility to filers with an Individual Taxpayer Identification Number (ITIN), which means that workers who are undocumented or otherwise ineligible for a Social Security Number may still claim EITC benefits if they meet other criteria.<sup>23,41,44,52</sup> Washington and Oregon recently passed legislation to extend eligibility to filers with an ITIN, and their policies will go into effect for tax year 2022.<sup>53</sup>

#### **State EITCs Offer Much Smaller Benefits Than the Federal Credit**

The Tax Policy Center estimated that the federal EITC provided \$68.2 billion in tax credits to families with children in benefit year 2021, with \$2.3 billion benefiting workers without children.<sup>29</sup> The credit typically helps to lift up to 6 million people out of poverty in a given year, including 3 million children.<sup>29</sup> According to the most recent data from the National Conference of State Legislatures (NCSL), the average federal EITC amount received per tax filer was \$2,411 in 2020.<sup>30</sup>

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<sup>i</sup> State counts include the District of Columbia.

<sup>ii</sup> The count of 31 reflects those states that have adopted *and* implemented a state EITC as of October 1, 2022 (30 and DC).

<sup>iii</sup> California and Washington have unique structures distinct from that of the federal credit, and Minnesota calculates its credit based on a percentage of income rather than a percentage of the federal credit.<sup>39</sup> States vary in the extent to which their tax codes automatically adopt federal tax changes; some incorporate federal changes on a rolling basis (known as rolling conformity), other states on a fixed date schedule (static conformity), and still others conform more selectively to the federal tax code.

Average state receipt is not reported in a central national source, given differences in administration across states, however a 2021 study (using data from 1995 to 2015) found that the average state amount was approximately \$265.<sup>QQ</sup> Given that many states set their EITCs at approximately 10 percent of the federal credit, this figure is consistent with the federal average reported by NCSL.

### Increasing Uptake Remains a Challenge

Policymakers and advocates for populations with low levels of income continue working to maximize EITC uptake among eligible families and individuals. Approximately 20 percent of people who qualify for the federal credit (or 5 million people per year) do not claim it, missing out on an average of \$1,554 in benefits each.<sup>27</sup> The most common reason, applying to 64 percent of eligible nonclaimants, is that these individuals do not file a tax return. Some states and cities have adopted requirements for employers to notify their workers about the EITC to increase uptake but researchers have found that, in addition to outreach, the most effective way to increase participation is to increase the use of assisted preparation methods during tax season, such as software or professional tax-filing support.<sup>27</sup> Making tax filing a more seamless process may support many of the people who miss out on the EITC because they do not file. This approach may also help families obtain other tax-based benefits, such as the child tax credit.<sup>iv</sup>

### The Rate of EITC Receipt Varies Across Racial and Ethnic Groups

The rate of EITC receipt (without taking eligibility into account) varies across racial and ethnic groups. According to the Center on Budget and Policy Priorities, 9 percent of all White, non-Hispanic women (filers and spouses) receive the EITC, whereas 21 percent of Black women and 21 percent of Latina<sup>v</sup> women receive the credit.<sup>37</sup> In addition, 12 percent of Asian/Pacific-Islander women and 23 percent of Native American women receive the EITC.

Uptake of the EITC among eligible families is unequal across racial and ethnic groups as well. Research demonstrates that Hispanic families have lower EITC uptake rates (46% of eligible families with children receive the credit) than non-Hispanic White families (55%) and Black families (58%).<sup>24</sup> Scholars suggest that some Hispanic families may face language or administrative barriers or may fear immigration enforcement, and these factors can deter uptake even when families are eligible.<sup>24</sup> Outreach to these populations is important to maximize uptake and ensure the benefit reaches those families who are entitled to it.

State policy choices can have a significant impact on the receipt and effectiveness of the EITC for various populations. Certain policy decisions, such as greater access for immigrants of various legal statuses, tax preparation outreach, and access for noncustodial parents may increase equity and improve outcomes for families.

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<sup>iv</sup> In June 2021, the Biden administration set up an online portal for nonfilers to sign up to receive the expanded child tax credit, because families with no earned income are still eligible for the credit. In this way, the child tax credit differs from the EITC.<sup>48</sup>

<sup>v</sup> This report used “Latino/a” rather than Hispanic.

### **What Are the Funding Options for State EITCs?**

State EITCs are typically financed through general fund dollars, the primary state fund for ongoing expenses which includes revenue from corporate, income, and sales tax. States can also use alternative funding sources for an EITC, such as Temporary Assistance for Needy Families (TANF) block grant Maintenance of Effort (MOE) funds.<sup>3</sup> If a state does not have an income tax, it may find alternative ways to fund or structure its credit. For example, Washington's EITC, beginning in 2023, the Working Families Tax Credit, will not be tied to a percentage of the federal credit and instead will provide between \$300 and \$1,200 depending on family size and income using general revenue.<sup>49</sup> This alternative structure allowed the state to reduce administrative costs from an estimated \$61.3 million to \$23.7 million, helping the EITC gain greater legislative support.<sup>49</sup>

The Center on Budget and Policy Priorities (CBPP) developed a tool for states without their own EITCs to determine how much it would cost to offer a credit (excluding administrative costs, such as developing new tax forms).<sup>31</sup> CBPP suggested that states use past years' Internal Revenue Service (IRS) data on receipt of the federal credit to estimate how much a state credit would cost at various levels, such as a 5 percent, 10 percent, or 20 percent state credit, with some adjustments for the likelihood that not all federal claimants will claim the state credit when it is first implemented, even if eligible. For example, based on 2017 IRS data, West Virginians were expected to receive \$392 million in federal EITC benefits in 2021, and, if West Virginia were to implement a refundable state EITC at 10 percent of the federal credit, it would cost \$35 million based on CBPP's tool.<sup>31</sup>

Analyses show that the EITC's administrative costs are relatively low compared to other means-tested programs; for example, in Fiscal Year 2018, the EITC's overhead costs were 1 percent of total benefits paid out, compared to 9 percent for the Supplemental Nutrition Assistance Program (SNAP) and 8 percent for Supplemental Security Income (SSI).<sup>34</sup> Given that most state credits are calculated as a percentage of the federal credit, administrative costs for states are also typically under 1 percent.<sup>35</sup> The EITC is one of the most cost-effective anti-poverty policies in the US.

### **Why Should State EITCs Be Expected to Impact the Prenatal-to-3 Period?**

Because the credit is only available to individuals working and earning low incomes, the EITC may incentivize labor force participation and increase earned income. The additional wages from more hours of work, in combination with the after-tax income from the credit itself, may help lift families out of poverty. Childhood poverty is associated with increased adversity and parental stress, which can negatively affect early brain development and reduce the quality of relationships between parents and children.<sup>1</sup> Poverty reduction through the EITC may relieve parental stress,<sup>1</sup> improve parent and child health,<sup>4</sup> and decrease adverse parent health behaviors (such as smoking).<sup>6</sup> The EITC may positively influence health and social outcomes through increased spending on nutritious foods, medical care, child care, reliable transportation, safe housing, and other basic needs. Further, the EITC may improve birth outcomes as women may be able to access better health care, including prenatal care, because of the increase in employment, health insurance benefits, and earnings associated with the EITC.<sup>7</sup>

## What Impact Do State EITCs Have, and for Whom?

The federal EITC has been studied longer than state credits, and many studies examine the combined impacts without separating out those individually related to state credits. Research exploring the added value of state credits, and particularly a refundable credit of 10 percent or more of the federal credit, has grown in recent years. Impacts on outcomes tend to be more beneficial when state credits are analyzed in combination with, as opposed to separate from, the federal credit, as the total value of benefits is greater. Findings support the effectiveness of a state EITC as a policy to amplify the effects of the federal credit to improve birth outcomes and strengthen the economic security of families with infants and toddlers.

The research discussed here meets our standards of evidence for being methodologically strong and allowing for causal inference, unless otherwise noted. Each strong causal study reviewed has been assigned a letter, and a complete list of causal studies can be found at the end of this review, along with more details about our standards of evidence and review method. The findings from each strong causal study reviewed align with one of our eight policy goals from Table 1. The Evidence of Effectiveness table (Table 2) displays the findings (beneficial, null,<sup>vi</sup> or detrimental) associated with state EITCs<sup>vii</sup> for each of the strong studies (A through CCC) in the causal studies reference list. For each indicator, a study is categorized based on findings for the overall study population; subgroup findings are discussed in the narrative. The Evidence of Effectiveness table also includes our conclusions about the overall impact on each studied policy goal. The assessment of the overall impact for each studied policy goal weighs the timing of publication and relative strength of each study, as well as the size and direction of all measured indicators.

Of the 55 causal studies included in this review, 14 examined how outcomes differed by race or ethnicity (beyond simply presenting summary statistics or controlling for race/ethnicity).<sup>viii</sup> Where available, this review presents the analyses' causal findings for subgroups by race/ethnicity and other aspects of variation, such as family structure, age, or citizenship status. A rigorous evaluation of a policy's effectiveness should consider whether the policy has equitable impacts and should assess the extent to which a policy reduces or exacerbates pre-existing disparities in economic and social wellbeing.

