Does Income Affect Health? Evidence from a Randomized Controlled Trial of a Guaranteed Income*

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July 18, 2024

Abstract

This paper provides new evidence on the causal relationship between income and health by studying a randomized experiment in which 1,000 low-income adults in the United States received $1,000 per month for three years, with 2,000 control participants receiving $50 over that same period. The cash transfer resulted in large but short-lived improvements in stress and food security, greater use of hospital and emergency department care, and increased medical spending of about $20 per month in the treatment relative to the control group. Our results also suggest that the use of other office-based care—particularly dental care—may have increased as a result of the transfer. However, we find no effect of the transfer across several measures of physical health as captured by multiple well-validated survey measures and biomarkers derived from blood draws. We can rule out even very small improvements in physical health and the effect that would be implied by the cross-sectional correlation between income and health lies well outside our confidence intervals. We also find that the transfer did not improve mental health after the first year and by year 2 we can again reject very small improvements. We also find precise null effects on self-reported access to health care, physical activity, sleep, and several other measures related to preventive care and health behaviors. Our results imply that more targeted interventions may be more effective at reducing health inequality between high- and low-income individuals, at least for the population and time frame that we study.

*Many people were instrumental in the success of this project. The program we study and the associated research were supported by generous private funding sources, and we thank the non-profit organizations that implemented the program. We are grateful to Jake Cosgrove, Leo Dai, Joshua Lin, Anthony McCanny, Ethan Sansom, Kevin Didi, Sophia Scaglioni, Oliver Scott Pankratz, Angela Wang-Lin, Jill Adona, Oscar Alonso, Rashad Dixon, Marc-Andrea Fiorina, Ricardo Robles, Jack Bunge, Isaac Ahuvia, and Francisco Brady, all of whom provided excellent research assistance. Alex Nawar, Sam Manning, Elizabeth Proehl, Tess Cotter, Karina Dotson, and Aristia Kinis were invaluable contributors through their work at OpenResearch. Carmelo Barbaro, Janelle Blackwood, Katie Buitrago, Melinda Croes, Crystal Godina, Kelly Hallberg, Kirsten Jacobson, Timi Koyejo, Misuzu Schexnider, and the staff of the Inclusive Economy Lab at the University of Chicago more broadly have provided key support throughout all stages of the project. Kirsten Herrick provided help with the nutrition diary data collection effort of this project. We are grateful for the feedback we received throughout the project from numerous researchers and from our advisory board, as well as useful feedback from seminar and conference participants. This study was approved by Advarra Institutional Review Board (IRB). We received funding for this paper from NIH grant 1R01HD108716-01A1. Any views expressed are those of the authors and not those of the U.S. Census Bureau. The Census Bureau has reviewed this data product to ensure appropriate access, use, and disclosure avoidance protection of the confidential source data used to produce this product. This research was performed at a Federal Statistical Research Data Center under FSRDC Project Number 3011. (CBDRB-FY24-P3011-R11537).

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1 Introduction

The positive correlation between income and health–sometimes called the health-income "gradient"–is one of the strongest and most widely-documented associations in the social sciences. The differences in health outcomes observed between rich and poor are substantial: for example, conditional on reaching age 40, men at the top of the income distribution can expect to live nearly 15 years longer than their counterparts at the bottom of the income distribution; this difference is about 10 years for women (Chetty et al., 2016). These differences are observed early in life, become larger as individuals age, and are present across numerous countries, time periods, and measures of health (Case et al., 2002; Chetty et al., 2016; Bavafa et al., 2023; Kennedy-Moulton et al., 2023; Evans et al., 2012).

Especially in the context of the United States, it is plausible that this correlation between income and health could reflect an underlying causal relationship. Indeed, low-income people report poor access to medical care, face more stressors, have less access to nutritious food and exercise opportunities, and report lower-quality sleep than their high-income counterparts (Allcott et al., 2019; Granddner et al., 2010; Miller and Wherry, 2019; American Psychological Association, 2017). Higher income could affect these health inputs and improve health as a result. Such patterns of deprivation across many related health measures have led some health policy experts to advocate for programs that attempt to improve health by targeting "social determinants" such as income, housing, or neighborhood quality in addition to–or even in lieu of–encouraging increased use of medical care. Providing vulnerable populations a guaranteed income, or other forms of cash transfers, is one such policy that advocates argue could affect the social determinants of health, improve health outcomes, and reduce health disparities between rich and poor.[1] However, such claims presuppose a causal link between income and health that has not been fully established.

Our paper provides new evidence on the causal relationship between income and health by analyzing a large-scale randomized controlled trial (RCT) of a guaranteed income, the OpenResearch Unconditional income Study (ORUS), that occurred in the United States between November 2020 and October 2023. To conduct this study, we assisted two non-profit partners in the recruitment of 3,000 low-income adults and randomly assigned 1,000 to receive $1,000 per month for 3 years, with the

[1] A few examples are: https://www.vox.com/future-perfect/23792854/poverty-mortality-study-public-health-antipoverty-america-deaths-poor-life-expectancy; https://publichealth.jhu.edu/2022/what-guaranteed-income-means-for-public-health; https://blogs.bmj.com/medical-ethics/2024/01/29/health-inequity-is-a-problem-universal-basic-income-could-be-a-solution/

control group of 2,000 adults receiving $50 per month over the same period. To assess the impact of this unconditional cash transfer on health, we collected data from multiple sources measuring a large number of health inputs (e.g., nutrition, exercise, access to and use of health care services, alcohol and drug use, insurance coverage, and sleep quality) and health outputs (e.g., self-reported mental and physical health, clinical measures of health derived from blood draws, and mortality). The large size and prolonged period of the transfer, combined with the highly credible randomized design, give us confidence that we are able to detect impacts on health if they are present. Our study is also unique in the large number of health-relevant variables we are able to observe by combining administrative data with survey data and other sources to obtain a comprehensive set of measures to explore the health-income relationship. Furthermore, our sample is comprised of low-income adults in the US, a population of particular interest to policymakers and the target of several existing cash transfers programs such as the Earned Income Tax Credit (EITC), the Child Tax Credit (CTC), Temporary Aid to Needy Families (TANF) and other state-level programs aimed at poverty alleviation. Our sample also reports high health needs; at baseline, about 29% of the sample was uninsured, 27% reported that they skipped needed care due to cost, and more than half reported poor, fair, or good (rather than very good or excellent) health. These needs enhance the plausibility that a guaranteed income could affect participants' health outcomes, and make our study well-positioned to provide highly policy-relevant new information on whether an intervention targeting a social determinant of health–in this case, income–can effectively improve health outcomes.

We find that the transfer appeared to generate large but short-lived improvements in mental health measures like stress and psychological distress. These improvements only were observed in the first year of the transfer; by year 2, there were no significant differences in mental health outcomes across the treatment and control groups. Our confidence intervals can rule out even small improvements in mental health measures in the last year of the transfer or if we pool observations across time periods; for example, when mental health outcomes are pooled across time within a participant, our aggregated index of mental health outcomes can rule out improvements greater than 0.028 standard deviations. We find essentially no evidence of improvements in physical health due to the transfers and again can rule out even small improvements. We can rule out effects on an index of physical health outcomes larger than 0.023 standard deviations, and for many individual components of that index (such as number of days reported to be in good physical health of the last 30 or health rating from poor to excellent), we can rule out improvements in health greater than 1% of the control group mean.

We also find no persistent improvements in clinical measures of health derived from blood draws such as A1c (a measure of diabetes risk), blood pressure, cholesterol, obesity, or other cardiovascular health measures; confidence intervals of the effect on an index of these clinical measures allow us to rule out improvements greater than 0.02 standard deviations, although for individual measures the confidence intervals vary (e.g., we can rule out improvements in A1c greater than 1.35% of the control group mean, but improvements in high cholesterol rates of only 12.25%). We also find no statistically significant effect on mortality, although our confidence intervals include reductions as large as 79%.

Even if direct measures of health do not improve over the 3-year transfer period, long term health prospects may be ameliorated if participants' health inputs change. Here, we do find some evidence suggesting this may be the case. Treated participants spent about $20 per month more on medical care compared to control participants, and used more hospital, emergency department, and dental care as a result of the transfer. We also observe a positive effect of the transfer on an aggregate measure of office-based care that is statistically significant with traditional inference methods but not after adjusting for multiple hypothesis testing. It is possible this increase in the use of medical care associated with the transfer could generate future health improvements. Our results suggest mixed effects on the use of alcohol and drugs, with treated participants drinking alcohol more frequently but reporting less frequent incidents of problematic drinking (i.e., drinking that interferes with responsibilities) and abuse of painkillers relative to the control group, although the significance of these estimates also does not survive an adjustment for multiple hypothesis testing. We also find that the transfer generated large and highly statistically significant improvements in food security in the first year. However, mirroring our results for mental health, these improvements were short-lived and, by the end of the program, participants in the treatment group reported no better ability to meet their food needs than those in the control group.

Surprisingly, we find no improvements in measures of participants' self-reported access to health care or their concerns about their ability to pay for needed medical care; for an aggregate index of these measures, we can reject improvements greater than 0.04 standard deviations, although confidence intervals on any given component of this index tend to be noisier. We also don't find that participants in the treatment group used more preventive care, such as vaccines or cancer screenings, or that they made more health investments by exercising or sleeping more. We can reject even small improvements in these measures. These null effects are fairly consistent across subgroups, including those who were uninsured or who had the lowest household incomes at baseline. The results are robust to a variety

of alternative specifications and to checks that assess the role of the small amount of differential non-response we observe across treatment arms in our survey measures. Notably, a survey of experts was more optimistic about the ability of the transfer we study to move self-reported health, access to and use of medical care, and exercise; average predictions about treatment effects on these outcomes lie outside the corresponding estimate's 95% confidence interval.

Our work relates to existing research documenting causal effects of income on health in the context of the US. Most closely related are two recent unconditional cash transfer studies. Chelsea Eats provided $400 per month for 9 months (from November 2020 to August 2021) to a randomly-selected group of 2,213 low-income residents of Chelsea, Massachusetts (of which 1,067 chose to participate in the study), with a control group of 1,402 (of which 730 participated). The study found improvements in food security and nutrition among the group receiving the transfer. However, there was no evidence of changes in self-reported physical or mental health outcomes or access to health care (Liebman et al., 2022). Baby's First Years provided $333 per month for 72 months to 400 randomly-selected low-income mothers in four US cities who were recruited at the time of the birth of their child, with 600 similar mothers serving as a control group (Noble et al., 2021). This study found no evidence in changes in health-related outcomes for the mothers (e.g., no reduction in stresses or change in substance use disorder), nor did it find changes in child health-related outcomes except for an increase in the child's consumption of fresh produce (Yoo et al., 2022; Magnuson et al., 2022; Sperber et al., 2023). Additionally, several studies have investigated randomized one-time allocations of cash support (e.g. one-time payments of $500, $1000, or $2000) during the COVID-19 pandemic. These studies find mostly null impacts of the cash on health-related measures (e.g., Pilkauskas et al., 2023; Jacob et al., 2022; Jaroszewicz et al., 2023).

Our study builds and improves on this existing work in several ways. First, our sample size is substantially larger than those used in previous US-based RCTs. In addition to enrolling a large sample at the outset, we also have very high response rates to our surveys (exceeding 90 percent), giving us additional statistical power and confidence in our measures. Second, we provide a much larger monthly transfer amount which is sustained for three full years, making it likely that we would detect health effects of income if they were present. Third, because the cash transfers analyzed in our study ran from late 2020 through the fall of 2023, the majority of our intervention occurred after the introduction of the COVID-19 vaccines. Our endline survey was conducted in late summer through fall of 2023, which is widely considered to be the "post-COVID" era. This timing may result in improved ex-

ternal validity relative to cash transfer programs used specifically for relief during the pandemic that occurred during the height of the crisis (e.g., Liebman et al. (2022), Pilkauskas et al. (2023), Jaroszewicz et al. (2023)). Finally, our study collected several outcomes not available in previous work, such as underlying measures of physical health derived from blood samples, detailed information on nutritional intake and time use, and administrative records on medical debt in collections and mortality. These outcomes are important because they allow us to observe relevant health inputs and, in the case of biomarkers and administrative data, provide a source of information that is not self-reported by the participant and thus free of possible recall bias or Hawthorne effects (Parsons, 1974).

Other existing research on this topic has leveraged naturally occurring random or quasi-random variation in income to explore the health-income relationship. Several papers have analyzed income shocks due to changes in the Earned Income Tax Credit, finding mixed effects; however, the average changes in income generated by these policy shocks are relatively small at about a few hundred dollars per year (e.g., Evans and Garthwaite, 2014; Hoynes et al., 2015; Schmeiser, 2009). Additional studies examine larger income transfers that target narrowly-defined populations, such as army veterans with mental health problems or Native Americans living near tribal casinos (Silver and Zhang, 2023; Wolfe et al., 2012). Our paper is also related to work from the Swedish context that evaluates the impact of wealth on health by comparing lottery players who win different amounts (Cesarini et al., 2016). This work finds minimal differences in mortality and health care utilization across the size of lottery prizes even ten years after the award. We build on this existing work in several ways: we generate new evidence from low-income adults in the US, a highly policy-relevant population and the target of many existing cash transfer programs; we examine a larger number of intermediate and health outcomes; we leverage the highly credible randomized design of the intervention; and we study a relatively large and prolonged increase in monthly income which gives us confidence that health effects may be detectable if present.

Our results show that, at least over a 3 year time horizon we study, income transfers are unlikely to reduce health inequality across adults with different non-transfer income. The implication from this finding is that organizations that seek to improve health by addressing the "social determinant" of income–at least for populations and time frames like the one we study–may be more successful at achieving their goals if they instead focus on more traditional health interventions such as expanding access to health insurance, reducing the cost of prescription drugs, or facilitating appointments with primary care physicians, as such programs have been shown via rigorous evaluation to quickly and

significantly improve many of the outcomes we consider.[2] We conclude that while unconditional cash transfers may generate larger welfare gains for recipients by giving them the flexibility to consume what they value the most, more targeted and health-focused interventions are likely better at reducing disparities in health and access to health care specifically across rich and poor patients.

2 Background

2.1 Why might income affect health?

Unlike other wealthy countries, the United States does not have a national health care program that guarantees access to medical care for all residents at the federal level. As a result, a substantial fraction of low-income adults–about one in five–go without health insurance at any point in the year and many more experience at least one uninsurance spell even if they experience some months of coverage (Lurie and Pearce, 2021). A large percent of low-income adults report that they skip or delayed needed medical care because it is too costly, or fail to fill prescriptions because the out of pocket costs were too high (e.g., Miller and Wherry, 2019). More than half of low-income adults report that they are worried about paying for medical care, which is unsurprising given that about 18 percent of all US residents, regardless of income, were the target of collection agencies attempting to recover unpaid medical debt as recently as 2020 (Kluender et al., 2021). Providing low-income adults with a substantial unconditional cash transfer could make it easier for insured participants to cover cost-sharing obligations, such as co-pays or coinsurance, when they need medical care, and allow uninsured participants to enroll in health insurance coverage or to purchase medical care directly from health care providers. In turn, this additional medical care is likely to improve underlying health (e.g., Goldin et al., 2020; Miller et al., 2021; Wyse and Meyer, 2023).

Access to medical care is one channel through which income could affect health, but other social, behavioral, or economic channels could also be important. For example, in general, low-income families eat less healthy food than their higher income counterparts and also report greater food insecurity (Allcott et al., 2019). Providing additional resources could improve nutritional intake on these dimensions. Similarly, low-income adults appear disadvantaged relative to their higher-income counterparts in terms of sleep amount (Gindi, 2015), sleep quality (Granddner et al., 2010) and reported time spent exercising (Kari et al., 2015); they are also more likely to engage in risky health behaviors

[2] A few examples of such studies are Goldin et al. (2020); Sabety et al. (2023); Miller et al. (2021); Wyse and Meyer (2023); Chandra et al. (2021); Finkelstein et al. (2012).

like heavy drinking and use of illegal drugs (Altekruse et al., 2020; Cerdá et al., 2011). If an income transfer meaningfully alters these behaviors, it could generate substantial short- and long-term health improvements.

In addition to these factors related to health care use and health behaviors, researchers in epidemiology and medicine hypothesize that exposure to poverty can result in worse health via biological mechanisms. Several studies point to the fact that low-income individuals experience higher rates of systemic inflammation, in which the immune system over-produces an inflammatory response even without a specific danger to the body (such as an injury or illness) requiring that response. Such chronic inflammation can be triggered by prolonged periods of psychological stress, and can in turn result in worse health outcomes across a number of body systems (e.g., Albert et al., 2006; Nazmi and Victoria, 2007). For example, Tawakol et al. (2019) demonstrate that individuals with lower socioeconomic status show heightened amygdalar activity in the brain, and that this activity in turn causes accelerated production of immune cells and arterial inflammation, increasing an individual's risk of a major cardiovascular disease event. Such systemic inflammation is also associated with increased risk and faster progression of cancer (Liu et al., 2023) and with the development and progression of metabolic diseases like diabetes and obesity (Hotamisligil, 2006). These documented biological pathways have led researchers to hypothesize that reducing poverty may improve health via reducing inflammation and stress, even if it does not increase the use of medical care or otherwise alter health-related behaviors (e.g., Baum et al., 1999; Tawakol et al., 2019). Indeed, differences in health care utilization and health-related behaviors across low- and high-income individuals appear inadequate on their own in explaining the markedly larger differences in health outcomes, suggesting that such a biological pathway is likely (Braveman and Gottlieb, 2014).

2.2 Existing evidence on the health-income relationship

Several papers document the large correlation between income and health, which has been noted across many countries and time periods, within countries, and at many ages including very early and late in life.[3] At the same time, evidence on how or whether income *causes* health to improve is less clear. A variety of quasi-experimental papers take advantage of income "shocks" that occur as the result of policy changes. For example, Evans and Garthwaite (2014) and Lenhart (2019) analyze expansions of the Earned Income Tax Credit (EITC) and find improvements in self-reported health and health biomarkers, while Hoynes et al. (2015) and Rehkopf et al. (2014) find EITC expansions decrease

[3] Evans et al. (2012) and Cutler et al. (2012) provide overviews.

maternal smoking and improve infant health outcomes. In contrast, analysis in Schmeiser (2009) suggests that EITC payments increase female obesity. Wolfe et al. (2012) use the legalization of tribal casino gaming as a shock to tribal members' income and find the additional casino-generated income improves health status, health care utilization, and health behaviors. Acemoglu et al. (2013) show that oil price shocks led to higher hospital spending in the Southern region of the United States, and Gross and Tobacman (2014) report that the 2008 stimulus payments were associated with higher rates of emergency department use. Snyder and Evans (2006) look at variation in social security payments to the elderly and find that higher social security payments generate higher mortality rates. Examining variation in disability payments for veterans due to random assignment of examiners, Silver and Zhang (2023) find that veterans awarded higher payments use more health care, have improved food security, and report less pain, but do not have observably better health on other dimensions such as blood pressure, glucose levels, or mortality. Finally, Cesarini et al. (2016) examine randomized variation in wealth, rather than income, by comparing lottery players in Sweden who win different amounts. The authors find a precise null impact of prize size on mortality among winners using data extending as far as 10 years after the prize, and minimal impacts of health care utilization except for some decrease in the use of certain drugs that treat mental health conditions.[4]

Most closely related to our paper are other randomized controlled trials of guaranteed income that take place in the US. For convenience, Appendix Table A1 summarizes the features of these studies including the number of participants, the length and size of the cash intervention, and the timing of the intervention. The top row describes the study analyzed in this paper. Chelsea Eats was an unconditional cash transfer that was launched in response to the COVID-19 pandemic amidst concerns about food access for vulnerable residents. This program provided $400 per month from November 2020 to August 2021 to a randomly-selected group of 2,200 low-income residents of Chelsea, Massachusetts. Of these participants, 1,067 agreed (prior to randomization) to participate in an evaluation of the program, and their outcomes were analyzed and compared to a control group of 730 consenting program participants who did not receive this assistance. Relative to the control group, the treatment group reported greater food security and nutrition. However, they did not report different physical or mental health outcomes when surveyed, nor did they report having better access to medical care

[4] A separate strand of literature documents the effect of income on various health outcomes in low-income countries. Haushofer and Shapiro (2016), for example, examine the effect of a short-term unconditional cash transfer (UCT) in Kenya of at least $404 (twice the monthly average household consumption at the time). The transfer improved food security and psychological well-being but not a health index. Paxson and Schady (2007) evaluate a randomized UCT in Ecuador and report effect sizes of approximately 0.1 standard deviations for children's physical, cognitive, and behavioral outcomes, but most estimates are not statistically significant.

(Liebman et al., 2022).

Baby's First Years (Noble et al., 2021) recruited 1,000 low-income mothers in four US cities, of which 400 were randomly selected to receive a guaranteed income of $333 per month, with the remaining 600 receiving $20 per month. These mothers were recruited in the hospital at the time of the birth of their child, and start dates were staggered based on the time each woman was recruited, with recruitment occurring between May 2018 and July 2019. This study considered the impact of the transfer on the health of both the mother and child recruited into the study. Results for child health, through age 3, are reported in Sperber et al. (2023). The authors find no difference across treatment arms on mothers' rating of their child's health on a 5-point scale, an indicator that the child has a disability or health condition, measures of health care utilization (ED and doctor visits), and measures of sleep disturbances. The analysis did find that children in the high cash gift group were reported to eat more healthy foods as compared to the control group. Analysis of mothers' health outcomes showed no effect of the higher transfer on rates of substance abuse (Yoo et al., 2022) or stress (Magnuson et al., 2022).

These randomized controlled trials provide valuable points of comparison, but there are reasons to believe the ORUS may yield different results. First, the ORUS provided $1,000 per month to participants in the treatment group, larger than the $400 provided by Chelsea Eats or the $333 provided by Baby's First Years. This larger payment amount may be relevant in determining outcomes, particularly if low-income participants are subject to "poverty traps" that need large cash infusions to overcome (as in, e.g., Balboni et al., 2022). ORUS is also able to consider a different set of health outcomes including biomarkers which capture biological measures of health in addition to self-reported survey measures and outcomes derived from administrative records on medical debt and mortality. ORUS has a larger sample available to analyze than these other studies and, in contrast to Chelsea Eats in particular, our data are mostly from the post-COVID era (versus the height of the COVID-19 pandemic). There were also several differences in the populations targeted and eligibility criteria (see Appendix Table A1 for more details). These differences across the intervention, timing, types of measures and sample size may lead to different results in the ORUS study compared to these other two RCTs.

3 The OpenResearch Unconditional Income Study

The OpenResearch Unconditional Income Study (ORUS) analyzes the impact of a guaranteed income program that was implemented by two non-profit organizations. Analysis of this program was pre-registered. However, over the several-years-long course of the study and in seeking feedback prior to the release of our results, we made a small number of deviations from our pre-registered plan. For transparency, these are described in Appendix Section A; the current and previous versions of the pre-analysis plan is also available via the AEA RCT registry.[5] This section describes eligibility, recruitment, randomization, and implementation of the program.

3.1 Eligibility and Recruitment

The unconditional cash transfer program was implemented by two non-profit organizations in two states: Illinois and Texas. These states contain a variety of location types, including counties with large urban, suburban, medium-sized urban and rural areas. We identified 1-5 counties of each type in each state that were demographically representative of these geographic types from which to recruit participants. Appendix Figure A1 shows a map of study counties with their geographic designation.[6]

Appendix Figure A2 provides a high-level timeline of the study's recruitment and implementation. Participants were eligible for the program if they lived in eligible counties, were age 21 to 40 (inclusive) at the time of recruitment, and had total (self-reported) household income in the prior calendar year not exceeding 300% of the Federal Poverty Level (FPL). We excluded participants receiving Supplemental Security Income (SSI) or Social Security Disability Income (SSDI), living in public housing or using a housing choice voucher, or living in a household with another member who receives SSI. The exclusions for the means-tested government programs were due to the fact that the guaranteed income program may have made participants ineligible and it could be difficult for participants to re-enroll in these programs at the conclusion of the guaranteed income intervention.

We assisted the partner organizations in recruiting participants to the program using a variety of methods. We attempted to recruit a sample that matched population shares in each county geographic type (large urban, medium-sized urban, suburban and rural) and to over-sample participants in lower-income households. Most participants (about 87%) were recruited via direct mailers that con-

[5] AEARCTR-0006750.

[6] Two companion papers, Vivalt et al. (2024) and Bartik et al. (2024), describe the effects of ORUS on employment and consumption respectively. The following exhibits, which describe the program's timeline, intervention, data collection methods, randomization procedure, and participant characteristics, are produced in one or both of these companion manuscripts: Table 1, Appendix Figures A1, A2, A3, A5, A20 and A19 and , and Appendix Table A2.

tained a unique code for each applicant. We selected addresses in eligible Census tracts from Target Smart (targetsmart.com). Using these data, we sent mailers both to individuals who appeared age and income eligible for the program based on Target Smart's provided variables and to randomly-selected individuals. For each mailer, we appended "or current resident" to the name printed on the address. The mailer itself informed individuals that they may be eligible to participate in a new program and could receive "$50 per month or more" for three years. Following Broockman et al. (2017), the mailers directed recipients to a website where they could register their interest in the program and complete a short eligibility screening survey. Individuals were not informed of the age or income eligible criteria prior to their completion of the online screener, reducing incentives for strategic misreporting. Incentives to complete the survey questionnaire varied randomly from $0 to $20. We also sent follow-up letters for non-responding households, and randomized the number of follow-ups from 0 to 4. In total, of the approximately 1.1 million mailers sent, 38,823 individuals responded to the mailers and completed the eligibility survey, of whom 12,745 were program eligible (33%).

The remaining 13% of the sample were recruited via two alternative methods. First, the partner organizations purchased ads on the Facebook and Instagram platforms that were shown to all age-eligible individuals located in program counties. Participants recruited through this method make up about 1 percent of study participants. Second, the partners placed ads on the FreshEBT platform that were shown to users in eligible zip codes. FreshEBT is a free mobile application developed by Propel (www.joinpropel.com) that allows Supplemental Nutrition Assistance Program (SNAP) recipients to check their balance and manage their benefits. Participants recruited through this method comprise roughly 12% of study participants.

In total, across all recruitment methods, 43,385 applicants completed the online screening survey to have their eligibility assessed. Of these applicants, 14,573 were determined to be eligible for the program. Table 1 compares the characteristics of those who applied by filling out the initial screener, in Columns (4) and (5), to the eligible population using the American Community Survey (ACS) as a benchmark. Column (2) shows characteristics for the full US population, derived from the ACS and re-weighted to match the shares we targeted by FPL-type and county-type as part of our recruitment strategy. Column (3) presents similar information, but only for ACS respondents who live in the counties where study recruitment took place. Comparing column (3) to column (4), we see respondents to our recruitment methods were similar to the eligible population on a number of characteristics (income, geographic distribution, presence of children, household size, age, race, self-reported income,

geographic distribution, presence of children, etc), although they were more likely to be a renter and to have a college degree. So, respondents do appear to be broadly representative of the population we targeted.

3.2 Randomization and Enrollment

After determining applicants' eligibility, we conducted two randomizations within the pool of eligible applicants. First, we randomized applicants into being in the program, for which they would receive either $50 or $1000 per month. We conducted this randomization in such a way to ensure the sample exhibited certain characteristics: i) the share of women in the program resembled the share in the eligible population in the study counties; ii) the sample was at least 20% non-Hispanic white, 20% non-Hispanic Black, and 20% Hispanic; iii) the household income of at least 30% of the sample was under the FPL, at least 30% was 101-200% of the FPL; and no more than 25% of the sample had income above 200% FPL. We implemented these quotas by blocking participants on characteristics and drawing different numbers of participants from within these blocks. That is, in the first randomization, from the broader pool of applicants to the program participants, the probability of being selected depended on participant characteristics.

Once this sample was selected, participants were enrolled in the program by the University of Michigan Survey Research Organization (SRO), a survey research firm with extensive experience fielding national studies. During enrollment, program participants who consented to take part in the research completed a baseline intake survey and provided bank account information so program funds could be directly deposited. For participants with no bank account, a no fee/no minimums online bank account was opened for them. As part of the enrollment process, participants also were invited to consent to have their data linked to administrative records. This enrollment was conducted in person from October 2019 until March of 2020, at which point enrollment was switched to phone due to the COVID-19 pandemic. Enrollment concluded in October 2020. To keep participants engaged over this period, and to collect additional baseline information, we sent enrolled individuals monthly surveys over this pre-treatment period. In addition, all enrolled participants received $50 per month via direct deposit into their bank account for the duration of the enrollment period.

The second and focal randomization occurred once all 3,000 participants were enrolled. This randomization assigned participants to either continue receiving $50 per month ("control group") or to receive $1,000 per month ("treatment group") for 3 years. Unlike the first randomization, this

assignment did not depend on participant characteristics and all participants had a 1/3 probability of being assigned to treatment and control. The comparison across these two treatment arms, within the 3,000 program participants, is the focus of our analysis.

We wanted to avoid a situation where treatment and control groups varied meaningfully on baseline covariates simply due to chance. So, we used a blocked random assignment procedure to ensure balance. We also identified, over the course of the enrollment period, a small number of study participants who knew each other; we placed these individuals together in clusters so they would be assigned to either treatment or control together. We then formed blocks of clusters as follows. We formed strata based on race/ethnicity, income group (0-100% FPL, 101-200% FPL, 201-300% FPL), and state; any clusters with more than one individual within them were placed in their own strata. Within these strata, we grouped participants into blocks of three based on how similar they were across several dozen pre-treatment covariates, using Mahalanobis distance to measure similarity. When the number of clusters in a strata did not evenly divide into three, there were either one or two leftover clusters in a strata after the first round of blocking. We then conducted a second round of blocking for these leftover clusters, again forming blocks based on a set of pre-treatment covariates. Within each block of three, we selected one of three observations to be in the treatment group and placed the remaining two in the program control group. Given that the number of clusters did not evenly divide into three, within the final block we sampled from the vector {0, 0, 1} without replacement to assign treatment within the final block.[7]

Finally, after randomizing, we further ensured balance by conducting a series of balance checks comparing the treatment and control group across pre-treatment covariates. We imposed a p-value floor, with covariates we deemed to be more important assigned a higher floor; these floors were determined ex ante. We rejected any randomization where the p-value on a t-test for difference across treatment arms was below the p-value floor for any of the selected variables and re-randomized, using a procedure similar to the one described in Zhao and Ding (2024). We also conducted an F-test for the joint significance of all of the same set of pre-treatment variables by outcome area and rejected a randomization if the p-value on the F-test was over 0.25.

If there were large outliers in the data, imposing balance in this way may generate a situation where some participants were more likely to be assigned to treatment than others. To examine this,

[7]We anticipated that some assigned to treatment may refuse the $1000 per month, so we created a randomized waitlist among the control group. However, this did not end up being relevant in practice, as only one participant out of 1,000 ended up not receiving the treatment as assigned.

we conducted 1,000 simulations and verified that this procedure resulted in all observations having a 1/3 probability of being assigned to the treatment group. We could not reject that the simulated distribution of treatment assignments was significantly different from what we would observe from a Bernouilli distribution with a one third probability of success. Furthermore, no baseline characteristics predicted the average probability over these 1,000 simulations that any participant received treatment. Appendix Section B provides more discussion and the results of this simulation.[8]

Ultimately, our recruitment and randomization procedures resulted in a sample that was both largely representative of the underlying population and highly balanced across treatment arms on a large number of important baseline characteristics. Table 1 shows how our study participants compare to the population of those who would be eligible for the study based on our eligibility criteria. Comparing columns (3) and (6) demonstrates that the final enrolled study sample closely matched the underlying eligible population across a large number of dimensions after taking into account our sampling strategy, although the participants are notably more likely to be a renter. Note that for Column (6), we use information collected at the baseline interview, rather than the online screener, which is why we observe some differences across Columns (5) and (6).[9]

Table 2 demonstrates that across treatment and control arms, baseline characteristics are very similar along a number of dimensions including demographic and economic characteristics. This table also describes selected characteristics of the sample related to their underlying health. About 29% of the sample were uninsured prior to randomization and 27% report skipping medical care due to costs. About 13% had a hospitalization in the last 12 months and 31 percent reported having an ER visit over the same period. Regarding mental and physical health, more than 15% of the sample are characterized as "high stress" according to their responses on the Perceived Stress Scale (PSS), a validated series of questions intended to measure stress; we also see similarly high rates of mental distress and depression. Only about half of the sample report their health to be very good or excellent and, on average, participants report that they were in poor physical health in 3.6 days of the last 30. About 40% of the sample were obese at baseline. We do not detect any statistically significant

[8]Early in the study, one participant who was randomized into the treatment group was removed from the program by the non-profit partner, but continued to participate in the research activities. Another participant was assigned to treatment but initially declined, and was replaced from the waitlist. However, this participant changed their mind and ended up accepting the treatment. We use the original treatment assignment to calculate treatment effects, with 1001 participants assigned to treatment and 1000 actually receiving the cash transfers. Our estimates are therefore, technically, "intent to treat" (ITT) effects. However, given that the first stage effect of treatment assignment on program participation exceeds 0.999, the local average treatment effects are essentially indistinguishable from the ITT.

[9]In addition, a few respondents declined to provide income information during the baseline survey, which is why the means of the FPL variables do not add to one in column (6). For other columns, these means may appear to sum to 0.99, rather than 1, due to rounding.

difference in these characteristics at baseline across treatment arms.

3.3 Intervention period

Randomization occurred in October of 2020. The higher ($1,000) transfer payments to the treatment group began in November of 2020 and continued until October of 2023. Over the same period, the control group continued to receive the $50 per month transfer. Note that the majority of the treatment period occurred after the introduction and widespread adoption of the COVID-19 vaccine, although the first year did include a few months before the vaccine was available. We therefore expect our results to be largely representative of the post-COVID-19 era. Receipt of the transfers was not conditional on participation in any of the research activities. Since the transfers were provided as an unconditional gift from a non-profit organization, they were not subject to income tax. Furthermore, the non-profit organizations worked with state benefit offices to ensure the transfer did not affect eligibility for public benefits whenever possible. This effort was facilitated by the passage of state-level legislation in the state of Illinois (SB 1735) that specifically excluded cash transfers made as part of research studies such as the ORUS payments from the calculation of eligibility for several state programs. The non-profit organizations worked with benefits administrators to alter instruction manuals for public employees to ensure this law was implemented. Appendix Table A2 contains detailed information on how government benefits were affected by the transfer.

At the end of the transfer period, the non-profit partners offered services to both treatment and control group participants to help them transition off of the program. All participants were given updated resource lists for services and support in the counties from which participants were selected at baseline, as well as national hotlines and services for those that moved during the program. Additionally, program staff were available by phone, text message, and email to assist participants. If appropriate, they connected the participants to services provided by the organization itself or referred them to relevant non-profit or government entities in the area.

4 Data

4.1 Survey data

We collected data on participants' physical and mental health, health care access and utilization, and behaviors through a variety of sources. First, we sent short, online-only surveys each month administered through Qualtrics. As an incentive to respond, $10 was deposited in the participants bank

account upon completion of the survey. By keeping in monthly contact with participants, we were able to keep participants engaged in the program and track and update their contact information. Frequent surveys also gave researchers multiple opportunities to get questions answered in each year. For example, if a respondent missed a question about self-reported health on the April survey, they may have another chance to provide that information on the June survey of the same year. For the purpose of analysis, we treat responses to the same questions provided within the same year as capturing similar information, and collapse our outcomes to the respondent by survey year level for analysis of these monthly surveys, taking the average within respondent/year if multiple responses to the same questions were provided.

Second, we conducted two in depth, enumerated surveys–a "midline" and an "endline" survey. These surveys were administered by the University of Michigan Survey Research Organization (SRO) and respondents received a $50 incentive payment for completing them. For these surveys, trained enumerators scheduled phone interviews with respondents. At baseline, we collected names and contact information for people outside the participant's household who would be able to get in touch with the participant if we were unable to reach them at any point during the study. If repeated outreach attempts via email, telephone, text message, and postcards were unsuccessful, interviewers reached out to alternative contacts. As a last resort, interviewers visited the last known address of participants if the address was located within the geographic area covered by interviewers. The midline survey was conducted from April 3 until August 2, 2022, and the endline survey was conducted from March 30 until August 15, 2023. To keep the phone interviews reasonably short, we had respondents complete additional midline and endline questions in three follow-up online surveys. We incentivized participation in these follow-up surveys by providing $15 per completed survey, which was escalated to $30 per survey for remaining non-respondents at the end of the final endline survey period.

Response rates for all types of surveys were high. The top panel of Figure 1 shows response rates for the control group and treatment participants. Almost all participants responded to at least one of the monthly mobile surveys in each of the three study years, with 98% completing at least one Qualtrics survey in year 1, 96% in year 2, and 94% in year 3. About 97% of participants responded to the enumerated midline survey and 96% responded to the enumerated endline survey. The online surveys that followed up the midline and endline enumerated surveys had somewhat lower, but still high, average response rates of 91.3% and at 92.0%, respectively.

Differential response rates across treatment arms were modest for all survey types. The midline

and endline exhibited a less than 1.8pp and 3.2pp difference in response rates respectively. For mobile surveys, the differential probability of responding to any survey in a given survey year ranging from less than 1pp (in year 1) to about 4.3pp (in year 3). On average, the fraction of the treatment and control participants completing at least one monthly survey in years 1-2 was not significantly different, with a somewhat greater differential attrition observed in year 3 (see Appendix Figure A3).

