

Fast Food, Poverty Wages

The Public Cost of Low-Wage Jobs in the Fast-Food Industry



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Executive Summary

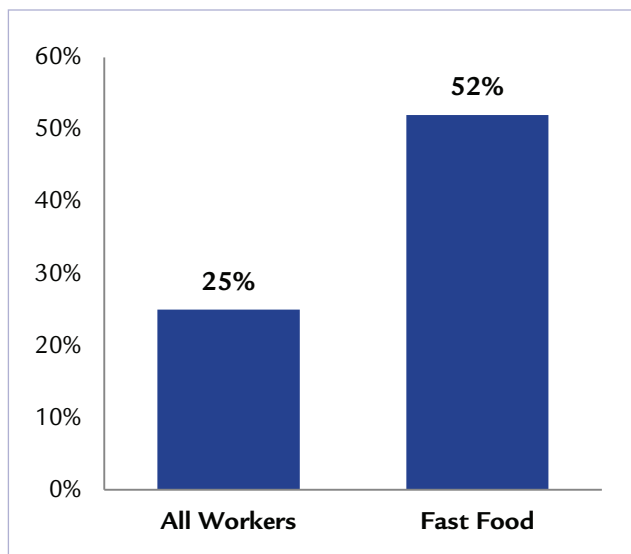
Nearly three-quarters (73 percent) of enrollments in America’s major public benefits programs are from working families. But many of them work in jobs that pay wages so low that their paychecks do not generate enough income to provide for life’s basic necessities. Low wages paid by employers in the fast-food industry create especially acute problems for the families of workers in this industry. Median pay for core front-line fast-food jobs is \$8.69 an hour, with many jobs paying at or near the minimum wage. Benefits are also scarce for front-line fast-food workers; an estimated 87 percent do not receive health benefits through their employer. The combination of low wages and benefits, often coupled with part-time employment, means that many of the families of fast-food workers must rely on taxpayer-funded safety net programs to make ends meet.

This report estimates the public cost of low-wage jobs in the fast-food industry. Medicaid, the Earned Income Tax Credit and the other public benefits programs discussed in this report provide a vital support system for millions of Americans working in the United States’ service industries, including fast food. We analyze public program utilization by working families and estimate total average annual public benefit expenditures on the families of front-line fast-food workers for the years 2007–2011.¹ For this analysis we focus on jobs held by core, front-line fast-food workers, defined as nonmanagerial workers who work at least 11 hours per week for 27 or more weeks per year.

Main Findings

- More than half (52 percent) of the families of front-line fast-food workers are enrolled in one or more public programs, compared to 25 percent of the workforce as a whole.
- The cost of public assistance to families of workers in the fast-food industry is nearly \$7 billion per year.
- At an average of \$3.9 billion per year, spending on Medicaid and the Children’s Health Insurance Program (CHIP) accounts for more than half of these costs.
- Due to low earnings, fast-food workers’ families also receive an annual average of \$1.04 billion in food stamp benefits and \$1.91 billion in Earned Income Tax Credit payments.
- People working in fast-food jobs are more likely to live in or near poverty. One in five families with a member holding a fast-food job has an income below the poverty line, and 43 percent have an income two times the federal poverty level or less.
- Even full-time hours are not enough to compensate for low wages. The families of more than half of the fast-food workers employed 40 or more hours per week are enrolled in public assistance programs.

Figure 1: Participation in Public Programs



Introduction

After years of losses, job growth has slowly returned to the U.S. economy. However, today's new jobs are often inadequate replacements for those recently lost. Middle-wage occupations accounted for 60 percent of employment losses between 2007 and 2009, yet they represent just 20 percent of post-recession job growth.² These numbers indicate that low-wage jobs lie at the center, rather than the margins, of the recovery. A recent analysis by the National Employment Law Project shows that low-wage positions account for nearly three out of five jobs generated in the first three years of economic recovery.³

With jobs paying too little for families to meet their basic needs, a growing number of working families must rely on publicly funded safety net programs to make ends meet. Together with six years of high unemployment rates, the growth in low-wage jobs without benefits has increased demand on the nation's vital safety net system, which bears the burden when jobs do not pay enough.

Even at full time, the federal minimum wage of \$7.25 per hour fails to provide sufficient income for workers to provide food, housing, health care, transportation and other basic needs for their families. Low work hours in many of the growing service sector industries reduce earnings even further. When employers pay poverty wages, workers must turn to public programs to meet their basic needs. Earned income tax credits, publicly subsidized health insurance, income support and food subsidies allow these working families to bridge the gap between their paychecks and subsistence. This is the public cost of low-wage jobs in America. The cost is public because taxpayers bear it. Yet it remains hidden in national policy debates about poverty, employment and federal spending.

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This report documents that nearly two-thirds (63 percent) of public benefits spending goes to working families—i.e., families with a working member. With jobs that put their earnings below subsistence needs, our measurements indicate these families must rely on Medicaid, food stamps, the Earned Income Tax Credit and other support to provide the food, shelter and health care for which their jobs alone will not pay.

The fast-food industry stands out for both its low wages and its paucity of full-time work jobs. The median hourly wage for core nonmanagerial front-line fast-food workers, those working at least 27 weeks in a year and 10 hours a week, is \$8.69 an hour.⁴ The median number of hours for these jobs is 30. As a result, annual earnings in the fast-food industry are well below the income needed for self-sufficiency. Fast-food industry jobs are also much less likely than other jobs to provide health benefits. Only 13 percent of core front-line fast-food workers receive health benefits through their employer, compared to 59 percent of workers as a whole.⁵

This paper documents the significant cost to the public resulting from a combination of low wages, part-time work hours and low benefits in fast-food and other low-wage industries. To determine these costs, we draw on publicly available administrative and survey data on Medicaid, food stamps, the Earned Income Tax Credit and Temporary Assistance for Needy Families to fast-food workers and their households. We estimate the cost of these four programs for working families averaged \$243 billion per year from 2007 to 2011. The cost for families of front-line fast-food workers averaged nearly \$7 billion a year.

Although extensive, the hidden public cost of low-wage work rarely factors into debates about state and national policy. The public benefits discussed in this report provide a vital support system for millions of the working poor. The findings of this report suggest those programs could be more effective if supplemented by measures that improve workers' wages and benefits, either through public policy measures such as living and minimum wage laws, or through collective bargaining.

I. Data Sources and Methods

This section outlines our data sources and methods, and clarifies the definitions of basic concepts and terms in the report.

Public Programs Analyzed

We focus on four vital public benefits programs that account for hundreds of billions in assistance to working families: Health insurance (Medicaid and Children’s Health Insurance Program, or CHIP, coverage),⁶ the Federal Earned Income Tax Credit (EITC), food stamps (the Supplemental Nutrition Assistance Program, or SNAP) and basic household income assistance (Temporary Assistance for Needy Families, or TANF).

To arrive at this list, we used the following criteria:


- **Major Means-Tested Programs Supporting Families and Workers.** We limit the study to the largest nationwide programs that restrict benefits to families with low incomes. Our analysis covers programs used by families with active jobseekers and workers, even when the availability of those benefits does not depend on a family’s working status. We analyze only programs that function as income supplements, omitting job-training, educational and other programs that indirectly assist low-income families.
- **Data Availability.** An ideal analysis of the hidden public cost of low-wage work would piece together data on a broad range of income support programs, including child care subsidies and reduced-price school lunches. But our method for linking these costs to a worker’s employment status requires both national-level program enrollments and administrative data, and individual-level survey data on the benefits consumption of workers. As a result, our estimates necessarily exclude some federal and many state and local programs for which the required data were unavailable, such as state earned income tax credit programs and local services to the poor.