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<sup>vi</sup> An impact is considered statistically significant if  $p \leq 0.05$ . Results with p-values above this threshold are considered null or nonsignificant.

<sup>vii</sup> We present findings from the combination of state and federal credits when a study did not offer a separate analysis of state EITCs. If a study analyzed each credit separately, we present the results for state EITCs.

<sup>viii</sup> The studies, as labeled in our reference list, are studies I, L, S, BB, EE, FF, GG, HH, II, MM, QQ, SS, VV, and ZZ.

Table 2: Evidence of Effectiveness for State EITCs by Policy Goal

Policy Goal	Indicator	Beneficial Impacts	Null Impacts	Detrimental Impacts	Overall Impact on Goal
Access to Needed Services	Prenatal Care Use		J, Q, YY	CC	Mostly Null
	Health Insurance Coverage	L	I, K		
	Doctor or Dentist Visit		I, K		
	Well-Child Check in First Month		YY		
Parents' Ability to Work	Employment or Labor Force Participation	B, C, E, L, U, W, Z, GG, LL, MM, WW, ZZ	I, S, X, Y, DD, SS, VV		Mostly Positive
	Weeks Worked	L, U, Z			
	Full-Time Work	C			
	Work Hours (Weekly or Annual)	C, L, Z, MM	S		
Sufficient Household Resources	Child Poverty	A, C, W, KK, ZZ	GG		Mixed
	Earnings/Income	B, C, E, L, P, W, Z, GG, HH, MM, ZZ	D, S, VV, AAA		
	Average Wages		DD		
	Wealth		BBB		
	Savings Account Balance		D, PP		
	Debt	PP	D, BBB		
	Housing Cost Burden		E		
	Household Crowding		E		
	Evictions and Foreclosures		E		
	Public Assistance Receipt	Z, ZZ			
Food Security		XX			

Table 2: Evidence of Effectiveness for State EITCs by Policy Goal (Continued)

Policy Goal	Indicator	Beneficial Impacts	Null Impacts	Detrimental Impacts	Overall Impact on Goal
Healthy and Equitable Births	Birthweight	B, J, Q, V, CC, II	YY		Positive
	Gestation Weeks / Preterm Birth	J, CC, II	YY		
	Adolescent Births	BB			
Parental Health and Emotional Wellbeing	Mental Health / Distress	I, NN, CCC	QQ, SS		Mixed
	Physical Health	NN, CCC		G	
	Overall Health	CCC	QQ		
	Adult Suicide Rates	AA, EE, RR			
	Intimate Partner Abuse	SS	OO		
	Adult Longevity	H, UU			
	Health Behaviors	B	J, CC, EE, QQ, YY	F	
Nurturing and Responsive Child-Parent Relationships	Quality of the Home Environment		JJ		Null
	Parental Time Invested in Children		L, MM		
Optimal Child Health and Development	Foster Care Entry	R	M, N		Mostly Null
	Substantiated Maltreatment Reports		N		
	Physical Abuse Reports		N, TT		
	Neglect Reports	TT	N		
	Abusive Head Trauma		O		
	Obesity/Overweight	L	K, XX		
	Mental Health		L, XX		
	Long-Term Physical Health	L, FF			
	Asthma-Related Hospitalizations		Q		
	Ever Breastfed		YY		

### **Access to Needed Services**

By increasing income, the EITC is expected to promote greater access to health care, including prenatal care.<sup>j</sup> However, among the four studies that examined the impact of state EITCs on the use of prenatal care, two found overall null<sup>q,yy</sup> results and two found a negative effect of the EITC.<sup>cc</sup> A 2017 study, using data from 1994 through 2013, examined the effects of state EITC generosity and refundability and found mostly null impacts on accessing prenatal care in the first trimester; however, this study identified a significant increase in access of 4.8 percentage points only in states with a low, nonrefundable EITC<sup>ix</sup> compared to no EITC.<sup>j</sup> A 2019 study of DC's credit analyzing data from 1990 through 2015 found a reduction in receipt of first-trimester prenatal care of about 7 mothers for every 100 live births when the credit increased from 10 percent to 25 percent of the federal EITC.<sup>cc</sup> The authors posited that women may have had less time to seek prenatal care if they worked more as a result of the EITC.<sup>cc</sup> However, the reason for the reduction in first-trimester prenatal care is not clear as there was no significant effect of the initial implementation of the credit at the 10 percent level, or the increase from 25 to 35 percent of the federal EITC.

A third study found no significant link between New York's EITC and prenatal care use among New York City residents, but the authors cautioned that this result may have been affected by missing data issues; the study may also be limited in generalizability due to the geographic scope.<sup>q</sup> A fourth study using nationally representative data found no significant impact of the EITC on the month of a mother's first prenatal care visit.<sup>yy</sup> This study also found null impacts on well-child visits in the first month of a child's life.

Another study, using data from 1993 through 2016, examined the effects of greater EITC benefits on access to health coverage and medical care.<sup>l</sup> The authors found that a \$1,000 increase in the maximum EITC credit did not lead to a significant change in the likelihood of being insured, but the increase did lead to a 1.1 percentage point decrease in avoiding a doctor's visit due to cost for married mothers and a 0.9 percentage point decrease among unmarried mothers. The likelihood of having visited a doctor at all in the past year did not significantly change for unmarried mothers, despite the reduction in reporting cost as a barrier. This finding suggests that other barriers (e.g., time constraints, work schedules, transportation, child care) may still prevent health care access even when income increases. When the authors investigated the effects by race and marital status, they found that, among married mothers, those who are White saw no significant benefit for doctor visits, whereas non-White<sup>x</sup> married mothers saw a 2.2 percentage point reduction in avoiding doctor visits because of cost (representing an increase in access). The results were reversed among unmarried mothers; for that group, White mothers saw a 1.5 percentage point reduction in reporting cost as a barrier to doctor visits, whereas non-White mothers did not see a significant effect.

A 2020 study using nationally representative household survey data from 1968 through 2017 found that a \$100 increase in the maximum value of state and federal EITC benefits reduced the likelihood of being uninsured (from birth to age 18) by 0.2 percentage points.<sup>l</sup> The authors concluded that the EITC, by incentivizing mothers' employment, has a positive impact on children's health insurance

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<sup>ix</sup> The study defined a "low" EITC value as less than 10 percent of the federal EITC, and a "high" EITC as 10 percent or greater. The study found null results for prenatal care in states with a low refundable EITC, high nonrefundable EITC, and high refundable EITC.

<sup>x</sup> The study reported results using the category of "non-White" rather than specific races or ethnicities.

coverage even after accounting for any potential loss in public insurance eligibility because of increased income. However, results on the effects of state EITCs on parents' insurance coverage and care are inconsistent across studies. A 2016 study using data from 1992 through 2006 found no effect of a \$100 increase in the state EITC value on the likelihood of health insurance coverage for children ages 0 to 5, and no significant impact on the likelihood of attending a doctor or dentist visit in the past 12 months.<sup>K</sup> The 2016 study used an older data set, analyzed a sample focused on less-educated workers, and examined state EITCs alone rather than the combination of the state and federal credits, among other differences in study design, which might account for the disparate findings.

### **Parents' Ability to Work**

Research on the federal EITC has found that its poverty-reduction effects can be attributed, in part, to an increase in women's labor force participation.<sup>9</sup> Released in 1996, one of the first and most widely cited studies to establish the EITC's effect on women's labor force participation found that, after the 1986 Tax Reform Act expanded the federal EITC, the labor force participation of single women with children relative to single women without children increased 2.8 percentage points from a base rate of 73 percent.<sup>10</sup> In addition, a study with a sample of over 86,000 unmarried women estimated that the 1993 federal EITC expansion increased the probability of working by 5 percentage points for unmarried mothers with two or more children (compared to a control group of women with no children), with the largest effects for mothers who had a high school degree or less.<sup>11</sup> A study of the federal EITC's effects in California found that, among single parent families who had ever used welfare, the EITC had a significant positive influence on labor force participation. The average employment increase for this population from 1991 to 2000 was 28.8 percentage points with the EITC expansions accounting for 11.8 percent of the average increase in employment and explaining 77 percent of the difference in employment increases between families with two or more children and families with one child.<sup>12</sup>

Less research on the state EITC's influence on labor force participation exists; most studies of state EITCs examine the effects of the combination of federal and state credits. The existing research suggests that this combination has a positive effect on women's workforce participation, with a strong influence on single mothers with lower education levels.<sup>11,E,U</sup>

The state and federal EITC's employment effects may differ depending on where a family's income falls along the benefit schedule—whether in the phase-in, plateau, or phase-out range. Each additional dollar of earned income garners a smaller benefit along the phase-out portion, so the incentive to work more may be weaker.