We take several measures to alleviate concerns that the differential response to surveys may bias our estimates. First, we examine characteristics of respondents and non-respondents both overall and by treatment group status. As shown in Appendix Tables A3-A7, we observe that the treatment and control groups remain highly balanced on a large number of pre-treatment characteristics even when limiting our sample to survey respondents only. This suggests that the modest differential response rates we observe does not undo the balance generated by the randomized treatment group assignment. Second, for outcomes where baseline values were collected, we estimate an alternative "difference-in-differences" version of the model that compares the changes before and after treatment across the treatment and control groups. This model does not rely on random assignment across groups and instead only requires the two groups to have parallel trends, which may be met even if non-random selection into survey response is present. Third, we identify a group of participants who responded to all monthly surveys during the enrollment period (i.e., prior to randomization). Among this subgroup, differential attrition is lower (see Appendix Figure A3). In supplementary analyses, we demonstrate that our results are similar among this group. Fourth, we provide bounds of our estimates taking into account differential response rates across treatment arms based on Lee (2019).

4.2 Phone app data

In addition to collecting traditional surveys, we also asked participants to install an "app" onto their phones which allowed them to more easily provide us with complicated data. We used this app to collect nutrition diary and time diary information. We developed this phone app in partnership with the private company Avicenna Research.

It has been hypothesized that income may improve health by allowing individuals and families to buy healthier, more nutritious food (e.g., U.S. Department of Agriculture, 2009). In order to examine this potential pathway, we asked participants to complete nutrition diaries three times per year. These diaries asked participants to recall all of the food they ate over the past 24 hour period. The diaries were completed via the ASA24 website, an online food diary tool developed by the National

Cancer Institute.[10] The phone app streamlined participants' login and recording of the nutrition diary information through this website. Once logged in, participants were asked to report all times they ate in the last 24 hours (from midnight to midnight), including meals and snacks, and to then select foods and portions, with visualizations provided to help participants assess the correct portion. Appendix Figure A4 shows screen shots of this web tool. We asked participants to complete 3 nutrition diaries per year, resulting in 9 completed diaries over the course of the study. Once these data were collected, we used software provided by the ASA24 website to analyze the food inputted and construct the "healthy eating index" (HEI) which measures the healthfulness of food consumed based on current USDA nutrition guidelines. The HEI ranges from 1 to 100, with 100 being the most healthful and 1 being the least healthful. In secondary analyses, we also assessed other measures of food consumption such as grams of sugar, cups of vegetables, total saturated fat and similar measures.

Participants' use of time may also be an important aspect of how the transfer affects their health. For example, the transfer may allow participants to allocate more time to sleep or exercise which could improve health. To facilitate data collection on this topic, the phone app prompted participants to record two time diaries every month, with one day a randomly selected week day and the second a randomly selected weekend day. The time diaries had a calendar interface into which participants could record their use of time. An example of this interface is provided in Appendix Figure A5. From these diaries, we derived information on two measures of health investments: time spent sleeping and time spent exercising (see Vivalt et al. (2024) for a full analysis of these data).

Participants were provided additional financial incentives for completing these phone app tasks; they received $10 for each completed nutrition diary and $5 for each completed time diary. Compliance with phone app tasks was relatively high but declined over the course of the study, with about 87% (85%) of participants completing at least one time (nutrition) diary in year 1, which declined to 73% (68%) by year 3. Response rates were somewhat higher in the treatment group, with a 4.3pp differential for time diaries and a 5.7pp differential for the nutrition diaries in year 1, with year 2 differentials at 7.5pp and 3.8pp and year 3 at 6.5pp and 2.6pp respectively (see panel b of Figure 1). We assess the sensitivity of our results to this differential response rate using the methods described in the previous section.

[10] As of June 25, 2024, this tool can be accessed online at https://epi.grants.cancer.gov/asa24/.

4.3 Administrative data

In addition to the surveys and phone app tasks, we also linked consenting participants to existing administrative records. Consent to be linked to administrative records was obtained prior to randomization, although a few participants who initially did not consent to share data decided to consent over the course of the study. In total, 87.5% consented to be linked and consent rates were reasonably balanced across treatment arms, with 86.9% consenting in the control group and 88.8% consenting in the treatment group. These consenting participants formed the pool of participants we could attempt to link to administrative records.

First, we linked participants to mortality records collected by the Social Security Administration via the US Census Bureau's Census Numident file. Nearly all consenting participants were successfully linked to the Census Numident file, which contains information on mortality for decedents. We use this file to generate an indicator variable that takes a value of 1 if the participant died by the first quarter of 2024, and 0 otherwise. Mortality information collected in the Census Numident file is comprehensive and closely tracks mortality rates measured in other sources, such as the National Death Index (Finlay and Genadek, 2021).

Second, we linked participants to their credit report data from Experian, allowing us to see the amount of medical bills sent to collection agencies (Bartik et al. (2024) provide a full analysis of credit report outcomes for this experiment). Credit reports were linked using name, address, and (for participants who provided it), social security number. Again nearly all consenting participants were linked to at least one credit record in the post-treatment period, with 95.2 percent of consenting control group participants and 96.7 percent of consenting treatment participants being linked. The credit record archives we obtained represent snapshots of the consumer's credit profile on certain dates. We obtained archives for the following month/year dates (drawn the first of the month): 05/21, 11/21, 05/22, 11/22, 05/23, and 08/23.

It is important to note that beginning in July of 2022, the policy on reporting medical debt on the credit record changed, with medical debt no longer reported on the credit report for up to one year after it was incurred, and reports of medical debt removed after they had been paid in full (Blavin et al., 2024). Furthermore, in April of 2023, amounts of medical debt under $500 were no longer reported to credit bureaus (CFPB, 2023). As a result of these reporting changes, many medical debt collectors stopped reporting their collection efforts to the credit bureaus entirely out of concern they may inadvertently violate these reporting rules (Kluender et al., 2024). For these reasons, we expect

that the amount of debt reported on the credit record may not fully reflect outstanding medical debt during the last half of our study. We report estimates for this variable separated out by time period, which allows us to examine this possibility.

4.4 Biomarkers

In addition to eliciting self-reported measures of health via surveys, we also collected direct, clinical measures of health through blood draws. We partnered with GetLabs, an organization that employs nurses and trained phlebotomists to collect blood samples that are then analyzed by the company Labcorp. Only participants living within GetLabs' catchment area were eligible to participate. These catchment areas were concentrated in the highest population counties in the Chicago and Dallas metropolitan areas. Coverage was less comprehensive in rural counties and smaller cities. In total, 2,087 participants met this criteria and were invited to participate in the blood sample collection, of which 1,206 participants (57.8%) ultimately completed a visit to provide a sample.[11] The fraction of invited participants who provided a sample was somewhat higher in the treatment group, with 63 percent of those invited participating, as compared to 55.2 percent in the control group. The phlebotomists visited the participants at their homes, making the experience convenient. We paid participants $100 to participate in the blood draw.

From these blood samples, Labcorp provided us with information about several measures of underlying health. We observed A1c, a marker of diabetes risk that measures the percent of hemoglobin with attached glucose, with higher values indicating higher blood sugar and greater risk of diabetes. We used this continuous measure to generate a variable indicating that A1c exceeds 6.5 (the threshold for diabetes) or falls between 5.7 and 6.4 (considered the "pre-diabetes" range). We observe a lipid panel including information on total cholesterol, high-density lipoprotein cholesterol (HDL, or the "good" cholesterol) and low-density lipoprotein cholesterol (LDL, or the "bad" cholesterol). We also generated an indicator that the participant had cholesterol in the high range. The lab also measured GlycA, a composite biomarker of systemic inflammation that has been used as markers of chronic stress (Connelly et al., 2017). In addition to these markers derived from blood draws, the phlebotomist also measured the participant's blood pressure and collected their height and weight, from which we derive indicators that the participant has elevated or hypertensive blood pressure, the participant's body mass index (BMI), and whether the participant's BMI puts them in the obese range (BMI $>$

[11] A small number of participants consented to provide a sample and were visited by the phlebotomist but had to be excluded at the point of collection for health reasons (e.g. because the participant was pregnant).

30).[12] The intervention may affect A1c, cholesterol, weight, and blood pressure if it leads participants to adopt healthier diet and exercise regimes. It may have affected measures of inflammation by reducing a participants' stress level.

Ideally this blood draw would occur entirely during the treatment period. However, the funding required to finance this data collection did not occur until late in the intervention period. As a result, collection did not begin until the last month of the treatment period and continued for four months after the intervention ended. In total, 28.9% of the contributing sample had blood drawn within one month of the treatment ending, with the rest providing samples 2-4 months after the treatment concluded. While the timing is not ideal, there are several reasons to think that the data are still useful in evaluating the health impact of the intervention. In particular, many of the measures we collected are slow moving. A1c reflects average blood sugar over the past 3 months, cholesterol typically takes 3 to 6 months to change as a result of altered diet and exercise, and even for patients being treated with intensive counseling to change diet, monthly weight loss is only about 2 pounds per month.[13] Therefore, even if participants significantly changed their diet or behavior following the treatment, it is unlikely that the difference in timing of a couple of months would meaningfully alter outcomes which may have been evolving differently over the past 3 years in the treatment versus control groups. In addition, data collection at this period is able to confirm (or rule out) any health benefits that extend beyond the treatment period. Understanding whether health advantages made over a three year period of a generous income transfer are rapidly eroded at the end of the transfer may be valuable to document.

Finally, in addition to examining each biomarker separately, we combine information on weight, cholesterol, and blood pressure with survey information on exercise, diet, and smoking behavior to form an "ideal cardiovascular index." This index, proposed by the American Heart Association, captures the extent to which a participant's health and behavior are consistent with good cardiovascular health (Lloyd-Jones et al., 2010). To generate this index, participants receive one point for total cholesterol under 200 mg/dL, blood pressure less than 120/80 mmHg, A1c below 5.7, non-smoker,[14] Healthy Eating Index at or exceeding 75 (out of 100), BMI less than 25 kg/m^2, and at least 150 minutes of weekly exercise reported. These points are then summed, resulting in a scale from 0 to 7, where 7

[12] At no additional cost to the research team, Labcorp provided additional biomarker results: triglycerides, diabetes risk index, and total non-HDL cholesterol. We estimated the effect of the transfer on these measures but consider them exploratory.

[13] E.g., see https://www.niddk.nih.gov/health-information/diagnostic-tests/a1c-test, Sacks et al. (2009)

[14] Measured in our sample as responding no to the question whether the participant smokes cigarettes daily.

represents "ideal" cardiovascular health.

5 Estimation

We estimate the impact of the treatment on each outcome using the following regression:

$$Y_i = \beta_0 + \beta_1 Treat_i + \beta_2 X_i + \epsilon_i. \tag{1}$$

Here, X_i are characteristics of individual i measured in the pre-treatment period, which we include to improve the precision of our estimate. Because we collected many baseline measures, in a first step, we use the LASSO to select which covariates to include, selecting the penalty term λ using cross-validation following Bloniarz et al. (2016). We estimate robust standard errors clustered at the level of treatment assignment.[15]

The outcomes Y_i may be observed at multiple time periods and we use these repeated observations to estimate time period specific effects. For example, Qualtrics surveys outcomes are examined at the first, second, and third year of the study while midline and endline survey outcomes are examined at those time periods. We also pool these time periods together to arrive at a single "effect" of the guaranteed income supplement over the entire study period. When doing this, consistent with our pre-analysis plan, we place greater weight on observations towards the end of the study period and on observations derived from the midline and endline surveys, for which we observe higher response rates. For the midline and endline estimates, we place 70% of the weight on the endline and 30% of the weight on the midline. For the monthly surveys, we place 50% of the weight on surveys conducting in the final year, 30% of the weight on surveys conducted in the second year, and 20% of the weight on surveys conducted in the first year. For outcomes where we can aggregate across both types of surveys, we further weight the midline/endline outcomes with 70% of the weight and the monthly surveys with 30% of the weight, reflecting the higher response rates and likely higher quality of the data derived from the midline/endline surveys due to the fact that they were enumerated. If we have no measures of an item within a particular time period (e.g., year 2, at midline, etc.) for an individual but do have measures of that item at other time periods, we average over the non-missing time periods and redistribute weights accordingly. Furthermore, we also estimate a robustness check in which we rely only on the midline/endline surveys and do not derive information from the monthly

[15] Recall most individuals are a cluster of one, but a small number of individuals are placed together if it was discovered in the pre-treatment period that they knew each other, see Section 3.2.

surveys. For non-survey outcomes, we organize the data in a similar fashion; for example, we aggregate nutrition diary data to the yearly level and place similar weights on nutrition diary responses in years 1, 2, and 3 as described above. Note that because we place greater weight on the later years of the study, our results will be mostly based on data collected after the COVID-19 pandemic, during 2022 and 2023. This timing may correspond to improved external validity relative to interventions occurring entirely during the height of the pandemic.

An income transfer can affect a large number of health inputs and outputs, and in some cases it may be interesting to know whether we can reject the null hypothesis that certain groups of outcomes collectively were affected by the transfer. To facilitate this type of analysis, we group items at two levels. First, we group closely related items into groups that we refer to as "components."[16] For example, we group the items "seen a specialist in the last 12 months," "had any surgery in the last 12 months," and "had any mental health care professional visits in the last 12 months" into a component called "Specialist and Surgical Care." Second, we aggregate related components into broader families. For example, we aggregate together components "Primary Care," "Specialist and Surgical Care," "Dental Care," and "Preventive Care" into a family called "Office-Based Care" and measure whether, collectively, utilization of these different types of office-based health care were affected by the income supplement. To construct these components and families, we start with the individual level item regression estimates $\hat{\beta}_1$. We standardize these estimates by dividing by the control group standard deviation, and then aggregate them using seemingly unrelated regression (SUR) into components and, subsequently, families, by averaging the standardized effects.

We account for the fact that we are conducting many statistical tests by using a false discovery rate (FDR) adjustment. We use Benjamini and Hochberg (1995)'s false discovery rate adjustment to compute q-values; following Benjamini and Hochberg (1995) we do this within families of outcomes. Furthermore, we follow Guess et al. (2023) by placing the family-, component-, and item-level estimates into tiers for the purpose of this adjustment, corresponding with our prioritization of the estimates. The purpose of placing tests within these tiers is so that analysis that is considered exploratory or ad hoc can be conducted without affecting the statistical power of our primary outcomes of interest. These tiers were pre-specified. We consider family-level estimates (both those estimated using all data and using only midline/endline data) in the top tier and pool all family-level estimates across this paper in a single tier. We place component-level estimates in the next tier, and pool these tests with the

[16]The non-aggregated outcomes we refer to as "items" for clarity.

family-level tests and other components within the family. Then, we place all of our primary outcomes in the next tier; these are computed pooling the family-level estimates and all component-level and other outcome estimates within the family. The last tier is comprised of estimates we consider to be more exploratory in nature: estimates by each time period, subgroup analyses, and outcomes pre-specified as secondary. As a result of this tiering, these exploratory estimates must be highly statistically significant in order for the significance to survive the multiple comparisons adjustment. We do not conduct an FDR adjustment for robustness checks, except for the robustness check that relies only on midline and endline data, which we treat similarly as we do our main estimates, as was pre-specified.

Taking inspiration from Cesarini et al. (2016), we also estimate the correlation between baseline personal income and each outcome to generate a point of comparison with our causal effects. We do this by regressing the outcome observed at baseline on pre-treatment personal income scaled to be the total annual size of the net transfer (i.e., $12,000 received by the treatment group minus $600 received by the control group, or $11,400). This baseline "gradient" therefore tells us how much we might expect each outcome to change if the health-income gradient were fully causal. For a few outcomes, no baseline measures were collected. In this case, we report an analogous estimate derived from the control group only that uses income reported at the end of the study. For mortality, which is very rare in our sample and is necessarily zero during the baseline period, we obtain a more precise estimate of the gradient by using the 3-year mortality rate observed among respondents to the 2016 National Health Interview Survey who are in the same age and income range as study participants and who, like study participants, do not receive SSI or SSDI.

6 Results

6.1 Impact of the Guaranteed Income Program on Health Outcomes

We present the effect of the unconditional cash transfer on mental and physical health in Tables 3-6. Outcomes are listed in the leftmost column. We report the cross sectional health-income gradient for each outcome in Column 2, and symbols ‡ indicate whether this gradient falls outside the 99, 95, or 90 percent confidence interval of our estimated treatment effect. Column 3 reports the control group mean and standard deviation, and Column 4 reports the estimated effect of the transfer. For non-significant effects, Column 5 reports the size of the health improvement we can reject either in standard deviations (for family and component indices that are reported in these terms) or as a percent

of the control group mean (for all other outcomes) using a two-sided test. Naturally, we can reject even smaller effects if we instead use a one-sided test that considers only improvements. We denote significance using unadjusted, "per comparison" p values with asterisks and significance levels based on q values that control the false discovery rate with the symbol †. At the top of the table, we report in bold the family-level effect in standard deviation units, which can be interpreted as a test as to whether the set of outcomes within the table changed collectively in response to the transfer when taken together. Component-level measures are underlined in each table; if the component contains more than one outcome listed beneath it, it is reported in standard deviations. Otherwise, it is reported in its natural units.

Despite the strong correlation between mental health and income that we observe at baseline, we find little evidence that the cash transfer improved mental health (Table 3). Examining the measures collectively in the first row, we can rule out improvements in mental health outcomes greater than 0.028 standard deviations. We also find no improvements in any of the constituent outcomes and can rule out even very small effects. We can reject improvements less than 2.5% in outcomes capturing participants' reports that they accomplished less than they would have liked or done things less carefully due to emotional problems or that physical or emotional problems interfered with social activities; responses to these outcomes range from 1 (none of the time) to 5 (all of the time) and are based on the SF-12 survey battery (Ware Jr. et al., 1996). Notably, we would have predicted large effects on these outcomes given their strong baseline correlations with income. The underlined measure labeled "Emotional problems interfere with daily life" is an index that considers these three related items together; we can rule out improvements in this index greater than 0.037 standard deviations. The Kessler 6 score is derived from the answers to six survey questions about general mental distress (Kessler et al., 2003).[17] The score ranges from 0 to 24, with 24 indicating the highest reported levels of distress. Similarly, the Perceived Stress Scale uses 10 questions to derive a score ranging from 0 to 40, with 40 indicating the highest levels of stress (Cohen et al., 1983). Neither of these measures are significantly different across the treatment and control arms and we can rule out improvements in these outcomes greater than 4.2% and 1.7% respectively. The Generalized Anxiety Disorder screener is a two-question survey used to screen patients for anxiety that is scored from 0 to 6 and the PHQ-9 is a series of questions used as a depression assessment that ranges from 0 to 27 (Sptizer et al., 2006;

[17]Several mental health measures are derived from a validated battery of survey questions. Estimates of the impact of the guaranteed income payment on the individual questions within the battery for the Kessler 6 and other such measures are reported in the appendix in Appendix Tables A8-A10. We do not find that the transfer significantly improved outcomes for any of these component questions once we apply our adjustment to control the false discovery rate.

Kroenke et al., 2001); in both cases, higher values indicate worse mental health outcomes. We can reject improvements larger than 3.4% and 2.8% in these outcomes respectively. Finally, we ask participants how many of the last 30 days their mental health was good. We find no effect on this outcome and can reject improvements of less than 1%. All mental health outcomes exhibit a strong correlation with income at baseline; for all outcomes we consider, we can reject that this correlation is fully causal at the 1% level.

Table 4 shows that we similarly are able to reject very small improvements in various measures of self-reported physical health. Overall, we reject improvements larger than 0.023 standard deviations in an index of self-reported physical health outcomes. We can reject any improvement in the number of days a participant reports being in good health of the last 30 greater and can rule out improvements in participants' rating of their own health on a 5-point scale greater than 0.4%. We next examine a series of questions from the SF-12 survey battery about the presence of health limitations. Participants were asked about health limiting moderate activities and climbing several flights of stairs (with scales ranging from 1–"no, not limited at all"–to 3–"yes, limited a lot"). In addition, participants were asked whether they accomplished less than they wanted to due to their physical health, were limited in work or other activities due to physical health, and whether health interfered with social activities; these scales ranged from 1 ("none of the time") to 5 ("all of the time"). When examining these health limitations measures together, we find no improvement associated with the transfer and are able to rule out an improvement larger than 0.058 standard deviations. For each individual measure of health limitations, we can rule out improvements ranging from 1% to less than 5%. Finally, we asked participants if they experienced pain that interfered with normal work, with responses ranging from 1 ("not at all") to 5 ("extremely"). We find no improvement in this measure and can rule out improvements larger than 3.4%. For all measures, the correlation between annual income and the outcome at baseline was strong, and our confidence intervals allow us to rule out that this correlation is causal at the 1% significance level.

In addition to these primary measures of self-reported health, we also estimate the impact of the treatment on a number of alternative measures where we transformed different physical health scales into binary variables to make them easier to interpret. For these alternative measures, we include an indicator that health was reported to be "very good" or "excellent;" that the respondent reports no health limitations for moderate activities or climbing stairs, that pain interferes "not at all" or "only a little bit," and that physical or emotional problems interfere "none of the time" or "only a

little bit." We also include two COVID-related outcomes that we did not pre-specify at baseline since our baseline survey was conducted largely prior to the COVID-19 pandemic: an indicator that the participant reported being diagnosed with COVID (collected only as part of our midline survey in 2021) and an indicator that the participant reported being hospitalized due to COVID-19. The results for these alternative outcomes are reported in Appendix Table A11. As with our primary outcomes, we do not find evidence of any improvements for these measures and can rule out even small effects for all outcomes except for hospitalizations due to COVID.

Next, we examine the impact of the guaranteed income transfer on health biomarkers derived from blood draws. The estimated effect of the transfer on these biomarkers is reported in Table 5. In the first row, we show that we are able to rule out improvements in an index of these measures larger than 0.02 standard deviations. We also find no statistically significant improvements in any individual biomarker. Our precision in percent terms varies considerably across outcomes: we can rule out improvements in A1c, blood pressure, cholesterol, GlycA, and BMI of less than 5%, but cannot rule out even large improvements in having an A1c in the diabetic range, having high cholesterol, or having elevated or hypertensive blood pressure. In addition to these primary effects, our lab contract provided data on several additional biomarkers at no cost to the research team. We report these additional outcomes, as well as results for c-reactive protein (a measure of inflammation), in Appendix Table A12. We find no statistically significant improvements in any of these measures.

Finally, we examined mortality rates across the treatment and control groups through the first quarter of 2024 based on administrative mortality records from the Census Numident file. These results are reported in Table 6. We do not find significant differences across the treatment arms, although the confidence interval is wide and we cannot reject improvements in mortality smaller than 79 percent of the observed control group mean.[18]

Taken together, these results demonstrate that the guaranteed income had no effect on physical and mental health outcomes during the time of the treatment and, in most cases, these null effect estimates are quite precise. However, we might be optimistic that health improvements could emerge in the future if we observed increases in health investments that might generate health improvements over a longer time horizon. We next examine the impact of the treatment on several measures of health

[18]We were unable to disclose the control group mean mortality rate based on administrative records due to disclosure concerns. Instead, we provide a control group mortality rate based on information we acquired during the process of surveying the control group and our attempts to re-contact non-respondents. This mortality rate is therefore based on all control group participants (not just those linked to administrative data) but may under count mortality since it is not based on administrative records.

inputs.

First, we examine how the transfer affected measures of access to health care in Table 7. As with the measures of health itself, we find no improvement in access to health care services, and can rule out improvements in the composite index of about 0.04 standard deviations. We find no change in insurance coverage and can rule out improvements of about 5% relative to the control group mean. Similarly, we find no improvement in measures of the financial burden of health care: being worried about paying for medical costs (ranging from 0 "not worried at all" to 5 "very worried"), skipping other bills to pay for health care (binary), and the amount of medical collections reported on the participant's credit report.[19] We can rule out an improvement in a composite index of these measures larger than 0.055 standard deviations. We also find no improvements in measures of access to needed medical care or prescription drug access and can rule out improvements in these indices of 0.01 standard deviations and 0.07 standard deviations respectively. We also examine whether expenditures on insurance premiums increased, which could reflect better access to care via enrollment in a more generous plan.[20] While the point estimate is positive, indicating that the transfer induced more insurance premium spending, it is not statistically significant.

Table 8 shows changes in use of office-based services, including primary care, specialist and surgical care, dental care and preventive care. We also report the change in monthly spending on medical care, excluding spending on insurance premiums, which could also reflect care use. When considering all outcomes together, we find an increase in the family level index of about 0.036 standard deviations, but it is only statistically significant without the FDR adjustment. Our results also indicate that participants used more dental care if randomized to the treatment arm; this effect is significant when considering the component using traditional inference and marginally so after the FDR correction ($q < 0.10$). The item indicating any dentist visit in the last 12 months is also significant using traditional inference but just misses significance ($q = 0.118$) after adjusting to control the FDR. This effect suggests that the cash transfer increased the probability of having any dentist visit by a bit more than 10% compared to the control group mean. We also see a significant increase in monthly medical care spending of about $20, excluding insurance premiums, that is significant with traditionally inference and marginally ($q < 0.10$) significant after the FDR adjustment. We also see some suggestive evidence that specialist visits and office visits may have increased as a result of the transfer, although these are

[19]For participants we were unable to link to credit records, we use a self-reported medical debt measure instead. This estimate also appears in analysis of the impact of this transfer on other debt and credit outcomes in Bartik et al. (2024).

[20]We do not include this outcome in the construction of the family-level estimate for this table because higher spending could reflect elements other than care access, such as moving to a higher cost area.

only significant at the 10% level based on unadjusted p values. In contrast, we see a significant (using unadjusted p values) decrease in the likelihood a participant had a COVID vaccine; this effect is not statistically significant after FDR adjustment.[21]

The transfer may have also affected the use of hospital and emergency department (ED) care, which tends to be more expensive than office-based care. We show the effects of the transfer on hospital and ED care in Table 9. Here, we show that the transfer did increase the amount of this type of care received.[22] While the significance of the family-level index does not survive an adjustment for multiple testing, several of the components and items do remain significant after adjustment. We observe an increase in the probability of having any ED visit in the last year of 2.5 percentage points (about 10% of the control group mean), and the number of ED visits over the same period of 0.11 (about 19%). We also see an increase in the number of hospitalizations in the last year of 0.06 (about 26%). Notably, the baseline gradient for these effects is opposite-signed: correlations between income and hospital care observed at baseline would have predicted that participants in the treatment group would have used *less*, rather than more, hospital care.

The apparent increase in use of medical care associated with the transfer may initially seem hard to reconcile with the null effect of the transfer on participants' self-reported ability to access that care. However, it is possible that the lack of effect of the transfer on access to care reflects participants' greater awareness of their health needs–and the costs associated with these needs–following their increased interaction with the health care system. It is notable, for example, that treated participants both used more dental care but also appeared to be somewhat more likely to report that they skipped dental care due to costs, perhaps due to learning at their initial appointment that additional dental work was recommended.

The guaranteed income transfer may also have affected nutrition and food security, which we examine in Table 10. Examining the family-level index, we find no improvement overall and can reject improvements larger than 0.049 standard deviations. We measure food insecurity using the USDA 6-item food security scale, which ranges from 0 to 6, with 6 representing the greatest degree of food insecurity.[23] Surprisingly, we do not find the transfer improved food security, despite the strong baseline correlation between income and food security. We can reject improvements in food security larger than 5.4%. We do see some suggestive improvements in the healthy eating index,

[21] Note this outcome is not included in our component- or family-level indices because it was added later in the study.

[22] We do not report the size of the improvement we can reject for this family since the most items are in fact statistically significant.

[23] The estimated effects on the questions that comprise this survey battery are reported in Appendix Table A13.

which was derived from food diaries (of about 1% relative to the control group mean), and in the number of times the participant reported drinking soda containing regular sugar in the last week (of about 8%), although these effects are only significant using unadjusted p values. We also used the food diaries to examine how consumption of different types of nutrition–such as cups of fruit, grams of protein or sodium, or teaspoons of added sugar–were affected by the transfer. These results are reported in Appendix Figure A6. We do not find significant differences across treatment and control for these measures of nutritional intake and estimated effect sizes are small, with the exception of grams of alcohol, which is significantly higher in the treatment group using per comparison p values but not after adjusting for the FDR.[24] Taken together, these estimates suggest that the transfer may have improved some measures of nutritional intake. However, these results should be interpreted with caution, because none remain statistically significant after adjusting p values to account for the FDR.

The transfer may have also affected other health investments, such as physical activity or sleep. We report the estimated effect on these outcomes in Table 11. We can rule out very small improvements in the family-level index of these measures greater than 0.003 standard deviations; if anything, our estimates indicate that outcomes may have worsened on these dimensions. We collect information on time spent in different activities both from survey measures (which ask about hours spent in the last week) and from time diaries (which record time spent in minutes per day). We find that treated participants spent less time on physical activity, measured as "recreation/physical activity, like exercising, walking, playing sports, etc.," when using the survey measure, but not the time diary measure. The reduction is statistically significant but small, representing a reduction of only about 5 minutes per week. We also asked about the number of times a participant exercised in the last two weeks, but find no change in this measure. Similarly, we find neither changes in amount of sleep whether measured via surveys or via the time diary app, nor changes in the quality of sleep, and can rule out even very small improvements in these outcomes.

Finally, we consider a range of unhealthy behaviors related to alcohol use and abuse, smoking and use of tobacco, and drug use. These results are reported in Table 12. At the family level, we find no change in these outcomes; however, examining each outcome individually, we do see some suggestive differences across the treatment and control groups. The treatment group reports drinking significantly more frequently in the past 30 days than the control group. But, the treatment group also

[24] These food category measures were winsorized due to the presence of outliers.

is less likely to report that drinking or hangovers interfere with their responsibilities. We also see a significant reduction in the reported number of days that the treatment group used painkillers that had not been prescribed. However, none of the estimates in this family remain statistically significant after adjusting inference to control the false discovery rate, so these effects should be interpreted with caution.

6.2 Effects by Time

The results reported in the previous section pooled survey data across time to generate a single effect. We also report estimates separately for each time period in Appendix Figures A7-A15. To facilitate comparison across outcomes which are measured on different scales, we standardize these coefficients by dividing them by the control group standard deviation. These figures include confidence intervals based on unadjusted inference, with asterisks indicating whether the effects remain significant after adjusting to control the false discovery rate. Recall that because time-period-specific effects are placed in our lowest level in the tiered system of FDR adjustment, the adjustment is more severe for these outcomes than for our pooled results. This means that time period effects must be highly significant for that significance to survive the adjustment. For the most part, effects appear similar across time periods or are too noisy to draw interesting conclusions. However, there are two notable exceptions. First, some measures of mental health show significant improvement in the first year, which fade by year two. In particular, stress and mental distress are both significantly lower in year 1 in the treatment group relative to the control group, but no significant differences are present in year 2. The year 1 effect on stress remains significant at the 10 percent level after accounting for multiple comparisons, and is fairly large, at almost a tenth of a standard deviation; by year 3, we can rule out even very small improvements in stress, and the point estimate actually indicates that treatment group participants reported more stress than control group participants. This pattern could reflect dynamics in consumption, debt, and savings surrounding the end of the transfer, as participants do not increase their net worth substantially but do pay more in rent and have higher monthly debt payments that they may have trouble maintaining; see Bartik et al. (2024) for a more complete treatment of this topic. Second, we see a similar pattern for food hardship, with large and highly significant differences present in year 1 that fade over time. This estimate remains highly significant even after adjusting the p values for multiple comparisons.

6.3 Effects by Subgroup

Finally, we estimate our effects across several pre-specified subgroups defined by pre-treatment respondent characteristics. We estimate heterogeneous treatment effects by baseline insurance status, by household income (at or below the FPL vs above the FPL), by whether the respondent reported skipping any medical care due to costs, by age (under or over 30 years old), and by baseline self-reported health (very good or excellent vs poor, fair, or good). Figures 2-3 show the family-level estimates with 95% confidence intervals for these groups.[25] In the appendix, we report the estimates for each outcome in Appendix Tables A16-A53. Given the small sample sizes within any given subgroup, we consider these estimates to be exploratory. In addition, we do not conduct this analysis for the mortality and biomarker outcomes, given the smaller sample sizes available for these outcomes.

Participants who reported skipping needed medical care due to costs at baseline appear to have somewhat better outcomes if assigned to the treatment group, with per comparison p values showing significant improvements in family-level measures of access to medical care and marginally significant improvements in nutrition and food security. This group also experienced the largest increases in the use of hospital and ED care as a result of the transfer. It is notable that this is the only subgroup in which our coefficients indicate improvements in mental and physical health at the family level, although the effects are not statistically significant. We also observe somewhat larger increases in hospital and ED care for those age 30 and older and those who report worse health at baseline. However, no subgroup specific estimate remains significant using q values that control the false discovery rate. Future research with larger samples is needed to explore whether this heterogeneity is meaningful.

6.4 Alternative specifications and robustness checks to address differential survey response

In our surveys and actively-collected data, we observed small but statistically significant differential response rates across treatment arms. Reassuringly, we do not find that those who responded differed systematically across the treatment and control groups when examining a large number of observable baseline characteristics (see Appendix Tables A3-A7). However, it's possible they may have differed based on unobservable characteristics. We therefore conduct a series of robustness checks to assess how such selection might have affected our results. We also probe the robustness of our results to our chosen model specification. To avoid reporting a very large number of estimates, we report these

[25] Confidence intervals are based on unadjusted standard errors.

robustness tests only at the family and component level.

Specifically, we conduct the following robustness checks: First, we show how removing the control variables from our econometric model affects our results. Second, we examine how the results change if we rely only on midline and endline surveys. While a large number of respondents responded to at least one Qualtrics survey in each study year, response rates on any particular survey were lower than what we observed for our midline and endline surveys. Third, we have baseline measures for many of our outcomes. This allows us to estimate a differences-in-differences model for these outcomes in which we compare changes from baseline in the treatment group to the changes observed in the control group, rather than comparing these groups cross-sectionally in the post-intervention period. This model requires that the treatment and control groups are on parallel trends but allows survey respondents to have different fixed (non-time-varying) unobservable characteristics across the two groups, which may be the case when there is differential survey response. Fourth, we estimate the effect of the transfer on a subgroup that showed high rates of survey compliance in the baseline period. As we demonstrate in Appendix Figure A3, this subgroup exhibits somewhat lower rates of differential response across treatment arms. In line with our subgroup analysis described in Section 6.3, we do not estimate this robustness check for the biomarkers family, given the smaller sample size available for these measures. We also do not conduct this check for our mortality outcome due to the small sample of deaths within the high compliance group by treatment arm. Finally, we estimate bounds based on Lee (2019). We do not conduct this check for the mortality outcome given the low mortality rate in both treatment arms.

The estimates from these tests are found in Appendix Tables A55-A64. Removing control variables has very little impact on our results, as one might expect given the high degree of balance across treatment and control groups in our sample. In almost all cases, the standard errors are slightly larger when controls are removed, illustrating our rationale for including these controls (i.e., to improve precision). Our results are also very similar when relying only on the midline and endline data for analysis as reported in Column 3. Note that some outcomes were only asked at midline and endline, in which case results in this column will match the baseline specification exactly, and some outcomes were not asked at midline and endline, in which case we cannot produce these estimates. We also find very similar results when estimating the difference-in-differences version of the model, although it is not possible to estimate this model for biomarker outcomes (given that we collected only a limited number of biomarkers, from part of the sample, at baseline) or for mortality (since mortality in the pre-

period is necessarily zero). Results are also similar, although less precise, when limiting to the group who had high compliance at baseline. Finally, we report the upper and lower Lee (2019) bounds, which assume the differential non-response in the control group is drawn either from the very top (in the case of the lower bound) or bottom (in the case of the upper bound) of the outcome's distribution. These bounds are known to be conservative and the fact that baseline characteristics appear balanced between responding treatment and control participants suggests that differential non-response is unlikely to be biasing our estimates. Nevertheless, we present these bounds in the last two columns of Appendix Tables A55-A64. These bounds are relatively tight for the self-reported physical and mental health families, consistent with our conclusion that there was no effect on these outcomes. But they are larger for other families, and are particularly wide for the biomarkers family, which was based on a smaller sample that exhibited more differential participation than the surveys.

6.5 Comparison to expert predictions

In April of 2022, before we had obtained our final endline study data, we sent out emails to members of the National Bureau of Economic Research (NBER) requesting that they register forecasts on the outcome of the study. To keep the survey short, we asked participants to only consider a small subset of outcomes. These outcomes were: having a score on the Kessler-6 scale indicating high mental distress, reporting health as very good or excellent, reporting skipping needed medical care due to costs in the last 12 months, having insurance coverage, visiting a primary care physician in the last 12 months, the number of hospitalizations in the last 12 months, and the reported weekly frequency of exercise. We provided respondents with the baseline level of the variable and asked them to predict what value the variable would have for the treatment and control participants at the end of the study. From these predictions, we generated forecasted treatment effects by subtracting the control group prediction from the treatment group prediction. Members associated with the Health Care and Health Economics groups were prompted to fill out forecasts related to health outcomes, but members associated with other NBER groups could also make predictions about health outcomes if they so chose. In total, we received 138 responses, of which 41 provided forecasts of health-related variables.[26]

Appendix Figure A17 shows histograms of the predicted treatment effects provided through these

[26]We also solicited predictions from users of the Social Science Prediction Platform and received 64 forecasts related to health variables. These users belonged to the Platform's "superforecaster" panel of researchers (including graduate students) who chose to participate in the panel by completing an intake survey, providing a verified email address, and committing to completing at least 80% of assigned predictions per month. We did not ask these users about their predictions regarding whether a respondent skipped needed medical care due to cost in the last 12 months. These results are reported in Appendix Figure A18. While average predictions are similar, these forecasts are more diffuse than those provided by NBER members.

surveys, with the average predicted effect indicated by a vertical black line. The vertical red line denotes the actual treatment effect observed at the end of the study, with the dashed lines indicating 95% confidence intervals. The predictions about the impact of the cash transfer were fairly diffuse, indicating that there was not consensus among experts about what the cash transfers would do ex ante. Respondents were, on average, more optimistic about the program's effects than what was observed in the endline data. Our confidence interval for the estimated treatment effects at endline on four of the seven outcomes–the probability a respondent had very good or excellent health, skipped needed medical care, had a primary care visit in the last 12 months, and the weekly frequency of exercise–exclude the average predicted effect. Our confidence intervals only narrowly miss excluding the average predicted effect on the transfer for hospitalizations: predictors thought hospitalizations would decrease somewhat, while our endline results indicate an increase in hospitalizations. In contrast, the average predicted effect on insurance coverage was nearly identical to our estimated effect, although predictions for this variable were also diffuse. These patterns indicate to us that the results we document in our analysis were not obvious to experts ex ante.