Data Sources

This report combines data from three sources. First, we gathered aggregate government administrative data for the four public support programs named above for all 50 states and Washington, D.C. These data document both the annual enrollment and the annual benefits paid by each program (please note that we exclude the costs of program administration and oversight). Appendix A: Methodology provides detailed state-level program data.

Second, we used the March Supplement of the U.S. Bureau of Labor Statistics’ Current Population Survey (CPS) to obtain information on employment, worker demographics and public benefits usage. Together, these sources allow us to estimate the total amount of public benefits paid to different groups of workers. To correct for the well-documented undercount of program enrollment in the CPS, we adjust the CPS so that estimated program costs match the administrative program data for each state.⁷

To combine the CPS and administrative data, we selected a multiyear period (2007–2011) that minimized the impact of annual fluctuations in program costs and enrollment. For the Earned Income Tax Credit and the Supplemental Nutrition Assistance Program, we were able to pool data for all five years. Because the release of administrative data for Temporary Assistance for Needy Families lags slightly, our data for that program cover the shorter 2007–2010 period. The release of Medicaid data lags an additional year,



limiting our sample to the three-year period 2007–2009. To link program costs to worker characteristics, we matched CPS data for the same time period to each program.

Using multiple years allows us to smooth the changes in enrollment and cost over the course of the recession. During the past decade, each of these programs has experienced changes in funding, enrollment and aggregate benefits payouts. The 2007–2009 recession and the subsequent period of slow employment growth increased the working population eligible for public assistance. In some states policymakers responded to declines in state tax revenues by restricting program eligibility and benefits levels. Other states selectively expanded program eligibility, particularly for Medicaid and CHIP, in response to the widespread loss of jobs and employer-provided health insurance.⁸ We summarize these trends in Appendix B.

This process yielded national-level estimates of the hidden public cost of low-wage work. To translate those numbers into public benefits payments at the state level and to develop estimates for the fast-food industry, we constructed a model that made it possible to integrate data from a third source, the U.S. Census Bureau's American Community Survey (ACS), which contains a larger sample size than the CPS. The use of the ACS allows us to estimate costs for all U.S. workers, for our subset of front-line fast-food workers and for some states with large populations. Since the ACS and CPS do not separate full-service and limited-service (i.e., fast-food) restaurants, we use firm-provided data from the U.S. Bureau of Labor Statistics' Occupational and Employment Statistics (OES) to identify restaurant occupations that are primarily limited service, and to adjust the total counts for the workforce to correct for limitations in the individual survey data. In doing so, we use a conservative definition of front-line fast-food workers, including only workers directly employed in restaurants and excluding managerial positions.

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From our ACS sample and our estimate of total front-line fast-food workers we exclude those with only a marginal attachment to the workforce. To be included in the analysis, a worker had to meet the requirement of working at least 27 weeks and at least 10 hours per week in a given year. Sixty-five percent of nonmanagerial front-line fast-food workers in the sample met these criteria.⁹

Additionally, our analysis cannot take into account enrollment in other federal or state programs for which data are not readily available. These programs include Child Care Assistance, Women, Infants and Children Nutrition Program, Free or Reduced Price Lunches, Section 8 Housing, the Low-Income Heat and Energy Assistance Program and all state-based programs. Previous analyses of these programs find that significant shares of their expenditures likewise support low-income, working families.¹⁰ This report focuses only on the largest federal public assistance programs and covers a limited segment of the fast-food workforce. Thus, our estimates of both program enrollments and costs are conservative, and by definition undercount total public costs.

A final methodological specification concerns the family basis of public benefits programs. While low earnings is the basic criterion for program eligibility, public benefits do not necessarily go directly to the worker. For example, some workers have neither public nor private health insurance, but enroll their children in the CHIP program. Other benefits, such as SNAP and EITC, are provided at the family level. Accordingly, our measure of public benefits to employed workers covers benefits provided to the family as a whole, rather than only those provided directly and exclusively to the worker. For a detailed explanation of this process, see Appendix A.

II. Findings

Public Program Enrollment and Costs Overall Costs

From 2007 through 2011, total support for Medicaid and the Children’s Health Insurance Program (CHIP), the Earned Income Tax Credit, food stamps and Temporary Assistance for Needy Families averaged \$385.72 billion annually.¹¹

Medicaid and CHIP account for more than two-thirds of total costs (Table 1). The next most costly programs, the Earned Income Tax Credit (\$58.61 billion annually) and food stamps (\$55.93 billion annually), account for just under 30 percent of total benefits costs. At \$9.88 billion per year, TANF amounts to less than 3 percent of total benefits costs. This widespread variation in program costs reflects differences in the cost of benefits, varying restrictions on eligibility for employed individuals and broad reductions in TANF enrollments and assistance levels.

Table 1: Enrollment and Costs of Public Support Programs, annual average, 2007–2011

Program	Total Families Enrolled	Total Program Cost (billions)	Cost Per Family
Medicaid and CHIP	23,419,000	\$261.30	\$11,157
EITC	26,383,000	\$ 58.61	\$ 2,222
Food Stamps	25,073,000	\$ 55.93	\$ 2,231
TANF	2,950,000	\$ 9.88	\$ 3,348

Sources: 2008–2012 March CPS,¹² program administrative data. Medicaid data from <http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/MedicaidDataSourcesGenInfo/MSIS-Mart-Home.html>. CHIP data from <http://medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Data-and-Systems/MBES/Downloads/FY02throughFY11NetExpenditure.zip> (expenditures) and <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Childrens-Health-Insurance-Program-CHIP/CHIP-Reports-and-Evaluations.html> (enrollment). EITC data from <http://www.irs.gov/uac/SOI-Tax-Stats---Historic-Table-2>. Food stamps data from <http://www.fns.usda.gov/pd/90.xls> (2008–2012) and http://www.fns.usda.gov/snap/qc/pdfs/2007_state_activity.pdf (2007). TANF caseload data from [http://archive.acf.hhs.gov/programs/ofa/data-reports/caseload/\[YYYY\]/\[YYYY\]_family_tanssp.html](http://archive.acf.hhs.gov/programs/ofa/data-reports/caseload/[YYYY]/[YYYY]_family_tanssp.html) and spending data from [http://archive.acf.hhs.gov/programs/ofa/data/\[YYYY\]/tableF_\[YYYY\].htm](http://archive.acf.hhs.gov/programs/ofa/data/[YYYY]/tableF_[YYYY].htm) (2007–08), http://archive.acf.hhs.gov/programs/ofa/data/2009/table_f3_2009.html (2009) and [http://archive.acf.hhs.gov/programs/ofa/data/\[YYYY\]fin/table_b2.pdf](http://archive.acf.hhs.gov/programs/ofa/data/[YYYY]fin/table_b2.pdf) (2010–11).

Note: All costs reported in 2011 dollars.

