

The Earned Income Tax Credit's Impact on Health

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Introduction

A longstanding and well-established literature has described a positive relationship between income and other measures of socioeconomic status such as wealth or education and health and well-being (Adler & Rehkopf, 2008; Marmot & Wilkinson, 2005; Braveman et al., 2005; Lantz et al., 1998). The Earned Income Tax Credit (EITC), a broad-based income support program that raises millions of Americans out of poverty, has been well covered by others in this issue. Examining the effect of changes in EITC benefits and their relation to health outcomes is especially useful in deepening our understanding of how income impacts health, because these policy changes can provide a source of income variation that is relatively exogenous to individual or household characteristics. Perhaps more



importantly, it provides an opportunity to broaden our views of both health and economic policy by exploring the relationship between them.

What is the evidence?

A small but growing body of research has begun to explore the relationship between higher income resulting from EITC benefits and improved health outcomes. This research generally has focused on maternal and child health outcomes because the vast majority of EITC benefits accrue to families with young children. These studies, based on a variety of different datasets, have mainly used a difference-in-differences analytic strategy around policy parameter changes to identify its impact on the health outcomes of individuals most likely to receive EITC benefits (e.g., single mothers with a high-school degree or less).

The difference-in-differences framework tries to isolate the impact of EITC benefits by comparing and contrasting the outcomes of two different groups over time — one that is “treated” with an injection of EITC benefits (e.g., through a policy expansion) and another group that is “untreated” and does not receive any additional EITC benefits. The “untreated” group is intended to control for any trend in the health outcome of interest that may be occurring at the same time but is unrelated to any EITC treatment. If the “treated” group experiences a change in its health outcomes that is notably different from the “untreated” group, this is attributed to the EITC “treatment.” Thus the label “difference-in-differences”: This approach identifies an EITC effect by measuring whether there is a *difference* in health outcomes over time between two *different* groups — those treated and those untreated.

Several studies have applied a quasi-experimental design using the large increases in EITC benefits occurring during the early and mid-1990s, embodied in the Omnibus Budget Reconciliation Acts of 1990 and 1993 (OBRA 90 & 93). In particular, these analyses take advantage of the fact that families with two or more children received a much larger boost in EITC benefits than other family types (i.e., families with no children or families with only one child) and try to link changes in health to these differently sized EITC benefit increases.

Kevin Baker (2008), in a widely cited but unpublished study, may have been the first to apply a difference-in-differences approach to estimate the changes from OBRA93. He found that the EITC both led to an increase in average birthweight and reduced the incidence of low birthweight. Boyd-Swan and

colleagues (2013) used this framework to estimate intent-to-treat health effects of the EITC with data from the National Survey of Families and Households. They found that the EITC expansion under OBRA90 generated health benefits for low-skilled mothers including lower depression symptomatology, an increase in self-reported happiness, and improved self-efficacy. Evans and Garthwaite (2014), using the OBRA93 expansions of the EITC, found an association between EITC benefits and maternal health outcomes. Combining data from the Behavioral Risk Factor Surveillance Survey (BRFSS) and the National Health and Nutrition Examination Survey (NHANES), they found improved self-reported mental and physical health and decreased biomarkers of physical and mental stress among mothers with a high-school degree or less. These findings are consistent with past research that indicates that low socioeconomic status affects health through stress or other related physiological conditions (Seeman et al., 2008; Kubzansky, Kawachi, & Sparrow, 1999).

EITC benefits improve the birthweights of newborns to single mothers with a high-school degree or less.



Hoynes, Miller and Simon (2015), also building upon the policy changes stemming from OBRA93, reported that EITC benefits improve the birthweights of newborns to single mothers with a high-school degree or less. They also considered the channels by which EITC benefits may improve low birthweight rates and found some evidence that increased EITC benefits raise the rate of prenatal care and reduce maternal smoking.

Some concerns have been raised in the literature regarding the short-term impact of income gains (as opposed to income) on health (Apouey & Clark, 2015; Evans & Moore, 2011; Phillips, Christenfield, & Ryan, 1999). Rehkopf and colleagues (2014) examined this phenomenon using 30 outcome measures from NHANES in the categories of diet, food security, health behaviors, cardiovascular biomarkers, metabolic biomarkers, and infection and immunity. They found that although EITC payments did not lead to universal health improvements, the overall effects were beneficial: “Indeed, many outcomes that are key determinants of health (e.g. food security, smoking/exposure to smoke) were affected in a health-promoting direction.” This finding is supported by several studies that have demonstrated that maternal smoking in particular is reduced in association with EITC receipt (Hoynes, Miller, & Simon, 2015; Averett & Wang, 2013; Cowan & Teffit, 2012), although some inconsistent results have also been reported with regard to smoking in low-income populations (Kenkel, Schmeiser, & Urban, 2014).