7 Discussion

In recent years, policymakers and advocates have emphasized the important role that social and economic factors–income predominant among them–play in determining health outcomes. The most pessimistic of these analyses of the "social determinants of health" suggest that progress on reducing health disparities between rich and poor can only be achieved by first reducing or eliminating poverty itself, and that funds which might have been spent on subsidizing or facilitating access to medical care instead should be directed towards programs that meet patients' material (rather than health) needs.

The results from this experiment suggest that, for the sample and time frame we study, directly reducing poverty via cash transfers was not effective at improving health outcomes. We document a precise null effect for a variety of physical health outcomes and our point estimates are able to rule out even very small improvements in physical health. Improvements we observe in mental health are short-lived and, by the second year of the transfers, the treatment group reports no better mental health than control group members. Furthermore, the intervention did not appear to improve access to medical care, nor did it lead to participants making other health investments via sleep and exercise. The fact that the transfer does not generate more durable improvements in stress is especially notable since one prominent hypothesis is that income transfers could improve physical health in the long-

term by reducing stress, prolonged exposure to which is known to generate adverse physical effects (e.g., Tawakol et al., 2019). The finding that stress reductions are short-lived, combined with the fact that changes in health-improving behaviors like exercise also show precise null effects, makes it less plausible that health effects would emerge over a longer transfer period.

At the same time, we do find some evidence for a utilization pathway through which health improvements could emerge for treated participants in the future, or might have emerged over a longer treatment period. Hospital, emergency department, and dental care visits increased, and treated participants spent about $20 per month more on medical care, relative to the control group. These increases in health care use and health spending are smaller, however, than the effects of more health-focused interventions; for example, Medicaid coverage generates an increase in health expenditures about 7 times larger than the effect of the transfer we study.[27] Our results also suggest that nutrition quality may have improved somewhat. Results for alcohol and drug use are mixed, with treatment group participants reporting drinking alcohol more often, but lower rates of disruptive drinking behavior and abuse of painkillers. Future work is needed to assess whether there might have been beneficial health impacts on the children of recipients or other household members.

The appeal of cash transfers lies in the freedom that they give beneficiaries to make their own choices about what type of consumption to prioritize. However, the nature of that freedom means that cash transfers are a blunt instrument for improving health and reducing health disparities specifically. Program participants have a variety of needs that they may prioritize over health inputs when making consumption decisions. And, these needs likely vary significantly from participant to participant. For example, it is notable that participants who reported at baseline that they skipped needed medical care due to costs appear to experience larger increases in the use of medical care and some improvements in access to medical care and mental and physical health as a result of the transfer, although these estimates were not consistently statistically significant and also did not remain significant after adjusting for multiple hypothesis testing. Further research is needed to identify whether income transfers may improve health for some particularly vulnerable subgroups, or under certain circumstances. If this is indeed the case, more targeted transfers that take into account specific health needs may be more successful at reducing health disparities than the one studied here.

Finally, we note that the lack of an effect of the transfers on physical or mental health does not

[27] This calculation uses the estimate from the Oregon Health Insurance Experiment of $1,172 higher annual spending due to Medicaid in 2008 from Baicker et al. (2013) and inflation-adjusts this estimate to the end of our study period, giving a total increase in annual spending due to Medicaid coverage of $1,708, or about $142 per month.

imply that the cash transfer program was unsuccessful at achieving other important goals, or that the transfers did not increase welfare for recipients. Companion papers (Vivalt et al., 2024; Bartik et al., 2024) show that our study participants consumed more leisure, food, housing, transportation, and goods and services as a result of being randomly assigned to the high cash transfer arm. While these choices did not appear to directly affect their health, they did allow participants to increase consumption in ways that the participants valued most, as revealed by their own choices.

Ultimately, our results suggest that policymakers interested in improving health and reducing health disparities specifically should consider prioritizing programs that target health directly, at least for populations similar to the one we study. Expanding Medicaid eligibility, reducing prescription drug costs, and making it easier for patients to make primary care appointments have all been shown via rigorous evaluation to meaningfully improve the health and healthcare access of low-income and otherwise vulnerable adult populations over a time period similar to or shorter than the one we study (e.g., Goldin et al., 2020; Miller et al., 2021; Sabety et al., 2023; Chandra et al., 2021). If instead policymakers seek to reduce poverty and improve the well-being of low income groups more generally, cash transfers could still represent an important option, even if they do not improve health in the near term.

Table 1: Study Sample Characteristics Compared to Eligible Population

	Eligible Population Comparison (ACS)			Study Sample		
	Full US Population		Study Counties	Eligible Screener Respondents		Enrolled Active Survey Group
	Unweighted	Reweighted to Match Enrolled Sample FPL and County Type Distribution	Reweighted to Match Enrolled Sample FPL County Type Distribution	Unweighted	Reweighted to Match Enrolled Sample FPL County Type Distribution	Unweighted
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Key active group stratification variables						
Income <100% of FPL	0.25	0.34	0.34	0.30	0.34	0.33
Income 100-200% of FPL	0.36	0.41	0.41	0.33	0.41	0.40
Income 200% + of FPL	0.38	0.24	0.24	0.37	0.24	0.24
Rural County	0.26	0.13	0.13	0.13	0.13	0.13
Suburban County	0.32	0.18	0.18	0.22	0.18	0.18
Medium-Sized Urban County	0.16	0.16	0.16	0.15	0.16	0.16
Large Urban County	0.24	0.53	0.53	0.51	0.53	0.53
Panel B. Demographic Characteristics						
Any Children	0.59	0.59	0.62	0.57	0.59	0.57
HH Size	3.36	3.25	3.34	3.14	3.20	2.98
Age <30	0.52	0.54	0.53	0.54	0.54	0.54
White (non-hispanic)	0.59	0.46	0.41	0.48	0.46	0.47
Black (non-hispanic)	0.17	0.25	0.29	0.25	0.26	0.30
Hispanic	0.17	0.22	0.25	0.22	0.22	0.22
Female	0.57	0.59	0.61	0.68	0.69	0.67
HH Income	36,199	30,521	31,204	32,327	29,245	29,942
College Degree or more	0.17	0.16	0.16	0.28	0.25	0.20
Renter	0.56	0.68	0.66	0.82	0.84	0.79
N	919395	904792	35086	14573	14573	3000

This table compares the study sample to estimates of the characteristics of the study in the US as a whole. Eligible individuals are those ages 21-40 with household incomes of less than 300% of the federal poverty line. Columns (1) - (4) report estimates of the characteristics of eligible households using the American Community Survey (ACS) 2013-2017 pooled sample. Column (1) presents the unweighted means for eligible individuals, Column (2) reweights this sample to match the enrolled sample distribution of income groups as a share of the FPL (which was a stratification target when assigning individuals to the active survey group), Column (3) reweights the ACS sample to match both the income group distribution and the county-type distribution in the enrolled active survey group sample, and Column (4) presents estimates of characteristics of eligible individuals in study counties, reweighted to match the enrolled sample FPL group and county type distribution. Columns (5)-(7) report characteristics of the study sample. Columns (5) and (6) report characteristics of eligible respondents to the mailer and online advertisement reruitment methods. Column (5) is unweighted, while Column (6) is reweighted o match the enrolled sample FPL and county type distribution. Column (7) reports the unweighted mean of the ultimate enrolled active survey group (i.e. the 3000 individuals assigned to the active group who completed the baseline survey and participated in the program). In some cases variables may not add to one due to missing values.

Table 2: Baseline characteristics by treatment arm

	Treatment	Control	p-value
Demographic			
Age	30.169	30.035	0.542
Male	0.328	0.319	0.627
Female	0.669	0.678	0.628
Non-binary/other	0.003	0.003	0.999
Non-Hispanic Black	0.295	0.305	0.554
Non-Hispanic Asian	0.036	0.038	0.790
Non-Hispanic White	0.473	0.463	0.597
Non-Hispanic Native American	0.020	0.025	0.428
Hispanic	0.220	0.214	0.694
Household Size	2.943	2.996	0.435
Any Children in Household	0.568	0.571	0.897
# Children	1.435	1.398	0.558
Economic			
Employed	0.578	0.586	0.675
Personal Income ($1000s)	21.355	21.217	0.861
Household Income ($1000s)	29.991	29.917	0.922
Under FPL	0.323	0.336	0.475
HS Degree/GED or higher	0.953	0.939	0.100
Health care access and utilization			
Insured	0.703	0.719	0.369
Skipped Medical Care due to Costs	0.269	0.276	0.682
Worried About Medical Costs	0.311	0.296	0.429
Usual source of care is ER	0.083	0.093	0.368
Any hospitalization last 12 mos	0.139	0.126	0.337
Any ER visit last 12 mo	0.314	0.303	0.523
# Office Visits last 12mo	3.778	3.851	0.776
Mental health			
# days mental health good (of last 30)	23.097	23.059	0.914
High stress	0.157	0.154	0.836
High mental distress	0.129	0.113	0.207
Severe depression	0.162	0.152	0.476
Physical health			
Health very good or excellent	0.515	0.495	0.312
# days physical health good (of last 30)	26.441	26.435	0.980
Obese	0.414	0.425	0.544
Pain interferes not at all or very little	0.765	0.756	0.571
Health behaviors			
Exercise frequency	7.499	7.893	0.328
Amount of sleep	6.796	6.764	0.691
# days with 4+ alcoholic drinks	1.143	1.066	0.560
Drinking alcohol interferes with work	0.092	0.100	0.568
# days taking painkillers not prescribed to you	0.032	0.067	0.268
Smoke cigarettes daily	0.167	0.178	0.455
Food security index (0-6)	2.903	2.922	0.828

Notes: This table displays means of baseline characteristics of the treatment and control group, and a p-value associated with a test of equality of those means.

Table 3: Impact of Guaranteed Income on Self-Reported Mental Health

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Mental health index			**-0.014 (0.021)**	0.028 SDs
			[0.632]	
Emotional problems interfere with daily life			-0.012 (0.025)	0.037 SDs
			[1.000]	
Accomplish less than you would like	0.1247‡‡‡	3.60 (1.00)	-0.017 (0.029)	-2.04%
			[1.000]	
Did work or activities less carefully	0.0777‡‡	3.86 (0.91)	0.012 (0.027)	-1.04%
			[1.000]	
Interference with social activities	0.1125‡‡‡	3.79 (0.95)	-0.031 (0.029)	-2.31%
			[1.000]	
Mental distress (Kessler 6)	-0.6046‡‡‡	6.26 (4.52)	-0.020 (0.123)	-4.17%
			[1.000]	
Perceived stress scale	-0.6323‡‡‡	18.54 (6.70)	0.051 (0.182)	-1.65%
			[1.000]	
Generalized anxiety disorder screener	-0.1150‡‡‡	2.00 (1.50)	0.014 (0.042)	-3.37%
			[1.000]	
Depression scale (PHQ-9)	-0.5531‡‡‡	7.21 (5.68)	0.109 (0.157)	-2.75%
			[1.000]	
Days mental health good of last 30	1.0070‡‡‡	23.19 (7.36)	-0.273 (0.214)	0.63%
			[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. ∗ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 4: Impact of Guaranteed Income on Self-Reported Physical Health

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Self-Reported Physical Health Index			**-0.017 (0.020)**	0.023 SDs
			[0.632]	
# Days Physical Health Good of Last 30	0.6296‡‡‡	26.08 (5.58)	-0.352 (0.176)**	0
			[0.353]	
Health Rating (Poor=1, Excellent=5)	0.0929‡‡‡	3.22 (0.93)	-0.035 (0.025)	0.43%
			[0.353]	
Health is not limiting			0.015 (0.022)	0.058 SDs
			[0.353]	
Health limits moderate activities	-0.0503‡‡	1.31 (0.47)	-0.017 (0.014)	-3.34%
			[0.551]	
Health limits climbing several stairs	-0.0504‡‡	1.42 (0.54)	-0.015 (0.015)	-3.11%
			[0.551]	
Accomplished less due to physical health	-0.1176‡‡‡	2.13 (0.94)	-0.005 (0.028)	-2.79%
			[0.648]	
Limited in work/other activities due to physical health	-0.1227‡‡‡	1.93 (0.95)	-0.037 (0.027)	-4.68%
			[0.551]	
Health interferes with social activities	-0.1125‡‡‡	2.21 (0.95)	0.031 (0.029)	-1.10%
			[0.551]	
Pain interferes with normal work	-0.0887‡‡‡	1.98 (0.92)	-0.016 (0.026)	-3.41%
			[0.353]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. ∗ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 5: Impact of Guaranteed Income on Clinical Health Indicators

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Clinical health indicators			**-0.029 (0.025)**	0.020 SDs
			[0.473]	
Diabetes risk			-0.037 (0.037)	0.035 SDs
			[0.579]	
A1c	-0.0066	5.68 (1.00)	0.037 (0.058)	-1.35%
			[1.000]	
A1c in diabetic range	-0.0021	0.07 (0.26)	0.015 (0.014)	-16.75%
			[1.000]	
A1c in pre-diabetic range	-0.0024	0.26 (0.44)	0.006 (0.026)	-16.99%
			[1.000]	
Blood pressure			0.047 (0.034)	0.114 SDs
			[0.579]	
Diastolic blood pressure	0.1752	82.18 (11.26)	-0.496 (0.624)	-2.09%
			[1.000]	
Systolic blood pressure	0.5764	126.18 (16.12)	-0.420 (0.870)	-1.68%
			[1.000]	
BP in elevated range	0.0043	0.15 (0.36)	-0.011 (0.020)	-33.68%
			[1.000]	
BP in hypertensive range	0.0035‡	0.25 (0.43)	-0.038 (0.024)	-33.44%
			[1.000]	
Lipid panel			-0.061 (0.044)	0.025 SDs
			[0.579]	
Total cholesterol	0.4465	184.93 (38.08)	2.935 (2.288)	-0.84%
			[1.000]	
LDL Cholesterol	0.3887	109.51 (33.14)	3.055 (2.064)	-0.91%
			[1.000]	
HDL Cholesterol	-0.0160	52.89 (15.64)	0.188 (0.879)	3.61%
			[1.000]	
Total cholesterol in high range	-0.0005	0.08 (0.27)	0.025 (0.018)	-12.25%
			[1.000]	
Inflammation			-0.050 (0.048)	0.045 SDs
			[0.579]	
GlycA	-1.3384	434.72 (82.37)	4.355 (4.272)	-0.92%
			[1.000]	
GlycA in High Range	-0.0082	0.65 (0.48)	0.023 (0.027)	-4.60%
			[1.000]	
Obesity risk			-0.020 (0.043)	0.063 SDs
			[0.579]	
BMI	0.3689	32.46 (10.01)	-0.386 (0.596)	-4.78%
			[1.000]	
BMI in obese range	0.0155	0.53 (0.50)	0.043 (0.023)*	-0.27%
			[1.000]	
Ideal Cardiovascular Health Index (0-7)	0.0142	3.25 (1.16)	-0.064 (0.063)	1.85%
			[0.579]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations.The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 6: Impact of Guaranteed Income on Mortality

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Mortality Rate	-0.0002	0.005	**0.004 (0.004) [0.651]**	79%

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. This family contains only one outcome, so there is no aggregation of effects. The column "Control Mean" is based on our own collected information about mortality in the control group and not based on the Census Numident or any Census data; this mean includes participants not linked to administrative data. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based on the correlation between personal income and 3-year mortality observed in the 2016 National Health Interview Survey. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 7: Impact of Guaranteed Income on Healthcare Access

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Healthcare Access Index			**0.010 (0.015)**	0.040 SDs
			[0.632]	
Has insurance coverage	0.0410‡‡	0.78 (0.37)	0.014 (0.012)	4.94%
			[1.000]	
Health Care Finances			0.018 (0.019)	0.055 SDs
			[1.000]	
How worried about paying medical costs	0.0212‡‡	0.34 (0.34)	-0.005 (0.012)	-8.66%
			[1.000]	
Skip other bills to pay for health care	0.0129‡‡‡	0.06 (0.20)	-0.006 (0.007)	-32.85%
			[1.000]	
Medical debt	-76.6	587.52 (2422.50)	-25.90 (71.21)	-28.16%
			[1.000]	
Needed Care Access			-0.027 (0.020)	0.012 SDs
			[1.000]	
Usual Source of Care is ER	-0.0157‡	0.06 (0.20)	-0.004 (0.007)	-30.29%
			[1.000]	
Skipped needed medical care due to costs	-0.0180‡‡	0.17 (0.28)	0.004 (0.009)	-7.90%
			[1.000]	
Skipped mental health care due to costs	-0.0111‡‡	0.19 (0.32)	0.011 (0.011)	-5.10%
			[1.000]	
Skipped dental care due to costs	-0.0194‡‡‡	0.27 (0.36)	0.020 (0.011)*	-0.55%
			[1.000]	
Prescription Drug Access			0.010 (0.028)	0.065 SDs
			[1.000]	
Used alternative therapies to save money	-0.0001	0.07 (0.22)	0.011 (0.008)	-6.09%
			[1.000]	
Skipped doses to save money	-0.0073	0.07 (0.22)	-0.002 (0.008)	-23.74%
			[1.000]	
Delayed refilling to save money	-0.0004	0.08 (0.23)	-0.001 (0.008)	-21.00%
			[1.000]	
Asked doctor for lower cost medications	-0.0022	0.11 (0.27)	-0.006 (0.009)	-21.56%
			[1.000]	
Expenditures on insurance premiums*	390‡‡‡	1163.56 (1758.82)	13.22 (56.74)	10.69%
			[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations. Note that Expenditures on Insurance Premiums is excluded from the family level estimate. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 8: Impact of Guaranteed Income on Use of Office-Based Care

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Office Care Index			**0.036 (0.016)****	
			[0.233]	
Primary Care			0.011 (0.022)	0.054 SDs
			[0.407]	
Any primary care visit in last 12 mos	0.0196	0.61 (0.43)	0.007 (0.014)	5.67%
			[0.741]	
Number of office visits last 12 mos	-0.2392‡‡‡	3.45 (4.38)	0.270 (0.154)*	16.56%
			[0.385]	
Has usual place of care other than ER	0.0242‡‡‡	0.80 (0.35)	-0.007 (0.012)	1.99%
			[0.741]	
Has personal doctor or health provider	0.0243‡‡	0.56 (0.44)	-0.006 (0.014)	4.08%
			[0.741]	
Specialist and Surgical Care			0.034 (0.023)	0.079 SDs
			[0.200]	
Any specialist visit last 12 mos	-0.0031‡‡	0.42 (0.43)	0.026 (0.015)*	13.14%
			[0.385]	
Any surgery last 12 mos	-0.0092	0.11 (0.23)	-0.001 (0.008)	13.67%
			[0.766]	
Any mental health care visit last 12 mos	0.0051	0.22 (0.36)	0.017 (0.012)	17.87%
			[0.487]	
Dental Care			0.085 (0.033)**†	
			[0.071]	
Any dentist visit last 12 mos	0.0201‡	0.48 (0.44)	0.049 (0.017)***	
			[0.118]	
Number of dentist visits last 12 mos	0.0304	1.35 (2.10)	0.124 (0.083)	21.26%
			[0.487]	
Preventive Care			-0.027 (0.023)	0.018 SDs
			[0.226]	
Flu shot or nasal spray	0.0114	0.31 (0.43)	-0.003 (0.013)	7.46%
			[0.766]	
Cholesterol test	0.0346‡‡‡	0.42 (0.44)	-0.007 (0.015)	5.12%
			[0.741]	
PAP test (women only)	0.0186‡‡	0.52 (0.43)	-0.025 (0.019)	2.26%
			[0.487]	
Had COVID vaccine*	0.0394‡‡‡	0.64 (0.47)	-0.039 (0.016)**	0
			[0.420]	
Medical care spending	14.98	176.63 (266.09)	20.39 (9.03)**†	
			[0.071]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. Note that "Had COVID vaccine" is not included in aggregated components or family measures since it is considered exploratory. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 9: Impact of Guaranteed Income on Use of Hospital and ED Care

	Gradient	Control Mean	Effect
Hospital care index			**0.072 (0.029)****
			[0.233]
Emergency Department Care			0.079 (0.032)**††
			[0.047]
Any ED visit	-0.0282‡‡‡	0.24 (0.34)	0.025 (0.012)**†
			[0.085]
Number of ED visits	-0.1302‡‡‡	0.58 (1.31)	0.111 (0.052)**†
			[0.085]
Hospital Care			0.065 (0.035)*†
			[0.054]
Any hospitalization	-0.0249‡‡‡	0.09 (0.24)	0.012 (0.009)
			[0.105]
Number of hospitalizations	-0.0799‡‡‡	0.23 (0.72)	0.060 (0.030)**†
			[0.085]

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 10: Impact of Guaranteed Income on Food Security and Nutrition

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Nutrition and food security index			**0.013 (0.018)**	0.049 SDs
			[0.632]	
USDA Food Insecurity Scale	-0.1346‡‡	2.21 (2.08)	0.003 (0.062)	-5.38%
			[1.000]	
Diet behavior			0.027 (0.020)	0.067 SDs
			[1.000]	
Health Eating Index	0.1099	44.83 (9.68)	0.575 (0.336)*	2.75%
			[0.533]	
# of times eating at fast food establishment (last week)	0.3879	6.29 (6.09)	0.215 (0.196)	9.53%
			[0.693]	
# times drinking regular soda containing sugar (last week)	-0.5301	4.83 (6.72)	-0.385 (0.193)**	
			[0.533]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. ∗ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 11: Impact of Guaranteed Income on Health Investments

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Health investments index			**-0.026 (0.015)***	0.003 SDs
			[0.252]	
Physical activity			-0.024 (0.023)	0.021 SDs
			[0.178]	
Time in physical activity/recreation (survey, hours/wk)	-0.0573	0.84 (0.94)	-0.085 (0.032)***††	0
			[0.049]	
Time in physical activity/recreation (time diary, min/day)	-1.7843‡	12.45 (23.89)	-0.109 (0.869)	12.82%
			[0.601]	
Frequency of exercise	-0.0902	7.56 (8.14)	0.181 (0.270)	9.39%
			[0.387]	
Sleep			-0.028 (0.018)	0.007 SDs
			[0.178]	
Sleep amount (survey, hours/wk)	-0.0463	6.24 (1.76)	0.026 (0.053)	2.09%
			[0.450]	
Sleep amount (time diary, min/day)	-2.2595	535.90 (133.60)	-7.551 (3.993)*	0.05%
			[0.173]	
Sleep quality	0.0203‡‡‡	2.67 (0.54)	-0.023 (0.016)	0.30%
			[0.214]	

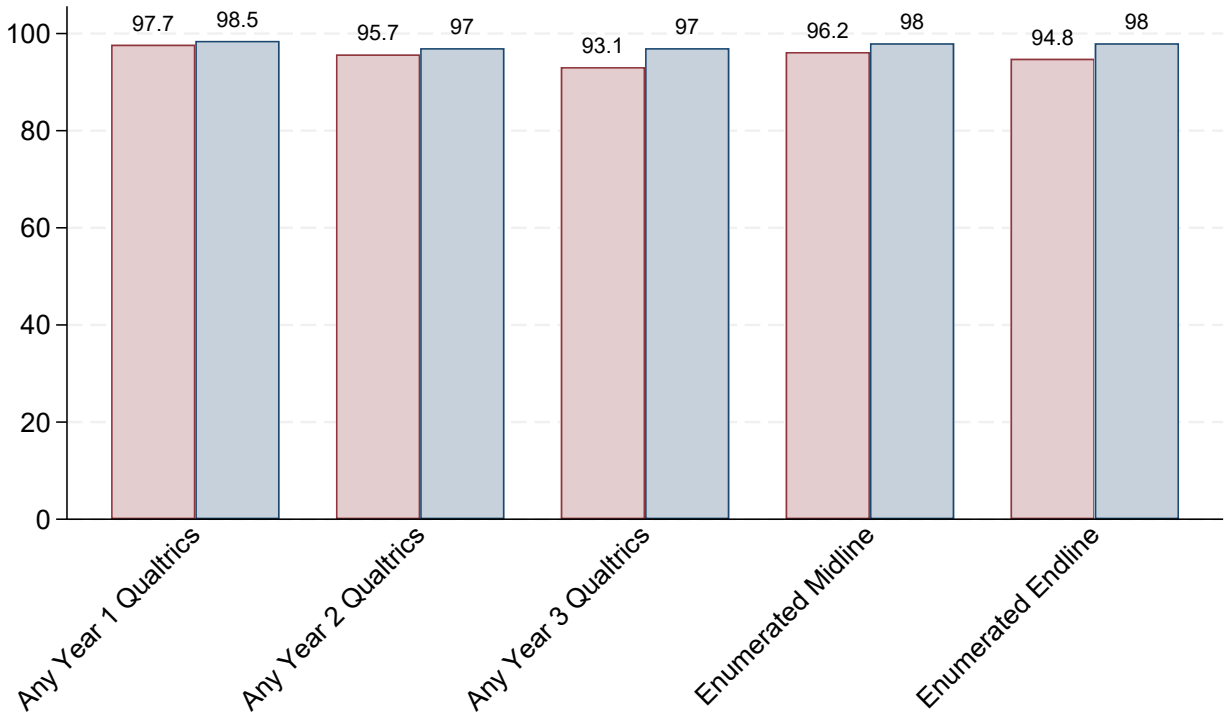
Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. Because the LASSO selected slightly different covariates when run iteratively on variables from the two papers, there is an extremely small difference in the estimate for the effect of time spent in physical activity/recreation across this paper and Vivalt et al. (2024). ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. ∗ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table 12: Impact of Guaranteed Income on Unhealthy Behaviors

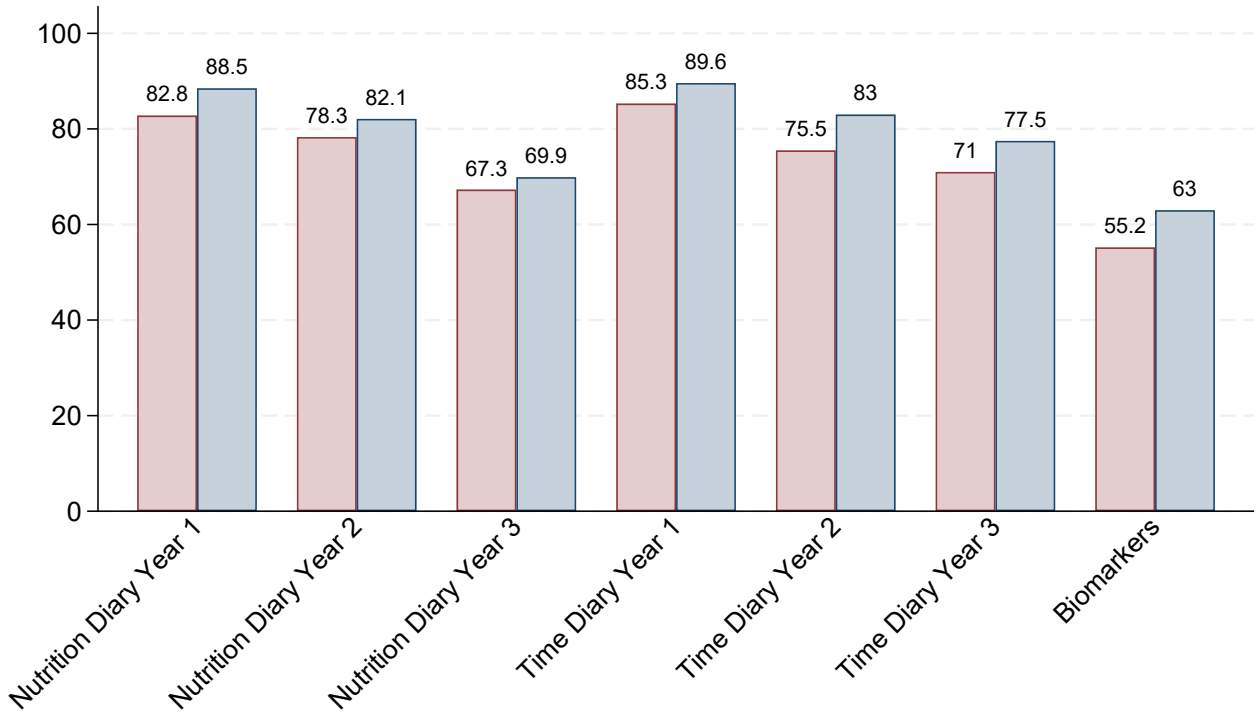
	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Unhealthy behaviors index			**0.013 (0.013)**	0.039 SDs
			[0.559]	
Alcohol use and interference			0.010 (0.023)	0.054 SDs
			[1.000]	
Total number of drinks (30 days)	1.9802‡	9.56 (20.42)	0.741 (0.640)	-5.38%
			[0.622]	
Days drinking alcohol (30 days)	0.5618	2.76 (4.79)	0.341 (0.143)**	0
			[0.333]	
Days drinking 4+ drinks (30 days)	0.1154	0.84 (2.50)	0.137 (0.084)	-3.38%
			[0.532]	
Drinking/hangovers interfered with responsibilities (12 mos)	0.0112‡‡‡	0.09 (0.30)	-0.018 (0.009)**	
			[0.532]	
Drinking caused arguments/serious problems with others (12 mos)	0.0097‡‡	0.06 (0.25)	-0.009 (0.008)	-38.48%
			[0.622]	
Under the influence in a situation where you could get hurt (12 mos)	0.0077‡‡‡	0.05 (0.22)	-0.010 (0.006)	-45.50%
			[0.532]	
Smoking behavior			0.021 (0.021)	0.062 SDs
			[1.000]	
Currently use tobacco products	-0.0164	0.25 (0.39)	-0.000 (0.010)	-7.77%
			[1.000]	
Currently smoke cigarettes daily	-0.0137	0.17 (0.34)	-0.013 (0.008)	-17.08%
			[0.532]	
Number of cigarettes smoked on typical day	-0.2754‡‡	1.51 (3.85)	-0.091 (0.094)	-18.25%
			[0.622]	
Drug use			0.009 (0.018)	0.044 SDs
			[1.000]	
Days using marijuana	-0.0416	4.08 (8.38)	-0.075 (0.231)	-12.93%
			[1.000]	
Days using painkillers not prescribed to you	0.0176‡‡‡	0.12 (1.23)	-0.063 (0.028)**	
			[0.532]	
Days using illegal drugs	-0.0593	0.24 (1.83)	-0.038 (0.062)	-65.49%
			[1.000]	
Days using sedatives not prescribed to you	-0.0251‡	0.08 (0.75)	0.029 (0.030)	-38.31%
			[0.622]	
Any illegal drug use in past 30 days	-0.0028	0.11 (0.25)	-0.001 (0.008)	-14.70%
			[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The family-level effect is reported in bold at the top of the table. Underlined outcomes represent components that aggregate individual level outcomes listed below them into a single index. In instances when there is more than one outcome related to the component topic, these are measured in standard deviations. The column "Gradient" shows the size of the effect a $11,400 increase in annual income would be predicted to have based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. ‡ denotes the significance level of the test with which we can reject the size of the baseline gradient. ∗ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Figure 1: Response Rates by Control (red) and Treated (grey) Participants



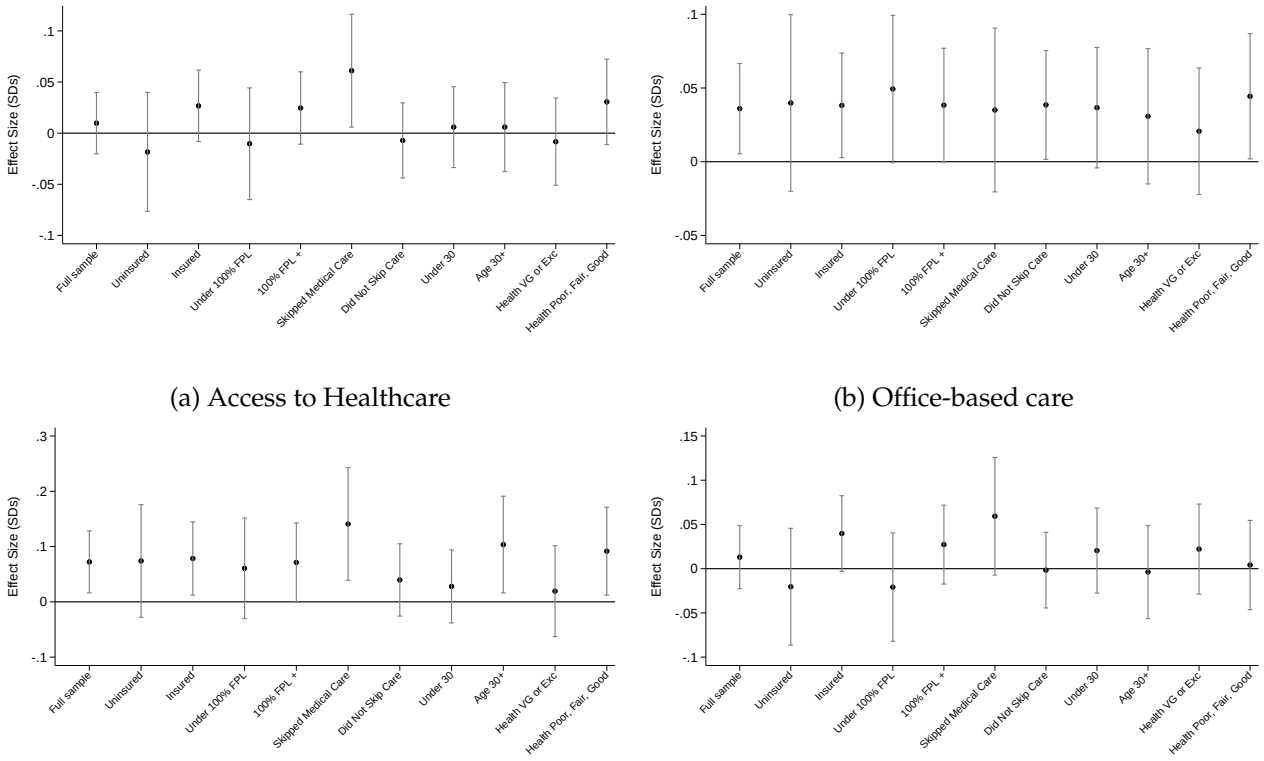
(a) Survey response rates



(b) Task and biomarker response rates

Note: Figure plots response rates by treatment arm to different surveys and data collection activities. The top panel shows response rates to mobile surveys through Qualtrics and for the enumerated midline and endline surveys. The bottom panel shows participation in nutrition diaries and biomarker collection.

Figure 2: Family-Level Effects of Guaranteed Income by Subgroup



(a) Access to Healthcare

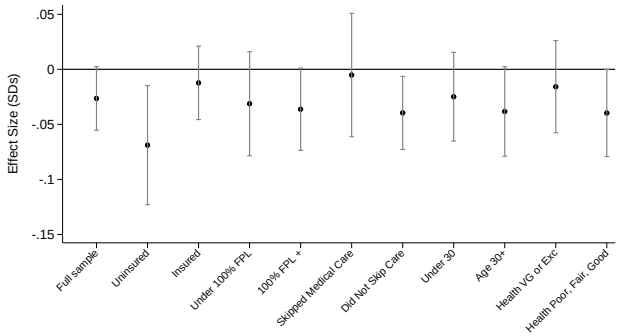
(b) Office-based care

(c) Hospital/ED care

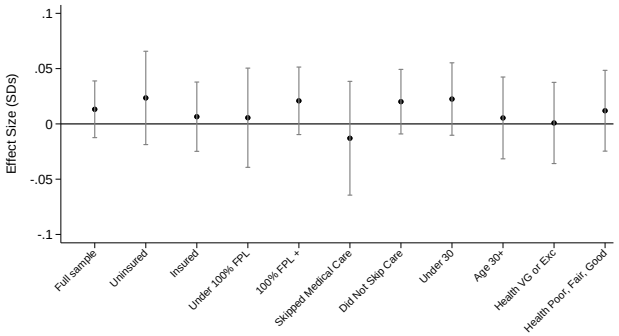
(d) Nutrition and Food Security

Note: Figure plots estimates of family-level treatment effect for full sample (left-most estimate) and by subgroup, with vertical lines indicating 95% confidence intervals.

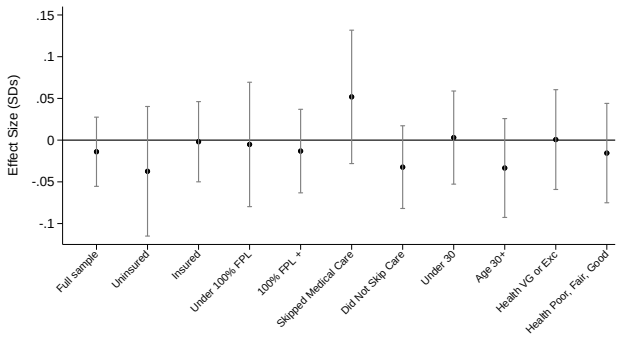
Figure 3: Family-Level Effects of Guaranteed Income by Subgroup (cont.)