Program Enrollment by Working Families

We next estimate the share of people participating in the four programs who are in working families, and the share of the cost of the programs attributable to these families. We find that working families account for 73 percent of all program enrollments and 63 percent of total program costs (Table 2, page 6). The total cost of assistance to working families from the four programs averaged \$243 billion per year between 2007 and 2011.

With the exception of TANF, which restricts eligibility to extremely low-income levels, working families account for a majority of the cost of every public benefits program in our sample. The Earned Income Tax Credit (EITC), which is targeted specifically at working families, accounts for the largest share of enrollment. While fewer working families participate in Medicaid and CHIP than the EITC, these two programs account for 60 percent of the cost of public assistance to working families for the four programs analyzed (\$146 billion). (Estimates for larger states can be found in Appendix C.)

Table 2: Share of Program Benefits Paid to Working Families, annual average, 2008–2012

Program	Working Families		Other Families		Working Families Share	
	Total Families Enrolled	Total Program Cost (billions)	Total Families Enrolled	Total Program Cost (billions)	Total Families Enrolled	Total Program Cost
Medicaid and CHIP	15,294,000	\$146.82	8,125,000	\$ 114.48	65.3%	56.2%
EITC	26,370,000	\$ 58.59	13,000	\$ 0.02	100.0%	100.0%
Food Stamps	13,851,000	\$ 33.47	11,222,000	\$ 22.46	55.2%	59.8%
TANF	1,571,000	\$ 4.61	1,379,000	\$ 5.27	53.3%	46.7%

Source: Authors' calculations from 2008–2012 March CPS, program administrative data.

Note: All costs reported in 2011 dollars.

Which Industries Have the Highest Levels of Program Enrollment?

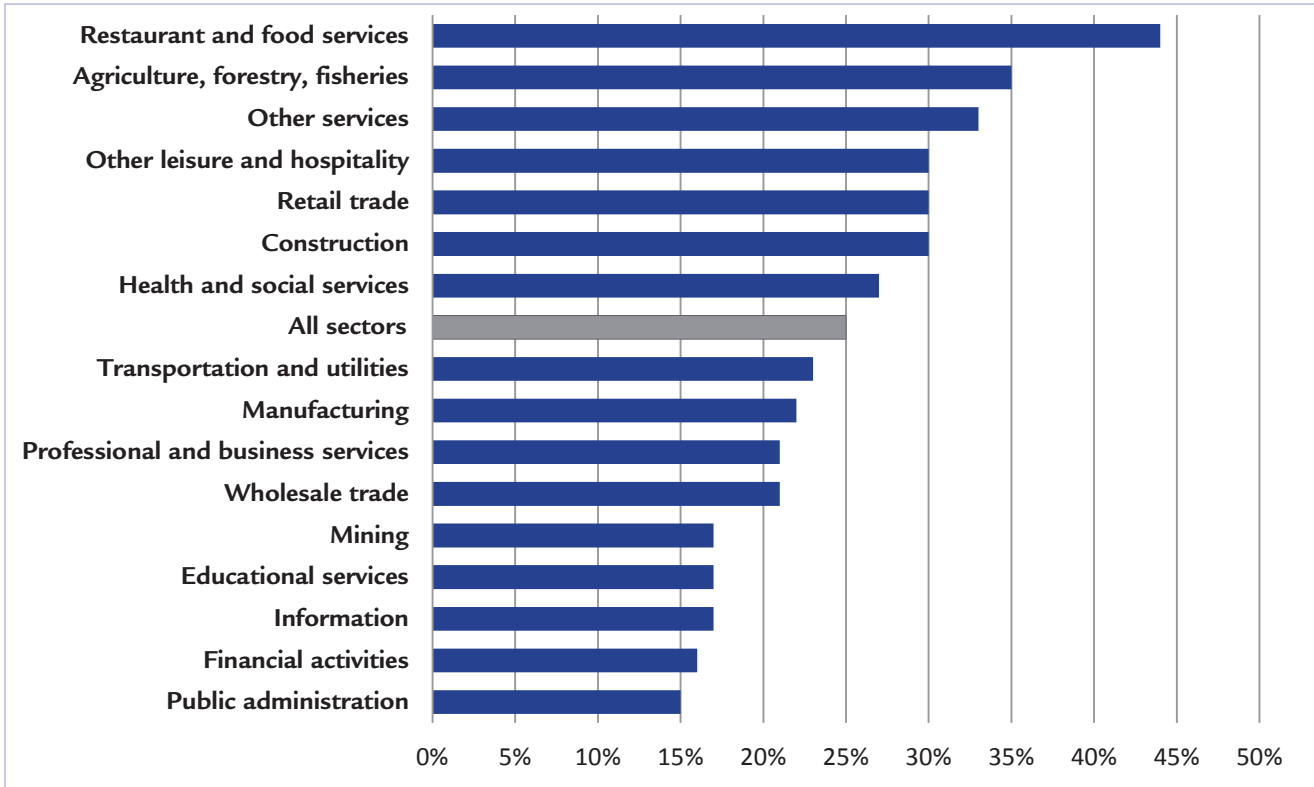
Because public support programs are structured to provide needed assistance to low-income households, it seems likely that lower-wage industries will account for a disproportionately large share of program costs. Our estimates indicate this is indeed the case. Figure 2 (page 7) shows the share of workers and their families receiving public assistance by industry. The restaurants and food services sector (44 percent) has the highest public program participation rate of any industry. As expected, the list of industries with the highest participation rates is dominated by the service sector. One-third of the families with a worker in “other services”—including personal services, laundry services and repair and maintenance services—receive public assistance, as do 30 percent of the families with a worker in the retail industry or in leisure and hospitality.

Small Industry, Big Bills: Understanding the Disproportionate Contribution of Fast Food to Public Benefits Payments

We next look at a subset of employees in the restaurant industry—core front-line fast-food workers. These workers and their families are more than twice as likely as working families in general to be enrolled in public programs. Overall, we find that 52 percent of the families of front-line fast-food workers participate in at least one public benefits program compared to 25 percent of all working families. In other words, public benefits receipt is the rule, rather than the exception, for this workforce.

We find the total cost of public programs for families of workers in the fast-food industry averaged nearly \$7 billion per year between 2007 and 2011 (Table 3, page 7). More than 800,000 families of front-line fast-food workers (45 percent) participate in the Earned Income Tax Credit, nearly double the number that enroll in any other program. However, the Earned Income Tax Credit is less expensive than other programs on a household basis, with average benefits of approximately \$2,380 for the families of front-line fast-food workers. The number of families with adults enrolled in Medicaid, 340,000, is significantly smaller. But owing to significantly higher program costs, Medicaid accounts for more total spending on fast-food workers and their families than any other program. Spending on the two health programs combined was \$3.98 billion, followed by EITC at \$1.91 billion and food stamps at \$1.04 billion.

Figure 2: Share of Workers with Family Member Enrolled in One or More Public Programs by Industry



Source: Authors' calculations from 2008–2012 March CPS, program administrative data.
 Note: All costs reported in 2011 dollars.