A recent study analyzed data from 1989 through 1995 to examine effects of the federal and state credits and found that, among single women with a high school degree or less, a \$100 increase in the maximum combined credit had a positive effect on employment.<sup>U</sup> In particular, the credit “increased the number of weeks worked in a year by 0.83 weeks and reduced year-to-year exit among single women who were previously employed by 2.5 percentage points” (p. 42).<sup>U</sup> The author suggested that the EITC may have a stronger effect on keeping individuals attached to the labor force rather than inducing new entrants into the workforce.

A simulation study examining the state credit in New York also projected a positive employment effect, but in this case, benefits were found for new entrants into the workforce. The authors used income data from 2004 and estimated that an increase in the New York State EITC from 30 percent to 45 percent of the federal credit would result in up to 21,363 single mothers<sup>xi</sup> newly entering the workforce.<sup>w</sup> The New York credit remains at 30 percent of the federal benefit.

A 2011 study using data from 1997 through 2006 found that a 10 percent state EITC increased employment among single mothers by 2.1 percentage points compared to ineligible single women with no children,<sup>gg</sup> with a greater effect (2.9 percentage points) for single mothers with no more than a high school degree. When the authors examined Black and Hispanic mothers, the effect was similar to the overall impact (2.1 percentage points) but was not statistically significant. However, the impact on employment was greatest for Black and Hispanic mothers when the authors examined the interaction of a 10 percent EITC and 10 percent increase in the minimum wage (a 3.6 percentage point increase in employment).<sup>gg</sup>

A 2010 study using data from 1980 through 2002 found that, when comparing mothers who lived in states with and without an EITC, mothers living in states with an EITC were 19 percent more likely to be employed (for at least 1 week per year),<sup>b</sup> and a 2019 study using data from 1990 through 2016 found that a \$1,000 increase in the maximum EITC amount (federal and state) increased single mothers' participation in the labor force by between 6 and 9 percentage points.<sup>e</sup>

A 2020 study using data from 1997 through 2008 found that a 10 percent state EITC increased employment by 2 percentage points for parents who had at most a high school degree, and the presence of a state credit increased participation in the federal EITC as well.<sup>ww</sup> A second 2020 study, using data from 1990 through 2016, found that unmarried mothers with infants and toddlers (under age 3) were 9 percentage points more likely to work with a \$1,000 increase in average EITC benefits (including federal and state credits).<sup>c</sup> Mothers who worked spent 3.4 more hours at their jobs each week and were 6.6 percentage points more likely to work full-time.<sup>c</sup> The study also found that for each additional \$1,000 in average EITC benefits, the use of formal, center-based child care arrangements increased by 11 percentage points for infants and toddlers, and overall time spent in child care increased by 9.5 hours per week. The authors found a 20 percentage point increase in the use of informal care arrangements (e.g., neighbors, friends) relative to no increase in EITC generosity. These findings show that because the EITC can increase mothers' time spent working; the credit also increases use of nonparental child care in various settings.

A 2019 report by the National Academies of Sciences, Engineering, and Medicine (NASSEM) estimated the extent to which various federal economic support policies may reduce family and child poverty, and two EITC policies were simulated in the study.<sup>zz</sup> The first policy was modeled on a proposal developed by the Children's Defense Fund (CDF) in 2015:

To increase the anti-poverty impact of the EITC, CDF increased the rate at which the credit phases in from a range of 34-45 percent (depending on the number of children) to a range of 68-79 percent. We also increased the maximum credit while keeping the rate at which the

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<sup>xi</sup> This review uses "single mothers" or "unmarried mothers" in the discussion of results to correspond with how the authors themselves described their samples.

credit phases out the same (to keep marginal tax rates the same) for nearly all filer types. These changes increase the EITC for the lowest income families and somewhat lessen the marriage penalty. (p. 40)<sup>43</sup>

The NASEM analysis found that this modification of the federal EITC, with ramifications for the state supplement as a result, may increase employment by approximately 304,000 new jobs, increase net earnings by approximately \$5.7 billion, and reduce child poverty by 1.2 percentage points.<sup>ZZ</sup>

The second EITC policy change in the simulation would increase the credit phase-in *and* phase-out rates by 40 percent, and this reform was estimated to increase net earnings by \$9.5 billion, increase employment by 771,000 new jobs, and reduce child poverty by 2.1 percentage points. The first EITC reform would reduce net government spending on public assistance programs by \$1.2 billion, and the second reform by \$2.5 billion. Both EITC reforms were estimated to have the greatest poverty-reducing impacts for Black children, children with single mothers, and children with mothers under age 25 (see Table 5-1, p. 164 of the NASEM Report).<sup>ZZ</sup>

A 2021 study using data from 1990 through 2017 found that a \$1,000 increase in the maximum EITC amount increased average annual weeks worked by 0.61 weeks, employment by 0.6 percentage points, and earnings by \$558 among women ages 19 to 64, and this increase reduced public assistance receipt by \$243 per household.<sup>Z</sup> The authors ran a number of alternative models and found that these results held true regardless of whether they defined the maximum EITC “as federal, state, or federal plus state” (p. 10).<sup>Z</sup>

Four additional studies, published between 2020 and 2021,<sup>xii</sup> found positive employment effects when they examined the impacts of increased state and federal credits. One of the studies found that a \$1,000 increase in maximum EITC payments, including both federal and state credits, led to an increase in single mothers’ employment of 2.9 to 3.3 percentage points relative to women with no children.<sup>LL</sup> Another study found similar effects; a \$1,000 increase in maximum total state and federal EITC payments was estimated to increase single mothers’ labor force participation by 4.1 percentage points, their weekly work hours by 1.6 hours, and their pre-tax earnings by \$2,372 annually.<sup>MM</sup> The study also examined how greater EITC generosity affected time invested in children; results are discussed in the Nurturing Child-Parent Relationships section of this review.

A third study found that an increase of \$1,000 in the maximum EITC, including federal and state benefits, did not lead to a statistically significant increase in the likelihood of employment for unmarried women with a high school degree or less in the year after their first child’s birth;<sup>VV</sup> although not statistically significant, results were in the beneficial direction. Finally, a fourth study found that a \$100 increase in the maximum value of state and federal EITC benefits led to small but significant employment increases for mothers: a 0.3 percentage point increase in the likelihood of mothers’ employment, an increase in annual weeks worked by 0.14 weeks, and 3.04 additional annual hours worked (with a mean of 839.4 total hours per year).<sup>L</sup>

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<sup>xii</sup> Study L used data from 1968 through 2017; study LL used data from 1971 through 2015; study MM used data from 2003 through 2018; study VV used data from 1995 through 2016.

Not all studies show positive effects of federal and state EITCs on employment. A study using Census data from 2000 and 2010 compared women in Wisconsin to women in states without a state EITC and found null effects on employment.<sup>x</sup> One study of all federal and state EITC reforms concluded that the only expansion that independently influenced employment, separate from the effects of welfare reform and other economic factors, was the 1993 federal EITC reform.<sup>y</sup> A study using a natural experiment method across state borders found null effects on local employment and wages, but the authors cautioned that their study did not examine poverty, which, in their view, is the key goal of state EITCs.<sup>DD</sup> They also speculated that the credit levels may have been too low to affect the examined outcomes, and that a county-level analysis of the entire state border, rather than just the metropolitan and urban areas, may have shown different effects.

A 2019 study using data from 1993 through 2016 found that, although expansions in the federal credit were linked to increased employment for single mothers, the amount of the state credit was too small to have a significant additional effect when it was analyzed alone.<sup>l</sup> A study using secondary data from the Fragile Families and Child Wellbeing study examined the impacts of various social welfare policies on women's experiences with intimate partner violence, and employment was measured as a potential mechanism.<sup>SS</sup> The study found no links between state EITCs and women's employment.

Another study examined the impact of federal and state credits on the long-run employment and earnings of mothers when they reached age 40.<sup>s</sup> The direction and significance of results varied considerably depending on the age of children at exposure (under or over age 6) and marital status of mothers. For example, the authors found that for unmarried women with older children, a \$1,000 increase in the federal credit and a \$200 increase in the state credit did not have statistically significant effects on employment probability and earnings, but significantly increased annual hours worked by 190 hours (at age 40). For married mothers, the effects were a 36.1 percent decrease in earnings and 277 fewer hours (both significant). The results were not significantly different for Black and non-Black<sup>xiii</sup> women in the authors' analysis, but the directions of the coefficients for married Black women with young children (under age 6) were positive rather than negative as they were for married White women.<sup>s</sup>

When the authors in this study examined the effects for a single year (rather than the cumulative effects from ages 22 to 39), and by age of children, they found insignificant results for earnings (by 2.2%) and annual work hours (by 15.16 hours) for single mothers with children ages 6 and older.<sup>s</sup> For mothers of younger children (including infants and toddlers), the estimates were not significant and are therefore reflected as null in Table 2 of this review.