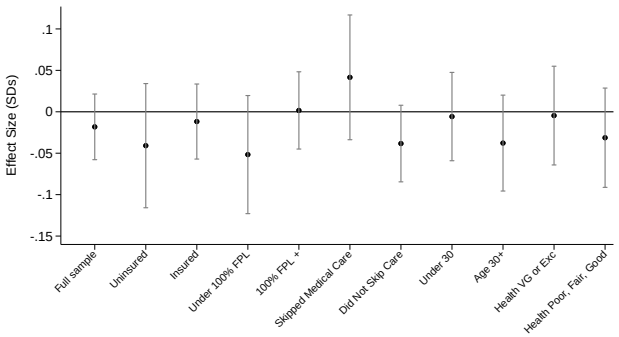
(a) Health Investments



(b) Unhealthy Behaviors



(c) Mental health



(d) Physical health

Note: Figure plots estimates of family-level treatment effect for full sample (left-most estimate) and by subgroup, with vertical lines indicating 95% confidence intervals.

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Does Income Affect Health? Evidence from a Randomized Controlled Trial of a Guaranteed Income

Appendix

Sarah Miller Elizabeth Rhodes Alexander Bartik David Broockman Patrick Krause
Eva Vivalt

A Changes from pre-specified analysis

Over the several years long period of the intervention and analysis, we made several small deviations from our pre-analysis plan. These deviations were due to feedback we received and our evolving understanding about how best to analyze, structure, and present our results. The following were made prior to the receipt of the enumerated midline data, and before any analysis of the data had occurred:

- In our updated pre-analysis plan, we changed our approach to multiple hypothesis testing from calculating family-wise error rate adjusted p-values to presenting tiered false discovery rate q-values.
- In our updated pre-analysis plan we clarified that the main outcome for each validated survey battery (such as the perceived stress scale or the PHQ-9) would be the composite score, with subcomponents treated as secondary outcomes.
- We added new exploratory outcomes related to the COVID-19 pandemic (COVID vaccination, hospitalization due to COVID, diagnosed with COVID).

Additionally, we made additional changes following the midline survey, although most of these were implemented before we had computed any treatment effects.

- Our pre-analysis plan specified that, in pooling items across time, we would impute any time periods for which an item was missing with the treatment group specific mean at that time period, and consider the pooled item as non-missing as long as the outcome was observed for at least one time period. In the current version, we do not perform such an imputation, and instead average over non-missing time periods. Results are similar if we instead use the original version of the imputation.

- The pre-analysis plan specified that questions derived from the SF-12 (found under the "Health is not limiting" component in Table 4) would be divided into two separate components based on whether the answer was on a 3 point scale or a 5 point scale. We believe this was specified in error and we had originally intended to group these questions together. In the current version, all of these questions are grouped together in one component.

- We pre-specified that we would examine both overall mortality and health care amenable mortality. However, we have not yet been able to obtain data that contains information on cause of death. Therefore we only report overall mortality.

- We originally pre-specified that spending on insurance premiums would be included in the estimation of the health care access family. However, it is not clear if spending more on insurance premiums improves health care access. So, we do not incorporate it into the family-level estimate and instead report it as a separate, secondary item.

- We did not originally pre-specify that we would examine vaccination for COVID or hospitalization due to COVID. These are reported but treated as exploratory variables.

- We originally pre-specified that we would measure inflammation in our biomarker analysis using milligrams per liter of C-reactive protein (CRP), a protein produced in the liver. However, biomarker collection was unexpectedly delayed until after the treatments ended. As a result, we switched to using GlycA as our primary measure of inflammation, as this measure appears to change more slowly than CRP (e.g., see Connelly et al. (2017)). Results for CRP are reported in Appendix Table A12.

- We did not originally anticipate the need to winsorize some outcomes or some of cleaning the data necessitated. Although not pre-specified, we winsorized the nutrition diary-related exploratory outcomes reported in Appendix Figure A4, total number of alcoholic drinks, minutes spent exercising, and all dollar-denominated outcomes (such as amount spent on insurance premiums per month).

- The pre-analysis plan specified that a robustness check using median regression would be reported for outcomes potentially susceptible to outliers (e.g., those based on expenditures). However, given that this concern affects only very few outcomes, and the fact that we are already

reporting a large number of tables, we opted the skip this robustness check in the interest of space.

- The pre-analysis plan was ambiguous on the treatment of the sub-components of the USDA Food Security index. In order to mirror the treatment of other survey batteries (e.g., the Kessler 6, Perceived Stress Scale, etc,), we opted to treat these subcomponents as secondary items and report them in the appendix.

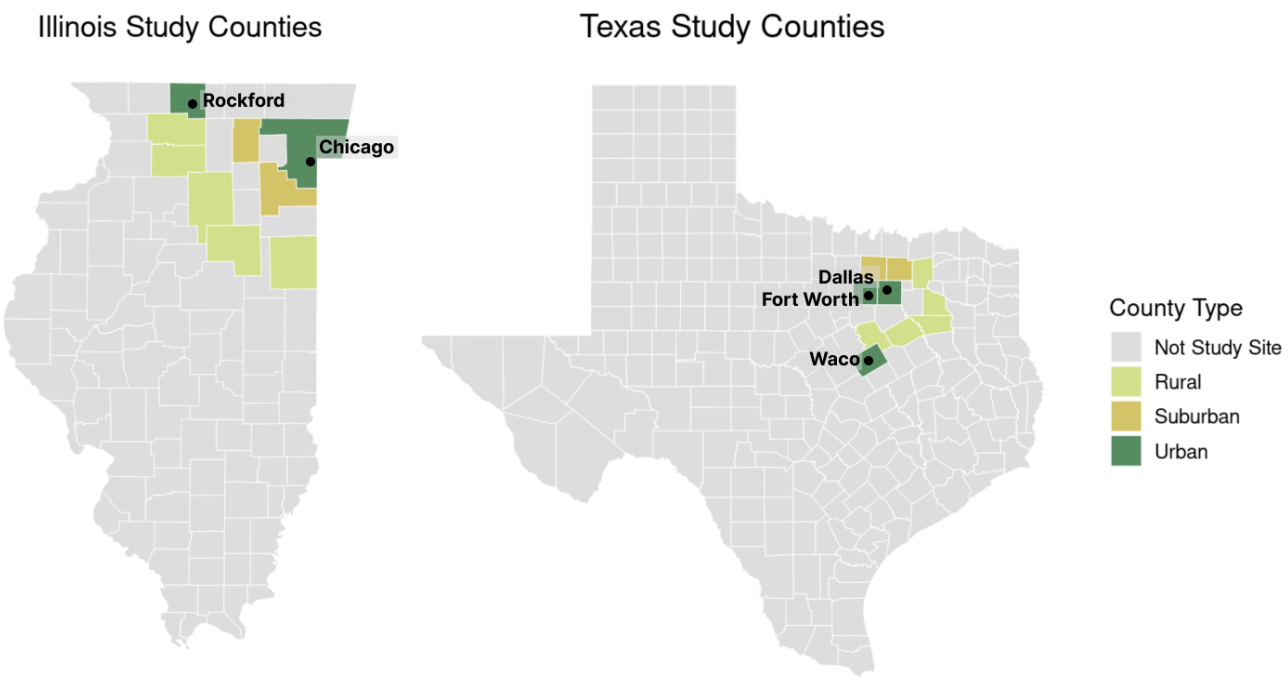
B Random assignment simulation results

We assessed the validity of our random assignment procedure by re-running the procedure 1,000 times to obtain 1,000 counterfactual treatment assignments. Then, we analyzed the distribution of these treatment assignments to assess whether they were consistent with each participant having a one third probability of being assigned to the treatment group. Our analysis of these 1,000 permutations indicated our procedure was valid.

First, we examined the distribution of treatment probabilities for each participant to ensure it was centered on one third. Appendix Figure A19 shows a histogram of assignment probabilities. The mean and median treatment probability are 0.333. We also compared the observed distribution of average treatment assignments to what we might expect from a Bernouilli distribution with a one third probability of success. A quantile-quantile (QQ) plot comparing this distribution to our observed distribution of treatment under our 1,000 simulations is shown in Appendix Figure A20. Most points fall on the 45 degree line, and a Kolmogorov-Smirnov test of equality of these distributions fails to reject that they are the same (p=0.5226).

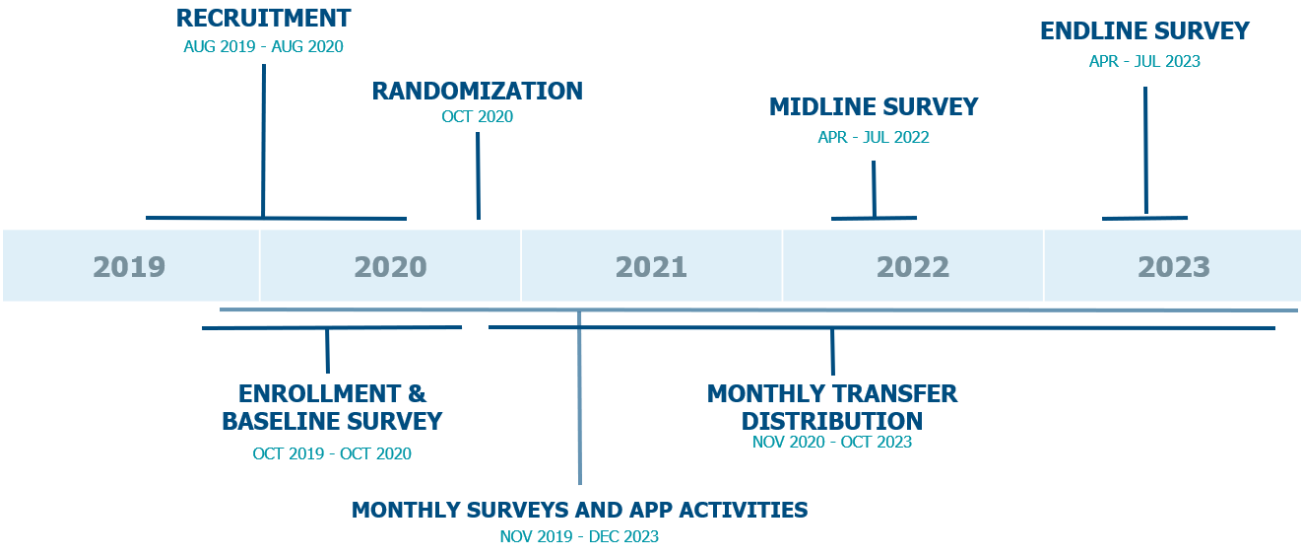
Second, we examined whether participants' baseline characteristics could predict the probability the participant received treatment under our randomization procedure. We regressed the average probability of being assigned to treatment across our 1000 simulations for each participant with all baseline characteristics listed in Table 2. We also included variables that were relevant in the randomization: the number of individuals in the participants' cluster and whether the participant was at the Texas site rather than the Illinois site. The coefficients from this regression are presented in Appendix Table A54. None of these variables is significantly correlated with the probability of being assinged to the treatment group, and all coefficients are very small. These combined analyses reassure us that our randomization procedure is delivering a treatment assignment that is uncorrelated with any participant unobservables.

Figure A1: Map of Study Counties



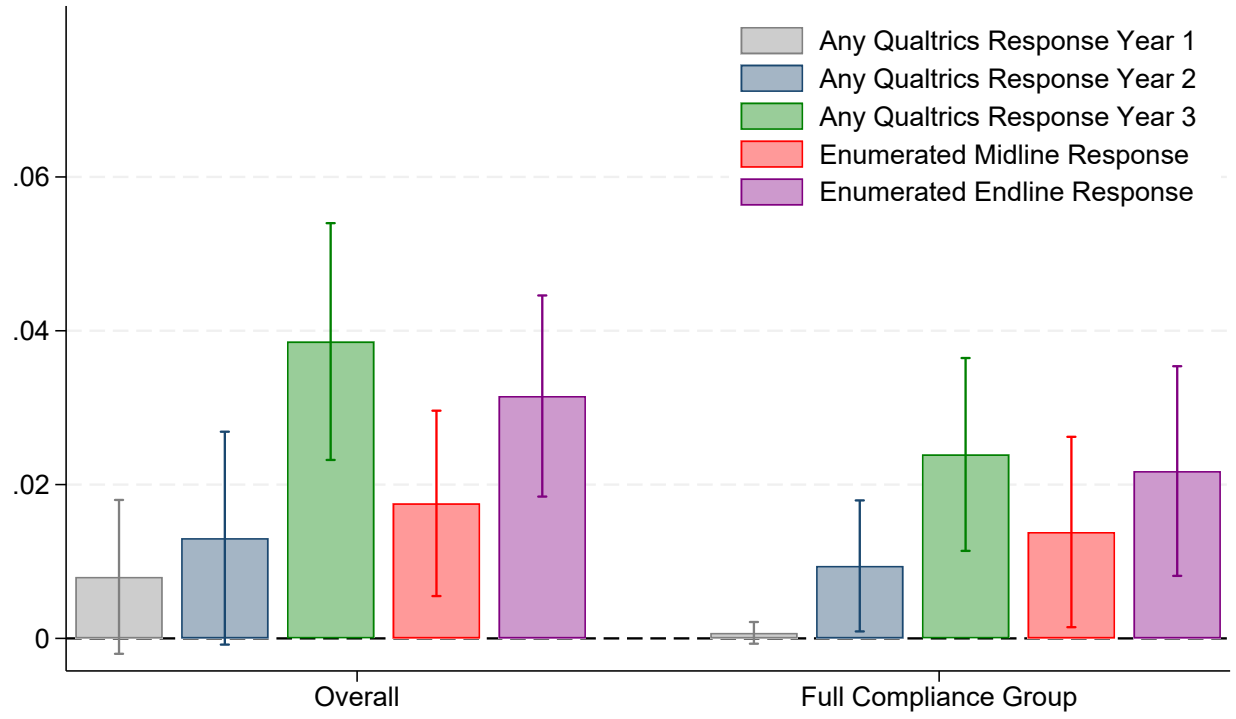
Note: Figures display counties from which participants were recruited with designation. This figure is reproduced from Vivalt et al. (2024).

Figure A2: Timeline of Recruitment, Enrollment, Treatment, and Research Activities



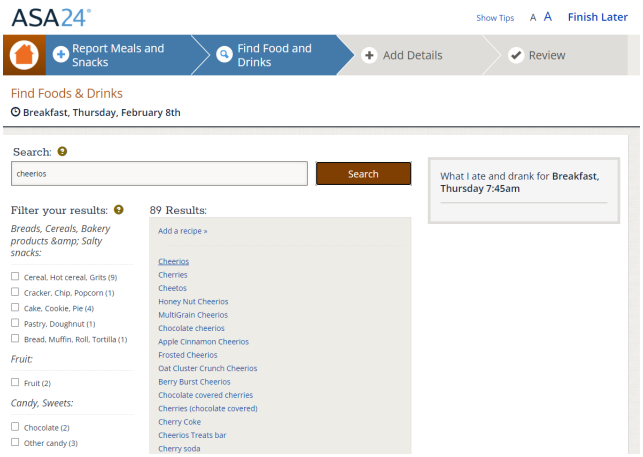
Note: Figure displays a timeline reporting the period of recruitment, enrollment of participants, cash disbursements, and research activities. See text for more details.

Figure A3: Differential (Treatment minus Control) Response Based on Pre-Treatment Responsiveness

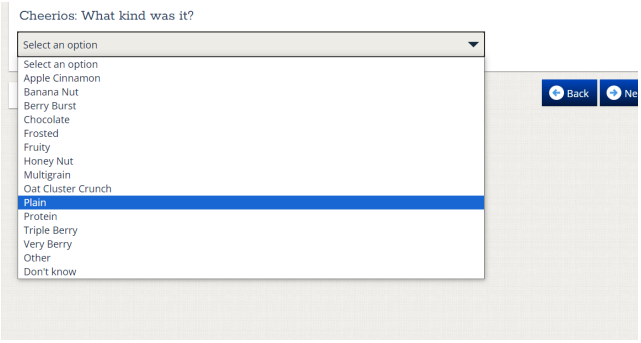


Note: Figure displays differential (treatment minus control) response rates in full sample ("Overall") and in the approximately 71% of the sample who completed all pre-treatment surveys ("Full Compliance Group"). Bars indicate 95% confidence interval of this difference.

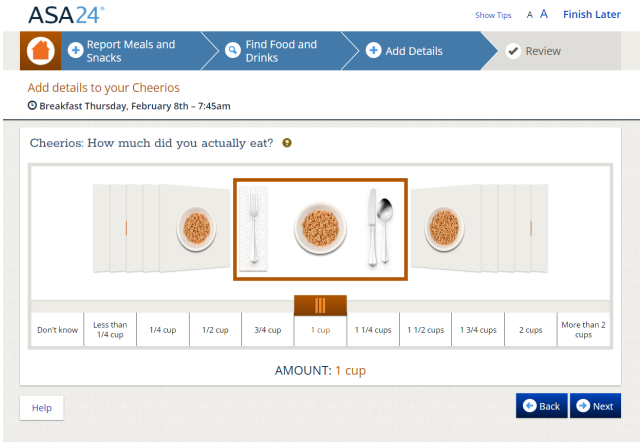
Figure A4: Screen shots of ASA24 Nutrition Diary



(a) Searching for Food Type



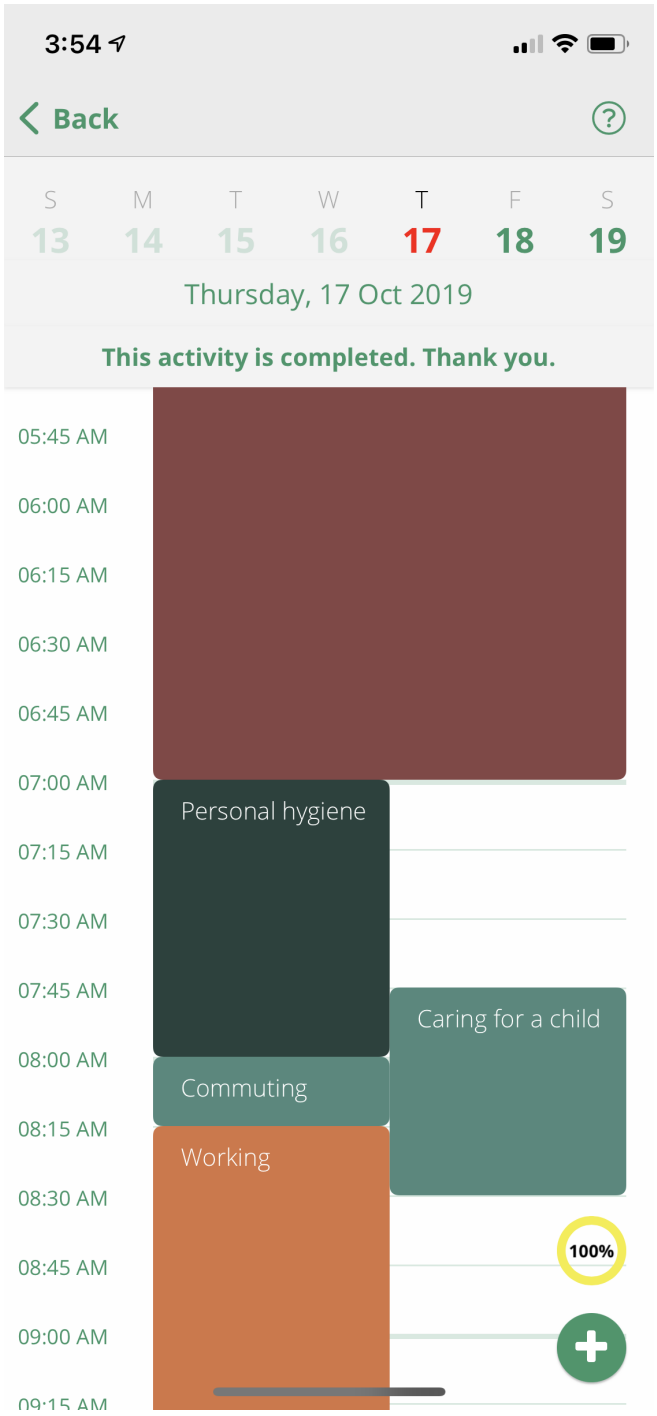
(b) Selecting Food Detail



(c) Estimating Portion Size

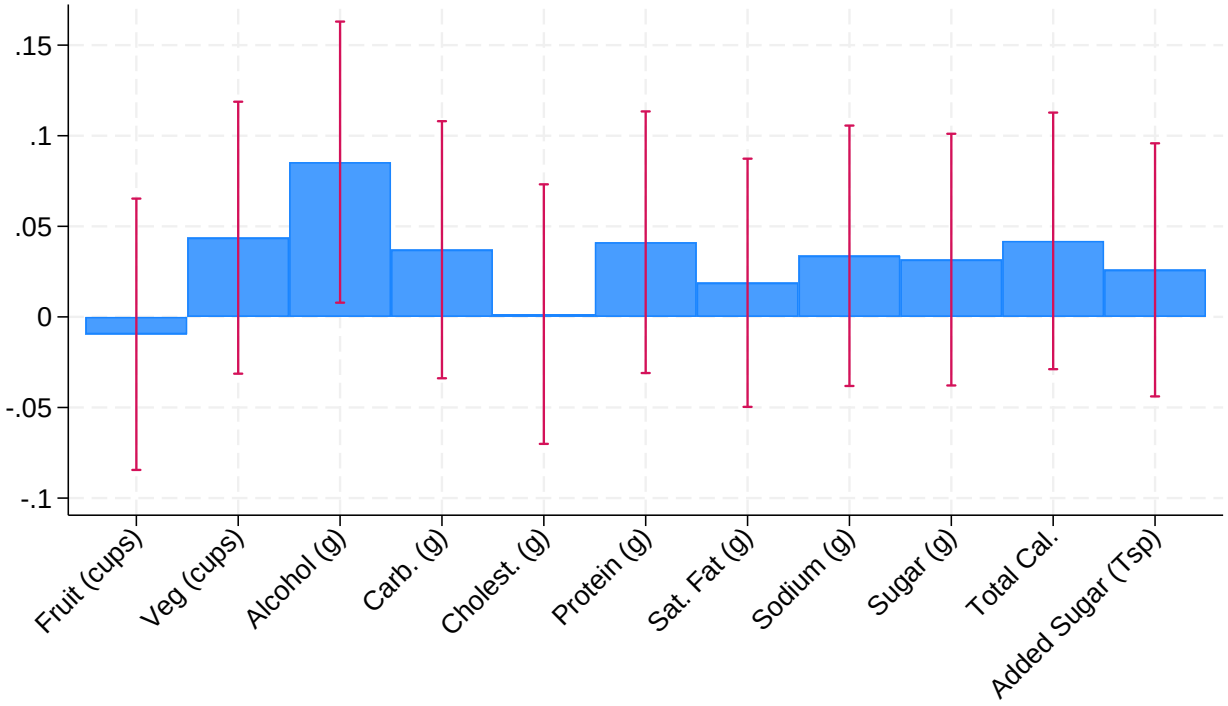
Note: Figure provides screenshots of ASA24 interface which allowed users to report their nutritional intake in previous 24 hour period.

Figure A5: Screen shot of ORUS Time Diary



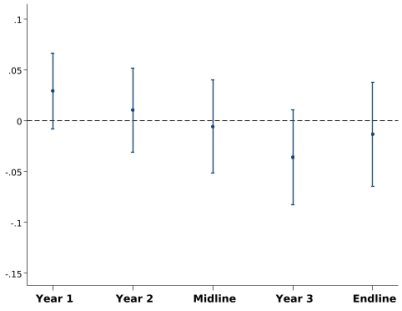
Note: Figure shows screen shot of ORUS-developed time diary app tool.

Figure A6: Effect of Guaranteed Income on Selected Components of Healthy Eating Index (Reported in Standard Deviations)

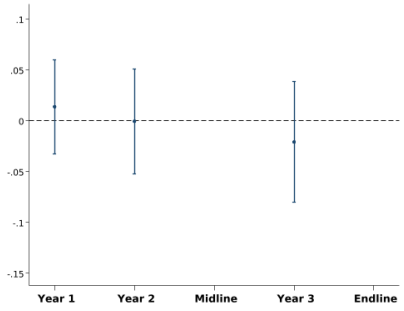


Note: Figure displays treatment effects scaled by the control group standard deviations for consumption of different types of food, as measured using the ASA24 nutrition diaries. Vertical bars indicate 95 percent confidence intervals.

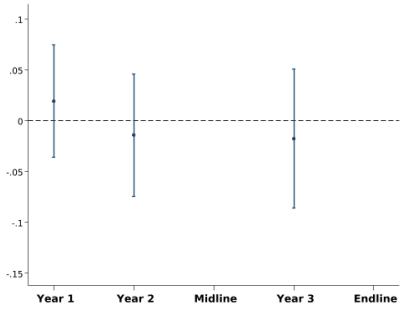
Figure A7: Standardized Effects on Mental Health by Time



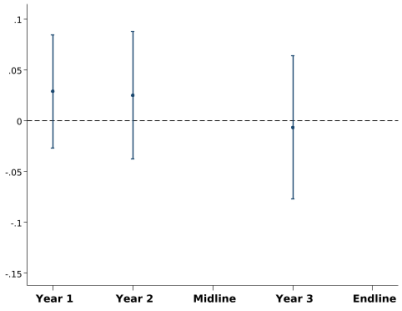
(a) Family Index: Mental Health



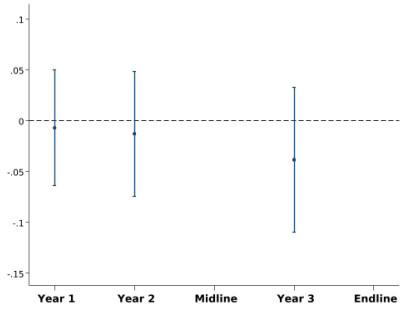
(b) **Component Index: Emotional problems interfere with daily life**



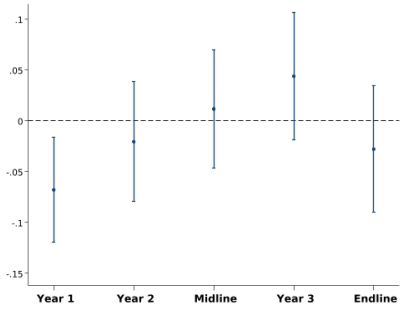
(c) Accomplish less due to emotional problems



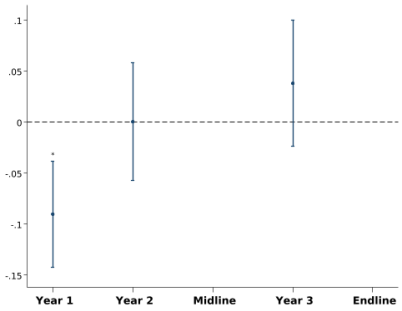
(d) Less careful due to emotional problems



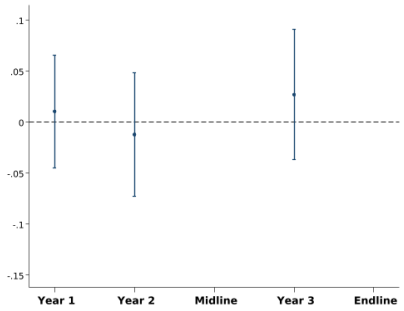
(e) Emotional problems interfere socially



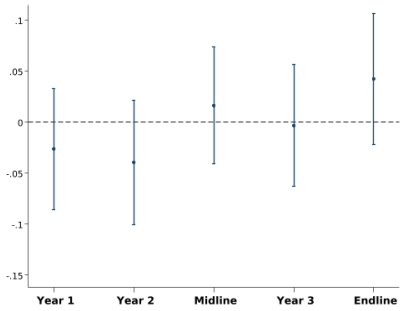
(f) Mental distress (Kessler 6)



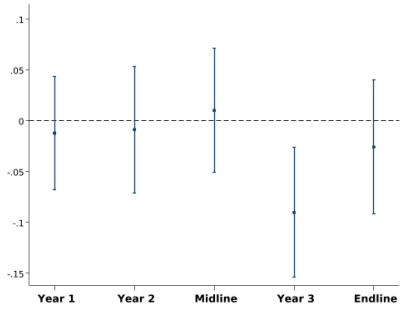
(g) Perceived Stress Score



(h) Generalized anxiety disorder



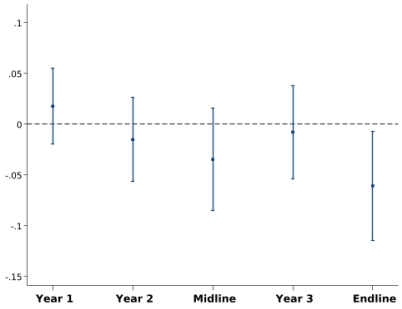
(i) Depression



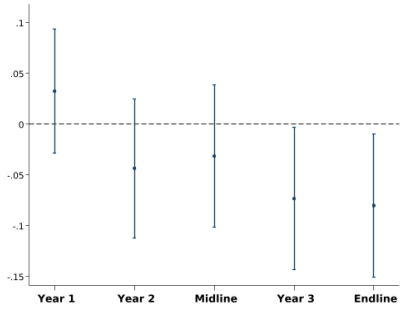
(j) Days mental health good

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

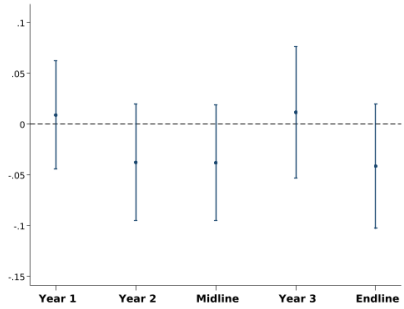
Figure A8: Standardized Effects on Physical Health



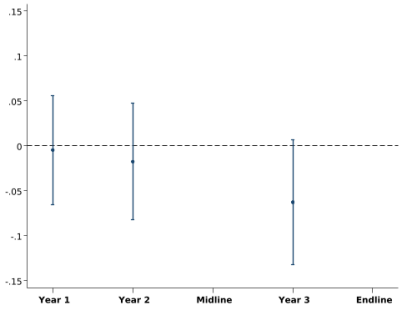
(a) Family Index: Physical Health



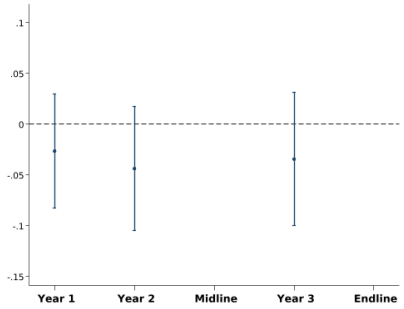
(b) # Days Physical Health was Good (of Last 30)



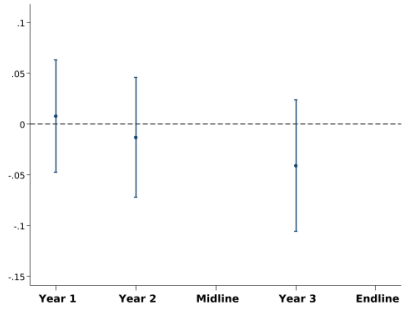
(c) Health Rating



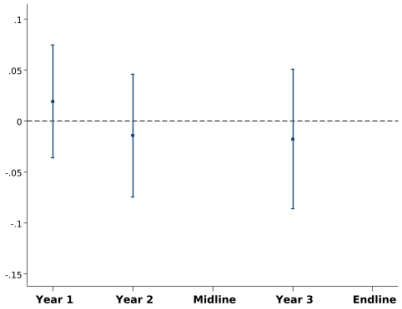
(d) Component Index: Health Limitations



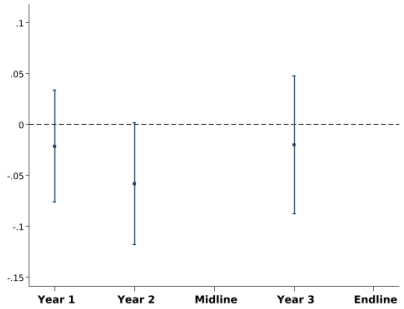
(e) Health Limits Moderate Activities



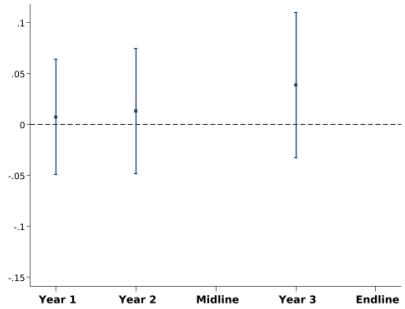
(f) Health limits climbing several stairs



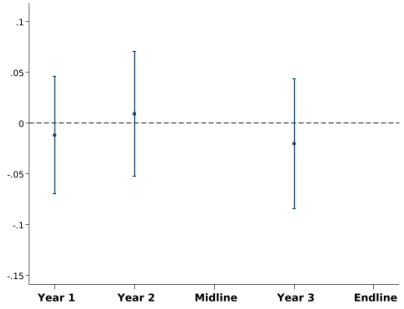
(g) Accomplished less due to physical health



(h) Limited in kind of work due to physical health



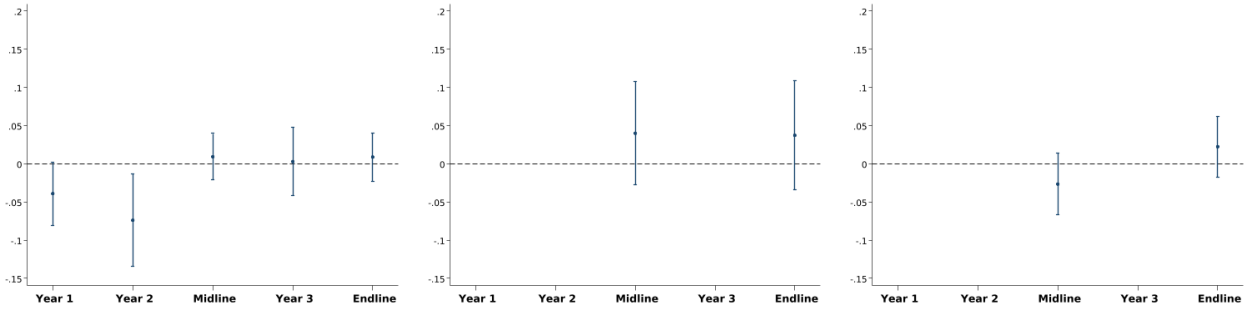
(i) Physical health interferes with social activities



(j) Pain interferes with normal work

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

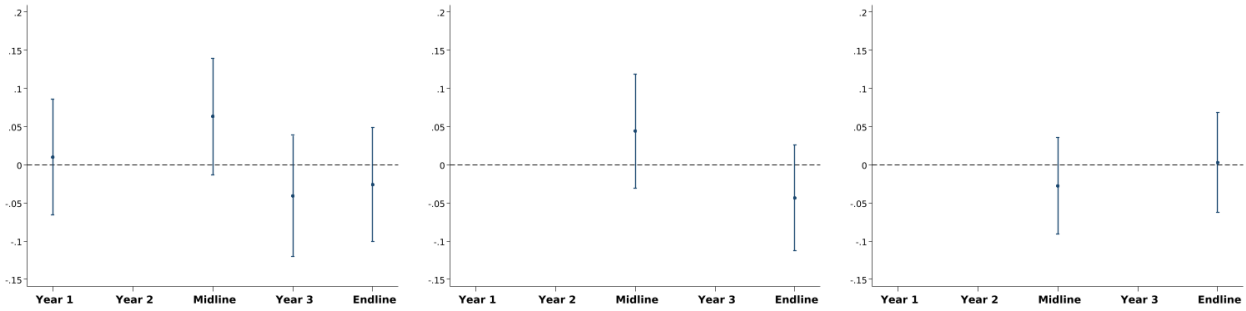
Figure A9: Standardized Effects on Access to Health Care by Time