Table 3: Enrollment and Costs of Public Support Programs for Fast-Food Workers

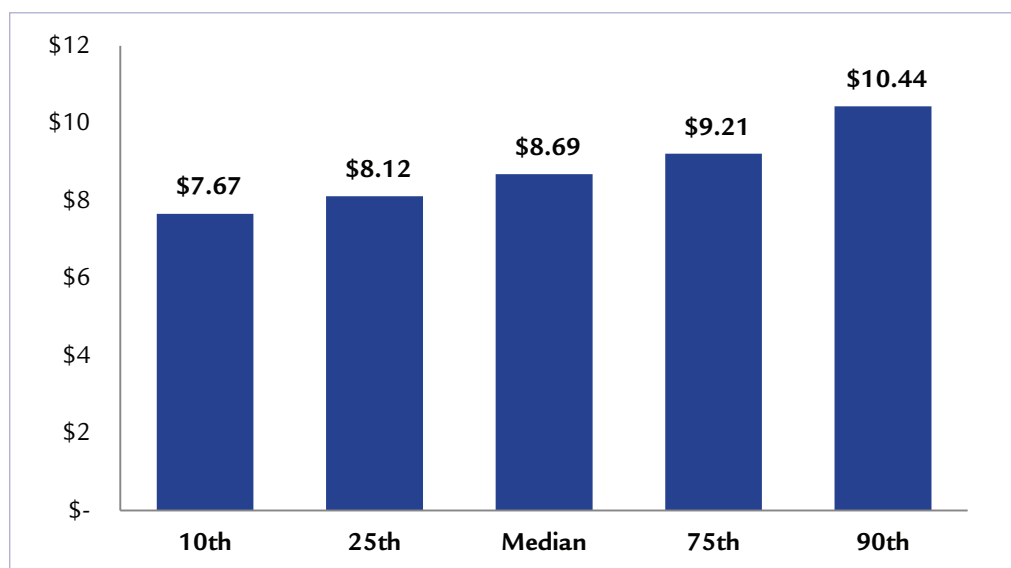
Program	Program Enrollment		Program Costs	
	Number	Participation Rate	Average per Family	Total (billions)
EITC	820,000	45%	\$2,380	\$ 1.91
Medicaid (adults)	340,000	19%	\$7,620	\$ 2.49
Medicaid/CHIP (children)	330,000	18%	\$4,630	\$ 1.49
Food Stamps	432,000	24%	\$2,450	\$ 1.04
TANF	40,000	2%	\$2,330	\$ 0.09
All Programs	942,000	52%	\$7,650	\$ 6.99

Source: Authors' calculations from 2008–2012 March CPS, 2007–2011 ACS, 2011 OES, program administrative data.
 Note: All costs reported in 2011 dollars.



The high participation rate of families of core fast-food workers in public programs can be attributed to three major factors: the industry’s low wages, low work hours and low benefits. In 2011, the median front-line fast-food worker working at least 27 weeks per year and 10 hours per week earned \$8.69 an hour (Figure 3). The 10th percentile earned \$7.67 an hour, while the 90th percentile earned \$10.44 an hour. The median wage for the United States workforce as a whole in 2011 was \$16.57.

Figure 3: Hourly Wages for Core Front-Line Fast-Food Jobs by Percentile, 2011



Source: Author’s calculations from 2011 OES data for the occupations: Cooks, Fast Food and Combined Food Preparation and Serving Workers, Including Fast Food, within the limited-service restaurant sector.

Along with low pay, the fast-food industry has low rates of health care coverage. Overall, 13 percent of core front-line fast-food workers receive health benefits through their employer, compared to 59 percent for the workforce as a whole. When we restrict the analysis to workers employed 30 hours or more per week, the share enrolled in employer-sponsored health insurance programs provided by their employer rises slightly, to 17 percent.¹³

Fast-food jobs are also more likely to be part-time jobs. Even restricting to the core workforce, we find the median fast-food employee works 30 hours per week, compared to 40 for the workforce as a whole. Nearly half (46 percent) of core front-line fast-food jobs provide between 20 and 35 hours of employment per week. This combination of low pay and limited work hours results in median annual earnings of \$11,056.¹⁴

While fast-food workers’ low pay may in some cases be offset by earnings from other family members, workers in the fast-food industry are twice as likely to be members of families with earnings below or near poverty than the workforce as a whole (Table 4, page 9). Approximately 20 percent of front-line fast-food workers live in families with incomes below the federal poverty level, compared to just 5 percent of workers as a whole.¹⁵ An additional 23 percent of fast-food families are near poor with incomes between 100 percent and 199 percent of the federal poverty level, compared to 13 percent in the workforce as whole. Overall, these families are made up of historically disadvantaged classes of workers. More than two out of five front-line fast-food workers are African American (23 percent) or Latino (20 percent), and 73 percent of workers are women.

Table 4: Family Poverty Status of Front-line Fast-Food Workers

Percent of Federal Poverty Level	All Workers Share	Fast-Food Workers Share
Less than 100%	5%	20%
100-199%	13%	23%
200-299%	16%	16%
300% +	66%	41%
Total	100%	100%

Source: Authors' calculations from 2008–2012 March CPS, 2007–2011 ACS, program administrative data.
 Note: All costs reported in 2011 dollars.

To measure whether the high utilization of public programs in the fast-food industry relative to other industries is mainly caused by low work hours, we calculate program utilization by hours worked for fast-food workers and workers in general. Table 5 shows the participation rates in public programs for fast-food employees by work hours. Fast-food workers are far more likely to work short hours that limit total potential weekly take-home pay. Of the total workforce, just 4 percent work between 10 and 20 hours per week, but 12 percent of fast-food workers do, and 43 percent of those workers' families participate in public programs. At the other end of the spectrum, a 40-hour workweek is the exception rather than the rule in fast food. Just 28 percent of core front-line fast-food workers regularly work 40 or more hours per week, compared to 75 percent of the workforce as a whole. Even at 40 hours a week, however, more than half (52 percent) of front-line fast-food workers' families participate in public programs. These figures underscore that poverty level incomes for households with front-line fast-food workers do not just result from low wages, but also from a limited number of paid hours.

Table 5: Fast-Food Worker Employment and Benefits Update by Hours Worked

Hours	All Workers		Core Front-line Fast-Food Workers	
	All Workers	Participation Rate	Front-Line Fast-Food Workers	Participation Rate
10-19	4%	27%	12%	43%
20-29	8%	36%	29%	49%
30-34	7%	36%	17%	56%
35-39	7%	30%	12%	59%
40+	75%	22%	28%	52%
Total	100%	25%	100%	52%

Source: Authors' calculations from 2008–2012 March CPS, 2007–2011 ACS, program administrative data.
 Notes: Columns may not total to 100 percent due to rounding. All costs reported in 2011 dollars.

III. Policy Implications

The popular notion is that fast-food workers are generally teenagers living at home with their parents. Analyzing the core workforce, those working at least 27 weeks per year and 10 hours or more per week, provides a very different picture. The share of these workers who are under the age of 19 and living with a parent (18 percent) is smaller than the share with children of their own (26 percent). Overall, 68 percent of the core front-line workers in the fast-food industry are not in school and are single or married adults with or without children. For more than two-thirds of these workers, fast-food wages are an essential component of family income.

Table 6: Family Structure of Front-Line Fast-Food Workers

Age and Family Role of Worker	Workers
16-18, lives with parent	18%
16-18, does not live with parent	5%
Single adult in school, lives with parent*	9%
Single adult, no children	35%
Married adult, no children	7%
Single adult with children	13%
Married adult with children	13%
Total	100%

*Age 23 or younger


Source: Authors' calculations 2008-2012 March CPS, 2007-2011 ACS, program administrative data.