### ***Sufficient Household Resources***

The federal and state EITCs have been shown to reduce poverty rates among families with low-income, but the federal credit tends to have a greater impact on poverty than the state supplement when analyzed separately. These findings are likely because the value of state EITC benefits are smaller compared to federal benefits with many states setting their EITCs at approximately 10 percent of the federal credit. One study found that the 1993 federal EITC expansion reduced poverty among families headed by single women by 8.4 percentage points for each additional

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<sup>xiii</sup> The author reported results for the categories of "Black" and "non-Black" in the paper.

\$1,000 in the federal credit, but the effects were greatest between 75 and 150 percent of the federal poverty level, and smaller for families in more severe poverty.<sup>14</sup> The authors suggested that the credit had a smaller effect on families below 75 percent of the federal poverty level because such families were less attached to the labor market in the first place, and the credit therefore had a weaker work-incentive effect.

Evidence shows that state EITCs contribute to poverty reduction as well, although the impact of state EITCs on earnings is more mixed. One study found that, when compared to states without a refundable state EITC, states with a refundable state EITC had child poverty rates that were 40 percent lower, holding other state characteristics and policies constant.<sup>A</sup> The nonrefundable state EITC was not significantly linked to reductions in child poverty. This study used data from 1994 to 2003, so its results may be less applicable to current policymaking.

Similarly, a simulation study of the New York State EITC estimated that a 45 percent refund rate (increased from the current level of 30%) may lift between 68,000 and 98,000 individuals out of poverty, given the positive effects on earned income.<sup>W</sup> Child poverty was estimated to decline approximately 1 percentage point. Another study with a large, representative sample found that mothers in states with the state credits experienced 32 percent higher annual earnings when compared to mothers in states without state credits.<sup>B</sup>

A 2011 study using data from 1997 through 2006 found that a 10 percent state EITC was linked to a 2.2 percent increase in earnings but had no statistically significant effect on the overall likelihood of a family being above the federal poverty level.<sup>GG</sup> The study found a beneficial effect of the EITC on reducing the share of families whose earnings were below 50 percent of the federal poverty level (extreme poverty). The authors also found that the combination of a higher EITC and higher minimum wage had a powerful effect on reducing poverty: A 10 percent EITC, coupled with a 10 percent higher minimum wage (compared to the sample mean), reduced the poverty rate for households headed by single mothers by 2.3 percentage points, and a 25 percent higher minimum wage coupled with the EITC reduced poverty by 3.4 percentage points among this group. The authors found that although a combination of a higher EITC and state minimum wage enhanced the earnings and employment outcomes of single mothers with children, and had the greatest positive effect for families of color, this combination had an adverse effect on the employment of women with no children and on men of color with lower educational attainment because they were more likely to be ineligible for benefits and potentially had to compete with mothers newly entering the workforce as a result of the EITC's labor supply incentive effect. The authors underscored the importance of examining subgroup effects when assessing the effectiveness of a policy or the interaction of policies: "Whether the policy combination of a high EITC and a high minimum wage is viewed as favorable or unfavorable depends in part on whom policymakers are trying to help" (p. 712).<sup>GG</sup>

A study of the effects of EITC exposure during childhood on later economic outcomes found no significant effects of exposure during ages 0 to 5, but found significant benefits for children ages 13 to 18 on their later circumstances (a 1.3% greater chance of finishing high school, a 4.2% greater likelihood of completing college, a 1% greater likelihood of being employed, and 2.2% higher earnings for each additional \$1,000 in EITC exposure).<sup>HH</sup> The study found that the EITC increased

contemporaneous family income for children ages 0 to 5: A \$1,000 increase in the credit amount led to a \$2,000 increase in annual pre-tax family earnings for the youngest children.<sup>HH</sup>

A study that focused on infants and toddlers found that a \$1,000 increase in average EITC generosity (federal and state benefits) led to an increase of \$2,400 in pre-tax earnings, reducing poverty by 5 percentage points (and reducing extreme poverty by 9 percentage points).<sup>C</sup> The authors found no significant decreases in poverty for families with children ages 6 to 17, demonstrating that the EITC may have a particularly important impact on households with the youngest children. Another study found that each additional \$1,000 in maximum EITC benefits increased annual earnings for unmarried mothers by \$2,372,<sup>MM</sup> and another recent study found that a \$100 increase in maximum EITC benefits was linked to a significant \$335 increase in pre-tax parental earnings.<sup>L</sup>

A rigorous simulation study examined how child poverty would change if every state were to adopt Wisconsin's generous 43 percent state EITC rate<sup>xiv</sup> (reduced to 34% in 2011) for all families.<sup>KK</sup> The authors found that this policy would reduce child poverty by up to 1.2 percentage points overall, and by 1.5 percentage points in states with the highest child poverty rates. In addition, children of families living in poverty would see a 4.1 percent increase in their resources-to-needs ratio. The study also simulated policy changes in the Supplemental Nutrition Assistance Program (SNAP), state child tax credits (CTC), and Temporary Assistance for Needy Families (TANF) and found that state EITCs would have the greatest poverty-reduction effect for children relative to these programs.

A study of DC's EITC found a positive, significant increase of approximately 4 percent for the pre-tax earnings of single mothers when a 40 percent DC credit was combined with the federal credit.<sup>P</sup> Another study using nationally representative data on women ages 22 to 39 found that the EITC had positive but statistically insignificant 1-year effects on the employment and earnings of mothers with children under age 6, although significant effects were found for some subgroups (such as mothers who gave birth to any children between ages 22 and 24, or mothers with children age 6 or older).<sup>S</sup>

A study of a large sample of single mothers found that a \$1,000 increase in the federal and state combined credit was linked to a \$700 increase in savings account balances; however, when analyzed separately, state EITCs alone did not significantly increase savings.<sup>D</sup> Another study found that a \$1,000 increase in federal and state combined credits was associated with a total wealth<sup>xv</sup> increase of \$6,037 (4.2%), however effects were concentrated among White families. While results were significant for White families, results were null for Black families, which suggests that the combined credit could increase disparities for families of different races. The study also found mostly null effects of the EITC on debt for White families. While student loan, medical, legal, and family debt effects were null, the authors found that a \$1,000 increase in federal and state combined credit was associated with a \$141 (3.6%) increase in credit card debt.<sup>BBB</sup>

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<sup>xiv</sup> This rate only applied to families with three children in Wisconsin, but the simulation tested how child poverty would change if every eligible family with at least one child received this EITC rate. Wisconsin's rate was chosen as the benchmark because it had the most generous rate from 2010 to 2012, which were the years of the data set used for the simulation.

<sup>xv</sup> The study authors define total wealth as a cumulative measure inclusive of checking or savings, stocks, vehicles, annuity or IRA, and home equity.

Another study of single mothers found that an additional \$1,000 in combined federal and state credits was linked to a 3.9 percentage point reduction in the odds of being cost-burdened by housing<sup>xvi</sup> and a 5.2 percentage point reduction in being severely cost-burdened.<sup>E</sup> In addition, the EITC was linked to a 2 percentage point reduction in crowded housing, defined as more than one person per room. The study found insignificant (0.1 to 0.6 percentage points) reductions in the likelihood of being evicted or experiencing homelessness but found significant positive impacts on earnings (between a \$2,400 and \$2,900 increase in annual pre-tax earnings, depending on whether the authors analyzed the Current Population Survey or American Community Survey data). However, when the authors examined state EITCs alone, none of the housing outcomes were significant.<sup>E</sup>

A 2019 study using data from 2006 through 2013 examined how the lump-sum payment of the EITC, as opposed to periodic payments, affects debt and savings.<sup>pp</sup> The authors found that, relative to ineligible households, EITC-eligible families see significantly lower debt levels during the months around tax filing deadlines compared to the rest of the year (64% lower). The study found that EITC-eligible families accrue debt during the months prior to tax filing time, and many use the lump-sum payment to pay down their balances rather than accumulate savings. The authors suggested that a periodic or biannual payment schedule may better serve these families in smoothing debt balances over the year. The temporary change in the child tax credit to a monthly disbursement schedule (in the American Rescue Plan Act) may offer an opportunity to evaluate the effectiveness of periodic benefits for tax credits, and the results may provide insights applicable to the EITC.

Finally, a 2021 study using data from 1998 through 2016 examined the short-term impacts of the EITC (state and federal) on childhood food insecurity.<sup>xx</sup> The authors found that each additional \$1,000 in federal EITC benefits reduced food insecurity by 1 percent of a standard deviation on the US Department of Agriculture's 10-point Food Security Scale for households interviewed within 3 months of EITC receipt, representing a small individual effect and more modest effect at the population level.<sup>xx</sup> When combining state and federal credits, the results were not statistically significant. The study did not examine the effect of state EITCs in isolation.