(a) Family Index: Healthcare Access

(b) Has insurance

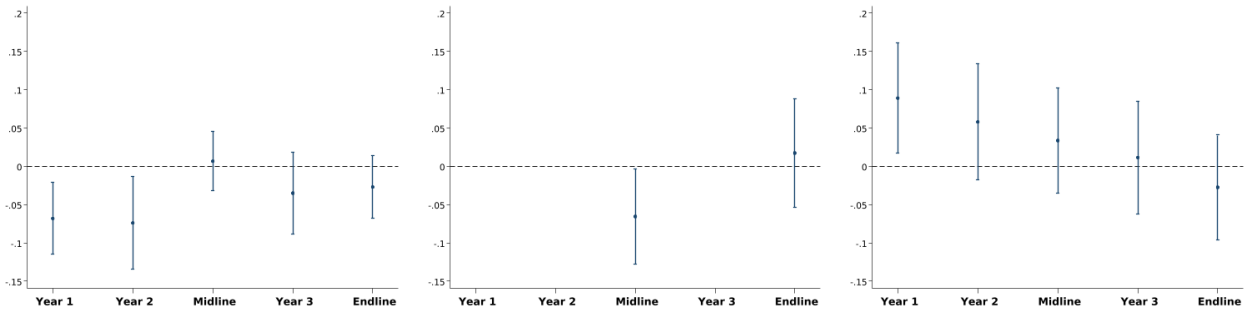
(c) Component Index: Financial Burden



(d) Worry about medical cost

(e) Skip bills to pay for health care

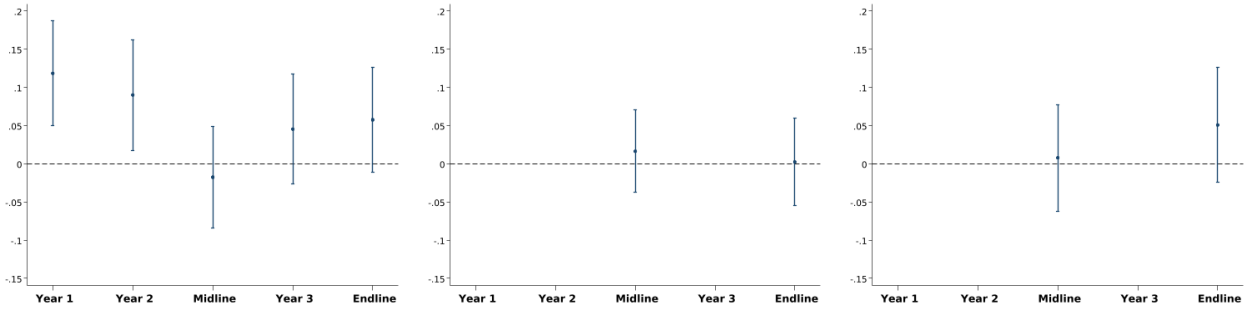
(f) Medical debt



(g) **Component Index: Health Care Access**

(h) Usual source of care is ER

(i) Skipped medical care due to costs



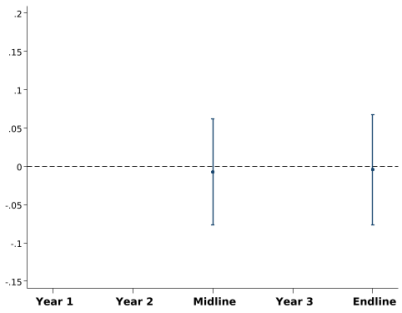
(j) Skipped dental care due to costs

(k) Component Index: Prescription Drug Access

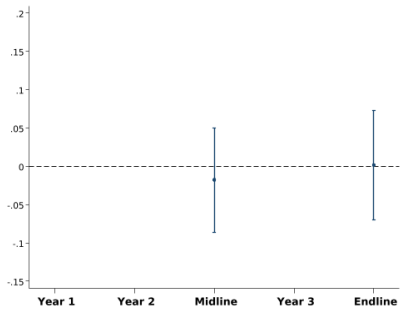
(l) Used alternative therapies to save money

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

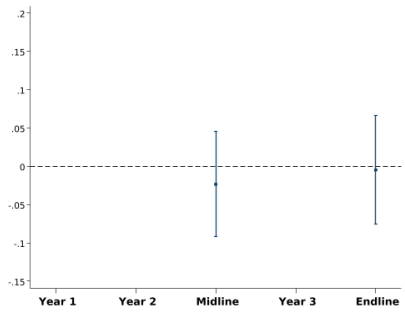
Figure A10: Standardized Effects on Access to Health Care by Time (cont)



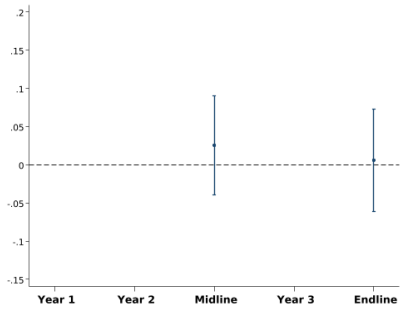
(a) Skipped prescription doses to save $



(b) Delayed refilling prescriptions to save money



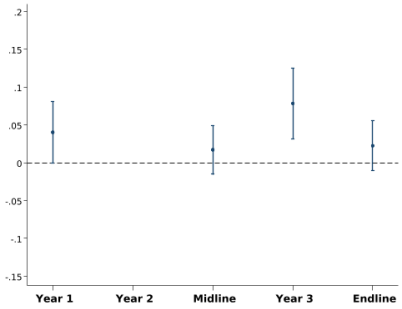
(c) Asked Dr. for lower cost medications



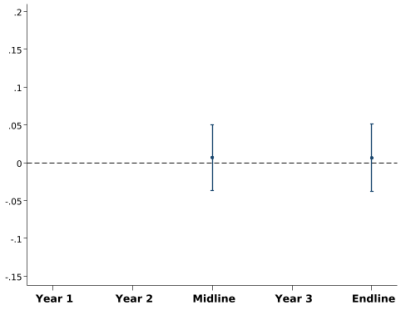
(d) Insurance premium expenditures

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

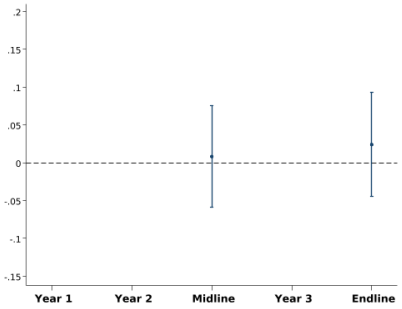
Figure A11: Standardized Effects on Use of Office Care by Time



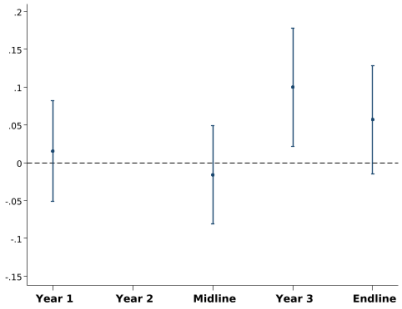
(a) Family Index: Office care



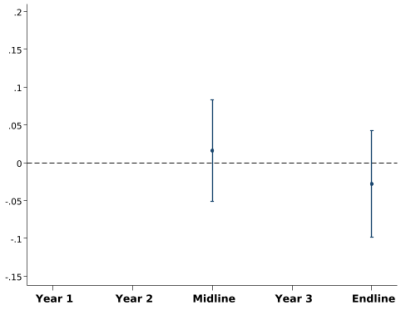
(b) **Component Index: Primary Care**



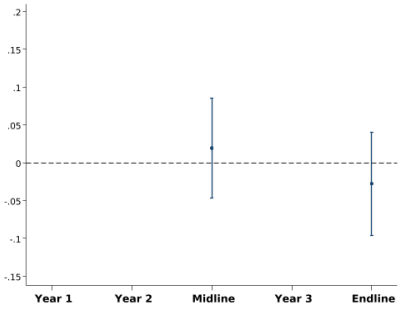
(c) Any primary care visit in last 12mos



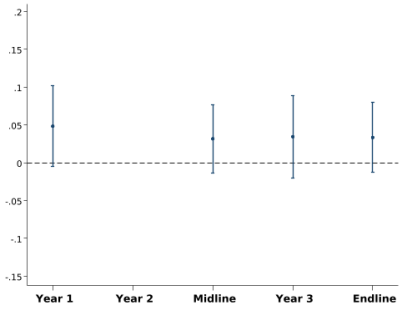
(d) # of Office Visits Last 12 Mos



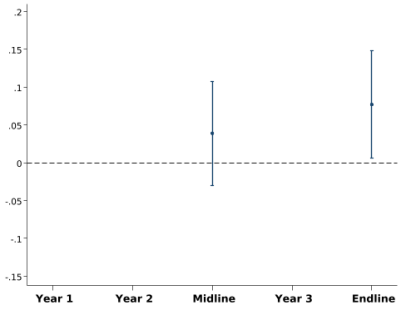
(e) Has Usual Place of Care (Other than ER)



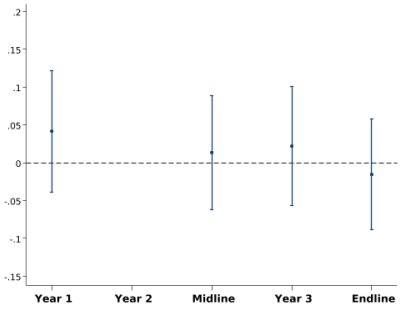
(f) Has Personal Doctor of Health Provider



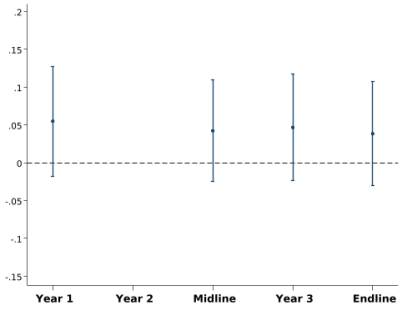
(g) Specialist and Surgical Care



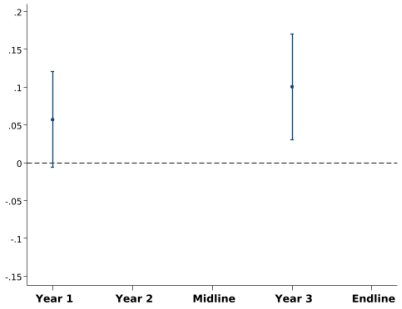
(h) Seen Specialist Last 12 Mos



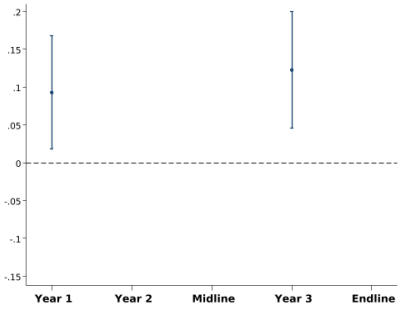
(i) Had surgery last 12 mos



(j) Any Mental Health Care Professional Visit Last 12 Mos



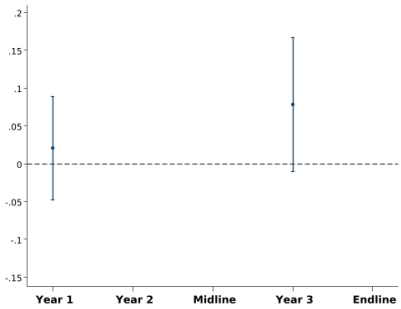
(k) Component Index: Dental Care



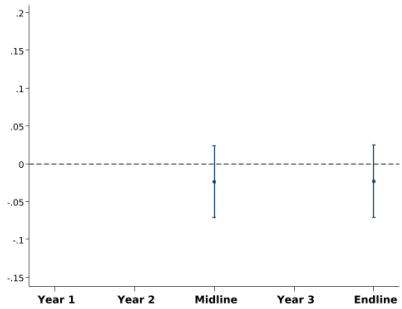
(l) Seen a dentist last 12 Mos

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

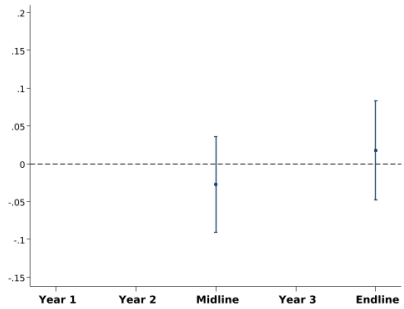
Figure A12: Standardized Effects on Use of Office Care by Time (cont)



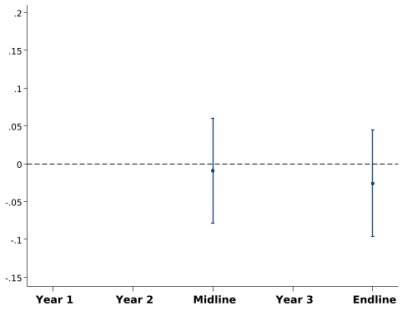
(a) Number of dentist visits



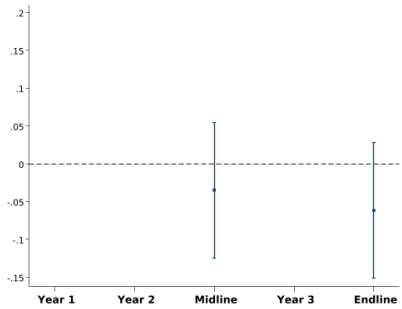
(b) **Component Index: Preventive Care**



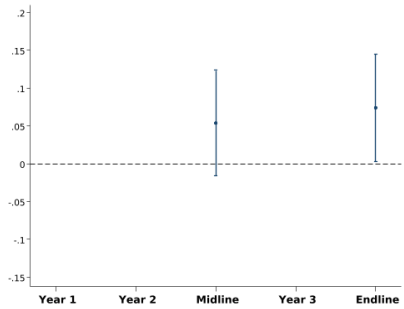
(c) Flu shot or nasal spray



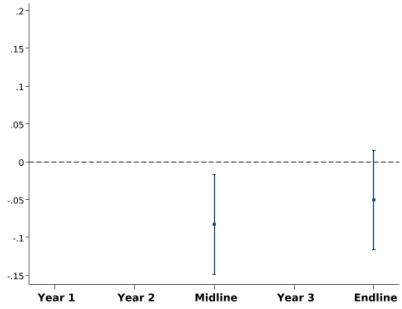
(d) Cholesterol Test



(e) PAP test (women only)



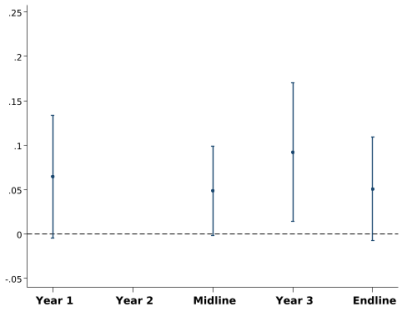
(f) Medical care spending



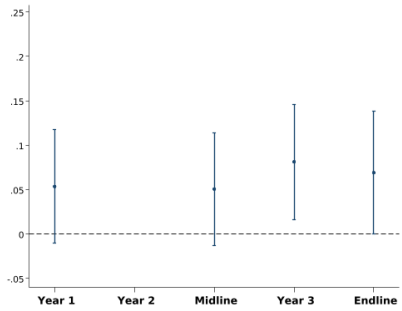
(g) COVID vaccine

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

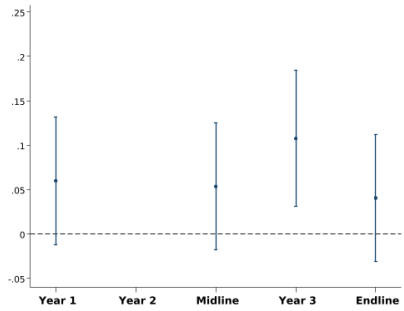
Figure A13: Standardized Effects on Use of Hospital and ED Care



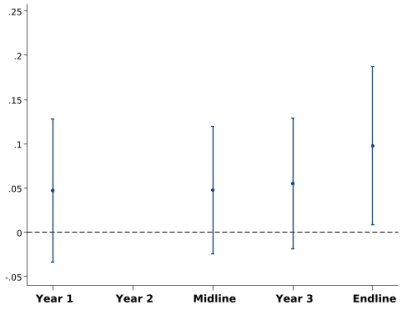
(a) Family Index: Hospital Care



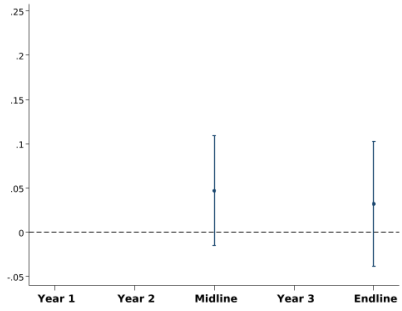
(b) **Component Index: Emergency Department Care**



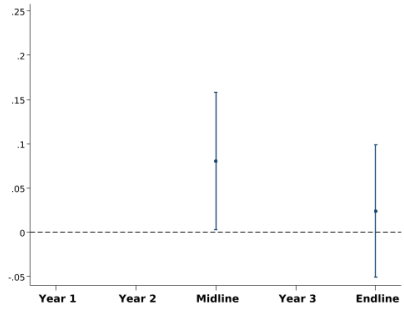
(c) Any ED Visit



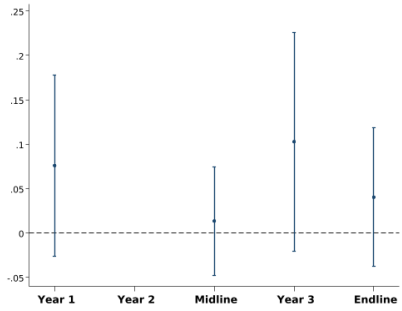
(d) # of ER Visits



(e) Hospitalizations



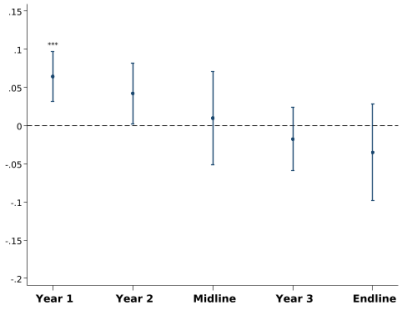
(f) Any Hospitalization



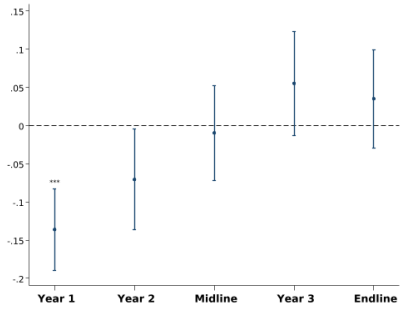
(g) Number of Hospitalizations

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

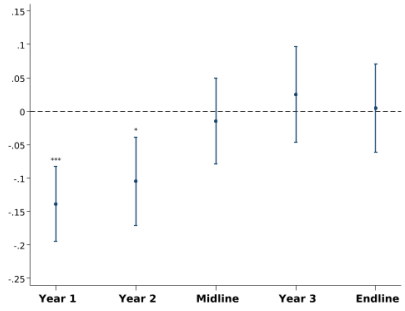
Figure A14: Standardized Effects on Use of Food Security and Nutrition by Time



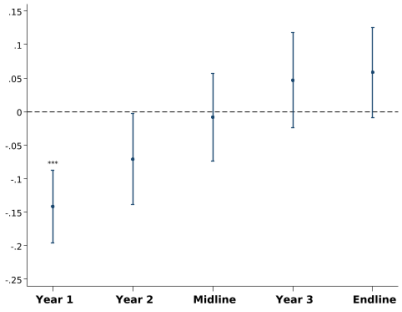
(a) Family Index: Food Security and Nutrition



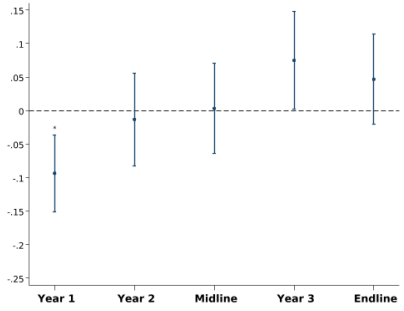
(b) **Component Index: Food Insecurity Index**



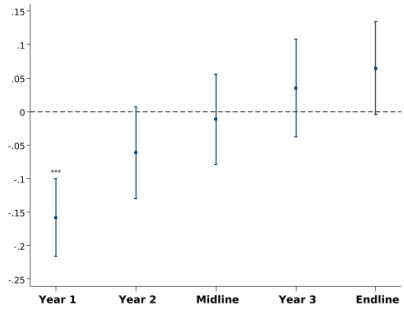
(c) I worry about whether food would run out



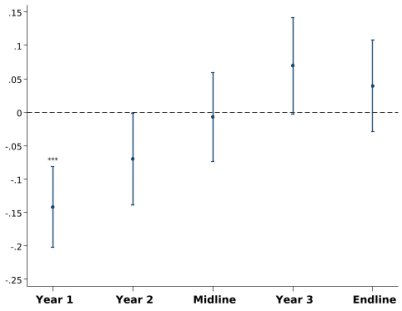
(d) The food I bought didn't last



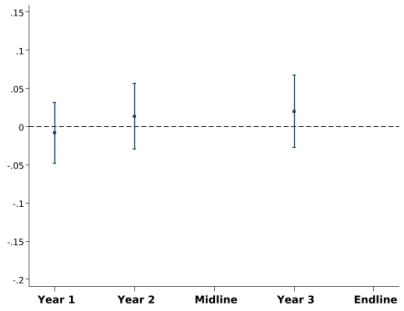
(e) I can't afford to eat balanced meals



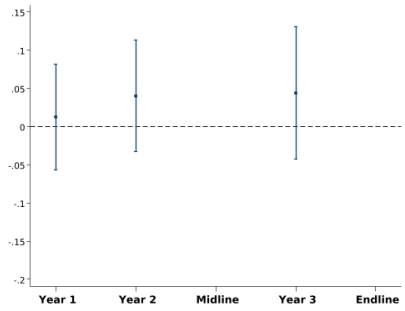
(f) I cut the size of meals or skipped meals



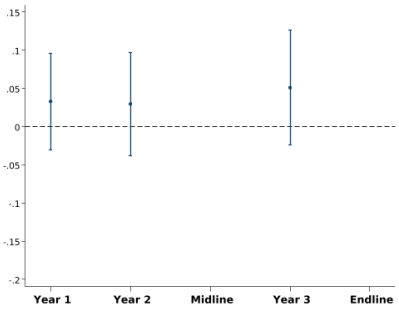
(g) I ate less than I should because there wasn't enough $ for food



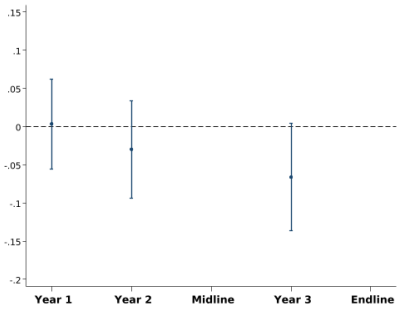
Component Index: Diet and Behavior



(i) Healthy Eating Index



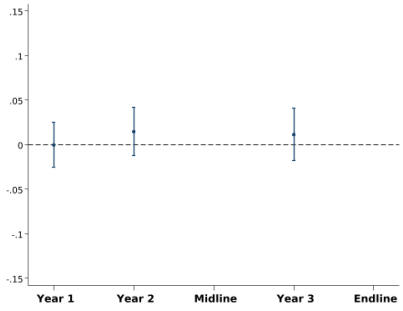
(j) # Times Eating at Fast Food Establishments Last Week



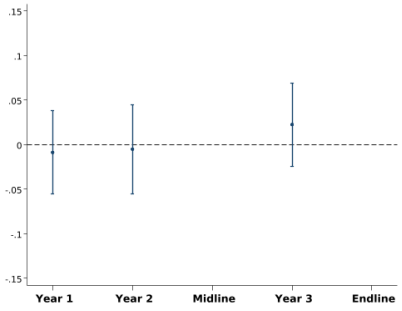
Times Drinking Regular Soda/Pop Containing Sugar Last Week

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

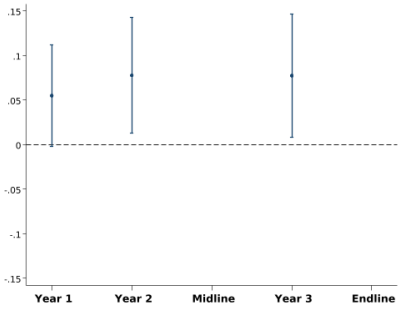
Figure A15: Standardized Effects on Unhealthy Behaviors



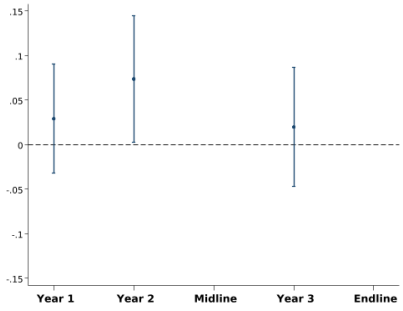
(a) Family Index: Unhealthy Behaviors



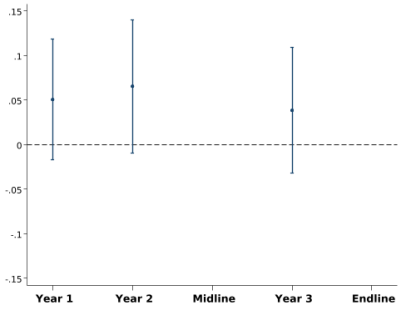
(b) **Component Index: Alcohol Use and Interference**



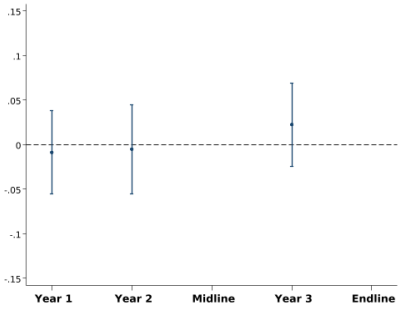
(c) Days drinking alcohol (of last 30)



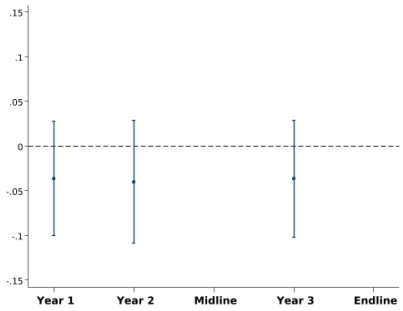
(d) Total # drinks consumed (last 30 days)



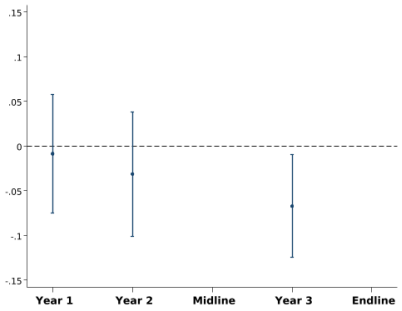
(e) Days Drinking 4+ Drinks (last 30 days)



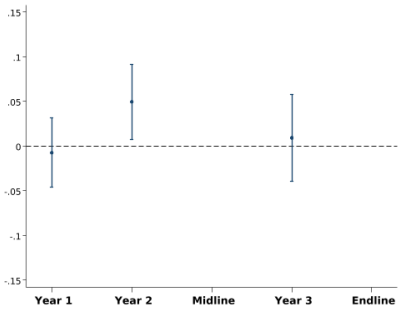
(f) Drinking/hangovers interfere with responsibilities (last 12 mos)



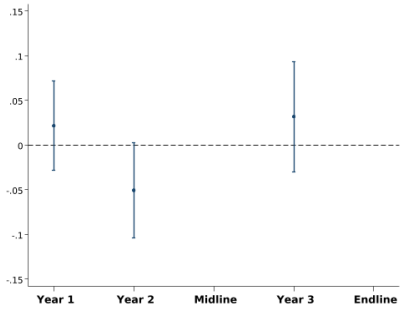
(g) Drinking caused arguments or serious problems with others (last 12 mos)



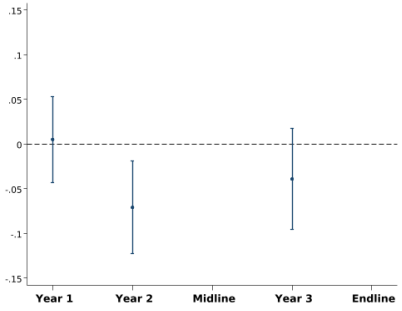
(h) Under the influence in situation where you could get hurt (last 12 mos)



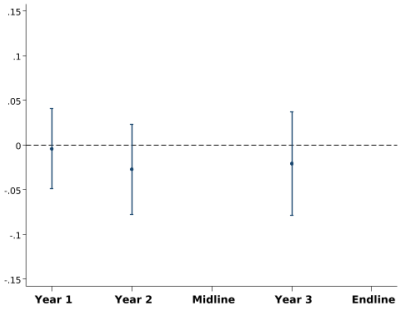
(i) Component Index: Smoking behavior



(j) Currently use tobacco products



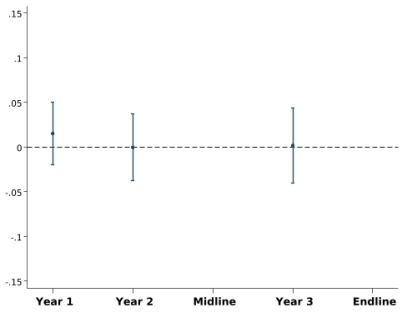
(k) Smoke cigarettes daily



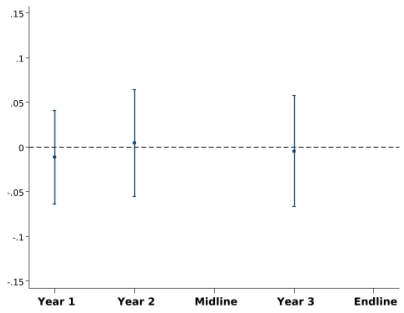
(l) Number of cigarettes smoked on a typical day

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

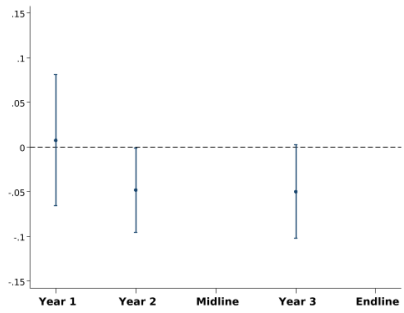
Figure A16: Standardized Effects on Unhealthy Behaviors (cont)



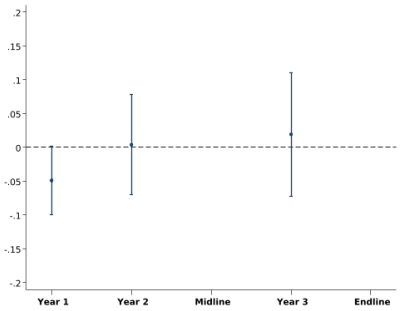
(a) Component Index: Drug Use



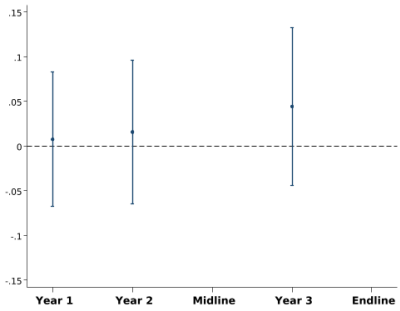
(b) Days using marijuana (of last 30)



(c) Days Using Painkillers that Had Not Been prescribed (of last 30)



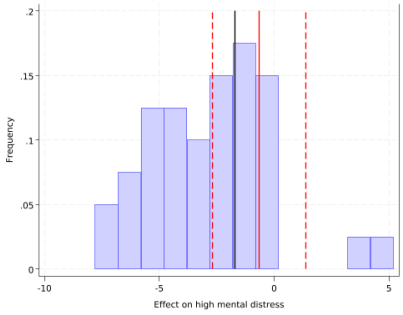
(d) Days using illegal drugs such as heroin, cocaine



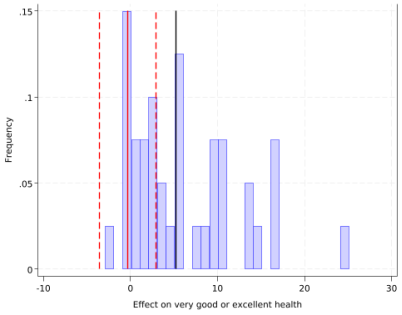
(e) Days using sedatives

Notes: Figures show estimated treatment effects for each time period for which we have data. Treatment effects are standardized by the control group mean to facilitate comparison. 95% confidence intervals are included. The symbol $*$ indicates significance levels after adjusting p-values to control the false discovery rate. See text for more details.

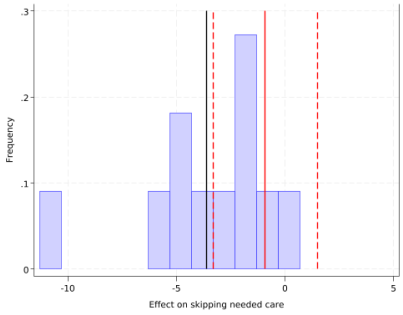
Figure A17: Comparison to forecasted treatment effects (NBER members)



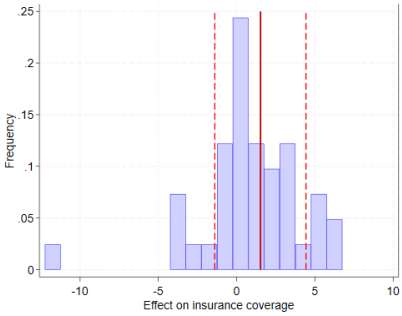
(a) Mental distress high



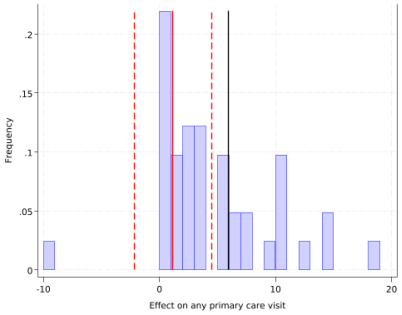
(b) Health very good or excellent



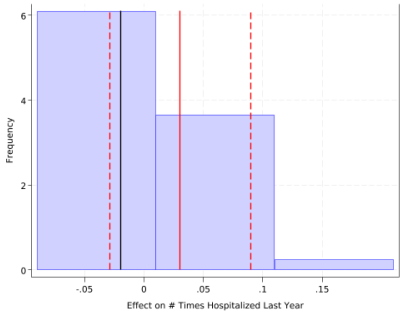
(c) Skipped needed medical care



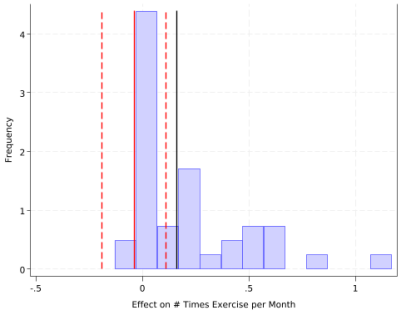
(d) Has insurance



(e) Primary care visit last 12 months



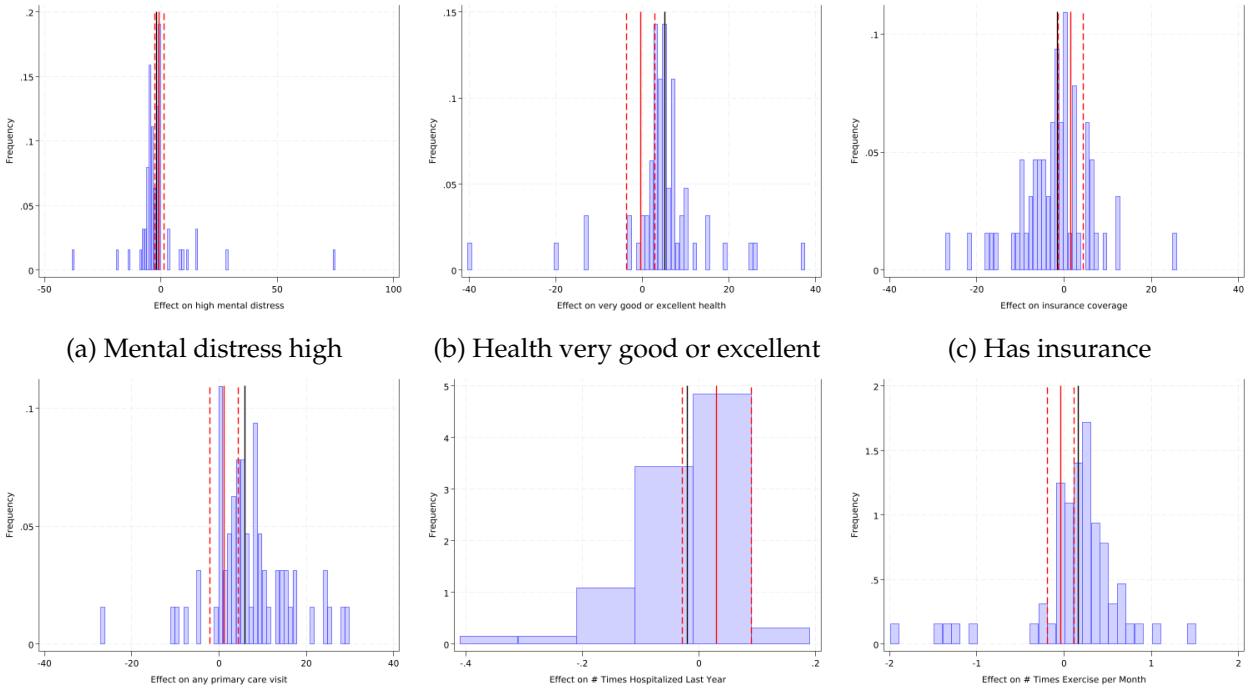
(f) # Hospitalizations last 12 months



(g) Frequency of weekly exercise

Notes: This figure displays a histogram of forecasted treatment effects on the outcome listed under the figure. The vertical black line shows the mean of these forcasted predictions, while the vertical red line shows the actual estimated treatment effect. Vertical dashed red lines show the 95% confidence interval of the estimated effect. This figure displays forecasts for NBER members who completed the prediction survey.