Note: All costs reported in 2011 dollars.

Because pay is low and weekly work hours are limited, the families of more than half of the workers in the fast-food industry are unable to make ends meet without enrolling in public programs. These families are twice as likely as working families in general to require public aid. Our conservative measurements indicate this public assistance carries a minimum annual price tag of nearly \$7 billion.

Low wages, benefits and work hours in the fast-food industry come at a public cost. For front-line fast-food workers and others whose jobs pay too little to provide for food, shelter, health care and other basic necessities, Medicaid, the Earned Income Tax Credit, the Supplemental Nutrition Assistance Program and Temporary Aid for Needy Families are indispensable programs. These programs provide a last line of defense between America's growing low-income workforce and the want of basic necessities. The results of this report suggest these programs would be more effective if they were combined with measures to improve wages and health benefits among low-wage workers.

The data we have assembled indicate working families would directly benefit from improved pay and hours in the fast-food industry. We show that fast-food workers live in poorer families compared to other workers, they are primarily adults and they require public assistance at a higher rate than the workforce as a whole. This is true even among full-time workers, and among teenage workers whose families require public support at a higher rate than do the families of other teenagers.¹⁶ Together, these factors indicate



that raising fast-food wages would provide an effective means of targeting increased earnings to low-income families.

The concentration of high program participation rates in nonexporting industries—food service, leisure and hospitality, retail, construction—indicates a second important reason to endorse efforts to raise wages for low-wage workers. Unlike manufacturers, who are not a major employer of low-wage workers and who must compete with offshore producers with lower labor and production costs, the service industries employing low-wage Americans compete on a domestic and level playing field. Rather than reflecting the competitive dictates of global product markets, the low-wage structure of fast-food and other domestic service industries reflects a mixture of market conditions and policy choices about minimum standards for work.

Pay in the fast-food industry could be increased through a variety of means. Many fast-food workers earn close to the minimum wage and would benefit from an increase in the minimum wage or through targeted local laws to raise labor standards. Collective bargaining in the fast-food industry would increase wage and benefits standards in correspondence to the markets in specific geographic areas and the economics of particular market segments. Very few fast-food restaurants currently have collective bargaining agreements.

However it is achieved, improving wages and health benefits in the industry would improve the living standards of low-income families while reducing the public cost of low-wage work.

Appendix A Methodology

We build our estimates of the public cost of low-wage work by combining publicly available data on costs and participation levels for public benefits programs with datasets providing information on the demographics, employment and public program participation of U.S. workers. While costs and participation levels on public programs are available from administrative datasets, those data only provide information on aggregate program participation. Our methodology makes it possible to determine the cost of public benefits payments to individual subgroups of the population, specifically working families and families with fast-food workers.

In this report, we extend our previous work on the participation levels and incurred costs of low-wage work in California, Illinois, Wisconsin and New York¹⁷ to answer questions not just about particular states, but about the country as a whole. After compiling administrative data for basic public benefits programs, we followed a three-step approach:

Step 1: Adjust Current Population Survey data to match administrative data.

Step 2: Model program participation and costs, applying model to the American Community Survey.

Step 3: Adjust American Community Survey data to match state-level administrative data.

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Step 1: Adjusting Current Population Survey (CPS) Data to Match Administrative Data

Following the approach first established by Zabin, Dube and Jacobs in the 2004 report “The Hidden Public Cost of Low-Wage Jobs in California,” we adjust the weights of data from the March Supplement to the CPS so that costs for each of the public programs match state-level administrative data. For a detailed account of this process, consult the [technical appendix](#) from our previous report, “The Hidden Public Cost of Low-Wage Work in Illinois.”

With a few exceptions, our adjustments to program participation information in the CPS increase enrollment estimates, due to underreporting in the CPS.¹⁸ In general, our reweighting procedure led to relatively small adjustments to enrollments for Medicaid and food stamps (20 to 25 percent), larger adjustments for the Earned Income Tax Credit (more than 100 percent, on average) and a wide range for TANF (50 percent, on average). The adjustments for total program costs were much smaller overall: Medicaid (-2.3 percent), food stamps (17 percent), the Earned Income Tax Credit (-5 to -15 percent on average) and TANF (between 5 percent and 27 percent, depending on the state).

Average annual enrollment and costs for each program, by state, are shown in Tables A1 and A2 (pages 13 through 15).

Table A1: Average Annual Program Participation by State (all enrolled families, in thousands)

State	EITC	Medicaid and CHIP	Food Stamps	TANF
Alabama	542.3	360.6	467.6	33.3
Alaska	46.3	46.5	42.1	5.5
Arizona	534.2	616.2	550.4	57.0
Arkansas	312.6	248.7	274.9	14.4
California	2,992.6	3,610.9	1,879.9	908.0
Colorado	339.8	271.8	233.5	17.5
Connecticut	203.2	239.0	240.8	29.8
Delaware	69.7	81.3	69.5	7.9
District of Columbia	53.1	72.1	91.5	12.6
Florida	1,989.5	1,136.9	1,779.0	90.9
Georgia	1,083.3	694.1	905.9	36.7
Hawaii	105.6	82.4	95.6	12.8
Idaho	130.9	90.9	100.2	2.8
Illinois	1,008.4	939.4	1,081.3	38.8
Indiana	533.9	407.9	481.7	60.5
Iowa	207.2	208.1	217.0	28.6
Kansas	211.2	166.6	166.0	23.4
Kentucky	402.8	361.6	494.6	50.8
Louisiana	539.3	375.7	508.0	17.9
Maine	101.4	136.4	157.9	18.2
Maryland	397.7	305.4	363.7	37.6
Massachusetts	379.2	636.1	538.3	80.9
Michigan	810.2	812.3	1,143.3	113.6
Minnesota	333.1	327.6	284.3	39.4
Mississippi	412.7	304.7	344.1	19.7
Missouri	517.4	422.8	558.9	61.1
Montana	83.5	59.9	68.6	5.8
Nebraska	132.3	99.0	95.0	12.2
Nevada	219.0	112.8	165.5	14.7
New Hampshire	77.1	65.8	64.0	8.7
New Jersey	564.7	450.8	423.9	57.3
New Mexico	218.7	195.4	203.8	28.2
New York	1,703.6	2,051.4	1,965.4	203.4
North Carolina	908.9	711.7	847.1	42.0
North Dakota	43.5	32.0	37.0	3.5
Ohio	946.5	754.2	1,017.4	154.5
Oklahoma	348.8	253.7	334.1	15.3
Oregon	275.9	253.1	496.7	39.3
Pennsylvania	904.4	1,002.6	1,021.1	91.1

Table A1 Continued:**Average Annual Program Participation by State (all enrolled families, in thousands)**

State	EITC	Medicaid and CHIP	Food Stamps	TANF
Rhode Island	79.2	81.4	94.3	13.4
South Carolina	495.5	299.1	483.1	28.6
South Dakota	64.1	48.4	52.0	5.2
Tennessee	655.2	570.4	770.7	99.8
Texas	2,585.8	1,683.3	1,926.0	88.4
Utah	184.1	130.6	124.5	9.7
Vermont	44.8	76.3	56.1	5.5
Virginia	588.2	371.2	488.3	54.6
Washington	429.9	510.5	626.0	98.5
West Virginia	159.8	175.0	213.3	16.1
Wisconsin	374.4	439.2	410.0	33.6
Wyoming	37.3	34.9	18.6	0.5

Source: Program administrative data.