### ***Healthy and Equitable Births***

The EITC can promote better birth outcomes by increasing income, leading to greater use of health care (including prenatal care), reduced stress, and improved health and wellbeing prior to the birth of children.<sup>j</sup> Although a review of the evidence found mixed impacts on increased use of prenatal care as a mechanism for healthier births, research has demonstrated that state EITCs have positive impacts on birth outcomes, although the effect sizes are generally small. One study of the combined local and state credits in New York City found that higher credits led to a small but statistically significant reduction in low birthweight rates at the community level (specifically, a 15 percentage point increase in the combined credit rates was linked to a 0.45 percentage point reduction in prevalence of low birthweight).<sup>q</sup>

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<sup>xvi</sup> The US Department of Housing and Urban Development defines cost-burdened families as those families who pay more than 30 percent of their income for housing, and severely cost-burdened as more than 50 percent.<sup>21</sup>

Another study with a large sample of single mothers found that state EITCs led to a 0.5 ounce (16 gram) increase in birthweight.<sup>B</sup> Research on DC's credit expansions over time found beneficial effects ranging from 1.9 to 4.7 fewer low birthweight births per 100 live births and 48 to 104 gram increases in average birthweight (depending on the generosity of the credit; the 104 gram increase was linked to the 40% EITC).<sup>CC</sup> The DC study also found an increase in gestation length ranging from 0.12 to 0.43 weeks depending on the level of EITC generosity (between 10% to 40%). Another study of a local EITC in Montgomery County, Maryland, found that the introduction of the EITC reduced the likelihood of low birthweight by 1.9 to 2.4 percentage points among likely eligible mothers (an 18% change).<sup>V</sup>

An additional study found small but significant impacts of the EITC on birth outcomes—an increase in birthweight of 27.3 grams and an increase in gestation weeks of less than 0.1 weeks in states with generous, refundable credits (state credit generosity was defined as 10% or more of the federal credit).<sup>J</sup> States with less generous or nonrefundable credits still saw significant benefits on these measures, compared to states with no EITCs, but the benefits were smaller in magnitude. The study found no overall significant effect on prenatal care use or health behaviors during pregnancy in those states, and thus the pathway to improved birth outcomes remains unclear. A subsequent analysis by the same authors using the same data found that the improvements were larger in magnitude (37.2 grams and 0.15 gestation weeks) for Black mothers in states with generous, refundable credits compared to the effects for White and Hispanic mothers, indicating that the state credit has the potential to reduce racial disparities in birth outcomes, given that Black infants disproportionately experience low birthweight and preterm birth.<sup>II</sup>

A 2019 study using data from 1968 through 1992 found that increasing EITC exposure from birth to age 15 by \$1,000 decreased adolescent births; in particular, the incidence of births before age 20 was reduced by 0.6 percentage points (or 2%).<sup>BB</sup> This study also found beneficial effects of childhood EITC exposure on college completion by age 23. Effects were similar for White and Black women up until age 22, after which births and educational attainment for Black women did not differ based on childhood EITC exposure to the extent that these outcomes did for White women.

Finally, another study used cross-state and over-time variation in EITC payments (both federal and state) as an instrument to determine the causal impact of income on healthy births and perinatal wellbeing.<sup>YY</sup> The study found no significant causal relationship between the EITC (as an instrument for post-tax income) and outcomes such as birthweight or full-term pregnancy. Coefficients were in the positive direction but did not meet the threshold for statistical significance. Importantly, the authors noted that they used “income and payment size in the *prior* year as the predictor variables for children born in January to April of a given year, and values from the *current* year as the predictor variables for children born in May to December” (p. 446).<sup>YY</sup> This approach ensures that the measure of EITC receipt, as the independent variable, would occur prior to the child's birth.

### **Parental Health and Emotional Wellbeing**

Overall, the evidence shows mixed impacts of state EITCs on caregiver health and health related behaviors (smoking, tobacco use, alcohol consumption, and drug-related mortality). The only

outcomes showing any detrimental results are smoking<sup>F,CC</sup> and obesity,<sup>G,xvii</sup> whereas the other outcomes for this policy goal, including mental health,<sup>I,NN,CCC</sup> suicide,<sup>AA,EE,RR</sup> physical health,<sup>NN,CCC</sup> overall health,<sup>CCC</sup> and longevity<sup>H,UU</sup> show positive or null impacts.

A 2020 study using data from 1993 through 2016 examined the pathways between the EITC and maternal mental health and concluded that the credit, through increased earnings, was linked to a decrease in poor mental health among mothers.<sup>1</sup> More precisely, the authors found that a \$1,000 increase in the maximum state and federal credits' combined value led to a 1.6 percentage point (or 4%) reduction in the likelihood that married mothers reported poor mental health days in the past month, and a 2.3 percentage point (or 4.7%) reduction for unmarried mothers. When findings were analyzed by race among the group of unmarried mothers, non-White mothers saw a 2.5 percentage point decrease in the likelihood of experiencing any poor mental health days in the past month, whereas White mothers saw no significant decrease. When the authors examined the impact of the generosity of state EITCs alone, they found that a 10 percentage point increase in the generosity of the credit (as a percentage of the federal credit) was linked to a 2.8 percentage point reduction in the likelihood of poor mental health days among married mothers, but no statistically significant effect was found for unmarried mothers (although the effect was in the positive direction).<sup>1</sup>

Another 2020 study, using data from 1993 through 2016, examined the credit's impacts on adult physical and mental health (among workers with low educational attainment, who are most likely to be impacted by the EITC) and found that each 10 percentage point increase in the generosity of the refundable state EITC was linked to fewer reports of poor physical health (149.6 per 100,000).<sup>NN</sup> The authors found that positive impacts on mental health were greatest during the months when tax refunds were received, and the reduction in reports of mental distress during the February, March, and April months was statistically significant (a reduction of 329.7 reports per 100,000). The reduction across the full year was not statistically significant. A recent study analyzing data from 1993 through 2018 found similar results on adult physical and mental health among single women of childbearing age with two or more children and low educational attainment. A 10 percentage point increase in refundable state credits was associated with 0.2 fewer days not in good physical health and 0.2 fewer days not in good mental health in the past 30 days (both self-reported). The 10 percentage point increase in refundable state credits was also associated with better self-reported general health on a 5 point scale of poor to excellent health.<sup>CCC</sup>

A 2021 analysis, using data from 1995 through 2015, sought to identify the impact of state EITCs on adult health, including outcomes such as self-reported general health, psychological distress, and tobacco and alcohol use.<sup>QQ</sup> The primary variable explored was the presence or absence of a state EITC, rather than the generosity level of the credit. The findings were null for all outcomes but were in the positive direction for general health and reduced smoking. The average state EITC amount identified in the sample was \$265 per year, and the authors suggested that this amount may have been too small to have a measurable effect on health, in contrast to the federal credit, which amounted to \$1,912 on average per eligible participant in the sample. The study examined whether

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<sup>xvii</sup> This review uses the term "obesity" in the discussion of results because cited studies used the Body Mass Index (BMI). BMI, as a measure, can be beneficial when looking across large groups of a population, but it is far less useful and can be harmful when using it to evaluate individuals, especially women and people of color.<sup>57</sup>

there were differential impacts by race (for Black, White, Hispanic, and “Other”-identified individuals) and found similarly null results. A related study by some of the same authors sought to identify the short-term effects of state and federal EITCs (within the year of receipt) on the same set of health outcomes, and found null impacts as well.<sup>T</sup> The study compared EITC-eligible individuals interviewed in February through April to individuals interviewed from May through January of the following tax year to try to identify the short-term impacts of the credit.

Two additional studies found that a state EITC, and specifically a 10 percent or greater credit, led to a 3 to 4 percent reduction in state suicide rates<sup>AA,EE</sup>, corresponding to around 1,380 fewer suicides per year.<sup>AA</sup> One of the studies found a greater positive effect for non-White<sup>xviii</sup> and Hispanic individuals compared to White, non-Hispanic individuals (a reduction of 5.3% compared to 3.8%, respectively), but the coefficients were not significantly different from one another.<sup>EE</sup> A third study found that each 10 percentage point increase in state EITC generosity led to a 4 percent decrease in suicide attempts and a 1 percent reduction in suicide completion.<sup>RR</sup>

Two recent causal studies and one correlational analysis have examined the possible effects of state EITCs on domestic violence and intimate partner abuse.<sup>OO,SS,4</sup> The authors hypothesized that less financial stress may improve the quality of relationships, and/or that additional income may allow victims of intimate partner violence to achieve greater economic self-sufficiency and leave abusive relationships. One of the studies found that states with refundable EITCs see lower rates of intimate partner abuse.<sup>SS</sup> When comparing mothers living in states with and without refundable EITC credits, mothers in relationships were 45 percent less likely to experience isolation victimization (a situation where one partner restricts another from communicating with family and friends) when they lived in states with refundable EITCs.<sup>SS</sup> The same study showed that mothers in states with refundable EITC credits were 53 percent less likely to experience economic coercion (a situation where a partner withholds or demands money from another).<sup>SS</sup> The second study examined intimate partner homicides only, and found no significant relationship with state EITC generosity. The authors posited that the rarity of this event may have limited the ability to detect a statistical relationship in the data.<sup>OO</sup>

A recent correlational study also found no significant association between state EITC generosity and intimate partner violence.<sup>4</sup> The authors discussed the possibility that economic coercion may prevent victims from accessing the benefits in the first place, preventing the benefits from supporting their path to self-sufficiency and independence from abusive relationships. There were no racial or ethnic differences in impacts found in these studies, although the authors had hypothesized that the EITC (and other policies, including higher TANF benefits and a higher minimum wage) may have a greater protective effect for women of color because the additional resources may act as a buffer against the effects of structural discrimination.