Figure A18: Comparison to forecasted treatment effects (SSPP users)



(a) Mental distress high

(b) Health very good or excellent

(c) Has insurance

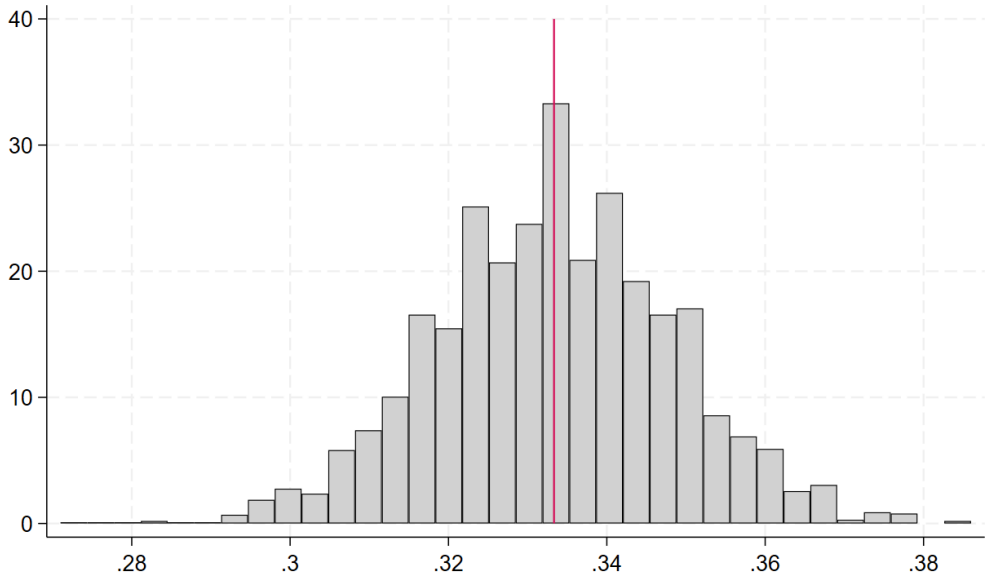
(d) Primary care visit last 12 months

(e) # Hospitalizations last 12 months

(f) Frequency of weekly exercise

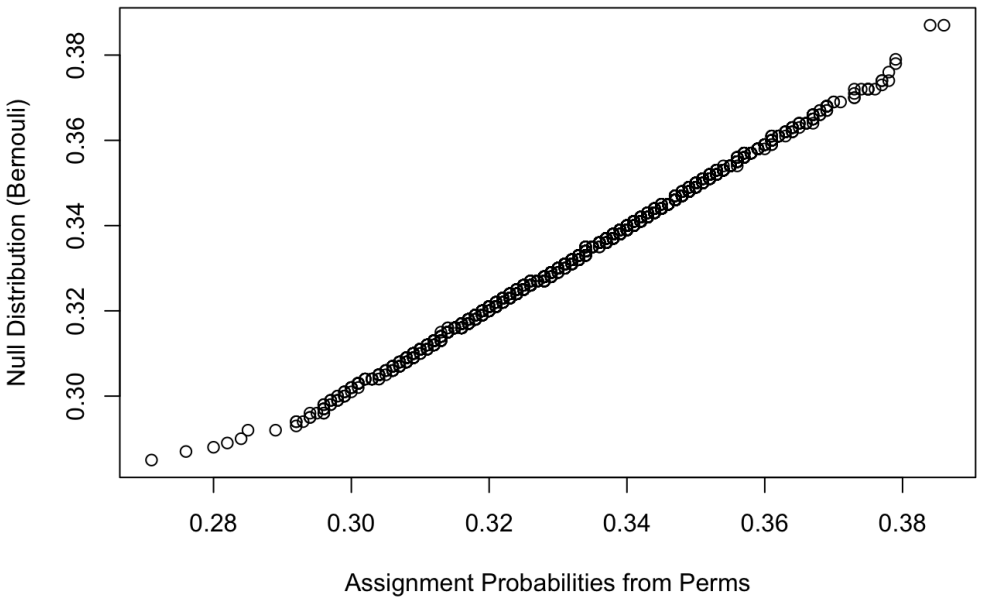
Notes: This figure displays a histogram of forecasted treatment effects on the outcome listed under the figure. The vertical black line shows the mean of these forcasted predictions, while the vertical red line shows the actual estimated treatment effect. Vertical dashed red lines show the 95% confidence interval of the estimated effect. This figure displays forecasts for users of the SSPP who completed the survey.

Figure A19: Histogram of treatment assignment probabilities



Note: This figure shows a histogram of average treatment assignment for each participant calculated after 1,000 simulations of the treatment assignment procedure. Vertical line indicates 0.33333.

Figure A20: QQ-plot of treatment probability against Bernoulli distribution with one third success probability



Note: This figure compares the distribution of treatment assignments (quantiles plotted on x-axis) to what we would expect from a random one-third probability of assignment (quantiles plotted on y-axis). A Kolmogorov-Smirnov test fails to reject the null hypothesis that these distributions are the same (p=0.5226).

Table A1: Comparison to Other Unconditional Cash Transfer RCTs in the United States

Study	Population	# Participants	Geography	Transfer Size/Length	Dates
OpenResearch Unconditional Income Study	Under 300% FPL, Age 21-40, Excludes Disability Insurance/Housing Assistance Recipients	1000 T, 2000 C	Texas and Illinois	$1000/month, 36 months	Nov 2020-Oct 2023
Baby's First Years	Mothers of newborns at or below 100% FPL	400 T, 600 C	New Orleans, New York, Omaha, Minneapolis/St. Paul	$333/month, 72 months	Start May 2018-July 2019 - Payments Ongoing
Chelsea Eats	All Chelsea, MA residents eligible but families w/ children, disabled, veterans seniors, COVID-impacted, and those inelgible for other services more likely to be selected	1067 T, 730 C	Chelsea, MA	$400/month, 9 months	Nov 2020-Aug 2021

Notes: Table compares the ORUS to other guaranteed income studies set in the United States. See text for references.

Table A2: Impact of ORUS program payments on public benefits

Benefit	Illinois	Texas
Medicaid	Eligibility was not affected	Eligibility was not affected
SNAP	Eligibility was not affected	First $300 per quarter did not affect SNAP, but the remaining amount of the transfer was considered unearned income for the purposes of determining eligibility and the amount of the benefit
TANF	Eligibility was not affected	First $300 per quarter did not affect TANF, but the remaining amount of the transfer was considered unearned income for the purposes of determining eligibility and the amount of the benefit
Housing Assistance	Did not affect eligibility for Chicago Housing Authority, eligibility was affected for other localities	Eligibility was affected by the cash transfer.
SSI	Not eligible to participate	Not eligible to participate

Notes: Table describes how ORUS program payments affected participants' eligibility for other public programs.

Table A3: Comparison of Baseline Characteristics of those Responding to Enumerated Midline Survey vs Non-respondents

	Respondents			Non-Respondents		
	Control	Treatment	p-value	Control	Treatment	p-value
Demographic						
Age	30.075	30.149	0.741	29.160	31.300	0.125
Male	0.317	0.325	0.678	0.387	0.450	0.616
Female	0.680	0.672	0.681	0.613	0.550	0.616
Non-binary/other	0.003	0.003	0.978	0.000	0.000	.
Non-Hispanic Black	0.307	0.297	0.583	0.267	0.200	0.523
Non-Hispanic Asian	0.037	0.035	0.765	0.053	0.100	0.522
Non-Hispanic White	0.463	0.471	0.689	0.467	0.550	0.512
Non-Hispanic Native American	0.026	0.016	0.093	0.000	0.200	0.029
Hispanic	0.213	0.221	0.621	0.240	0.200	0.699
Household Size	3.002	2.947	0.423	2.867	2.850	0.969
Any Children	0.573	0.569	0.851	0.520	0.550	0.813
# Children	1.402	1.437	0.576	1.320	1.400	0.841
Economic						
Employed	0.587	0.580	0.738	0.560	0.450	0.387
Personal Income (1000*s*)	21.227	21.481	0.753	21.097	14.862	0.133
Household Income (1000*s*)	29.963	30.170	0.786	29.538	21.969	0.060
Under FPL	0.335	0.320	0.415	0.360	0.500	0.270
HS Degree/GED or higher	0.938	0.953	0.084	0.960	0.950	0.854
Health care access and utilization						
Insured	0.720	0.704	0.366	0.676	0.650	0.829
Skipped Medical Care due to Costs	0.278	0.269	0.611	0.213	0.250	0.737
Worried About Medical Costs	0.294	0.308	0.451	0.351	0.450	0.430
Usual source of care is ER	0.093	0.084	0.407	0.095	0.050	0.458
Any hospitalization last 12 mos	0.127	0.140	0.348	0.107	0.100	0.931
Any ER visit last 12 mo	0.303	0.315	0.524	0.280	0.300	0.864
# Office Visits last 12mo	3.903	3.796	0.679	2.573	2.800	0.839
Mental health						
# days mental health good (of last 30)	23.055	23.073	0.959	23.428	23.900	0.844
High stress	0.156	0.156	0.995	0.104	0.215	0.244
High mental distress	0.112	0.129	0.191	0.133	0.150	0.853
Severe depression	0.149	0.161	0.408	0.214	0.216	0.992
Physical health						
Health very good or excellent	0.495	0.514	0.312	0.507	0.500	0.958
# days physical health good (of last 30)	26.446	26.398	0.856	26.326	28.500	0.043
Obese	0.427	0.415	0.527	0.398	0.371	0.824
Pain interferes not at all or very little	0.755	0.764	0.615	0.784	0.826	0.651
Health behaviors						
Exercise frequency	7.906	7.396	0.208	7.404	11.626	0.220
Amount of sleep	6.742	6.798	0.503	7.347	6.714	0.192
# days with 4+ alcoholic drinks	1.079	1.137	0.670	0.675	1.414	0.357
Drinking alcohol interferes with work	0.099	0.091	0.548	0.129	0.165	0.773
# days taking painkillers not prescribed to you	0.069	0.033	0.257	0.005	0.008	0.519
Smoke cigarettes daily	0.178	0.163	0.327	0.190	0.376	0.102
Food security index (0-6)	2.929	2.907	0.812	2.765	2.842	0.878

Notes: This table compares baseline characteristics for each treatment arm across respondents and non-respondents to the midline survey.

Table A4: Comparison of Baseline Characteristics of those Responding to Enumerated Endline Survey vs Non-respondents

	Respondents			Non-Respondents		
	Control	Treatment	p-value	Control	Treatment	p-value
Demographic						
Age	30.050	30.140	0.687	29.903	31.050	0.420
Male	0.313	0.326	0.478	0.447	0.350	0.416
Female	0.685	0.671	0.465	0.544	0.650	0.371
Non-binary/other	0.003	0.003	0.838	0.010	0.000	0.321
Non-Hispanic Black	0.308	0.297	0.515	0.243	0.250	0.946
Non-Hispanic Asian	0.038	0.037	0.892	0.029	0.000	0.084
Non-Hispanic White	0.466	0.470	0.836	0.417	0.550	0.281
Non-Hispanic Native American	0.025	0.019	0.261	0.019	0.100	0.245
Hispanic	0.208	0.222	0.393	0.320	0.150	0.069
Household Size	3.008	2.952	0.411	2.806	2.850	0.925
Any Children	0.574	0.571	0.883	0.505	0.550	0.713
# Children	1.411	1.433	0.738	1.146	1.900	0.095
Economic						
Employed	0.585	0.582	0.871	0.602	0.400	0.097
Personal Income (1000*s*)	21.248	21.450	0.802	20.769	18.539	0.655
Household Income (1000*s*)	29.951	30.171	0.774	29.865	25.930	0.338
Under FPL	0.338	0.321	0.352	0.301	0.350	0.675
HS Degree/GED or higher	0.939	0.954	0.082	0.941	0.950	0.872
Health care access and utilization						
Insured	0.722	0.707	0.383	0.645	0.450	0.112
Skipped Medical Care due to Costs	0.276	0.268	0.654	0.282	0.300	0.870
Worried About Medical Costs	0.294	0.307	0.477	0.330	0.500	0.166
Usual source of care is ER	0.093	0.083	0.337	0.088	0.150	0.470
Any hospitalization last 12 mos	0.128	0.139	0.435	0.098	0.100	0.982
Any ER visit last 12 mo	0.306	0.312	0.776	0.223	0.300	0.492
# Office Visits last 12mo	3.918	3.781	0.600	2.697	3.500	0.591
Mental health						
# days mental health good (of last 30)	23.065	23.042	0.947	23.109	23.700	0.811
High stress	0.155	0.158	0.866	0.124	0.108	0.828
High mental distress	0.110	0.127	0.198	0.166	0.300	0.225
Severe depression	0.150	0.159	0.554	0.174	0.308	0.222
Physical health						
Health very good or excellent	0.493	0.516	0.241	0.534	0.500	0.783
# days physical health good (of last 30)	26.454	26.466	0.962	26.168	25.150	0.634
Obese	0.429	0.416	0.477	0.367	0.350	0.885
Pain interferes not at all or very little	0.754	0.766	0.472	0.794	0.688	0.334
Health behaviors						
Exercise frequency	7.813	7.485	0.419	9.321	8.638	0.841
Amount of sleep	6.765	6.808	0.609	6.740	6.289	0.262
# days with 4+ alcoholic drinks	1.059	1.110	0.702	1.170	0.809	0.405
Drinking alcohol interferes with work	0.094	0.090	0.794	0.219	0.110	0.345
# days taking painkillers not prescribed to you	0.071	0.033	0.252	0.003	0.006	0.561
Smoke cigarettes daily	0.180	0.161	0.205	0.146	0.367	0.048
Food security index (0-6)	2.941	2.905	0.695	2.569	3.196	0.298

Notes: This table compares baseline characteristics for each treatment arm across respondents and non-respondents to the endline survey.

Table A5: Comparison of Baseline Characteristics of those Responding to At Least One Qualtrics Survey in Year 1 vs Non-Respondents

	Respondents			Non-Respondents		
	Control	Treatment	p-value	Control	Treatment	p-value
Demographic						
Age	30.078	30.203	0.574	28.196	27.933	0.848
Male	0.313	0.321	0.683	0.565	0.800	0.073
Female	0.684	0.676	0.685	0.435	0.200	0.073
Non-binary/other	0.003	0.003	0.990	0.000	0.000	.
Non-Hispanic Black	0.307	0.295	0.516	0.239	0.267	0.836
Non-Hispanic Asian	0.038	0.037	0.810	0.022	0.000	0.324
Non-Hispanic White	0.462	0.472	0.620	0.478	0.533	0.716
Non-Hispanic Native American	0.025	0.019	0.308	0.000	0.067	0.313
Hispanic	0.212	0.221	0.589	0.304	0.200	0.410
Household Size	2.999	2.947	0.445	2.848	2.667	0.707
Any Children	0.573	0.570	0.851	0.457	0.467	0.947
# Children	1.402	1.448	0.470	1.239	0.600	0.102
Economic						
Employed	0.585	0.575	0.574	0.609	0.800	0.140
Personal Income (1000*s*)	21.235	21.319	0.916	20.459	23.716	0.492
Household Income (1000*s*)	29.949	29.959	0.990	28.571	32.146	0.614
Under FPL	0.336	0.322	0.433	0.326	0.400	0.616
HS Degree/GED or higher	0.938	0.952	0.101	0.977	1.000	0.298
Health care access and utilization						
Insured	0.721	0.704	0.338	0.646	0.667	0.885
Skipped Medical Care due to Costs	0.277	0.270	0.693	0.239	0.200	0.751
Worried About Medical Costs	0.299	0.308	0.597	0.202	0.467	0.071
Usual source of care is ER	0.095	0.084	0.308	0.022	0.067	0.518
Any hospitalization last 12 mos	0.127	0.141	0.298	0.090	0.000	0.038
Any ER visit last 12 mo	0.306	0.317	0.532	0.181	0.133	0.657
# Office Visits last 12mo	3.894	3.774	0.640	1.996	4.067	0.085
Mental health						
# days mental health good (of last 30)	23.054	23.063	0.978	23.284	25.267	0.356
High stress	0.155	0.157	0.934	0.092	0.175	0.385
High mental distress	0.115	0.129	0.282	0.022	0.133	0.229
Severe depression	0.153	0.161	0.582	0.109	0.241	0.223
Physical health						
Health very good or excellent	0.491	0.511	0.295	0.674	0.733	0.663
# days physical health good (of last 30)	26.399	26.415	0.953	27.966	28.200	0.802
Obese	0.425	0.412	0.482	0.441	0.561	0.408
Pain interferes not at all or very little	0.754	0.765	0.515	0.844	0.802	0.673
Health behaviors						
Exercise frequency	7.865	7.515	0.389	9.080	6.470	0.293
Amount of sleep	6.756	6.810	0.524	7.071	5.933	0.031
# days with 4+ alcoholic drinks	1.065	1.148	0.536	1.115	0.824	0.456
Drinking alcohol interferes with work	0.098	0.093	0.718	0.182	0.026	0.045
# days taking painkillers not prescribed to you	0.068	0.032	0.265	0.017	0.015	0.781
Smoke cigarettes daily	0.179	0.165	0.358	0.162	0.313	0.209
Food security index (0-6)	2.933	2.905	0.754	2.456	2.778	0.559

Notes: This table compares baseline characteristics for each treatment arm across respondents and non-respondents to the qualtrics surveys in year 1 of the study.

Table A6: Comparison of Baseline Characteristics of those Responding to At Least One Qualtrics Survey in Year 2 vs Non-Respondents

	Respondents			Non-Respondents		
	Control	Treatment	p-value	Control	Treatment	p-value
Demographic						
Age	30.113	30.163	0.823	28.337	30.467	0.094
Male	0.315	0.319	0.841	0.419	0.600	0.087
Female	0.682	0.678	0.843	0.581	0.400	0.087
Non-binary/other	0.003	0.003	0.984	0.000	0.000	.
Non-Hispanic Black	0.304	0.295	0.623	0.337	0.300	0.707
Non-Hispanic Asian	0.038	0.037	0.950	0.035	0.000	0.083
Non-Hispanic White	0.464	0.471	0.753	0.430	0.533	0.335
Non-Hispanic Native American	0.026	0.019	0.214	0.000	0.067	0.149
Hispanic	0.214	0.223	0.553	0.233	0.133	0.204
Household Size	3.018	2.948	0.317	2.512	2.833	0.348
Any Children	0.575	0.569	0.741	0.465	0.567	0.341
# Children	1.405	1.445	0.532	1.244	1.167	0.808
Economic						
Employed	0.588	0.571	0.384	0.547	0.800	0.006
Personal Income (1000*s*)	21.264	21.203	0.939	20.281	26.052	0.183
Household Income (1000*s*)	30.013	30.034	0.979	28.378	29.111	0.872
Under FPL	0.335	0.322	0.468	0.337	0.367	0.774
HS Degree/GED or higher	0.938	0.953	0.102	0.953	0.967	0.732
Health care access and utilization						
Insured	0.719	0.703	0.387	0.721	0.700	0.830
Skipped Medical Care due to Costs	0.276	0.270	0.734	0.279	0.233	0.620
Worried About Medical Costs	0.293	0.306	0.483	0.364	0.467	0.333
Usual source of care is ER	0.091	0.085	0.578	0.141	0.033	0.034
Any hospitalization last 12 mos	0.127	0.140	0.340	0.105	0.100	0.943
Any ER visit last 12 mo	0.303	0.316	0.468	0.302	0.267	0.710
# Office Visits last 12mo	3.812	3.756	0.826	4.744	4.433	0.863
Mental health						
# days mental health good (of last 30)	23.096	23.107	0.975	22.209	22.533	0.868
High stress	0.155	0.155	0.983	0.134	0.226	0.254
High mental distress	0.112	0.131	0.141	0.128	0.067	0.298
Severe depression	0.152	0.160	0.582	0.138	0.226	0.273
Physical health						
Health very good or excellent	0.493	0.517	0.230	0.535	0.433	0.341
# days physical health good (of last 30)	26.461	26.416	0.867	25.965	27.200	0.275
Obese	0.426	0.413	0.489	0.427	0.467	0.706
Pain interferes not at all or very little	0.757	0.763	0.714	0.748	0.826	0.306
Health behaviors						
Exercise frequency	7.906	7.382	0.199	7.394	10.652	0.225
Amount of sleep	6.739	6.806	0.422	7.348	6.467	0.064
# days with 4+ alcoholic drinks	1.053	1.137	0.533	1.317	1.315	0.998
Drinking alcohol interferes with work	0.101	0.090	0.463	0.086	0.150	0.467
# days taking painkillers not prescribed to you	0.070	0.033	0.261	0.009	0.009	0.961
Smoke cigarettes daily	0.179	0.162	0.250	0.145	0.329	0.040
Food security index (0-6)	2.940	2.907	0.722	2.500	2.853	0.381

Notes: This table compares baseline characteristics for each treatment arm across respondents and non-respondents to the qualtrics surveys in year 2 of the study.

Table A7: Comparison of Baseline Characteristics of those Responding to At Least One Qualtrics Survey in Year 3 vs Non-Respondents

	Respondents			Non-Respondents		
	Control	Treatment	p-value	Control	Treatment	p-value
Demographic						
Age	30.140	30.222	0.714	28.803	28.100	0.542
Male	0.306	0.324	0.351	0.496	0.433	0.532
Female	0.691	0.673	0.341	0.496	0.567	0.486
Non-binary/other	0.003	0.003	0.848	0.007	0.000	0.320
Non-Hispanic Black	0.307	0.295	0.504	0.277	0.333	0.556
Non-Hispanic Asian	0.037	0.037	0.978	0.044	0.000	0.014
Non-Hispanic White	0.466	0.470	0.823	0.423	0.500	0.450
Non-Hispanic Native American	0.025	0.018	0.202	0.022	0.100	0.169
Hispanic	0.209	0.222	0.424	0.285	0.167	0.136
Household Size	3.019	2.950	0.324	2.737	2.867	0.703
Any Children	0.578	0.572	0.748	0.482	0.533	0.611
# Children	1.420	1.448	0.659	1.117	1.233	0.737
Economic						
Employed	0.585	0.573	0.513	0.591	0.767	0.049
Personal Income (1000*s*)	21.273	21.237	0.965	20.751	26.775	0.109
Household Income (1000*s*)	29.881	29.943	0.937	30.806	34.815	0.290
Under FPL	0.342	0.324	0.318	0.255	0.233	0.798
HS Degree/GED or higher	0.937	0.955	0.039	0.956	0.900	0.336
Health care access and utilization						
Insured	0.723	0.703	0.273	0.655	0.667	0.902
Skipped Medical Care due to Costs	0.276	0.269	0.719	0.277	0.267	0.905
Worried About Medical Costs	0.294	0.307	0.481	0.321	0.433	0.261
Usual source of care is ER	0.094	0.084	0.422	0.081	0.067	0.782
Any hospitalization last 12 mos	0.129	0.140	0.424	0.095	0.067	0.590
Any ER visit last 12 mo	0.310	0.314	0.859	0.190	0.267	0.383
# Office Visits last 12mo	3.913	3.694	0.393	3.086	6.467	0.091
Mental health						
# days mental health good (of last 30)	23.072	23.030	0.904	23.125	24.100	0.527
High stress	0.157	0.158	0.963	0.104	0.121	0.782
High mental distress	0.112	0.130	0.163	0.125	0.133	0.903
Severe depression	0.154	0.162	0.561	0.117	0.144	0.691
Physical health						
Health very good or excellent	0.493	0.512	0.331	0.533	0.633	0.308
# days physical health good (of last 30)	26.411	26.397	0.958	26.919	27.933	0.239
Obese	0.431	0.410	0.275	0.369	0.561	0.049
Pain interferes not at all or very little	0.751	0.764	0.471	0.816	0.801	0.840
Health behaviors						
Exercise frequency	7.878	7.459	0.310	8.178	8.817	0.774
Amount of sleep	6.744	6.798	0.526	7.007	6.752	0.565
# days with 4+ alcoholic drinks	1.044	1.103	0.656	1.366	1.109	0.546
Drinking alcohol interferes with work	0.100	0.090	0.503	0.111	0.110	0.983
# days taking painkillers not prescribed to you	0.072	0.033	0.248	0.005	0.006	0.933
Smoke cigarettes daily	0.181	0.167	0.336	0.141	0.117	0.707
Food security index (0-6)	2.967	2.898	0.460	2.314	3.261	0.037

Notes: This table compares baseline characteristics for each treatment arm across respondents and non-respondents to the qualtrics surveys in year 3 of the study.

Table A8: Impact of Guaranteed Income on Kessler 6 Subcomponents

	Control Mean	Effect	Can Reject Improvement Greater Than:
How often did the respondent feel… nervous?	1.31 (0.89)	0.003	-3.68%
		(0.026)	
		[1.000]	
…hopeless?	0.83 (0.87)	-0.035	-10.12%
		(0.025)	
		[1.000]	
…restless or fidgety?	1.31 (0.96)	0.019	-2.77%
		(0.028)	
		[1.000]	
…so depressed that nothing could cheer you up?	0.70 (0.82)	0.021	-3.88%
		(0.024)	
		[1.000]	
…that everything was an effort?	1.47 (1.06)	-0.034	-6.61%
		(0.033)	
		[1.000]	
…worthless?	0.65 (0.86)	-0.016	-9.80%
		(0.024)	
		[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A9: Impact of Guaranteed Income on Perceived Stress Score Subcomponents

	Control Mean	Effect	Can Reject Improvement Greater Than:
Upset because something happened unexpectedly	1.97 (0.86)	0.048*	-0.10%
		(0.026)	
		[0.863]	
Unable to control important things	1.93 (0.94)	0.046*	-0.33%
		(0.027)	
		[1.000]	
Felt nervous and stressed	2.27 (0.93)	0.069***	0
		(0.026)	
		[0.348]	
Felt confident you could handle personal problems	1.63 (0.70)	-0.076***††	0
		(0.022)	
		[0.036]	
Felt things are going your way	1.87 (0.70)	-0.041*	0.07%
		(0.021)	
		[0.863]	
Could not cope with everything	1.75 (0.86)	0.005	-2.50%
		(0.025)	
		[1.000]	
Able to control irritations	1.66 (0.71)	-0.013	1.77%
		(0.022)	
		[1.000]	
Felt you were on top of things	1.80 (0.77)	-0.019	1.40%
		(0.023)	
		[1.000]	
Angered because of things outside of your control	1.83 (0.82)	0.025	-1.36%
		(0.026)	
		[1.000]	
Difficulties piling up	1.81 (0.95)	-0.022	-4.21%
		(0.028)	
		[1.000]	
Source of stress… child	0.27 (0.36)	0.017*	-0.53%
		(0.009)	
		[0.904]	
Financial	0.67 (0.35)	-0.028**	
		(0.011)	
		[0.348]	
Health	0.42 (0.37)	0.000	-5.27%
		(0.011)	
		[1.000]	
Friend's Health	0.34 (0.33)	-0.001	-6.69%
		(0.011)	
		[1.000]	
Work	0.51 (0.35)	0.012	-2.06%
		(0.012)	
		[1.000]	
Relationships	0.41 (0.35)	0.004	-4.49%
		(0.012)	
		[1.000]	
Housing	0.40 (0.36)	0.015	-1.89%
		(0.011)	
		[1.000]	
Other	0.11 (0.23)	0.013	-3.12%
		(0.008)	
		[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A10: Impact of Guaranteed Income on General Anxiety Disorder and PHQ-9 Score Subcomponents

	Control Mean	Effect	Can Reject Improvement Greater Than:
Over the last 2 weeks, how often have you felt nervous, anxious, or on edge?	0.29 (0.33)	-0.004	-7.98%
		(0.010)	
		[1.000]	
Were unable to stop or control worrying?	0.94 (0.79)	-0.009	-5.58%
		(0.023)	
		[1.000]	
Little interest or pleasure in doing things	0.84 (0.74)	0.014	-3.56%
		(0.023)	
		[1.000]	
Feeling down, depressed, hopeless	0.85 (0.78)	0.033	-1.55%
		(0.024)	
		[1.000]	
Trouble falling/staying asleep or sleeping too much	1.06 (0.84)	0.059**	0
		(0.025)	
		[0.366]	
Feeling tired and having little energy	1.18 (0.80)	0.052**	0
		(0.024)	
		[0.548]	
Poor appetite or overeating	0.95 (0.82)	0.007	-4.46%
		(0.025)	
		[1.000]	
Feeling bad about yourself	0.88 (0.85)	0.011	-4.46%
		(0.025)	
		[1.000]	
Trouble concentrating	0.75 (0.79)	-0.009	-7.30%
		(0.023)	
		[1.000]	
Moving or speaking so slowly that other people could notice or being fidgety/restless	0.42 (0.63)	-0.021	-14.38%
		(0.020)	
		[1.000]	
Thoughts that you would be better off dead or hurting yourself	0.30 (0.57)	-0.020	-18.79%
		(0.018)	
		[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. Three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A11: Impact of Guaranteed Income on Alternative Measures of Physical Health

	Gradient	Control Mean	Effect	Can Reject Improvement Greater Than:
Health is very good or excellent	0.0341‡‡‡	0.39 (0.40)	-0.011	2.93%
			(0.012)	
			[0.936]	
No health limitations for moderate activities or climbing stairs	-0.0388‡‡	0.37 (0.40)	-0.009	3.73%
			(0.012)	
			[0.936]	
Pain interferes not at all or only a little bit	0.0338‡‡	0.73 (0.34)	0.012	4.36%
			(0.010)	
			[0.936]	
Physical/emotional problems interfere "none of the time" or "a little bit"	0.0471‡‡‡	0.37 (0.37)	-0.005	4.86%
			(0.011)	
			[1.000]	
Diagnosed with COVID	0.0189	0.32 (0.42)	0.023	-2.47%
			(0.016)	
			[0.936]	
Hospitalized due to COVID	-0.0019	0.01 (0.10)	-0.001	-54.03%
			(0.004)	
			[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The column "Gradient" shows what size effect of a $12,000 increase in annual income would be predicted based solely on the pre-treatment correlation. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A12: Impact of Guaranteed Income on Additional Clinical Biomarkers

	Control Mean	Effect	Can Reject Improvement Greater Than:
C-reactive protein	4.90 (7.12)	-0.255	-20.30%
		(0.378)	
		[1.000]	
C-reactive protein in High Range	0.42 (0.49)	-0.015	-15.88%
		(0.027)	
		[1.000]	
Triglycerides	123.50 (77.19)	1.463	-6.30%
		(4.718)	
		[1.000]	
Diabetes Risk Index	45.78 (18.38)	0.499	-3.54%
		(1.082)	
		[1.000]	
Diabetes Risk Index in High Range	0.08 (0.28)	0.015	-7.04%
		(0.011)	
		[1.000]	
Non-HDL Cholesterol	131.97 (37.97)	3.159	-1.07%
		(2.329)	
		[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A13: Impact of Guaranteed Income on USDA Food Security Scale Subcomponents

	Control Mean	Effect	Can Reject Improvement Greater Than:
I worry about whether food would run out	0.55 (0.57)	-0.013	-8.62%
		(0.017)	
		[1.000]	
The food I bought didn't last	0.50 (0.56)	0.007	-5.32%
		(0.017)	
		[1.000]	
Can't afford to eat balanced meals	0.61 (0.60)	0.018	-3.01%
		(0.018)	
		[1.000]	
Cut the size of meals or skipped meals	0.33 (0.39)	0.005	-5.89%
		(0.012)	
		[1.000]	
Ate less than I should because there wasn't enough money for food	0.33 (0.39)	0.000	-7.29%
		(0.012)	
		[1.000]	

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows. The column "Can Reject Improvement Greater Than" shows the effect size that can be ruled out with a two-sided test based on the 95% confidence interval of the estimate. See text for further details. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A14: Impact of Guaranteed Income on Self-Reported Mental Health by Baseline Insurance Status

	Control Mean	Main Estimate	Insured	Uninsured
Mental health index		**-0.014**	**-0.002**	**-0.037**
		(0.021)	**(0.025)**	**(0.040)**
Emotional problems interfere with daily life		-0.013	-0.001	-0.041
		(0.025)	(0.029)	(0.046)
Accomplish less than you would like	3.60 (1.00)	-0.018	-0.005	-0.057
		(0.029)	(0.034)	(0.056)
Did work or activities less carefully	3.86 (0.91)	0.012	0.017	-0.002
		(0.027)	(0.031)	(0.054)
Interference with social activities	3.79 (0.95)	-0.032	-0.017	-0.059
		(0.029)	(0.034)	(0.055)
Mental distress (Kessler 6)	6.26 (4.52)	-0.016	-0.104	0.214
		(0.123)	(0.142)	(0.245)
Perceived stress scale	18.54 (6.70)	0.052	0.042	0.057
		(0.182)	(0.214)	(0.363)
Generalized anxiety disorder screener	2.00 (1.50)	0.015	-0.007	0.052
		(0.042)	(0.048)	(0.085)
Depression scale (PHQ-9)	7.21 (5.68)	0.109	0.052	0.198
		(0.157)	(0.184)	(0.321)
Days mental health good of last 30	23.19 (7.36)	-0.272	-0.170	-0.405
		(0.214)	(0.256)	(0.404)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were insured vs uninsured at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A15: Impact of Guaranteed Income on Self-Reported Physical Health by Baseline Insurance Status

	Control Mean	Main Estimate	Insured	Uninsured
Self-Reported Physical Health Index		**-0.018**	**-0.012**	**-0.041**
		(0.020)	**(0.023)**	**(0.038)**
# Days Physical Health Good of Last 30	26.08 (5.58)	-0.361**	-0.239	-0.637**
		(0.176)	(0.209)	(0.321)
Health Rating (Poor=1, Excellent=5)	3.22 (0.93)	-0.035	-0.050*	-0.029
		(0.025)	(0.029)	(0.048)
Health is not limiting		0.014	0.023	-0.008
		(0.022)	(0.025)	(0.042)
Health limits moderate activities	1.31 (0.47)	-0.016	-0.019	-0.015
		(0.014)	(0.016)	(0.027)
Health limits climbing several stairs	1.42 (0.54)	-0.014	-0.008	-0.015
		(0.015)	(0.018)	(0.029)
Accomplished less due to physical health	2.13 (0.94)	-0.005	-0.021	0.018
		(0.028)	(0.033)	(0.055)
Limited in work/other activities due to physical health	1.93 (0.95)	-0.036	-0.055*	0.021
		(0.027)	(0.031)	(0.055)
Health interferes with social activities	2.21 (0.95)	0.032	0.017	0.059
		(0.029)	(0.034)	(0.055)
Pain interferes with normal work	1.98 (0.92)	-0.014	-0.022	-0.014
		(0.026)	(0.030)	(0.053)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were insured vs uninsured at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A16: Impact of Guaranteed Income on Healthcare Access by Baseline Insurance Status

	Control Mean	Main Estimate	Insured	Uninsured
Healthcare Access Index		**0.010**	**0.027**	**-0.018**
		(0.015)	**(0.018)**	**(0.030)**
Has insurance coverage	0.78 (0.37)	0.014	0.017	0.008
		(0.012)	(0.013)	(0.030)
Health Care Finances		0.018	0.015	0.029
		(0.019)	(0.022)	(0.033)
How worried about paying medical costs	0.34 (0.34)	-0.005	0.006	-0.037
		(0.012)	(0.015)	(0.024)
Skip other bills to pay for health care	0.06 (0.20)	-0.006	-0.008	-0.000
		(0.007)	(0.008)	(0.013)
Medical debt (self-reported)	587.52 (2422.50)	-25.896	-45.723	85.850
		(71.212)	(58.413)	(164.000)
Needed Care Access		-0.027	-0.001	-0.081**
		(0.020)	(0.022)	(0.038)
Usual Source of Care is ER	0.06 (0.20)	-0.004	-0.008	0.015
		(0.007)	(0.006)	(0.018)
Skipped needed medical care due to costs	0.17 (0.28)	0.004	0.001	0.016
		(0.009)	(0.010)	(0.020)
Skipped mental health care due to costs	0.19 (0.32)	0.011	0.000	0.033
		(0.011)	(0.012)	(0.023)
Skipped dental care due to costs	0.27 (0.36)	0.020*	0.007	0.049**
		(0.011)	(0.013)	(0.024)
Prescription Drug Access		0.010	0.037	-0.040
		(0.028)	(0.032)	(0.057)
Used alternative therapies to save money	0.07 (0.22)	0.011	0.007	0.018
		(0.008)	(0.009)	(0.017)
Skipped doses to save money	0.07 (0.22)	-0.002	-0.006	0.005
		(0.008)	(0.009)	(0.017)
Delayed refilling to save money	0.08 (0.23)	-0.001	-0.003	0.001
		(0.008)	(0.009)	(0.016)
Asked doctor for lower cost medications	0.11 (0.27)	-0.006	-0.019*	0.022
		(0.009)	(0.011)	(0.018)
Expenditures on insurance premiums	1163.56 (1758.82)	13.215	90.560	-233.023**
		(56.740)	(71.173)	(92.305)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were insured vs uninsured at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A17: Impact of Guaranteed Income on Use of Office-Based Care by Baseline Insurance Status

	Control Mean	Main Estimate	Insured	Uninsured
Office Care Index		**0.036****	**0.038****	**0.040**
		(0.016)	**(0.018)**	**(0.031)**
Primary Care		0.011	0.037	-0.027
		(0.022)	(0.026)	(0.043)
Any primary care visit in last 12 mos	0.61 (0.43)	0.007	0.009	0.004
		(0.014)	(0.016)	(0.028)
Number of office visits last 12 mos	3.45 (4.38)	0.270*	0.338*	0.215
		(0.154)	(0.190)	(0.254)
Has usual place of care other than ER	0.80 (0.35)	-0.007	0.013	-0.050*
		(0.012)	(0.012)	(0.027)
Has personal doctor or health provider	0.56 (0.44)	-0.006	0.004	-0.027
		(0.014)	(0.017)	(0.027)
Specialist and Surgical Care		0.034	0.034	0.057
		(0.023)	(0.027)	(0.046)
Any specialist visit last 12 mos	0.42 (0.43)	0.026*	0.031*	0.018
		(0.015)	(0.018)	(0.027)
Any surgery last 12 mos	0.11 (0.23)	-0.001	-0.007	0.016
		(0.008)	(0.010)	(0.014)
Any mental health care visit last 12 mos	0.22 (0.36)	0.017	0.022	0.013
		(0.012)	(0.015)	(0.022)
Dental Care		0.085**†	0.098**	0.049
		(0.033)	(0.039)	(0.060)
Any dentist visit last 12 mos	0.48 (0.44)	0.049***	0.057***	0.033
		(0.017)	(0.020)	(0.032)
Number of dentist visits last 12 mos	1.35 (2.10)	0.124	0.141	0.039
		(0.083)	(0.098)	(0.144)
Preventive Care		-0.027	-0.043	0.021
		(0.023)	(0.027)	(0.045)
Flu shot or nasal spray	0.31 (0.43)	-0.003	-0.008	0.006
		(0.013)	(0.017)	(0.023)
Cholesterol test	0.42 (0.44)	-0.007	-0.016	0.028
		(0.015)	(0.018)	(0.028)
PAP test (women only)	0.52 (0.43)	-0.025	-0.032	-0.011
		(0.019)	(0.022)	(0.037)
Had COVID vaccine*	0.64 (0.47)	-0.039**	-0.053***	-0.019
		(0.016)	(0.019)	(0.032)
Medical care spending	176.63 (266.09)	20.387**†	17.661*	24.530
		(9.032)	(10.719)	(17.604)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were insured vs uninsured at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A18: Impact of Guaranteed Income on Use of Hospital and ED Care by Baseline Insurance Status