Note: Family enrollment in Medicaid calculated by authors.

Table A2: Average Annual Program Costs by State (for all enrollees, in millions of 2011 dollars)

State	EITC	Medicaid and CHIP	Food Stamps	TANF
Alabama	\$ 1,381.0	\$ 3,176.9	\$ 1,094.3	\$ 47.3
Alaska	86.2	917.5	142.5	37.4
Arizona	1,212.8	6,899.3	1,311.6	123.6
Arkansas	735.5	2,728.9	611.7	16.2
California	6,544.9	28,174.6	4,984.5	3,692.6
Colorado	678.9	2,524.3	580.2	59.3
Connecticut	398.1	3,365.3	489.3	99.1
Delaware	147.1	1,053.2	151.6	16.2
District of Columbia	111.0	1,626.6	177.2	36.1
Florida	4,450.7	11,794.6	3,632.2	178.9
Georgia	2,666.9	6,306.4	2,207.8	59.5
Hawaii	209.2	891.6	313.5	73.6
Idaho	277.6	1,123.4	246.3	6.0
Illinois	2,261.5	10,268.7	2,493.5	76.6
Indiana	1,149.4	4,183.8	1,143.7	94.7
Iowa	413.6	2,264.6	460.3	67.4
Kansas	441.6	1,831.5	346.4	51.5
Kentucky	875.4	4,246.8	1,061.4	119.6
Louisiana	1,374.5	4,365.4	1,222.9	47.5

Table A2 Continued:
Average Annual Program Costs by State (for all enrollees, in millions of 2011 dollars)

State	EITC	Medicaid and CHIP	Food Stamps	TANF
Maine	\$ 91.0	\$ 1,127.8	\$ 307.4	\$ 76.3
Maryland	834.5	5,167.2	765.0	113.3
Massachusetts	720.1	7,445.5	1,000.1	330.2
Michigan	1,767.7	8,685.1	2,404.4	391.5
Minnesota	642.6	5,481.2	541.7	92.9
Mississippi	1,073.6	2,602.0	751.1	20.1
Missouri	1,125.5	4,613.8	1,198.8	111.2
Montana	163.2	553.8	151.5	16.8
Nebraska	273.6	1,250.0	206.1	30.4
Nevada	469.0	1,033.7	346.0	39.5
New Hampshire	139.7	778.2	126.1	33.3
New Jersey	1,193.3	6,627.7	905.1	228.2
New Mexico	484.0	2,879.9	473.2	72.8
New York	3,666.5	34,600.8	4,247.3	1,563.0
North Carolina	2,071.2	7,924.9	1,816.5	82.1
North Dakota	84.1	409.8	82.3	8.2
Ohio	2,044.4	10,346.7	2,360.7	421.1
Oklahoma	782.3	2,918.2	759.3	23.7
Oregon	535.5	2,240.8	919.4	137.2
Pennsylvania	1,832.4	10,744.0	2,105.3	217.8
Rhode Island	166.5	1,343.5	200.1	45.0
South Carolina	1,151.3	4,091.9	1,085.2	40.3
South Dakota	129.4	593.7	127.4	14.5
Tennessee	1,494.7	6,400.7	1,696.5	121.2
Texas	6,440.9	15,274.7	4,765.0	103.1
Utah	397.9	1,677.2	296.5	32.0
Vermont	78.9	782.3	106.2	21.7
Virginia	1,243.4	4,374.6	1,034.8	101.6
Washington	851.2	5,019.3	1,197.5	322.3
West Virginia	327.0	2,142.2	427.5	36.3
Wisconsin	750.5	3,985.6	815.6	114.5
Wyoming	70.6	440.7	42.4	10.9

Source: Program administrative data.

Note: Medicaid cost calculated by authors.

Step 2: Modeling Program Participation and Cost Information from the CPS and Applying to the American Community Survey (ACS)

While the CPS contains both enrollment and cost estimates of public programs, the sample sizes available are too small to provide estimates of subpopulations, such as workers in fast-food restaurants. In response, we incorporated data from the American Community Survey (ACS),¹⁹ which has a much larger sample but less information on participation in public programs. The ACS questionnaire asks about Medicaid and food stamps, but omits the EITC and does not distinguish between TANF and other welfare assistance programs.

We bridge the gap between the two surveys by modeling program enrollment for the working population in the CPS and applying this model to the working population in the ACS. More precisely, for each worker, we model the likelihood of anyone in the worker's family participating in the program and the cost of the program for all enrolled members of the worker's family. We model participation with a logistic regression predicting the probability of ACS-documented participation in the program as a result of basic work-relevant demographic variables. For families that are enrolled, program costs are modeled using linear regression and result in an expected program cost conditional on enrollment. Modeling for EITC, food stamps and TANF is done with the national sample. Modeling for Medicaid is done on a state-by-state basis to account for the different eligibility requirements in adult and children's Medicaid and CHIP.

We use the following explanatory variables in the prediction models when coefficients were statistically significant at the 5 percent level:

- Hourly wage over previous year
- Family income of previous year
- Age
- Federal Poverty Level (below 50 percent, 50 to 99 percent, 100 to 149 percent, 150 to 199 percent, 200 to 249 percent, 250 to 299 percent, 300 percent and more)
- Number of adults older than 18 in family (0,1,2,3,4 or more)
- Number of children 18 and younger in family (0,1,2,3,4,5 or more)
- Educational degree attainment (no high school diploma, high school diploma, some college, bachelor's degree or higher)
- Race and Latino ethnicity (Latino, white non-Latino, black non-Latino, Asian non-Latino, mixed race and all others)
- Gender
- U.S. citizen (dummy)
- Has a disability (dummy)

After applying the prediction models, for each public program the i^{th} worker will have an associated p_i , the predicted family participation and a c_i , the expected family program costs conditional on a member of the family being enrolled. If the ACS sample weight is denoted w_i , then for any subpopulation S the total number of workers enrolled in the program equals

$$\sum_{i \in S} p_i * w_i$$

And the total program costs attributable to workers equals

$$\sum_{i \in S} c_i * p_i * w_i$$

Step 3: Adjusting the ACS to Match Enrollment Information of Workers in the CPS

To ensure the working population in the ACS mirrors the enrollment for the working population in the CPS, we make two modifications. First, for each program and for each state, the program participation rates of workers in the ACS are linearly adjusted to equal the participation rates of workers in the CPS. Next, for each program and for each state, the expected family program costs, conditional on enrollment in the ACS, are linearly adjusted to equal the average family program costs of working individuals in the CPS.

A review of the state-by-state adjustments for participation show: Medicaid adult participation is over predicted by the model, leading to downward adjustments (-17 to 0 percent); Medicaid child participation adjustments are small and centered around zero (-10 to 10 percent); and, with a few exceptions (e.g., Vermont, Nebraska and Washington, D.C.), EITC, food stamps and TANF participation adjustments vary widely as they were modeled on a state-by-state basis. Separately, an adjustment is done for a dummy variable indicating participation in any of the four programs which leads to small changes (-10 percent to 10 percent).