Studies have also examined the association between income and obesity,<sup>G</sup> using the EITC as an instrumental variable for income. An additional \$1,000 in income from the EITC was associated with a significant increase in the probability of obesity among women of approximately 3 to 4 percentage points, depending on whether work hours were controlled for.<sup>G</sup> No significant impact was measured for men.

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<sup>xviii</sup> The study did not specifically refer to participants in the sample as Black, but instead used the terms “non-White” and Hispanic.

Two studies on smoking found contrasting results: One found that greater income, as instrumentalized by simulated EITC credit receipt, reduced the likelihood of maternal smoking by about 5 percent,<sup>B</sup> whereas a second study found that higher income led to higher odds of smoking (and smoking more: A 10% increase in income led to an additional 3.4 cigarettes per day).<sup>F</sup> The authors suggested that in some cases, the increased income allowed individuals to buy more cigarettes, but in other cases, the increased income reduced stress, which in turn reduced smoking. Another study found that smoking during pregnancy<sup>xix</sup> was reduced by 1.6 percentage points with the introduction of an EITC, but only in low-generosity states (i.e., those states offering less than 10% of the federal credit with no refund).<sup>J</sup> A study of the DC credit found an association with increased smoking during pregnancy at all four generosity levels (10%, 25%, 35%, and 40% credit), but the increase was only statistically significant for the change from a 10 percent to 25 percent credit (an increase of 2.1 mothers who smoked per 100 live births).<sup>CC</sup> A 2015 study examined the impact of EITC generosity on alcohol and tobacco consumption during pregnancy and found no statistically significant impact, but results were in the beneficial direction.<sup>YY</sup>

Finally, two studies addressed the link between state EITCs and longevity. A study on health-related quality of life and longevity found that individuals in states with their own EITCs had 2.2 additional quality-adjusted life years compared to residents of states without a credit.<sup>H</sup> A second study by some of the same authors found that each additional \$100 in state EITC supplements led to a 2-week increase in adult longevity.<sup>UU</sup>

A study that primarily examined the impact of the 1993 federal EITC expansion for families with two or more children found that the additional income significantly improved parent health.<sup>7</sup> Heads of households were up to 8.9 percentage points more likely than non-heads of households to report being in excellent or very good health after the expansion. The author found that the most likely mechanisms were greater spending on food and a greater likelihood of having health insurance.

### ***Nurturing and Responsive Child-Parent Relationships***

Three studies offer evidence for the effects of the EITC on parenting quality and child-parent relationships, but all results were null.<sup>L, JJ, MM</sup> A 2016 longitudinal study using data from 1986 through 2000 measured the impact of an additional \$1,000 in EITC exposure (federal and state) on the quality of the home environment, and the study found no significant impacts at a 2-year follow-up interview.<sup>JJ</sup> The study used the Home Observation for Measurement of the Environment (HOME) scale, which includes measures assessing the physical environment (e.g., presence of learning toys) and parent-child interactions (e.g., frequency of reading to the child, praising the child, etc.).<sup>JJ</sup>

A 2021 study, discussed above in the Parents' Ability to Work section of this review, examined how EITC generosity affects the time parents spend with children and the activities they share.<sup>MM</sup> The authors used data from 2003 through 2018 and found that each \$1,000 increase in the maximum EITC amount (federal and state) reduced the total time that single mothers spent with children under age 4 by approximately 4 hours per week (primarily because of increased work time), but did not significantly decrease "investment time" spent with children—activities such as reading together,

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<sup>xix</sup> Given the risks that smoking during pregnancy can pose to infants' health, in addition to that of their mothers, this outcome may also be considered part of the "Healthy and Equitable Births" goal.

providing homework help, or other activities aimed specifically at child development. This finding suggests that children's development may not be harmed if their mothers work more in response to the EITC's labor supply incentive, because the time spent with children in meaningful interaction is preserved. Although mothers spent less time on home production, errands, and leisure with children, their time spent on investment activities did not significantly decline. Effects were similar for White and non-White mothers and were only significant for unmarried mothers.

Another study found that a \$100 increase in the maximum annual state and federal EITC benefits between birth and age 18 had no significant impact on the time a child spent with their mother, father, or either parent.<sup>L</sup> The coefficient was in the negative direction for time with mother, but in the positive direction for time spent with father and time spent with either parent.

### ***Optimal Child Health and Development***

Studies have considered the impacts of state EITCs on a range of child health and safety outcomes, including childhood obesity,<sup>K,L,XX</sup> asthma-related hospitalizations,<sup>Q</sup> foster care entry,<sup>M,R</sup> maltreatment reports,<sup>TT</sup> substantiated abuse or neglect cases,<sup>N</sup> and abusive head trauma,<sup>O</sup> as well as child physical and mental health.<sup>L,FF,JI,XX</sup>

One study found a significant 11 percent decrease in foster care entry (children under age 18) for states with a refundable EITC compared to states with no EITC, corresponding to a decrease of nearly 50 children. The study did not disaggregate results by child age to allow for an examination of children under age 3.<sup>R</sup> An additional study focusing on foster care found that states with EITCs, compared to states without EITCs, had 7.4 percent lower foster care entry rates among children under age 20 overall. However, when disaggregated by child age, null effects were found for young children and overall results were driven by larger reductions in foster care entry among adolescents (i.e., individuals aged 11 to 15 and 16 to 20).<sup>M</sup>

A 2021 study found a significant impact of refundable state EITC generosity on reducing child maltreatment, and in this case, the results were greatest for the youngest children.<sup>TT</sup> The authors used data from 2004 through 2017 and found that each 10 percentage point increase in refundable state EITC generosity led to a 9 percent decline in neglect reports, corresponding to 241 fewer reports per 100,000 children (no significant association was found for physical abuse).<sup>TT</sup> The impacts were greatest for children ages 0 to 5 (324 fewer neglect reports per 100,000 children, compared to 201 fewer neglect reports for children ages 6 to 17).

Most other child health outcomes show null or mixed results for children ages 0 to 5. For example, one study found no significant impact of state EITC benefits on obesity for children ages 0 to 5,<sup>K</sup> whereas a study examining longer-term outcomes found a 1.3 percentage point decrease in the likelihood of obesity as an adult (ages 22 to 27) after early childhood exposure to the EITC (from ages 0 to 5).<sup>L</sup> The study found individual impacts of reducing obesity for were larger for Black and Hispanic children compared to White, non-Hispanic children, however the effects were not statistically distinct, meaning the impacts may not be larger. A 2021 study using data from 1998 through 2016 found no impact of the EITC (including state and federal benefits) on the likelihood of being overweight or underweight (as measured by Body Mass Index), but the study did not

disaggregate by child age.<sup>xx</sup> This study also found null results for child mental health outcomes<sup>xx</sup> in the 3 months immediately following EITC receipt. The study was focused on the short-term effects of the EITC, which is why the results were limited to the 3 months following receipt.

Two recent studies found no significant impacts on asthma-related hospitalizations<sup>q</sup> (data from 1997 through 2010) or abusive head trauma<sup>o</sup> (data from 1995 through 2013), and an older study found no significant impacts on a variety of abuse/neglect indicators (data from 1990 through 1998).<sup>n</sup> The study examining pediatric abusive head trauma found that a refundable state EITC was linked to 3.1 fewer cases of abusive head trauma to infants and toddlers per 100,000 children, but the effect was not significant.<sup>o</sup>

Evidence shows the potential for long-term positive impacts of the EITC. A 2020 paper using data from 1968 through 2017 found that likely exposure to more generous EITCs (a \$100 or 3% increase in federal and state credits) from ages 0 to 18 was significantly linked to a 1.7 percentage point (2.6%) increase in self-reported “very good or excellent” health in adulthood, with an effect of 1 percentage point for exposure between ages 0 and 5.<sup>l</sup> The study found that the effects were largest among families at the lower end of the income distribution (below the 40<sup>th</sup> percentile), who are most likely to receive the EITC. The study found null effects for mental health between ages 22 and 27 based on childhood exposure to the EITC, but the coefficients were in the beneficial direction.

A 2019 study, also using data from 1968 through 2017 (from the Panel Study of Income Dynamics), found that prenatal exposure to the EITC (specifically, a \$1,000 increase in maximum credit exposure during pregnancy) was linked to a small increase in the child’s health status in adulthood on a 5-point scale of poor to excellent health (less than 0.1 point), and a child’s likelihood of smoking as an adult decreased as well.<sup>ff</sup> Exposure during ages 0 to 5 did not yield a significant benefit, however. In addition, Black and male children did not see the same significant benefits that White and female children did in this study.