Other investigators have focused on the effects of state-level supplemental EITC programs on health outcomes. Strully and colleagues (2010) reviewed state programs that operated between 1980 and 2002 — up to 15 programs by 2002 — and found that the presence of state EITC programs produces higher average birthweights among single mothers with a high-school degree or less. They propose that this outcome results from the ability of small, short-term income increases to boost expectant mothers’ nutritional intake, mitigating prenatal poverty. (They also found that the EITC was associated with reduced odds of maternal smoking by about 5%.)

Baughman and Duchovny (2013) analyzed the health impacts of state programs on children’s health between 1992 and 2006, a period during which up to 20 states had adopted their own supplemental programs. They found that state EITCs are associated with improvements in health status for children ages 11 to 14, as reported by the child’s mother, concluding that this was due to higher rates of maternal employment and increased earnings.

“My health insurance doesn't cover doctors visits but I have some EITC money left over and I can afford to get them checkups and deal with an emergency.”

— Mother of middle-school aged child

Our own study examined health effects of New York State’s and New York City’s EITC policies on low-income



neighborhoods between 1997 and 2010 (Wicks-Lim & Arno, 2015). We found that a 15-percentage-point increase in the EITC rates was linked to a 0.45-percentage-point reduction in the low birthweight rate in New York City's poor neighborhoods. This is substantial when we consider that low birthweight rates have fluctuated narrowly between 9.0% and 9.8% during that time period. The magnitude of our low-income neighborhood estimates suggests that EITC's impact on the low birthweight rate is stronger than that experienced by the average EITC-recipient household and falls within the range of traditional health policies such as Medicaid (Currie & Gruber, 1996). We speculate that because the conditions in high poverty neighborhoods appear to intensify poverty's impact on health and the EITC delivers benefits to residents in these areas in a concentrated way, it exerts an influence on individuals' health outcomes that is independent of an individual's own poverty status (Jacob, Ludwig, Douglas, & Miller, 2013; Kneebone & Berube, 2008; Brooks-Gunn, Duncan, & Aber, 1997).

What do the findings mean?


The evidence base supporting the link between income support policies such as the EITC and improved health outcomes is small, possibly because it has not been extensively studied, but the data are emerging and seem promising. The weight of the evidence, although not conclusive (Hammad & Rehkopf, 2015; Bruckner, Rehkopf, & Catalano, 2013; Pega, Carter, Blakely, & Lucas, 2013; Larrimore, 2011), suggests that the EITC does in fact improve health outcomes, particularly those affecting women and young children. However, there are still many gaps in our knowledge. We are far from a comprehensive understanding of the precise causal pathways between improvements in socioeconomic status and health outcomes. Additional research is needed to really know if improved health outcomes related to the EITC are the result of reduced smoking or stress, purchasing needed consumer goods or higher quality food, improving access to health care, or even enhanced neighborhood amenities.

There has always been a question of whether health improvements stemming from increased EITC benefits are the result of a direct income effect, from increased employment (which has been demonstrated in numerous studies; Wicks-Lim & Pollin, 2012; Adireksombat, 2010; Hotz & Scholz, 2010; Eissa & Hoynes, 2006; Meyer & Rosenbaum, 2001), or some combination of income and employment. Nichols and Rothstein (2015) have suggested that "The EITC effect should be interpreted to include effects operating through (for example) changes in time use, access to employer-provided health insurance, and the mental health consequences of employment." Clearly more research is needed to answer this question definitively. Yet from a public policy perspective, one has to ask, does it really matter? If employment rates and health status improve as a result of higher EITC benefits, where is the downside?

We also need to broaden our analytic framework to better understand the multiple and interactive levels at which socioeconomic status may affect health. As Patricia O'Campo (2013) stated in her aptly named chapter, *Harder Than Rocket Science? The Science of Designing and Implementing Strong Family-Friendly Policies*:

The dominant explanatory model used in epidemiologic and social epidemiologic inquiry continues to be the biomedical or "disease-specific model," which seeks to identify mostly individual-based risk markers and risk factors for specified health conditions. Thus, the study of macro-social policies and programs necessitates the expansion of the study designs used to understand and document contextual and macro-level influences on family and individual well-being.

If we are correct in our supposition of how the impact of the EITC operates in high-poverty neighborhoods, then its health effects may go beyond the income an individual may receive. By injecting millions of dollars into high-poverty communities, which in turn can generate additional economic activity (Haskell, 2006; Jacob France Institute, 2004), the EITC can have powerful, even community-wide, effects. This could be particularly important given the troubling fact that concentrated poverty has nearly doubled in this country between 2000 and 2013 (Jargowsky, 2015).

Finally, new research is required to go beyond single-issue analyses of the EITC and examine the potential joint impacts on health in various populations of other income support policies such as the Child Tax Credit and the minimum wage rate. The EITC-health nexus provides an opportunity to break down some of the silos between health and economic policy within the research community, as well as among funders and public officials. Perhaps the latest developments in neurobiology demonstrating the pernicious impact of poverty on normal brain development in children (Hair, Hanson, Wolfe, & Pollak, 2015) can strengthen our resolve to expand the social determinants of health's analytic framework to enhance our understanding of the social forces, institutions, and policies that can reduce poverty and improve our population's health 

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