The state-by-state adjustments to the program cost were smaller: Medicaid adult cost adjustments were centered at zero (-12 to 10 percent); Medicaid child adjustments tended negative (-40 to 8 percent); food stamp adjustments were more moderate than those for participation (-10 to 22 percent) as were EITC adjustments (-10 to 24 percent); and TANF adjustments varied widely.

Defining Fast-Food Workers in the ACS and Estimating the Total Number of Fast-Food Workers in the U.S.

The identification of all front-line fast-food workers is not directly possible for any available large scale dataset with information on the worker characteristics required for this study, including the CPS and ACS. The ACS, which we use for estimation, does have a specific ‘Restaurant Industry’ code but it does not distinguish between full- or limited-service restaurants—the latter representing fast food. To address this issue, we combine occupation codes within the broad restaurant industry from the ACS with data from a firm survey, the U.S. Bureau of Labor Statistics’ Occupational Employment Survey (OES), that distinguishes between limited-service (LS) and full-service (FS) restaurants. This makes it possible to identify front-line fast-food workers in our ACS sample and to further provide an estimate of the population of front-line fast-food workers in the United States.

The OES is a survey of 200,000 establishments per panel (every six months), which takes three years to fully collect the sample of 1.2 million establishments. The OES reports annual employment and wage estimates for more than 800 occupations within individual industries, including separate measures for LS and FS restaurants. We use the occupations within LS restaurants from the OES to determine what occupations to analyze in the ACS that will best identify front-line fast-food workers.

Examining the distribution of occupations in the OES across LS and FS restaurants allows us to determine which occupations within the broader ACS Restaurant Industry have a high share of workers in the LS sector. We further determine which occupations within LS represent front-line fast-food workers. For example, we omitted “Public Relations Specialist,” “Executive Administrators” and other occupations clearly not involved in preparing and selling fast food.



We then determined which of the OES front-line fast-food occupations are also identified in the ACS. It is important to note that occupational coding across the two datasets is only the same for select occupations. The occupations with the highest share of workers in LS restaurants that also represented front-line workers are: “Combined Food Preparation and Service Workers” (95 percent are employed in limited service), “Counter Attendants, etc.” (92 percent) and “Cashiers” (75 percent). Because the ACS uses the same classifications verbatim for these occupations, we restricted our ACS sample to Restaurant Industry workers employed in these three occupations. This definition excludes some workers integral to front-line fast-food work, such as cooks. But, as noted above, the ACS does not distinguish between cooks in limited- or full-service restaurants and we know from the OES that only 31 percent of restaurant industry cooks work in fast food.

To estimate the total count of U.S. fast-food workers, we use a separate, narrow definition of core front-line fast-food workers based on OES occupations. We take the LS sector of the OES for “Combined Food Preparation and Serving Workers, Including Fast Food” and “Cooks, Fast Food” in the OES. We omit “Counter Attendants and Cashiers” from this estimate. While those occupations constitute ideal modeling proxies for fast-food work in the ACS, many workers in them work in jobs commonly not identified as fast food. As a result, their inclusion may overstate the total estimated count of fast-food workers. Our narrower definition of core, front-line fast-food workers accounts for 2.5 million of the 4.1 million in the LS workforce as documented in the OES. It excludes managers, supervisors and employees such as truck drivers not working directly in restaurants. It also excludes coffee shop, cafeteria and food concession workers, who could be considered fast-food workers. Including those occupations would add an additional 400,000 workers to the total, and would increase the cost estimates by 16 percent, to \$8 billion.

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To validate that the occupations used to model front-line fast-food workers in the ACS provide a reasonable sample of fast-food workers, we compared wage data for these occupations to the “Cooks, Fast Food” occupation, which by definition consists of only fast-food workers in the LS sector. The median wage for “Cooks, Fast Food” in the OES is \$8.94, compared to \$8.69 for the three occupations used in the ACS modeling. The similarity in wages between occupations we modeled as containing large numbers of fast-food workers, and an occupational group limited solely to fast-food workers, provides confidence that our ACS sample serves as a good proxy for the larger group.

The two OES occupational categories that we use as an estimate of the universe of front-line fast-food workers account for 62.3 percent of all workers in the LS restaurant industry. Further restricting on weeks and hours brings our total universe of core front-line fast-food workers to 1,823,000—as we lose 29.5 percent of the total sample employed less than 10 hours per week and/or less than 26 weeks per year. As a result, this report provides a conservative estimate of the total cost of public assistance programs associated with front-line fast-food jobs.

Appendix B

Trends in Major U.S. Public Benefits Programs

Program	Total Enrollment (millions of individuals)		Total Benefits Paid (billions of 2011 dollars)		Changes to Eligibility and Benefits ²⁰
	2007	2009	2007	2009	
Medicaid and CHIP	58.01	65.16	\$242.43	\$279.83	<ul style="list-style-type: none"> • Eligible population grew 10% between FY'2007 and FY'2009 • Total program cost grew by \$37 billion between 2007 and 2009. • States alternately expanded and restricted eligibility during and after recession.
Program	2007	2010	2007	2010	
Temporary Assistance for Needy Families	6.53	7.41	\$9.39	\$10.31	<ul style="list-style-type: none"> • Total program participation fell from 35% of poverty-level households in 2005 to 27% by 2011. • State-level caseloads diverged during recession, with program enrollment falling in 16 states from 2007-2011.²¹ • See State Fact Sheets from the Center for Budget and Policy Priorities for more information (http://www.cbpp.org/cms/index.cfm?fa=view&id=3378).
Program	2007	2011	2007	2011	
Earned Income Tax Credit	24.59	27.92	\$52.56	\$62.88	<ul style="list-style-type: none"> • American Recovery and Reinvestment Act (2009) expanded eligibility for married couples and three-child households through December 2012. • Additional information available at: http://www.cbpp.org/files/policybasics-eitc.pdf.
Program	2007	2011	2007	2011	
Food Stamps	27.31	45.59	\$34.31	\$72.31	<ul style="list-style-type: none"> • Renamed “Supplemental Nutrition Assistance Program” by 2008 Farm Bill • 20% annual pay-out growth attributed to combination of falling incomes and administrative reforms to enhance SNAP targeting and uptake²² • See the Center for Budget and Policy Priorities for state-level information (http://www.cbpp.org/cms/index.cfm?fa=view&id=3886).

Appendix C

State-Level Estimates for Families of Fast-Food Workers

Estimates for statewide participation rates in each of the public programs, and the associated costs, for the families of fast-food workers are included in the two tables below. Due to sample size limitations, we omitted estimates for those states where the number of year-round fast-food workers in the ACS sample fell below 500 individuals. Additionally, TANF enrollment and costs are not shown due to the low enrollment in the program but are included in the total.