The longitudinal 2016 study discussed in the Nurturing and Responsive Child-Parent Relationships section of this review also examined the effects of exposure to an additional \$1,000 in EITC payments (both federal and state) on children’s behaviors. The authors found that the additional payment led to improved scores on the Behavior Problems Index (a 28-item questionnaire with a mean normalized score of 100).<sup>jj</sup> The Behavior Problems Index is only completed by mothers of children age 4 and older, so it does not capture the behavior of infants and toddlers (under age 3) and therefore is not reflected in Table 2.

Finally, a 2015 study using data from 1986 through 2000 examined the causal impact of income (using the EITC as an instrumental variable) on whether children were ever breastfed.<sup>yy</sup> The study found null impacts on this indicator. The authors had theorized that reduced stress and anxiety as a result of the extra income may have led to increased breastfeeding, but their data did not confirm this prediction.

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<sup>xx</sup> Children age 3 and under were assessed using the Mental Health Indicator (adapted from the Child Behavior Checklist), and children ages 4 to 17 were assessed using the Strengths and Difficulties Questionnaire from the National Health Interview Survey.

## Is There Evidence That State EITCs Reduce Disparities?

Of the 14 strong studies that examined state (or state and federal) EITCs' impacts on various outcomes for children and families by race and/or ethnicity, five studies<sup>xxi</sup> found significant results suggesting that EITCs had greater positive impacts on subgroups for whom outcomes may have been worse at baseline, and the credit may therefore promote equity by closing gaps in outcomes.

Existing rigorous evidence suggests that state EITCs reduce racial disparities in healthy birth outcomes. In one study, when states with an EITC were compared to states without, Black mothers in EITC states saw an increase in infants' birthweight of 16.12–37.16 grams (0.5–1.2%), compared to an increase of 9.38–28.40 grams (0.3–0.9%) among infants with White mothers.<sup>ii</sup> Hispanic mothers saw a 1.1 percent increase in infants' birthweight in states with an EITC. In the most generous EITC states (states with a refundable credit of 10% or more of the federal EITC), Black mothers saw significantly larger benefits than White mothers for the likelihood of low birthweight (a 1.4 percentage point decrease, compared to 0.7 for White mothers).<sup>ii</sup> Given pre-existing gaps in healthy births between Black mothers and mothers of other races, these results demonstrate the potential for the EITC to reduce disparities.

The EITC may contribute to greater equity in other outcomes, as well. One study found that the EITC had a greater impact on promoting high school graduation for Black children and children in single-parent households than other groups (an advantage of 2.4 and 1.7 percentage points, respectively).<sup>HH</sup> This outcome does not fall within the prenatal-to-3 period (and exposure was not disaggregated for the infant and toddler period), so the finding is not reflected in Table 2, but it is still an important outcome for children's long-term success. Another study found that a 10 percent state EITC, coupled with a 10 percent increase in the state minimum wage, had a greater effect on Black and Hispanic mothers' earnings than for the sample overall (a 14.6% increase, compared to an 8.3% increase for the full sample of mothers ages 21 to 44).<sup>GG</sup>

A study examining the EITC's effect on mothers' mental health found different effects by race, with non-White women reporting greater reductions in the likelihood of poor mental health in the prior month than their White counterparts.<sup>I</sup> To the extent that non-White women face greater mental health challenges than their White peers, this effect may indicate that the credit promotes greater equity in mental health.

Both EITC reforms explored in the NASEM report, discussed previously, were estimated to have the greatest poverty-reducing impacts for Black children, children with single mothers, and children with mothers under age 25 (See Table 5-1, p. 164 of the NASEM Report).<sup>ZZ</sup>

One study of the effects of the EITC on intimate partner violence found that although the policy was linked to a reduction in various forms of coercive and abusive relationships, the effects did not differ by race.<sup>SS</sup> Another study examining how the EITC affects time spent with children also found no significant differences by race.<sup>MM</sup> A study of childhood EITC exposure on later health found greater effects for White, non-Hispanic children than Black and Hispanic children.<sup>L</sup>

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<sup>xxi</sup> The studies, as labeled in our reference list, are studies I, GG, HH, II, ZZ.

A 2020 study, using data from 1996 through 2014, found that the effects of the EITC on employment and earnings among first-time mothers were null regardless of race. However, when looking at results by race and marital status, the coefficients for employment were beneficial for Black single mothers and detrimental for non-Black single mothers.<sup>vv</sup> For married mothers, the directions of the coefficients for employment were reversed.

Overall, beyond the impacts on equitable birth outcomes, more rigorous research is needed to investigate the potential for state EITCs to reduce racial and ethnic disparities in outcomes for children and their parents during the prenatal-to-3 period and beyond. The majority of research examines outcomes by marital status and education level, but not explicitly by race.

### Has the Return on Investment for State EITCs Been Studied?

A recent study of the return on investment for the EITC (federal and state) found that the credit largely “pays for itself” by increasing taxes paid (by \$92 per household) and reducing public assistance received (by \$243 per household).<sup>z</sup> The analysis found that “states with EITCs gain more from the federal EITC, perhaps because state EITCs independently increase labor supply” (p. 14).<sup>z</sup> In 2017, families with low income received \$73 billion in total EITC assistance for a net cost to the government of only \$12 billion.<sup>z</sup> In addition, 2012 estimates from Moody’s Analytics suggested that each \$1 spent on the EITC generated \$1.24 in economic activity. A more comprehensive analysis of the return on investment is forthcoming.

### What Do We Know, and What Do We Not Know?

Through increased labor force participation, higher earnings, and lump-sum credit income, a strong theory of change links the earned income tax credit to reduced poverty and improved outcomes for parents and young children. Research on the federal credit supports these outcomes empirically, whereas a review of the evidence shows that state EITCs have smaller, more mixed effects on employment, sufficient resources, and caregiver physical and mental health, likely because they are smaller credits intended to supplement the federal EITC and its impacts. The evidence does not show a consistent causal link between state EITCs and child health and safety in the short term, although there is some evidence of beneficial impacts on maltreatment reduction and health status when children are in elementary school or older. Research has found consistently beneficial impacts of a refundable state EITC (of 10% or more of the federal credit) on birth outcomes, including the potential to reduce racial disparities in healthy births. In addition, an increase in the maximum value of the combination of the federal and state credits can increase maternal employment, labor force attachment, or household resources.<sup>xxii</sup>

The research on state EITCs has several gaps to be addressed in future work. First, researchers should work to clarify the theoretical links between the federal and state EITCs and outcomes of interest. Whereas the theory is clear on how the EITC should affect parents’ employment and their earnings, it is less clear what the effects should be on health and birth outcomes and why. Research generally suggests that greater income can promote access to health care, including prenatal care, but the empirical findings on this pathway are mixed, although the results for birth outcomes are

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<sup>xxii</sup> For example, see studies C, E, U, Z, GG, HH, LL, and MM.

positive. Identifying the mechanisms or pathways through which the EITC should impact outcomes for families and children will help to clarify where the EITC is making a significant impact and where it is not, and why.

Another limitation of the research is that many studies examine the combined effects of the federal and state credits and do not separately analyze the contribution of state credits to economic security or other outcomes. In addition, much of the research examines outcomes based on differential eligibility for the EITC rather than measuring outcomes for families who actually receive the credit compared to families who do not. Over time, and to the extent that available data allow such analyses, it will be important to further investigate the barriers to take-up among families and the outcomes associated with receipt of the credit rather than eligibility (or likely eligibility, through proxy indicators such as education or income level).

Research should further examine the impact of state EITCs by credit generosity and refundability. Several studies have shown that more generous, refundable state credits have larger positive impacts,<sup>A,J</sup> and research shows that a 10 percent or greater credit is effective for positive birth outcomes, but most studies examine the impacts of an additional \$1,000 in total EITC funds rather than examining the optimal state credit level. Further research is also needed to understand how an increase in earnings associated with greater work participation is balanced by reductions in benefits for workers with incomes near the safety net eligibility threshold, to determine whether families are left financially better off overall. Research on whether the EITC is associated with greater use of quality child care, given mothers' increased work participation, would also be valuable.

Study samples in the EITC literature focus primarily on single mothers as likely recipients of the credit, but future work should expand the scope to consider the impacts on fathers, other custodial caregivers, and noncustodial parents as well. Preliminary findings from a pilot study of an expanded New York City credit for single adults and noncustodial caregivers (up to \$2,000 for those making up to \$30,000) found that the credit increased employment, reduced poverty, and increased the likelihood of making child support payments by 7.2 percentage points.<sup>13</sup> Long-term health and economic impacts from the receipt of state credits in childhood should also be studied further, as these longer-term outcomes are relatively new in the literature.

Although we see some evidence of reduced racial disparities in birth outcomes as a result of a refundable 10 percent or greater credit,<sup>11</sup> future research should further examine how state EITCs affect existing health and income disparities across race, ethnicity, and socioeconomic status.

### **Is a State EITC an Effective Policy for Improving Prenatal-to-3 Outcomes?**

Existing evidence suggests that implementing a state earned income tax credit, and in particular a refundable credit of at least 10 percent of the federal EITC, can amplify the impact of the federal EITC and increase the employment and earned income of lower-income families and individuals with lower educational attainment. The evidence suggests that the credit has the clearest impact on improving birth outcomes, with particularly positive effects for families of color.