	Control Mean	Main Estimate	Insured	Uninsured
Hospital care index		**0.072****	**0.078****	**0.074**
		(0.029)	**(0.034)**	**(0.052)**
Emergency Department Care		0.079**††	0.097**	0.069
		(0.033)	(0.039)	(0.059)
Any ED visit	0.24 (0.34)	0.025**†	0.029**	0.020
		(0.012)	(0.014)	(0.022)
Number of ED visits	0.58 (1.31)	0.112**†	0.147**	0.087
		(0.052)	(0.067)	(0.082)
Hospital Care		0.065*†	0.060	0.079
		(0.035)	(0.041)	(0.065)
Any hospitalization	0.09 (0.24)	0.012	0.009	0.018
		(0.009)	(0.011)	(0.016)
Number of hospitalizations	0.23 (0.72)	0.059**†	0.059*	0.055
		(0.030)	(0.033)	(0.057)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were insured vs uninsured at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A19: Impact of Guaranteed Income on Food Security and Nutrition by Baseline Insurance Status

	Control Mean	Main Estimate	Insured	Uninsured
Nutrition and food security index		**0.013**	**0.040***	**-0.020**
		(0.018)	**(0.022)**	**(0.034)**
USDA Food Insecurity Scale	2.21 (2.08)	0.002	-0.115	0.179
		(0.062)	(0.074)	(0.123)
Diet behavior		0.027	0.024	0.044
		(0.020)	(0.024)	(0.037)
Health Eating Index	44.83 (9.68)	0.577*	0.575	0.791
		(0.336)	(0.400)	(0.687)
# of times eating at fast food establishment (last week)	6.29 (6.09)	0.215	0.252	-0.022
		(0.196)	(0.232)	(0.377)
# times drinking regular soda containing sugar (last week)	4.83 (6.72)	-0.382**	-0.357	-0.346
		(0.193)	(0.220)	(0.398)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were insured vs uninsured at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A20: Impact of Guaranteed Income on Health Investments by Baseline Insurance Status

	Control Mean	Main Estimate	Insured	Uninsured
Health investments index		**-0.026***	**-0.012**	**-0.069****
		(0.015)	**(0.017)**	**(0.028)**
Physical activity		-0.024	-0.008	-0.077*
		(0.023)	(0.027)	(0.042)
Time spent on physical activity/recreation (survey, hours)	0.84 (0.94)	-0.085***††	-0.072**	-0.099
		(0.032)	(0.036)	(0.064)
Time spent on physical activity/recreation (time diary, minutes)	12.45 (23.89)	-0.107	0.456	-2.703
		(0.869)	(1.005)	(1.715)
Frequency of exercise	7.56 (8.14)	0.181	0.303	-0.235
		(0.270)	(0.324)	(0.541)
Sleep		-0.029	-0.017	-0.061*
		(0.018)	(0.021)	(0.035)
Sleep amount (survey)	6.24 (1.76)	0.025	0.047	-0.024
		(0.053)	(0.062)	(0.116)
Sleep amount (time diary)	535.90 (133.60)	-7.571*	-9.306**	-6.136
		(3.992)	(4.466)	(8.736)
Sleep quality	2.67 (0.54)	-0.024	-0.003	-0.071**
		(0.016)	(0.018)	(0.033)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were insured vs uninsured at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A21: Impact of Guaranteed Income on Unhealthy Behaviors by Baseline Insurance Status

	Control Mean	Main Estimate	Insured	Uninsured
Unhealthy behaviors index		**0.013**	**0.007**	**0.023**
		(0.013)	**(0.016)**	**(0.022)**
Alcohol use and interference		0.010	-0.000	0.035
		(0.023)	(0.027)	(0.035)
Total number of drinks (30 days)	9.56 (20.42)	0.741	0.868	0.197
		(0.640)	(0.784)	(1.142)
Days drinking alcohol (30 days)	2.76 (4.79)	0.341**	0.426**	0.033
		(0.143)	(0.177)	(0.237)
Days drinking 4+ drinks (30 days)	0.84 (2.50)	0.137	0.169*	0.015
		(0.084)	(0.101)	(0.147)
Drinking/hangovers interfered with responsibilities (12 mos)	0.09 (0.30)	-0.018**	-0.010	-0.032**
		(0.009)	(0.010)	(0.016)
Drinking caused arguments/serious problems with others (12 mos)	0.06 (0.25)	-0.009	-0.012	-0.005
		(0.008)	(0.009)	(0.012)
Under the influence in a situation where you could get hurt (12 mos)	0.05 (0.22)	-0.010	-0.007	-0.018
		(0.006)	(0.007)	(0.012)
Smoking behavior		0.021	0.019	0.018
		(0.021)	(0.025)	(0.038)
Currently use tobacco products	0.25 (0.39)	-0.000	0.001	-0.000
		(0.010)	(0.012)	(0.019)
Currently smoke cigarettes daily	0.17 (0.34)	-0.013	-0.010	-0.018
		(0.008)	(0.010)	(0.017)
Number of cigarettes smoked on typical day	1.51 (3.85)	-0.091	-0.114	-0.014
		(0.094)	(0.111)	(0.185)
Drug use		0.009	0.001	0.017
		(0.018)	(0.023)	(0.028)
Days using marijuana	4.08 (8.38)	-0.075	-0.113	-0.110
		(0.231)	(0.274)	(0.450)
Days using painkillers not prescribed to you	0.12 (1.23)	-0.063**	-0.063*	-0.038*
		(0.028)	(0.038)	(0.020)
Days using illegal drugs	0.24 (1.83)	-0.038	-0.066	0.072
		(0.062)	(0.067)	(0.131)
Days using sedatives not prescribed to you	0.08 (0.75)	0.029	0.058	-0.040
		(0.030)	(0.040)	(0.042)
Any illegal drug use in past 30 days	0.11 (0.25)	-0.001	0.004	-0.011
		(0.008)	(0.009)	(0.017)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were insured vs uninsured at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A22: Impact of Guaranteed Income on Self-Reported Mental Health by Baseline Household Income

	Control Mean	Main Estimate	100% FPL+	Under 100% FPL
Mental health index		**-0.014**	**-0.013**	**-0.005**
		(0.021)	**(0.026)**	**(0.038)**
Emotional problems interfere with daily life		-0.013	-0.025	0.018
		(0.025)	(0.031)	(0.045)
Accomplish less than you would like	3.60 (1.00)	-0.018	-0.041	0.044
		(0.029)	(0.035)	(0.054)
Did work or activities less carefully	3.86 (0.91)	0.012	-0.007	0.053
		(0.027)	(0.033)	(0.053)
Interference with social activities	3.79 (0.95)	-0.032	-0.024	-0.042
		(0.029)	(0.035)	(0.052)
Mental distress (Kessler 6)	6.26 (4.52)	-0.016	-0.093	0.089
		(0.123)	(0.145)	(0.244)
Perceived stress scale	18.54 (6.70)	0.052	-0.007	0.041
		(0.182)	(0.228)	(0.336)
Generalized anxiety disorder screener	2.00 (1.50)	0.015	-0.003	0.042
		(0.042)	(0.051)	(0.076)
Depression scale (PHQ-9)	7.21 (5.68)	0.109	0.216	-0.080
		(0.157)	(0.191)	(0.295)
Days mental health good of last 30	23.19 (7.36)	-0.272	-0.270	-0.083
		(0.214)	(0.256)	(0.421)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A23: Impact of Guaranteed Income on Self-Reported Physical Health by Baseline Household Income

	Control Mean	Main Estimate	100% FPL+	Under 100% FPL
Self-Reported Physical Health Index		**-0.018**	**0.002**	**-0.052**
		(0.020)	**(0.024)**	**(0.036)**
# Days Physical Health Good of Last 30	26.08 (5.58)	-0.361**	-0.239	-0.640*
		(0.176)	(0.198)	(0.361)
Health Rating (Poor=1, Excellent=5)	3.22 (0.93)	-0.035	-0.041	-0.040
		(0.025)	(0.030)	(0.048)
Health is not limiting		0.014	0.029	-0.011
		(0.022)	(0.027)	(0.040)
Health limits moderate activities	1.31 (0.47)	-0.016	-0.021	-0.002
		(0.014)	(0.016)	(0.028)
Health limits climbing several stairs	1.42 (0.54)	-0.014	-0.013	-0.028
		(0.015)	(0.018)	(0.029)
Accomplished less due to physical health	2.13 (0.94)	-0.005	-0.027	0.051
		(0.028)	(0.034)	(0.054)
Limited in work/other activities due to physical health	1.93 (0.95)	-0.036	-0.066**	0.011
		(0.027)	(0.032)	(0.053)
Health interferes with social activities	2.21 (0.95)	0.032	0.024	0.042
		(0.029)	(0.035)	(0.052)
Pain interferes with normal work	1.98 (0.92)	-0.014	-0.060*	0.047
		(0.026)	(0.031)	(0.051)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A24: Impact of Guaranteed Income on Healthcare Access by Baseline Household Income

	Control Mean	Main Estimate	100% FPL+	Under 100% FPL
Healthcare Access Index		**0.010**	**0.025**	**-0.010**
		(0.015)	**(0.018)**	**(0.028)**
Has insurance coverage	0.78 (0.37)	0.014	0.020	0.002
		(0.012)	(0.015)	(0.023)
Health Care Finances		0.018	0.042*	-0.015
		(0.019)	(0.022)	(0.035)
How worried about paying medical costs	0.34 (0.34)	-0.005	-0.005	-0.013
		(0.012)	(0.015)	(0.022)
Skip other bills to pay for health care	0.06 (0.20)	-0.006	-0.017**	0.012
		(0.007)	(0.008)	(0.013)
Medical debt (self-reported)	587.52 (2422.50)	-25.896	-70.959	52.608
		(71.212)	(83.531)	(128.000)
Needed Care Access		-0.027	-0.029	-0.024
		(0.020)	(0.024)	(0.033)
Usual Source of Care is ER	0.06 (0.20)	-0.004	-0.001	-0.009
		(0.007)	(0.008)	(0.014)
Skipped needed medical care due to costs	0.17 (0.28)	0.004	0.010	-0.009
		(0.009)	(0.011)	(0.016)
Skipped mental health care due to costs	0.19 (0.32)	0.011	0.005	0.025
		(0.011)	(0.013)	(0.020)
Skipped dental care due to costs	0.27 (0.36)	0.020*	0.020	0.019
		(0.011)	(0.014)	(0.021)
Prescription Drug Access		0.010	0.029	-0.006
		(0.028)	(0.033)	(0.052)
Used alternative therapies to save money	0.07 (0.22)	0.011	0.010	0.012
		(0.008)	(0.010)	(0.014)
Skipped doses to save money	0.07 (0.22)	-0.002	-0.010	0.010
		(0.008)	(0.009)	(0.015)
Delayed refilling to save money	0.08 (0.23)	-0.001	-0.002	-0.001
		(0.008)	(0.010)	(0.014)
Asked doctor for lower cost medications	0.11 (0.27)	-0.006	-0.009	-0.006
		(0.009)	(0.011)	(0.017)
Expenditures on insurance premiums	1163.56 (1758.82)	13.215	16.445	20.502
		(56.740)	(78.118)	(78.064)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A25: Impact of Guaranteed Income on Use of Office-Based Care by Baseline Household Income

	Control Mean	Main Estimate	100% FPL+	Under 100% FPL
Office Care Index		**0.036****	**0.038***	**0.049***
		(0.016)	**(0.020)**	**(0.025)**
Primary Care		0.011	0.025	-0.021
		(0.022)	(0.027)	(0.039)
Any primary care visit in last 12 mos	0.61 (0.43)	0.007	0.020	-0.014
		(0.014)	(0.017)	(0.025)
Number of office visits last 12 mos	3.45 (4.38)	0.270*	0.204	0.373
		(0.154)	(0.188)	(0.283)
Has usual place of care other than ER	0.80 (0.35)	-0.007	0.001	-0.038*
		(0.012)	(0.014)	(0.022)
Has personal doctor or health provider	0.56 (0.44)	-0.006	0.001	-0.016
		(0.014)	(0.018)	(0.027)
Specialist and Surgical Care		0.034	0.047*	0.021
		(0.023)	(0.028)	(0.037)
Any specialist visit last 12 mos	0.42 (0.43)	0.026*	0.028	0.036
		(0.015)	(0.018)	(0.026)
Any surgery last 12 mos	0.11 (0.23)	-0.001	0.002	-0.010
		(0.008)	(0.011)	(0.015)
Any mental health care visit last 12 mos	0.22 (0.36)	0.017	0.024	0.007
		(0.012)	(0.015)	(0.021)
Dental Care		0.085**†	0.066	0.135**
		(0.033)	(0.043)	(0.056)
Any dentist visit last 12 mos	0.48 (0.44)	0.049***	0.047**	0.070**
		(0.017)	(0.021)	(0.030)
Number of dentist visits last 12 mos	1.35 (2.10)	0.124	0.050	0.265*
		(0.083)	(0.104)	(0.159)
Preventive Care		-0.027	-0.013	-0.027
		(0.023)	(0.029)	(0.038)
Flu shot or nasal spray	0.31 (0.43)	-0.003	-0.003	-0.006
		(0.013)	(0.017)	(0.024)
Cholesterol test	0.42 (0.44)	-0.007	-0.016	0.023
		(0.015)	(0.019)	(0.026)
PAP test (women only)	0.52 (0.43)	-0.025	0.001	-0.053*
		(0.019)	(0.024)	(0.031)
Had COVID vaccine*	0.64 (0.47)	-0.039**	-0.040**	-0.036
		(0.016)	(0.020)	(0.029)
Medical care spending	176.63 (266.09)	20.387**†	19.362	28.460**
		(9.032)	(12.255)	(12.437)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A26: Impact of Guaranteed Income on Use of Hospital and ED Care by Baseline Household Income

	Control Mean	Main Estimate	100% FPL+	Under 100% FPL
Hospital care index		**0.072****	**0.071***	**0.061**
		(0.029)	**(0.036)**	**(0.046)**
Emergency Department Care		0.079**††	0.068	0.103*
		(0.033)	(0.042)	(0.054)
Any ED visit	0.24 (0.34)	0.025**†	0.017	0.039*
		(0.012)	(0.014)	(0.022)
Number of ED visits	0.58 (1.31)	0.112**†	0.100	0.141
		(0.052)	(0.066)	(0.093)
Hospital Care		0.065*†	0.075*	0.018
		(0.035)	(0.045)	(0.057)
Any hospitalization	0.09 (0.24)	0.012	0.012	0.002
		(0.009)	(0.011)	(0.018)
Number of hospitalizations	0.23 (0.72)	0.059**†	0.055*	0.028
		(0.030)	(0.029)	(0.060)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A27: Impact of Guaranteed Income on Food Security and Nutrition by Baseline Household Income

	Control Mean	Main Estimate	100% FPL+	Under 100% FPL
Nutrition and food security index		**0.013**	**0.027**	**-0.021**
		(0.018)	**(0.023)**	**(0.031)**
USDA Food Insecurity Scale	2.21 (2.08)	0.002	-0.059	0.122
		(0.062)	(0.075)	(0.118)
Diet behavior		0.027	0.025	0.015
		(0.020)	(0.025)	(0.034)
Health Eating Index	44.83 (9.68)	0.577*	0.685	0.391
		(0.336)	(0.431)	(0.561)
# of times eating at fast food establishment (last week)	6.29 (6.09)	0.215	0.145	0.439
		(0.196)	(0.254)	(0.329)
# times drinking regular soda containing sugar (last week)	4.83 (6.72)	-0.382**	-0.181	-0.558
		(0.193)	(0.221)	(0.364)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A28: Impact of Guaranteed Income on Health Investments by Baseline Household Income

	Control Mean	Main Estimate	100% FPL+	Under 100% FPL
Health investments index		**-0.026***	**-0.036***	**-0.031**
		(0.015)	**(0.019)**	**(0.024)**
Physical activity		-0.024	-0.036	-0.012
		(0.023)	(0.030)	(0.038)
Time spent on physical activity/recreation (survey, hours)	0.84 (0.94)	-0.085***††	-0.091**	-0.080
		(0.032)	(0.040)	(0.057)
Time spent on physical activity/recreation (time diary, minutes)	12.45 (23.89)	-0.107	0.385	-1.667
		(0.869)	(1.050)	(1.504)
Frequency of exercise	7.56 (8.14)	0.181	-0.239	0.850
		(0.270)	(0.332)	(0.516)
Sleep		-0.029	-0.036	-0.050
		(0.018)	(0.023)	(0.031)
Sleep amount (survey)	6.24 (1.76)	0.025	0.033	-0.059
		(0.053)	(0.062)	(0.104)
Sleep amount (time diary)	535.90 (133.60)	-7.571*	-12.706***	-3.790
		(3.992)	(4.451)	(7.996)
Sleep quality	2.67 (0.54)	-0.024	-0.011	-0.053*
		(0.016)	(0.020)	(0.030)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A29: Impact of Guaranteed Income on Unhealthy Behaviors by Baseline Household Income

	Control Mean	Main Estimate	100% FPL+	Under 100% FPL
Unhealthy behaviors index		**0.013**	**0.021**	**0.006**
		(0.013)	**(0.016)**	**(0.023)**
Alcohol use and interference		0.010	0.026	0.001
		(0.023)	(0.027)	(0.039)
Total number of drinks (30 days)	9.56 (20.42)	0.741	0.420	1.088
		(0.640)	(0.811)	(1.134)
Days drinking alcohol (30 days)	2.76 (4.79)	0.341**	0.328*	0.314
		(0.143)	(0.190)	(0.224)
Days drinking 4+ drinks (30 days)	0.84 (2.50)	0.137	0.119	0.143
		(0.084)	(0.109)	(0.135)
Drinking/hangovers interfered with responsibilities (12 mos)	0.09 (0.30)	-0.018**	-0.023**	-0.014
		(0.009)	(0.010)	(0.017)
Drinking caused arguments/serious problems with others (12 mos)	0.06 (0.25)	-0.009	-0.017*	-0.010
		(0.008)	(0.009)	(0.014)
Under the influence in a situation where you could get hurt (12 mos)	0.05 (0.22)	-0.010	-0.009	-0.013
		(0.006)	(0.008)	(0.011)
Smoking behavior		0.021	0.025	0.009
		(0.021)	(0.025)	(0.037)
Currently use tobacco products	0.25 (0.39)	-0.000	-0.007	0.015
		(0.010)	(0.012)	(0.018)
Currently smoke cigarettes daily	0.17 (0.34)	-0.013	-0.019*	-0.006
		(0.008)	(0.010)	(0.016)
Number of cigarettes smoked on typical day	1.51 (3.85)	-0.091	0.000	-0.206
		(0.094)	(0.106)	(0.191)
Drug use		0.009	0.012	0.007
		(0.018)	(0.022)	(0.032)
Days using marijuana	4.08 (8.38)	-0.075	-0.027	-0.278
		(0.231)	(0.290)	(0.403)
Days using painkillers not prescribed to you	0.12 (1.23)	-0.063**	-0.089**	-0.028
		(0.028)	(0.035)	(0.053)
Days using illegal drugs	0.24 (1.83)	-0.038	-0.044	0.061
		(0.062)	(0.065)	(0.114)
Days using sedatives not prescribed to you	0.08 (0.75)	0.029	0.033	0.013
		(0.030)	(0.039)	(0.050)
Any illegal drug use in past 30 days	0.11 (0.25)	-0.001	-0.002	-0.004
		(0.008)	(0.010)	(0.014)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A30: Impact of Guaranteed Income on Self-Reported Mental Health by Baseline Access to Medical Care

	Control Mean	Main Estimate	Skipped Medical Care	Did Not Skip Care
Mental health index		**-0.014**	**0.052**	**-0.032**
		(0.021)	**(0.041)**	**(0.025)**
Emotional problems interfere with daily life		-0.013	0.004	-0.020
		(0.025)	(0.047)	(0.030)
Accomplish less than you would like	3.60 (1.00)	-0.018	-0.020	-0.024
		(0.029)	(0.056)	(0.034)
Did work or activities less carefully	3.86 (0.91)	0.012	0.057	-0.002
		(0.027)	(0.055)	(0.031)
Interference with social activities	3.79 (0.95)	-0.032	-0.027	-0.030
		(0.029)	(0.059)	(0.033)
Mental distress (Kessler 6)	6.26 (4.52)	-0.016	-0.467*	0.109
		(0.123)	(0.270)	(0.139)
Perceived stress scale	18.54 (6.70)	0.052	-0.199	0.086
		(0.182)	(0.367)	(0.212)
Generalized anxiety disorder screener	2.00 (1.50)	0.015	-0.057	0.024
		(0.042)	(0.090)	(0.048)
Depression scale (PHQ-9)	7.21 (5.68)	0.109	-0.410	0.270
		(0.157)	(0.352)	(0.173)
Days mental health good of last 30	23.19 (7.36)	-0.272	0.650	-0.454*
		(0.214)	(0.477)	(0.241)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported skipping vs not skipping medical care due to costs at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A31: Impact of Guaranteed Income on Self-Reported Physical Health by Baseline Access to Medical Care

	Control Mean	Main Estimate	Skipped Medical Care	Did Not Skip Care
Self-Reported Physical Health Index		**-0.018**	**0.042**	**-0.038**
		(0.020)	**(0.038)**	**(0.024)**
# Days Physical Health Good of Last 30	26.08 (5.58)	-0.361**	-0.017	-0.387**
		(0.176)	(0.392)	(0.195)
Health Rating (Poor=1, Excellent=5)	3.22 (0.93)	-0.035	0.023	-0.061**
		(0.025)	(0.052)	(0.029)
Health is not limiting		0.014	0.064	-0.006
		(0.022)	(0.041)	(0.026)
Health limits moderate activities	1.31 (0.47)	-0.016	-0.068**	-0.001
		(0.014)	(0.030)	(0.015)
Health limits climbing several stairs	1.42 (0.54)	-0.014	-0.055*	-0.004
		(0.015)	(0.033)	(0.017)
Accomplished less due to physical health	2.13 (0.94)	-0.005	-0.049	0.021
		(0.028)	(0.060)	(0.031)
Limited in work/other activities due to physical health	1.93 (0.95)	-0.036	-0.082	-0.015
		(0.027)	(0.061)	(0.030)
Health interferes with social activities	2.21 (0.95)	0.032	0.027	0.030
		(0.029)	(0.059)	(0.033)
Pain interferes with normal work	1.98 (0.92)	-0.014	-0.076	0.002
		(0.026)	(0.057)	(0.029)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported skipping vs not skipping medical care due to costs at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A32: Impact of Guaranteed Income on Healthcare Access by Baseline Access to Medical Care

	Control Mean	Main Estimate	Skipped Medical Care	Did Not Skip Care
Healthcare Access Index		**0.010**	**0.061****	**-0.007**
		(0.015)	**(0.028)**	**(0.019)**
Has insurance coverage	0.78 (0.37)	0.014	0.027	0.010
		(0.012)	(0.027)	(0.014)
Health Care Finances		0.018	0.086***	-0.011
		(0.019)	(0.032)	(0.025)
How worried about paying medical costs	0.34 (0.34)	-0.005	-0.034	0.006
		(0.012)	(0.024)	(0.015)
Skip other bills to pay for health care	0.06 (0.20)	-0.006	-0.030*	0.003
		(0.007)	(0.017)	(0.007)
Medical debt (self-reported)	587.52 (2422.50)	-25.896	-209.670	-6.745
		(71.212)	(209.000)	(51.852)
Needed Care Access		-0.027	0.032	-0.046*
		(0.020)	(0.038)	(0.024)
Usual Source of Care is ER	0.06 (0.20)	-0.004	-0.021	0.001
		(0.007)	(0.016)	(0.007)
Skipped needed medical care due to costs	0.17 (0.28)	0.004	-0.011	0.008
		(0.009)	(0.025)	(0.009)
Skipped mental health care due to costs	0.19 (0.32)	0.011	-0.033	0.017
		(0.011)	(0.026)	(0.011)
Skipped dental care due to costs	0.27 (0.36)	0.020*	-0.006	0.024**
		(0.011)	(0.026)	(0.012)
Prescription Drug Access		0.010	0.060	0.000
		(0.028)	(0.053)	(0.034)
Used alternative therapies to save money	0.07 (0.22)	0.011	0.016	0.007
		(0.008)	(0.021)	(0.008)
Skipped doses to save money	0.07 (0.22)	-0.002	-0.017	0.002
		(0.008)	(0.021)	(0.007)
Delayed refilling to save money	0.08 (0.23)	-0.001	-0.018	0.002
		(0.008)	(0.022)	(0.007)
Asked doctor for lower cost medications	0.11 (0.27)	-0.006	-0.025	-0.006
		(0.009)	(0.022)	(0.010)
Expenditures on insurance premiums	1163.56 (1758.82)	13.215	-93.477	59.667
		(56.740)	(108.000)	(67.547)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported skipping vs not skipping medical care due to costs at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A33: Impact of Guaranteed Income on Use of Office-Based Care by Baseline Access to Medical Care

	Control Mean	Main Estimate	Skipped Medical Care	Did Not Skip Care
Office Care Index		**0.036****	**0.035**	**0.039****
		(0.016)	**(0.028)**	**(0.019)**
Primary Care		0.011	0.034	0.011
		(0.022)	(0.042)	(0.026)
Any primary care visit in last 12 mos	0.61 (0.43)	0.007	0.022	0.005
		(0.014)	(0.027)	(0.017)
Number of office visits last 12 mos	3.45 (4.38)	0.270*	0.334	0.303*
		(0.154)	(0.369)	(0.164)
Has usual place of care other than ER	0.80 (0.35)	-0.007	-0.010	-0.005
		(0.012)	(0.024)	(0.013)
Has personal doctor or health provider	0.56 (0.44)	-0.006	0.017	-0.011
		(0.014)	(0.029)	(0.017)
Specialist and Surgical Care		0.034	0.049	0.020
		(0.023)	(0.044)	(0.026)
Any specialist visit last 12 mos	0.42 (0.43)	0.026*	0.028	0.028
		(0.015)	(0.030)	(0.017)
Any surgery last 12 mos	0.11 (0.23)	-0.001	0.007	-0.006
		(0.008)	(0.018)	(0.009)
Any mental health care visit last 12 mos	0.22 (0.36)	0.017	0.020	0.008
		(0.012)	(0.027)	(0.014)
Dental Care		0.085**†	0.090	0.078**
		(0.033)	(0.059)	(0.040)
Any dentist visit last 12 mos	0.48 (0.44)	0.049***	0.057*	0.043**
		(0.017)	(0.033)	(0.020)
Number of dentist visits last 12 mos	1.35 (2.10)	0.124	0.108	0.119
		(0.083)	(0.148)	(0.098)
Preventive Care		-0.027	0.010	-0.049*
		(0.023)	(0.046)	(0.027)
Flu shot or nasal spray	0.31 (0.43)	-0.003	-0.004	-0.003
		(0.013)	(0.028)	(0.016)
Cholesterol test	0.42 (0.44)	-0.007	0.007	-0.017
		(0.015)	(0.030)	(0.017)
PAP test (women only)	0.52 (0.43)	-0.025	0.009	-0.043*
		(0.019)	(0.035)	(0.022)
Had COVID vaccine*	0.64 (0.47)	-0.039**	-0.019	-0.039**
		(0.016)	(0.032)	(0.018)
Medical care spending	176.63 (266.09)	20.387**†	-2.561	28.990***
		(9.032)	(19.560)	(9.971)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported skipping vs not skipping medical care due to costs at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A34: Impact of Guaranteed Income on Use of Hospital and ED Care by Baseline Access to Medical Care

	Control Mean	Main Estimate	Skipped Medical Care	Did Not Skip Care
Hospital care index		**0.072****	**0.141*****	**0.040**
		(0.029)	**(0.052)**	**(0.033)**
Emergency Department Care		0.079**††	0.092	0.074*
		(0.033)	(0.056)	(0.040)
Any ED visit	0.24 (0.34)	0.025**†	0.039	0.017
		(0.012)	(0.025)	(0.013)
Number of ED visits	0.58 (1.31)	0.112**†	0.140	0.098*
		(0.052)	(0.115)	(0.054)
Hospital Care		0.065*†	0.190***	0.006
		(0.035)	(0.070)	(0.039)
Any hospitalization	0.09 (0.24)	0.012	0.039**	-0.001
		(0.009)	(0.019)	(0.010)
Number of hospitalizations	0.23 (0.72)	0.059**†	0.175**	0.010
		(0.030)	(0.069)	(0.030)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported skipping vs not skipping medical care due to costs at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A35: Impact of Guaranteed Income on Food Security and Nutrition by Baseline Access to Medical Care

	Control Mean	Main Estimate	Skipped Medical Care	Did Not Skip Care
Nutrition and food security index		**0.013**	**0.059***	**-0.002**
		(0.018)	**(0.034)**	**(0.022)**
USDA Food Insecurity Scale	2.21 (2.08)	0.002	-0.107	0.022
		(0.062)	(0.131)	(0.071)
Diet behavior		0.027	0.068*	0.008
		(0.020)	(0.036)	(0.024)
Health Eating Index	44.83 (9.68)	0.577*	0.778	0.542
		(0.336)	(0.645)	(0.406)
# of times eating at fast food establishment (last week)	6.29 (6.09)	0.215	-0.274	0.453**
		(0.196)	(0.415)	(0.221)
# times drinking regular soda containing sugar (last week)	4.83 (6.72)	-0.382**	-0.579	-0.298
		(0.193)	(0.360)	(0.230)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported skipping vs not skipping medical care due to costs at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A36: Impact of Guaranteed Income on Health Investments by Baseline Access to Medical Care

	Control Mean	Main Estimate	Skipped Medical Care	Did Not Skip Care
Health investments index		**-0.026***	**-0.005**	**-0.040****
		(0.015)	**(0.029)**	**(0.017)**
Physical activity		-0.024	-0.033	-0.025
		(0.023)	(0.042)	(0.027)
Time spent on physical activity/recreation (survey, hours)	0.84 (0.94)	-0.085***††	-0.057	-0.101***
		(0.032)	(0.068)	(0.035)
Time spent on physical activity/recreation (time diary, minutes)	12.45 (23.89)	-0.107	-0.999	0.089
		(0.869)	(1.212)	(1.120)
Frequency of exercise	7.56 (8.14)	0.181	0.105	0.258
		(0.270)	(0.549)	(0.324)
Sleep		-0.029	0.022	-0.055***
		(0.018)	(0.036)	(0.021)
Sleep amount (survey)	6.24 (1.76)	0.025	0.177	-0.029
		(0.053)	(0.115)	(0.062)
Sleep amount (time diary)	535.90 (133.60)	-7.571*	-7.996	-9.911**
		(3.992)	(7.763)	(4.756)
Sleep quality	2.67 (0.54)	-0.024	0.015	-0.038**
		(0.016)	(0.034)	(0.018)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported skipping vs not skipping medical care due to costs at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A37: Impact of Guaranteed Income on Unhealthy Behaviors by Baseline Access to Medical Care

	Control Mean	Main Estimate	Skipped Medical Care	Did Not Skip Care
Unhealthy behaviors index		**0.013**	**-0.013**	**0.020**
		(0.013)	**(0.026)**	**(0.015)**
Alcohol use and interference		0.010	-0.014	0.018
		(0.023)	(0.042)	(0.027)
Total number of drinks (30 days)	9.56 (20.42)	0.741	0.651	0.884
		(0.640)	(1.400)	(0.717)
Days drinking alcohol (30 days)	2.76 (4.79)	0.341**	0.271	0.342**
		(0.143)	(0.288)	(0.166)
Days drinking 4+ drinks (30 days)	0.84 (2.50)	0.137	0.258	0.075
		(0.084)	(0.166)	(0.097)
Drinking/hangovers interfered with responsibilities (12 mos)	0.09 (0.30)	-0.018**	-0.026*	-0.014
		(0.009)	(0.015)	(0.010)
Drinking caused arguments/serious problems with others (12 mos)	0.06 (0.25)	-0.009	-0.005	-0.012
		(0.008)	(0.012)	(0.009)
Under the influence in a situation where you could get hurt (12 mos)	0.05 (0.22)	-0.010	0.007	-0.015**
		(0.006)	(0.013)	(0.007)
Smoking behavior		0.021	0.002	0.021
		(0.021)	(0.043)	(0.023)
Currently use tobacco products	0.25 (0.39)	-0.000	0.016	-0.001
		(0.010)	(0.022)	(0.011)
Currently smoke cigarettes daily	0.17 (0.34)	-0.013	-0.012	-0.010
		(0.008)	(0.018)	(0.009)
Number of cigarettes smoked on typical day	1.51 (3.85)	-0.091	-0.042	-0.106
		(0.094)	(0.223)	(0.097)
Drug use		0.009	-0.027	0.021
		(0.018)	(0.037)	(0.021)
Days using marijuana	4.08 (8.38)	-0.075	0.126	-0.170
		(0.231)	(0.497)	(0.261)
Days using painkillers not prescribed to you	0.12 (1.23)	-0.063**	-0.063	-0.069**
		(0.028)	(0.081)	(0.028)
Days using illegal drugs	0.24 (1.83)	-0.038	0.128	-0.104*
		(0.062)	(0.174)	(0.057)
Days using sedatives not prescribed to you	0.08 (0.75)	0.029	-0.004	0.045
		(0.030)	(0.063)	(0.034)
Any illegal drug use in past 30 days	0.11 (0.25)	-0.001	0.026	-0.007
		(0.008)	(0.018)	(0.008)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported skipping vs not skipping medical care due to costs at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A38: Impact of Guaranteed Income on Self-Reported Mental Health by Baseline Age

	Control Mean	Main Estimate	Under Age 30	Age 30+
Mental health index		**-0.014**	**0.003**	**-0.033**
		(0.021)	**(0.028)**	**(0.030)**
Emotional problems interfere with daily life		-0.013	-0.013	-0.008
		(0.025)	(0.034)	(0.035)
Accomplish less than you would like	3.60 (1.00)	-0.018	-0.014	-0.009
		(0.029)	(0.040)	(0.042)
Did work or activities less carefully	3.86 (0.91)	0.012	0.013	0.025
		(0.027)	(0.036)	(0.040)
Interference with social activities	3.79 (0.95)	-0.032	-0.035	-0.040
		(0.029)	(0.040)	(0.042)
Mental distress (Kessler 6)	6.26 (4.52)	-0.016	-0.106	0.133
		(0.123)	(0.168)	(0.179)
Perceived stress scale	18.54 (6.70)	0.052	-0.086	0.210
		(0.182)	(0.249)	(0.274)
Generalized anxiety disorder screener	2.00 (1.50)	0.015	-0.034	0.060
		(0.042)	(0.058)	(0.060)
Depression scale (PHQ-9)	7.21 (5.68)	0.109	0.082	0.099
		(0.157)	(0.228)	(0.217)
Days mental health good of last 30	23.19 (7.36)	-0.272	-0.102	-0.555*
		(0.214)	(0.283)	(0.326)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were under 30 years old or age 30+ at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A39: Impact of Guaranteed Income on Self-Reported Physical Health by Baseline Age

	Control Mean	Main Estimate	Under Age 30	Age 30+
Self-Reported Physical Health Index		**-0.018**	**-0.006**	**-0.038**
		(0.020)	**(0.027)**	**(0.030)**
# Days Physical Health Good of Last 30	26.08 (5.58)	-0.361**	-0.216	-0.612**
		(0.176)	(0.232)	(0.285)
Health Rating (Poor=1, Excellent=5)	3.22 (0.93)	-0.035	-0.000	-0.083**
		(0.025)	(0.036)	(0.035)
Health is not limiting		0.014	-0.002	0.035
		(0.022)	(0.030)	(0.031)
Health limits moderate activities	1.31 (0.47)	-0.016	-0.017	-0.024
		(0.014)	(0.018)	(0.021)
Health limits climbing several stairs	1.42 (0.54)	-0.014	-0.008	-0.015
		(0.015)	(0.020)	(0.023)
Accomplished less due to physical health	2.13 (0.94)	-0.005	0.018	-0.051
		(0.028)	(0.038)	(0.042)
Limited in work/other activities due to physical health	1.93 (0.95)	-0.036	0.008	-0.091**
		(0.027)	(0.036)	(0.041)
Health interferes with social activities	2.21 (0.95)	0.032	0.035	0.040
		(0.029)	(0.040)	(0.042)
Pain interferes with normal work	1.98 (0.92)	-0.014	-0.018	-0.009
		(0.026)	(0.035)	(0.040)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were under 30 years old or age 30+ at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A40: Impact of Guaranteed Income on Healthcare Access by Baseline Age