## How Do State EITCs Vary Across the States?<sup>xxiii</sup>

As of October 1, 2022 27 states<sup>xxiv</sup> have adopted and implemented refundable state EITCs, and only four states have implemented nonrefundable credits (Hawaii, Ohio, South Carolina, and Utah). Of the 27 states with a refundable credit, 21 have a credit of at least 10 percent of the federal credit that applies to all eligible taxpayers with children under age 3. The levels of these refundable state credits range from 3 percent of the federal credit in Montana to a maximum of 70 percent in DC (and up to 85% in California, which has a structure distinct from that of the federal credit<sup>xxv</sup>).<sup>18</sup> Of the remaining 20 states that have not implemented their own EITCs, 8 do not have a state income tax; without this source of funding, states will need to explore other financing options if they choose to implement a credit.

Table 3: State Variation in State Earned Income Tax Credits

State has adopted and fully implemented a refundable EITC of at least 10% of the federal EITC for all eligible families with any children under age 3			
State	Yes/No	State EITC Detail	State EITC Value as a % of the Federal EITC (For Tax Year 2022)
Alabama	No	No EITC	No EITC
Alaska	No**	No EITC, No Income Tax	No EITC, No Income Tax
Arizona	No	No EITC	No EITC
Arkansas	No	No EITC	No EITC
California	Yes	Refundable EITC of at Least 10%	85%+
Colorado	Yes	Refundable EITC of at Least 10%	20%
Connecticut	Yes	Refundable EITC of at Least 10%	41.5% (temporary increase)
Delaware	No	Refundable EITC Less Than 10%	4.5% (or 20% nonrefundable)
District of Columbia	Yes	Refundable EITC of at Least 10%	70% (100% for workers without children)
Florida	No**	No EITC, No Income Tax	No EITC, No Income Tax
Georgia	No	No EITC	No EITC
Hawaii	No	Nonrefundable EITC	20%
Idaho	No	No EITC	No EITC
Illinois	Yes	Refundable EITC of at Least 10%	18%

<sup>xxiii</sup> For details on state progress implementing state EITCs, see the state EITC section of the US Prenatal-to-3 State Policy Roadmap: <https://pn3policy.org/pn-3-state-policy-roadmap-2022/us/state-eitc>

<sup>xxiv</sup> State counts include the District of Columbia.

<sup>xxv</sup> California may provide up to 85% of the federal credit for the lowest-income families, but almost all families receive up to 45% of the federal credit and no higher.

Table 3: State Variation in State Earned Income Tax Credits (Continued)

<b>State has adopted and fully implemented a refundable EITC of at least 10% of the federal EITC for all eligible families with any children under age 3</b>			
<b>State</b>	<b>Yes/No</b>	<b>State EITC Detail</b>	<b>State EITC Value as a % of the Federal EITC (For Tax Year 2022)</b>
<b>Indiana</b>	Yes	Refundable EITC Less Than 10%	10%
<b>Iowa</b>	Yes	Refundable EITC of at Least 10%	15%
<b>Kansas</b>	Yes	Refundable EITC of at Least 10%	17%
<b>Kentucky</b>	No	No EITC	No EITC
<b>Louisiana</b>	No*	Refundable EITC Less Than 10%	5%
<b>Maine</b>	Yes	Refundable EITC of at Least 10%	25% (50% for workers without children)
<b>Maryland</b>	Yes	Refundable EITC of at Least 10%	45% (100% for workers without children)
<b>Massachusetts</b>	Yes	Refundable EITC of at Least 10%	30%
<b>Michigan</b>	No*	Refundable EITC Less Than 10%	6%
<b>Minnesota</b>	Yes	Refundable EITC of at Least 10%	45%+
<b>Mississippi</b>	No	No EITC	No EITC
<b>Missouri</b>	No	No EITC	No EITC***
<b>Montana</b>	No*	Refundable EITC Less Than 10%	3%
<b>Nebraska</b>	Yes	Refundable EITC of at Least 10%	10%
<b>Nevada</b>	No**	No EITC, No Income Tax	No EITC, No Income Tax
<b>New Hampshire</b>	No**	No EITC, No Income Tax	No EITC, No Income Tax
<b>New Jersey</b>	Yes	Refundable EITC of at Least 10%	40%
<b>New Mexico</b>	Yes	Refundable EITC of at Least 10%	20%
<b>New York</b>	Yes	Refundable EITC of at Least 10%	30%
<b>North Carolina</b>	No	No EITC	No EITC
<b>North Dakota</b>	No	No EITC	No EITC

Table 3: State Variation in State Earned Income Tax Credits (Continued)

State has adopted and fully implemented a refundable EITC of at least 10% of the federal EITC for all eligible families with any children under age 3			
State	Yes/No	State EITC Detail	State EITC Value as a % of the Federal EITC (For Tax Year 2022)
Ohio	No	Nonrefundable EITC	30%
Oklahoma	No	Refundable EITC Less Than 10%	5%
Oregon	Yes	Refundable EITC of at Least 10%	12% for families with dependents under age 3, 9% for all other filers
Pennsylvania	No	No EITC	No EITC
Rhode Island	Yes	Refundable EITC of at Least 10%	15%
South Carolina	No	Nonrefundable EITC	104.17%
South Dakota	No**	No EITC, No Income Tax	No EITC, No Income Tax
Tennessee	No**	No EITC, No Income Tax	No EITC, No Income Tax
Texas	No**	No EITC, No Income Tax	No EITC, No Income Tax
Utah	No	Nonrefundable EITC	15%
Vermont	Yes	Refundable EITC of at Least 10%	38%
Virginia	Yes	Refundable EITC of at Least 10%	15% (or 20% nonrefundable)
Washington	Yes	Refundable EITC of at Least 10%	Flat rebate based on the number of dependents (\$300 to \$1,200)
West Virginia	No	No EITC	No EITC
Wisconsin	No*	Refundable EITC Less Than 10%	4% for 1 child, 11% for 2 children, 34% for 3 or more children
Wyoming	No**	No EITC, No Income Tax	No EITC, No Income Tax

\*Indicates that the state has a refundable EITC which does not meet the threshold of at least 10 percent of the value of the federal EITC for all eligible families with any children under 3.

\*\*Indicates that the state does not have a tax on individual earned income. Alaska, Florida, Nevada, South Dakota, Texas, Washington, and Wyoming have no personal income tax at all. New Hampshire and Tennessee have no personal income tax on earned income, though there is tax assessed on some dividends, interest, and other income from investments.

\*California's stated maximum is 85%, but the typical percentage amount varies considerably based on income and household structure, given California's unique phase-out calculations. Minnesota's EITC is based on a percentage of income instead of a percentage of the federal EITC. For tax year 2022, this percentage is estimated to range from 25% to 45%.

Data as of October 1, 2022. State income tax statutes. For additional source and calculation information, please refer to the [Methods and Sources](#) section of [pn3policy.org](http://pn3policy.org).

## How Did We Reach Our Conclusions?

### **Method of Review**

This evidence review began with a broad search of all literature related to the policy and its impacts on child and family wellbeing during the prenatal-to-3 period. First, we identified and collected relevant peer-reviewed academic studies as well as research briefs, government reports, and working papers, using predefined search parameters, keywords, and trusted search engines. From this large body of work, we then singled out for more careful review those studies that endeavored to identify causal links between the policy and our outcomes of interest, taking into consideration characteristics such as the research designs put in place, the analytic methods used, and the relevance of the populations and outcomes studied. We then subjected this literature to an in-depth critique and chose only the most methodologically rigorous research to inform our conclusions about policy effectiveness. All causal studies considered to date for this review were released on or before February 28, 2022.

### **Standards of Strong Causal Evidence**

When conducting a policy review, we consider only the strongest studies to be part of the evidence base for accurately assessing policy effectiveness. A strong study has a sufficiently large, representative sample, has been subjected to methodologically rigorous analyses, and has a well-executed research design allowing for causal inference—in other words, it demonstrates that changes in the outcome of interest were likely caused by the policy being studied.

The study design considered most reliable for establishing causality is a randomized controlled trial (RCT), an approach in which an intervention is applied to a randomly assigned subset of people. This approach is rare in policy evaluation because policies typically affect entire populations; application of a policy only to a subset of people is ethically and logistically prohibitive under most circumstances. However, when available, RCTs are an integral part of a policy's evidence base and an invaluable resource for understanding policy effectiveness.

The strongest designs typically used for studying policy impacts are quasi-experimental designs (QEDs) and longitudinal studies with adequate controls for internal validity (for example, using statistical methods to ensure that the policy, rather than some other variable, is the most likely cause of any changes in the outcomes of interest). Our conclusions are informed largely by these types of studies, which employ sophisticated techniques to identify causal relationships between policies and outcomes. Rigorous meta-analyses with sufficient numbers of studies, when available, also inform our conclusions.

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