	Control Mean	Main Estimate	Under Age 30	Age 30+
Healthcare Access Index		**0.010**	**0.006**	**0.006**
		(0.015)	**(0.020)**	**(0.022)**
Has insurance coverage	0.78 (0.37)	0.014	0.003	0.024
		(0.012)	(0.017)	(0.019)
Health Care Finances		0.018	0.013	0.030
		(0.019)	(0.024)	(0.029)
How worried about paying medical costs	0.34 (0.34)	-0.005	-0.011	0.000
		(0.012)	(0.017)	(0.019)
Skip other bills to pay for health care	0.06 (0.20)	-0.006	-0.005	-0.005
		(0.007)	(0.009)	(0.010)
Medical debt (self-reported)	587.52 (2422.50)	-25.896	51.799	-98.216
		(71.212)	(97.635)	(79.934)
Needed Care Access		-0.027	-0.032	-0.034
		(0.020)	(0.026)	(0.028)
Usual Source of Care is ER	0.06 (0.20)	-0.004	-0.010	-0.002
		(0.007)	(0.009)	(0.010)
Skipped needed medical care due to costs	0.17 (0.28)	0.004	0.009	0.001
		(0.009)	(0.013)	(0.013)
Skipped mental health care due to costs	0.19 (0.32)	0.011	0.000	0.029*
		(0.011)	(0.015)	(0.016)
Skipped dental care due to costs	0.27 (0.36)	0.020*	0.028*	0.015
		(0.011)	(0.015)	(0.017)
Prescription Drug Access		0.010	0.034	-0.036
		(0.028)	(0.036)	(0.042)
Used alternative therapies to save money	0.07 (0.22)	0.011	0.020*	0.010
		(0.008)	(0.011)	(0.013)
Skipped doses to save money	0.07 (0.22)	-0.002	-0.009	0.011
		(0.008)	(0.010)	(0.012)
Delayed refilling to save money	0.08 (0.23)	-0.001	-0.005	0.009
		(0.008)	(0.011)	(0.012)
Asked doctor for lower cost medications	0.11 (0.27)	-0.006	-0.011	0.006
		(0.009)	(0.012)	(0.014)
Expenditures on insurance premiums	1163.56 (1758.82)	13.215	22.889	0.595
		(56.740)	(73.497)	(93.726)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were under 30 years old or age 30+ at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A41: Impact of Guaranteed Income on Use of Office-Based Care by Baseline Age

	Control Mean	Main Estimate	Under Age 30	Age 30+
Office Care Index		**0.036****	**0.037***	**0.031**
		(0.016)	**(0.021)**	**(0.023)**
Primary Care		0.011	0.028	-0.000
		(0.022)	(0.029)	(0.032)
Any primary care visit in last 12 mos	0.61 (0.43)	0.007	0.022	0.004
		(0.014)	(0.020)	(0.021)
Number of office visits last 12 mos	3.45 (4.38)	0.270*	0.098	0.477*
		(0.154)	(0.181)	(0.252)
Has usual place of care other than ER	0.80 (0.35)	-0.007	0.002	-0.016
		(0.012)	(0.016)	(0.017)
Has personal doctor or health provider	0.56 (0.44)	-0.006	0.015	-0.029
		(0.014)	(0.020)	(0.021)
Specialist and Surgical Care		0.034	0.046	0.003
		(0.023)	(0.030)	(0.034)
Any specialist visit last 12 mos	0.42 (0.43)	0.026*	0.030	0.019
		(0.015)	(0.020)	(0.023)
Any surgery last 12 mos	0.11 (0.23)	-0.001	-0.003	-0.000
		(0.008)	(0.011)	(0.013)
Any mental health care visit last 12 mos	0.22 (0.36)	0.017	0.028*	-0.012
		(0.012)	(0.016)	(0.018)
Dental Care		0.085**†	0.100**	0.068
		(0.033)	(0.046)	(0.046)
Any dentist visit last 12 mos	0.48 (0.44)	0.049***	0.055**	0.047*
		(0.017)	(0.023)	(0.025)
Number of dentist visits last 12 mos	1.35 (2.10)	0.124	0.150	0.065
		(0.083)	(0.118)	(0.112)
Preventive Care		-0.027	-0.016	-0.052
		(0.023)	(0.032)	(0.034)
Flu shot or nasal spray	0.31 (0.43)	-0.003	0.015	-0.033*
		(0.013)	(0.019)	(0.019)
Cholesterol test	0.42 (0.44)	-0.007	0.000	-0.023
		(0.015)	(0.020)	(0.022)
PAP test (women only)	0.52 (0.43)	-0.025	-0.037	-0.012
		(0.019)	(0.026)	(0.028)
Had COVID vaccine*	0.64 (0.47)	-0.039**	-0.049**	-0.027
		(0.016)	(0.021)	(0.025)
Medical care spending	176.63 (266.09)	20.387**†	6.875	35.162**
		(9.032)	(11.617)	(15.148)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were under 30 years old or age 30+ at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A42: Impact of Guaranteed Income on Use of Hospital and ED Care by Baseline Age

	Control Mean	Main Estimate	Under Age 30	Age 30+
Hospital care index		**0.072****	**0.028**	**0.104****
		(0.029)	**(0.034)**	**(0.045)**
Emergency Department Care		0.079**††	0.030	0.122**
		(0.033)	(0.040)	(0.050)
Any ED visit	0.24 (0.34)	0.025**†	0.016	0.037**
		(0.012)	(0.015)	(0.018)
Number of ED visits	0.58 (1.31)	0.112**†	0.015	0.172**
		(0.052)	(0.059)	(0.079)
Hospital Care		0.065*†	0.026	0.085
		(0.035)	(0.042)	(0.055)
Any hospitalization	0.09 (0.24)	0.012	0.003	0.016
		(0.009)	(0.012)	(0.014)
Number of hospitalizations	0.23 (0.72)	0.059**†	0.028	0.076
		(0.030)	(0.033)	(0.050)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were under 30 years old or age 30+ at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A43: Impact of Guaranteed Income on Food Security and Nutrition by Baseline Age

	Control Mean	Main Estimate	Under Age 30	Age 30+
Nutrition and food security index		**0.013**	**0.020**	**-0.004**
		(0.018)	**(0.025)**	**(0.027)**
USDA Food Insecurity Scale	2.21 (2.08)	0.002	-0.001	0.026
		(0.062)	(0.084)	(0.094)
Diet behavior		0.027	0.040	0.005
		(0.020)	(0.027)	(0.030)
Health Eating Index	44.83 (9.68)	0.577*	0.810*	0.480
		(0.336)	(0.462)	(0.498)
# of times eating at fast food establishment (last week)	6.29 (6.09)	0.215	0.257	0.354
		(0.196)	(0.285)	(0.272)
# times drinking regular soda containing sugar (last week)	4.83 (6.72)	-0.382**	-0.507**	-0.187
		(0.193)	(0.250)	(0.296)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were under 30 years old or age 30+ at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A44: Impact of Guaranteed Income on Health Investments by Baseline Age

	Control Mean	Main Estimate	Under Age 30	Age 30+
Health investments index		**-0.026***	**-0.025**	**-0.038***
		(0.015)	**(0.021)**	**(0.021)**
Physical activity		-0.024	-0.024	-0.034
		(0.023)	(0.032)	(0.033)
Time spent on physical activity/recreation (survey, hours)	0.84 (0.94)	-0.085***††	-0.139***	-0.040
		(0.032)	(0.045)	(0.045)
Time spent on physical activity/recreation (time diary, minutes)	12.45 (23.89)	-0.107	0.779	-1.187
		(0.869)	(1.391)	(0.996)
Frequency of exercise	7.56 (8.14)	0.181	0.304	-0.031
		(0.270)	(0.370)	(0.397)
Sleep		-0.029	-0.026	-0.043*
		(0.018)	(0.025)	(0.026)
Sleep amount (survey)	6.24 (1.76)	0.025	0.005	0.003
		(0.053)	(0.074)	(0.078)
Sleep amount (time diary)	535.90 (133.60)	-7.571*	-6.798	-8.947*
		(3.992)	(5.966)	(5.384)
Sleep quality	2.67 (0.54)	-0.024	-0.017	-0.032
		(0.016)	(0.022)	(0.024)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were under 30 years old or age 30+ at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A45: Impact of Guaranteed Income on Unhealthy Behaviors by Baseline Age

	Control Mean	Main Estimate	Under Age 30	Age 30+
Unhealthy behaviors index		**0.013**	**0.022**	**0.005**
		(0.013)	**(0.017)**	**(0.019)**
Alcohol use and interference		0.010	0.003	0.005
		(0.023)	(0.029)	(0.032)
Total number of drinks (30 days)	9.56 (20.42)	0.741	0.555	0.789
		(0.640)	(0.856)	(0.948)
Days drinking alcohol (30 days)	2.76 (4.79)	0.341**	0.251	0.485**
		(0.143)	(0.191)	(0.220)
Days drinking 4+ drinks (30 days)	0.84 (2.50)	0.137	0.098	0.180
		(0.084)	(0.101)	(0.136)
Drinking/hangovers interfered with responsibilities (12 mos)	0.09 (0.30)	-0.018**	-0.012	-0.014
		(0.009)	(0.012)	(0.011)
Drinking caused arguments/serious problems with others (12 mos)	0.06 (0.25)	-0.009	0.001	-0.017
		(0.008)	(0.010)	(0.010)
Under the influence in a situation where you could get hurt (12 mos)	0.05 (0.22)	-0.010	-0.014	-0.002
		(0.006)	(0.009)	(0.008)
Smoking behavior		0.021	0.018	0.036
		(0.021)	(0.028)	(0.029)
Currently use tobacco products	0.25 (0.39)	-0.000	0.000	-0.006
		(0.010)	(0.014)	(0.014)
Currently smoke cigarettes daily	0.17 (0.34)	-0.013	-0.014	-0.015
		(0.008)	(0.010)	(0.013)
Number of cigarettes smoked on typical day	1.51 (3.85)	-0.091	-0.027	-0.236
		(0.094)	(0.099)	(0.160)
Drug use		0.009	0.046**	-0.025
		(0.018)	(0.021)	(0.027)
Days using marijuana	4.08 (8.38)	-0.075	-0.179	0.012
		(0.231)	(0.331)	(0.323)
Days using painkillers not prescribed to you	0.12 (1.23)	-0.063**	-0.088***	-0.039
		(0.028)	(0.032)	(0.049)
Days using illegal drugs	0.24 (1.83)	-0.038	-0.074	0.000
		(0.062)	(0.067)	(0.104)
Days using sedatives not prescribed to you	0.08 (0.75)	0.029	-0.013	0.067
		(0.030)	(0.031)	(0.050)
Any illegal drug use in past 30 days	0.11 (0.25)	-0.001	-0.015	0.016
		(0.008)	(0.010)	(0.011)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who were under 30 years old or age 30+ at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A46: Impact of Guaranteed Income on Self-Reported Mental Health by Baseline Health

	Control Mean	Main Estimate	Health VG or Exc	Health Poor, Fair, Good
Mental health index		**-0.014**	**0.001**	**-0.016**
		(0.021)	**(0.031)**	**(0.030)**
Emotional problems interfere with daily life		-0.013	-0.004	-0.015
		(0.025)	(0.037)	(0.035)
Accomplish less than you would like	3.60 (1.00)	-0.018	-0.016	-0.014
		(0.029)	(0.040)	(0.042)
Did work or activities less carefully	3.86 (0.91)	0.012	0.018	0.019
		(0.027)	(0.037)	(0.040)
Interference with social activities	3.79 (0.95)	-0.032	-0.015	-0.051
		(0.029)	(0.039)	(0.042)
Mental distress (Kessler 6)	6.26 (4.52)	-0.016	-0.105	-0.016
		(0.123)	(0.158)	(0.190)
Perceived stress scale	18.54 (6.70)	0.052	-0.130	0.108
		(0.182)	(0.255)	(0.262)
Generalized anxiety disorder screener	2.00 (1.50)	0.015	-0.008	0.036
		(0.042)	(0.057)	(0.064)
Depression scale (PHQ-9)	7.21 (5.68)	0.109	0.043	0.114
		(0.157)	(0.204)	(0.245)
Days mental health good of last 30	23.19 (7.36)	-0.272	-0.211	-0.191
		(0.214)	(0.262)	(0.345)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A47: Impact of Guaranteed Income on Self-Reported Physical Health by Baseline Health

	Control Mean	Main Estimate	Health VG or Exc	Health Poor, Fair, Good
Self-Reported Physical Health Index		**-0.018**	**-0.005**	**-0.031**
		(0.020)	**(0.030)**	**(0.031)**
# Days Physical Health Good of Last 30	26.08 (5.58)	-0.361**	-0.153	-0.552*
		(0.176)	(0.184)	(0.305)
Health Rating (Poor=1, Excellent=5)	3.22 (0.93)	-0.035	-0.006	-0.059
		(0.025)	(0.035)	(0.036)
Health is not limiting		0.014	0.013	0.017
		(0.022)	(0.034)	(0.032)
Health limits moderate activities	1.31 (0.47)	-0.016	-0.003	-0.029
		(0.014)	(0.016)	(0.022)
Health limits climbing several stairs	1.42 (0.54)	-0.014	-0.021	-0.005
		(0.015)	(0.019)	(0.024)
Accomplished less due to physical health	2.13 (0.94)	-0.005	-0.016	-0.002
		(0.028)	(0.037)	(0.042)
Limited in work/other activities due to physical health	1.93 (0.95)	-0.036	-0.003	-0.072*
		(0.027)	(0.035)	(0.043)
Health interferes with social activities	2.21 (0.95)	0.032	0.015	0.051
		(0.029)	(0.039)	(0.042)
Pain interferes with normal work	1.98 (0.92)	-0.014	-0.014	-0.013
		(0.026)	(0.034)	(0.041)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A48: Impact of Guaranteed Income on Healthcare Access by Baseline Health

	Control Mean	Main Estimate	Health VG or Exc	Health Poor, Fair, Good
Healthcare Access Index		**0.010**	**-0.008**	**0.031**
		(0.015)	**(0.022)**	**(0.021)**
Has insurance coverage	0.78 (0.37)	0.014	0.007	0.021
		(0.012)	(0.017)	(0.018)
Health Care Finances		0.018	0.009	0.035
		(0.019)	(0.030)	(0.025)
How worried about paying medical costs	0.34 (0.34)	-0.005	-0.010	-0.001
		(0.012)	(0.018)	(0.017)
Skip other bills to pay for health care	0.06 (0.20)	-0.006	-0.001	-0.014
		(0.007)	(0.008)	(0.011)
Medical debt (self-reported)	587.52 (2422.50)	-25.896	4.129	-134.520
		(71.212)	(62.781)	(130.000)
Needed Care Access		-0.027	-0.042	-0.005
		(0.020)	(0.027)	(0.028)
Usual Source of Care is ER	0.06 (0.20)	-0.004	0.005	-0.012
		(0.007)	(0.009)	(0.011)
Skipped needed medical care due to costs	0.17 (0.28)	0.004	0.007	-0.002
		(0.009)	(0.011)	(0.015)
Skipped mental health care due to costs	0.19 (0.32)	0.011	0.009	0.005
		(0.011)	(0.014)	(0.017)
Skipped dental care due to costs	0.27 (0.36)	0.020*	0.021	0.014
		(0.011)	(0.014)	(0.017)
Prescription Drug Access		0.010	-0.021	0.040
		(0.028)	(0.040)	(0.039)
Used alternative therapies to save money	0.07 (0.22)	0.011	0.010	0.009
		(0.008)	(0.010)	(0.013)
Skipped doses to save money	0.07 (0.22)	-0.002	0.005	-0.007
		(0.008)	(0.008)	(0.013)
Delayed refilling to save money	0.08 (0.23)	-0.001	0.014	-0.019
		(0.008)	(0.009)	(0.014)
Asked doctor for lower cost medications	0.11 (0.27)	-0.006	-0.013	-0.009
		(0.009)	(0.011)	(0.015)
Expenditures on insurance premiums	1163.56 (1758.82)	13.215	72.594	-69.682
		(56.740)	(82.558)	(77.880)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported very good or excellent health, or good, fair, or poor health, at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A49: Impact of Guaranteed Income on Use of Office-Based Care by Baseline Health

	Control Mean	Main Estimate	Health VG or Exc	Health Poor, Fair, Good
Office Care Index		**0.036****	**0.021**	**0.044****
		(0.016)	**(0.022)**	**(0.022)**
Primary Care		0.011	-0.015	0.028
		(0.022)	(0.031)	(0.030)
Any primary care visit in last 12 mos	0.61 (0.43)	0.007	-0.004	0.017
		(0.014)	(0.021)	(0.019)
Number of office visits last 12 mos	3.45 (4.38)	0.270*	0.038	0.461*
		(0.154)	(0.170)	(0.262)
Has usual place of care other than ER	0.80 (0.35)	-0.007	-0.017	-0.002
		(0.012)	(0.016)	(0.017)
Has personal doctor or health provider	0.56 (0.44)	-0.006	-0.005	-0.008
		(0.014)	(0.021)	(0.020)
Specialist and Surgical Care		0.034	-0.016	0.065**
		(0.023)	(0.032)	(0.032)
Any specialist visit last 12 mos	0.42 (0.43)	0.026*	-0.024	0.074***
		(0.015)	(0.020)	(0.021)
Any surgery last 12 mos	0.11 (0.23)	-0.001	-0.012	0.002
		(0.008)	(0.011)	(0.013)
Any mental health care visit last 12 mos	0.22 (0.36)	0.017	0.022	0.005
		(0.012)	(0.016)	(0.018)
Dental Care		0.085**†	0.072	0.107**
		(0.033)	(0.046)	(0.046)
Any dentist visit last 12 mos	0.48 (0.44)	0.049***	0.043*	0.057**
		(0.017)	(0.024)	(0.024)
Number of dentist visits last 12 mos	1.35 (2.10)	0.124	0.094	0.181
		(0.083)	(0.118)	(0.114)
Preventive Care		-0.027	-0.045	-0.018
		(0.023)	(0.033)	(0.033)
Flu shot or nasal spray	0.31 (0.43)	-0.003	0.020	-0.022
		(0.013)	(0.019)	(0.019)
Cholesterol test	0.42 (0.44)	-0.007	-0.035	0.013
		(0.015)	(0.022)	(0.021)
PAP test (women only)	0.52 (0.43)	-0.025	-0.044	-0.013
		(0.019)	(0.027)	(0.026)
Had COVID vaccine*	0.64 (0.47)	-0.039**	-0.007	-0.064***
		(0.016)	(0.022)	(0.023)
Medical care spending	176.63 (266.09)	20.387**†	23.170**	12.191
		(9.032)	(11.022)	(13.932)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported very good or excellent health, or good, fair, or poor health, at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A50: Impact of Guaranteed Income on Use of Hospital and ED Care by Baseline Health

	Control Mean	Main Estimate	Health VG or Exc	Health Poor, Fair, Good
Hospital care index		**0.072****	**0.019**	**0.092****
		(0.029)	**(0.042)**	**(0.041)**
Emergency Department Care		0.079**††	0.019	0.103**
		(0.033)	(0.048)	(0.046)
Any ED visit	0.24 (0.34)	0.025**†	0.016	0.030*
		(0.012)	(0.016)	(0.018)
Number of ED visits	0.58 (1.31)	0.112**†	-0.013	0.202**
		(0.052)	(0.041)	(0.095)
Hospital Care		0.065*†	0.020	0.081
		(0.035)	(0.051)	(0.050)
Any hospitalization	0.09 (0.24)	0.012	0.006	0.012
		(0.009)	(0.011)	(0.014)
Number of hospitalizations	0.23 (0.72)	0.059**†	0.004	0.104*
		(0.030)	(0.029)	(0.053)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported very good or excellent health, or good, fair, or poor health, at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A51: Impact of Guaranteed Income on Food Security and Nutrition by Baseline Health

	Control Mean	Main Estimate	Health VG or Exc	Health Poor, Fair, Good
Nutrition and food security index		**0.013**	**0.022**	**0.004**
		(0.018)	**(0.026)**	**(0.026)**
USDA Food Insecurity Scale	2.21 (2.08)	0.002	-0.033	0.044
		(0.062)	(0.085)	(0.093)
Diet behavior		0.027	0.027	0.029
		(0.020)	(0.030)	(0.028)
Health Eating Index	44.83 (9.68)	0.577*	0.529	0.701
		(0.336)	(0.501)	(0.462)
# of times eating at fast food establishment (last week)	6.29 (6.09)	0.215	0.169	0.304
		(0.196)	(0.265)	(0.291)
# times drinking regular soda containing sugar (last week)	4.83 (6.72)	-0.382**	-0.355	-0.428
		(0.193)	(0.261)	(0.291)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants whose household income was below vs at or above 100% of the FPL at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A52: Impact of Guaranteed Income on Health Investments by Baseline Health

	Control Mean	Main Estimate	Health VG or Exc	Health Poor, Fair, Good
Health investments index		**-0.026***	**-0.016**	**-0.040****
		(0.015)	**(0.021)**	**(0.020)**
Physical activity		-0.024	0.012	-0.058*
		(0.023)	(0.033)	(0.032)
Time spent on physical activity/recreation (survey, hours)	0.84 (0.94)	-0.085***††	-0.078*	-0.098**
		(0.032)	(0.044)	(0.047)
Time spent on physical activity/recreation (time diary, minutes)	12.45 (23.89)	-0.107	1.410	-1.340
		(0.869)	(1.511)	(1.008)
Frequency of exercise	7.56 (8.14)	0.181	0.552	-0.082
		(0.270)	(0.391)	(0.380)
Sleep		-0.029	-0.044*	-0.021
		(0.018)	(0.026)	(0.026)
Sleep amount (survey)	6.24 (1.76)	0.025	-0.034	0.083
		(0.053)	(0.077)	(0.079)
Sleep amount (time diary)	535.90 (133.60)	-7.571*	-6.063	-12.597**
		(3.992)	(5.618)	(5.862)
Sleep quality	2.67 (0.54)	-0.024	-0.034	-0.007
		(0.016)	(0.023)	(0.023)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported very good or excellent health, or good, fair, or poor health, at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A53: Impact of Guaranteed Income on Unhealthy Behaviors by Baseline Health

	Control Mean	Main Estimate	Health VG or Exc	Health Poor, Fair, Good
Unhealthy behaviors index		**0.013**	**0.001**	**0.012**
		(0.013)	**(0.019)**	**(0.019)**
Alcohol use and interference		0.010	0.022	-0.005
		(0.023)	(0.029)	(0.032)
Total number of drinks (30 days)	9.56 (20.42)	0.741	0.145	1.085
		(0.640)	(0.811)	(0.994)
Days drinking alcohol (30 days)	2.76 (4.79)	0.341**	0.167	0.445**
		(0.143)	(0.192)	(0.209)
Days drinking 4+ drinks (30 days)	0.84 (2.50)	0.137	0.077	0.161
		(0.084)	(0.106)	(0.124)
Drinking/hangovers interfered with responsibilities (12 mos)	0.09 (0.30)	-0.018**	-0.011	-0.023*
		(0.009)	(0.011)	(0.013)
Drinking caused arguments/serious problems with others (12 mos)	0.06 (0.25)	-0.009	-0.015	0.000
		(0.008)	(0.010)	(0.011)
Under the influence in a situation where you could get hurt (12 mos)	0.05 (0.22)	-0.010	-0.012	-0.003
		(0.006)	(0.008)	(0.009)
Smoking behavior		0.021	0.003	0.036
		(0.021)	(0.029)	(0.030)
Currently use tobacco products	0.25 (0.39)	-0.000	0.012	-0.011
		(0.010)	(0.013)	(0.015)
Currently smoke cigarettes daily	0.17 (0.34)	-0.013	-0.012	-0.015
		(0.008)	(0.011)	(0.013)
Number of cigarettes smoked on typical day	1.51 (3.85)	-0.091	-0.012	-0.171
		(0.094)	(0.112)	(0.156)
Drug use		0.009	-0.023	0.005
		(0.018)	(0.032)	(0.025)
Days using marijuana	4.08 (8.38)	-0.075	-0.171	0.158
		(0.231)	(0.294)	(0.367)
Days using painkillers not prescribed to you	0.12 (1.23)	-0.063**	-0.004	-0.100*
		(0.028)	(0.017)	(0.052)
Days using illegal drugs	0.24 (1.83)	-0.038	-0.031	-0.007
		(0.062)	(0.071)	(0.092)
Days using sedatives not prescribed to you	0.08 (0.75)	0.029	0.048	0.018
		(0.030)	(0.030)	(0.052)
Any illegal drug use in past 30 days	0.11 (0.25)	-0.001	-0.003	0.001
		(0.008)	(0.010)	(0.012)

Notes: This table reports estimated treatment effects of the guaranteed income payments on outcomes listed in the rows for participants who reported very good or excellent health, or good, fair, or poor health, at baseline, as labeled. $*$ denotes traditional significance levels. † denotes significance levels based on q-values adjusted to control the false discovery rate. In all cases, three symbols denotes significance at the 1% level; two denote significance at the 5% level; three denote significance at the 10% level of the test.

Table A54: Predictors of simulated treatment probability

	Coefficient (SE)
Demographic	
Age	-0.0001 (0.0001)
Male	-0.0005 (0.0058)
Female	-0.0012 (0.0058)
Non-Hispanic Black	0.0006 (0.0016)
Non-Hispanic Asian	0.0014 (0.0019)
Non-Hispanic White	0.0006 (0.0016)
Non-Hispanic Native American	-0.0012 (0.0020)
Hispanic	0.0007 (0.0018)
Household Size	0.0000 (0.0003)
Any Children	-0.0000 (0.0009)
# Children	0.0002 (0.0003)
Economic	
Employed	0.0004 (0.0006)
Personal Income (1000*s*)	0.0000 (0.0000)
Household Income (1000*s*)	0.0000 (0.0000)
Under FPL	0.0006 (0.0009)
HS Degree/GED or higher	-0.0001 (0.0012)
Health care access and utilization	
Insured	0.0001 (0.0007)
Skipped Medical Care due to Costs	0.0008 (0.0007)
Worried About Medical Costs	-0.0003 (0.0006)
Usual source of care is ER	0.0001 (0.0011)
Any hospitalization last 12 mos	-0.0007 (0.0009)
Any ER visit last 12 mo	0.0000 (0.0007)
# Office Visits last 12mo	-0.0000 (0.0000)
Mental health	
# days mental health good (of last 30)	-0.0000 (0.0000)
High stress	-0.0006 (0.0009)
High mental distress	0.0010 (0.0010)
Severe depression	-0.0015 (0.0009)*
Physical health	
Health very good or excellent	0.0002 (0.0006)
# days physical health good (of last 30)	-0.0001 (0.0001)
Obese	0.0004 (0.0006)
Pain interferes not at all or very little	0.0008 (0.0007)
Health behaviors	
Exercise frequency	0.0000 (0.0000)
Amount of sleep	0.0002 (0.0001)
# days with 4+ alcoholic drinks	0.0001 (0.0001)
Drinking alcohol interferes with work	-0.0010 (0.0009)
# days taking painkillers not prescribed to you	-0.0003 (0.0002)
Smoke cigarettes daily	0.0011 (0.0008)
Food security index (0-6)	0.0000 (0.0001)
Randomization characteristics	
Number of Participants in Cluster	0.0005 (0.0016)
Texas site	-0.0001 (0.0006)
N	3000

Notes: Table presents coefficients from a regression of the average probability of treatment (from 1000 simulations of the treatment) on baseline covariates. Robust standard errors are reported in parentheses.

Table A55: Alternative Specifications and Samples: Mental Health

	Baseline	No Controls	Midline/Endline Only	DD Estimate	High Compliance Subgroup	Lee Bound: Lower	Lee Bound: Upper
Mental health index	-0.014	-0.007	-0.004	-0.013	-0.015	-0.021	0.003
	(0.021)	(0.034)	(0.027)	(0.021)	(0.025)	(0.021)	(0.021)
Emotional problems interfere with daily life	-0.013	-0.002	NA	-0.011	0.001	-0.024	0.009
	(0.025)	(0.036)		(0.021)	(0.029)	(0.025)	(0.024)
Mental distress (Kessler 6)	-0.016	-0.034	-0.065	-0.020	0.012	-0.009	-0.069
	(0.123)	(0.174)	(0.135)	(0.123)	(0.149)	(0.123)	(0.122)
Perceived stress scale	0.052	-0.029	NA	0.051	0.100	0.150	-0.040
	(0.182)	(0.257)		(0.182)	(0.216)	(0.181)	(0.182)
Generalized anxiety disorder screener	0.015	0.011	NA	0.014	0.041	0.029	-0.015
	(0.042)	(0.058)		(0.042)	(0.049)	(0.042)	(0.041)
Depression scale (PHQ-9)	0.109	0.074	NA	0.109	0.075	0.145	-0.011
	(0.157)	(0.218)		(0.157)	(0.188)	(0.157)	(0.153)
Days mental health good of last 30	-0.272	-0.251	-0.175	-0.273	-0.273	-0.286	-0.196
	(0.214)	(0.284)	(0.240)	(0.214)	(0.259)	(0.215)	(0.212)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A56: Alternative Specifications and Samples: Physical Health

	Baseline	No Controls	Midline/Endline Only	DD Estimate	High Compliance Subgroup	Lee Bound: Lower	Lee Bound: Upper
Self-Reported Physical Health Index	-0.018	-0.021	-0.046*	-0.015	-0.028	-0.022	-0.004
	(0.020)	(0.032)	(0.025)	(0.019)	(0.024)	(0.020)	(0.020)
# Days Physical Health Good of Last 30	-0.361**	-0.497**	-0.307	-0.352**	-0.462**	-0.361**	-0.276
	(0.176)	(0.232)	(0.196)	(0.176)	(0.219)	(0.177)	(0.174)
Health Rating (Poor=1, Excellent=5)	-0.035	-0.030	-0.040	-0.035	-0.041	-0.038	-0.033
	(0.025)	(0.036)	(0.029)	(0.025)	(0.030)	(0.025)	(0.025)
Health is not limiting	0.014	0.022	NA	0.014	0.002	0.009	0.034
	(0.022)	(0.033)		(0.019)	(0.026)	(0.022)	(0.022)
Pain interferes with normal work	-0.014	-0.014	NA	-0.016	-0.010	-0.008	-0.032
	(0.026)	(0.036)		(0.026)	(0.030)	(0.026)	(0.026)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A57: Alternative Specifications and Samples: Biomarkers

	Baseline	No Controls	Lee Bound: Lower	Lee Bound: Upper
Clinical health indicators	-0.029	-0.008	-0.183***	0.186***
	(0.025)	(0.033)	(0.024)	(0.022)
Diabetes risk	-0.037	-0.021	-0.109***	0.200***
	(0.037)	(0.044)	(0.039)	(0.028)
Blood pressure	0.049	0.066*	-0.068**	0.270***
	(0.034)	(0.039)	(0.034)	(0.029)
Lipid panel	-0.061	-0.058	-0.270***	0.234***
	(0.044)	(0.045)	(0.045)	(0.032)
Inflammation	-0.051	-0.021	-0.242***	0.105**
	(0.048)	(0.057)	(0.045)	(0.049)
Obesity risk	-0.020	0.020	-0.154***	0.160***
	(0.043)	(0.056)	(0.043)	(0.039)
Ideal Cardiovascular Health Index (0-6)	-0.064	-0.041	-0.299***	0.170***
	(0.063)	(0.072)	(0.061)	(0.061)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A58: Alternative Specifications: Mortality

	Baseline	No Controls
Mortality	0.004	0.004
	(0.004)	(0.004)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A59: Alternative Specifications and Samples: Access to Medical Care

	Baseline	No Controls	Midline/Endline Only	DD Estimate	High Compliance Subgroup	Lee Bound: Lower	Lee Bound: Upper
Healthcare Access Index	0.010	0.006	0.011	0.007	0.018	0.007	0.040***
	(0.015)	(0.019)	(0.015)	(0.011)	(0.018)	(0.015)	(0.014)
Has insurance coverage	0.014	0.010	0.014	0.014	0.032**	0.012	0.022*
	(0.012)	(0.014)	(0.012)	(0.012)	(0.015)	(0.013)	(0.012)
Health Care Finances	0.018	0.010	0.013	0.010	0.011	0.016	0.049***
	(0.019)	(0.021)	(0.019)	(0.010)	(0.021)	(0.019)	(0.017)
Needed Care Access	-0.027	-0.022	-0.018	-0.017	-0.032	-0.030	-0.002
	(0.020)	(0.026)	(0.020)	(0.014)	(0.023)	(0.020)	(0.019)
Prescription Drug Access	0.010	0.011	0.010	0.007	0.005	0.007	0.051**
	(0.028)	(0.033)	(0.028)	(0.019)	(0.033)	(0.028)	(0.026)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A60: Alternative Specifications and Samples: Use of Office-Based Care

	Baseline	No Controls	Midline/Endline Only	DD Estimate	High Compliance Subgroup	Lee Bound: Lower	Lee Bound: Upper
Office Care Index	0.036**	0.029	0.021	0.020	0.040**	0.006	0.045***
	(0.016)	(0.020)	(0.016)	(0.014)	(0.019)	(0.015)	(0.016)
Primary Care	0.011	0.005	-0.000	0.007	0.027	-0.002	0.023
	(0.022)	(0.030)	(0.022)	(0.017)	(0.026)	(0.022)	(0.022)
Specialist and Surgical Care	0.034	0.029	0.034	0.022	0.027	0.022	0.039*
	(0.023)	(0.028)	(0.023)	(0.019)	(0.027)	(0.023)	(0.023)
Dental Care	0.085**	0.078**	NA	NA	0.109***	0.019	0.105***
	(0.033)	(0.036)			(0.039)	(0.030)	(0.033)
Preventive Care	-0.027	-0.033	-0.027	-0.022	-0.033	-0.034	-0.023
	(0.023)	(0.028)	(0.023)	(0.019)	(0.027)	(0.023)	(0.023)
Medical care spending	20.387**	16.805*	20.387**	20.387**	18.970*	6.681	21.572**
	(9.032)	(10.200)	(9.032)	(9.032)	(10.934)	(8.019)	(9.122)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A61: Alternative Specifications and Samples: Use of Hospital and ED Care

	Baseline	No Controls	Midline/Endline Only	DD Estimate	High Compliance Subgroup	Lee Bound: Lower	Lee Bound: Upper
Hospital care index	0.072**	0.080**	0.058**	0.047**	0.067*	0.032	0.075***
	(0.029)	(0.034)	(0.028)	(0.018)	(0.035)	(0.025)	(0.029)
Emergency Department Care	0.079**	0.090**	0.072**	0.055**	0.100**	0.045	0.082**
	(0.033)	(0.040)	(0.033)	(0.023)	(0.041)	(0.030)	(0.033)
Hospital Care	0.065*	0.070*	0.043	0.038*	0.035	0.019	0.068*
	(0.035)	(0.039)	(0.034)	(0.021)	(0.040)	(0.032)	(0.035)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A62: Alternative Specifications and Samples: Nutrition and Food Security

	Baseline	No Controls	Midline/Endline Only	DD Estimate	High Compliance Subgroup	Lee Bound: Lower	Lee Bound: Upper
Nutrition and food security index	0.013	0.006	-0.018	0.011	0.003	-0.003	0.044**
	(0.018)	(0.026)	(0.031)	(0.017)	(0.021)	(0.018)	(0.018)
USDA Food Insecurity Scale	0.002	0.041	0.041	0.003	0.000	0.007	-0.006
	(0.062)	(0.083)	(0.070)	(0.062)	(0.072)	(0.062)	(0.062)
Diet behavior	0.027	0.032	NA	0.023	0.007	-0.003	0.085***
	(0.020)	(0.027)		(0.017)	(0.024)	(0.020)	(0.019)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A63: Alternative Specifications and Samples: Health Investments

	Baseline	No Controls	Midline/Endline Only	DD Estimate	High Compliance Subgroup	Lee Bound: Lower	Lee Bound: Upper
Health investments index	-0.026*	-0.015	-0.049**	-0.023**	-0.021	-0.074***	-0.007
	(0.015)	(0.019)	(0.024)	(0.012)	(0.017)	(0.013)	(0.015)
Physical activity	-0.024	-0.022	-0.090***	-0.016	-0.026	-0.095***	-0.015
	(0.023)	(0.029)	(0.034)	(0.017)	(0.027)	(0.020)	(0.023)
Sleep	-0.028	-0.007	-0.008	-0.031*	-0.017	-0.053***	0.002
	(0.018)	(0.024)	(0.034)	(0.017)	(0.021)	(0.018)	(0.018)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.

Table A64: Alternative Specifications and Samples: Unhealthy Behaviors

	Baseline	No Controls	Midline/Endline Only	DD Estimate	High Compliance Subgroup	Lee Bound: Lower	Lee Bound: Upper
Unhealthy behaviors index	0.013	0.020	NA	0.016	0.000	0.010	0.069***
	(0.013)	(0.020)		(0.013)	(0.015)	(0.013)	(0.011)
Alcohol use and interference	0.010	0.010	NA	0.006	0.005	0.005	0.084***
	(0.023)	(0.030)		(0.017)	(0.026)	(0.023)	(0.018)
Smoking behavior	0.021	0.038	NA	0.028	-0.002	0.017	0.052***
	(0.021)	(0.035)		(0.028)	(0.023)	(0.021)	(0.020)
Drug use	0.009	0.012	NA	0.013	-0.003	0.007	0.071***
	(0.018)	(0.022)		(0.016)	(0.023)	(0.018)	(0.014)

Notes: Table presents results for alternative specifications and robustness checks. See text for more details.