Table C1: Program Participation Rates for Families of Core Front-Line Fast-Food Workers by State

State	Number of Fast-Food Workers	Participation Rates for Families of Fast-Food Workers				
		EITC	Medicaid (adults)	Medicaid/CHIP (children)	Food Stamps	All Programs
Alabama	34,000	63%	18%	25%	37%	68%
Arizona	32,000	39%	24%	18%	28%	49%
California	227,000	43%	26%	22%	15%	52%
Florida	115,000	53%	13%	11%	26%	55%
Georgia	74,000	56%	15%	22%	29%	61%
Illinois	84,000	43%	23%	25%	28%	51%
Indiana	43,000	40%	12%	17%	18%	45%
Kentucky	32,000	44%	11%	17%	24%	46%
Louisiana	31,000	72%	15%	28%	40%	73%
Maryland	31,000	41%	9%	12%	17%	47%
Massachusetts	34,000	31%	36%	18%	15%	46%
Michigan	66,000	43%	20%	17%	35%	52%
Missouri	38,000	44%	16%	17%	29%	49%
New Jersey	42,000	36%	11%	12%	13%	42%
New York	104,000	50%	34%	24%	25%	60%
North Carolina	66,000	50%	17%	20%	27%	54%
Ohio	75,000	39%	17%	13%	21%	45%
Pennsylvania	63,000	34%	18%	14%	15%	42%
South Carolina	32,000	57%	18%	16%	29%	62%
Tennessee	45,000	52%	32%	22%	42%	61%
Texas	158,000	53%	13%	18%	27%	59%
Virginia	47,000	44%	9%	12%	18%	46%
Washington	29,000	30%	18%	17%	26%	41%
Wisconsin	28,000	26%	20%	13%	16%	34%

Source: Authors' calculations from 2008–2012 March CPS, 2007–2011 ACS, program administrative data.

Notes: Estimates are restricted to families of front-line fast-food workers working at least 10 hours a week and 26 weeks of the year. TANF enrollment not shown due to small sample size, but included in program totals.

Table C2: Average Annual Program Costs for Families of Core Front-Line Fast-Food Workers by State (in millions of 2011 dollars)

State	Number of Fast-Food Workers	Program Costs for Families of Fast-Food Workers				
		EITC	Medicaid (adults)	Medicaid/CHIP (children)	Food Stamps	All Programs
Alabama	34,000	\$ 66	\$ 28	\$ 37	\$ 33	\$ 160
Arizona	32,000	29	49	44	21	144
California	227,000	201	244	151	86	717
Florida	115,000	141	95	44	64	348
Georgia	74,000	110	71	56	59	297
Illinois	84,000	87	127	94	59	368
Indiana	43,000	46	38	26	19	131
Kentucky	32,000	33	33	31	17	115
Louisiana	31,000	15	35	11	10	71
Maryland	31,000	27	37	23	13	101
Massachusetts	34,000	20	93	47	11	173
Michigan	66,000	64	95	45	50	251
Missouri	38,000	35	53	30	27	146
New Jersey	42,000	34	44	25	14	117
New York	104,000	113	376	145	60	708
North Carolina	66,000	84	85	57	40	264
Ohio	75,000	67	132	48	40	291
Pennsylvania	63,000	41	89	52	21	204
South Carolina	32,000	47	51	22	21	141
Tennessee	45,000	64	98	53	51	269
Texas	158,000	208	120	124	103	556
Virginia	47,000	40	39	31	21	129
Washington	29,000	16	42	24	13	96
Wisconsin	28,000	65	45	23	33	166

Source: Authors' calculations from 2008–2012 March CPS, 2007–2011 ACS, program administrative data.

Notes: All costs reported in 2011 dollars. Estimates are restricted to families of front-line fast-food workers working at least 10 hours a week and 26 weeks of the year. TANF costs not shown due to small sample size, but included in program totals.

Endnotes

- ¹ Years vary by program, based on available data. See Appendix A.
- ² National Employment Law Project. 2012. “The Low-Wage Recovery and Growing Inequality.” Data Brief, August. New York: Author. At: http://nelp.3cdn.net/8ee4a46a37c86939c0_qjm6bkhe0.pdf.
- ³ Ibid.
- ⁴ Bureau of Labor Statistics, Occupational and Employment Statistics 2011. See methodology for details.
- ⁵ Ibid.
- ⁶ Due to potential overlap between Medicaid and Medicare receipt for seniors ages 65 and older, we limit our analysis of Medicaid to benefits provided to individuals age 64 and younger.
- ⁷ See Davern, Michael, Jacob Alex Klerman, David K. Baugh, Kathleen Thiede Call and George K. Greenberg. 2009. “An Examination of the Medicaid Undercount in the Current Population Survey: Preliminary Results from Record Linking.” *Health Services Research* 44 (3): 965-987; Wheaton, Laura. No date. “Under-Reporting of Means-Tested Transfer Programs in the CPS and SIPP.” Washington, D.C.: The Urban Institute.
- ⁸ Kaiser Family Foundation. 2009. “A Foundation for Health Reform: Findings of An Annual 50-State Survey of Eligibility Rules, Enrollment and Renewal Procedures and Cost-Sharing Practices in Medicaid and CHIP for Children and Parents During 2009.” At: <http://kff.org/medicaid/report/a-foundation-for-health-reform-findings-of/>.
- ⁹ See Appendix A for details.
- ¹⁰ Zabin, Carol, Arindrajit Dube and Ken Jacobs. 2004. “The Hidden Public Cost of Low-Wage Jobs in California.” Berkeley: University of California, Berkeley, Center for Labor Research and Education.
- ¹¹ As noted above, we exclude Medicaid costs for people over 65.
- ¹² The CPS March Supplement asks respondents about program enrollment in the previous year.
- ¹³ Current Population Survey, March Supplement 2008-2012
- ¹⁴ Ibid.
- ¹⁵ For reference, the 2013 federal poverty level is \$23,550 for a family of four and \$15,510 for a family of two. See: <http://aspe.hhs.gov/poverty/13poverty.cfm>.
- ¹⁶ Among teenage job holders living with parents, 44 percent of front-line fast-food workers live in households enrolled in public programs, compared to 33 percent of workers in other industries.
- ¹⁷ Zabin, Carol, Arindrajit Dube and Ken Jacobs. 2004. “The Hidden Public Cost of Low-Wage Jobs in California.” Berkeley: University of California, Berkeley, Center for Labor Research and Education; Theodore, Nik and Marc Doussard. 2006. “The Hidden Public Cost of Low-Wage Work in Illinois.” Chicago: University of Illinois at Chicago Center for Urban Economic Development; Dresser, Laura. 2006. “When Work Doesn’t Pay: The Hidden Cost of Low-Wage Jobs in Wisconsin.” Madison: Center on Wisconsin Strategy; Bernhardt, Annette, Anmol Chaddha and Siobhan McGrath. 2008. “When Work Doesn’t Pay: The Public Cost of Low-Wage Jobs in New York State.” New York: National Employment Law Project.
- ¹⁸ See Meyer, Bruce D. and James X. Sullivan. 2008. “Reporting Bias in Studies of the Food Stamp Program.” Chicago: Harris School of Public Policy Studies, University of Chicago. Because direct program enrollment and payment data represent a definitive and accurate measure of public benefits payments, lower estimates from the CPS by definition represent undercounting. Meyer and Sullivan’s mid-2000s estimate suggests younger and nonwhite workers are slightly more likely to underreport than others, a finding which suggests our adjustments may understate program enrollments and benefits uptake for low-wage workers.
- ¹⁹ Data provided by IPUMS-USA. Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.
- ²⁰ All Medicaid eligibility information comes from the Kaiser Family Foundation. See <http://kff.org/medicaid/report/annual-updates-on-eligibility-rules-enrollment-and/> for basic and detailed documentation of national and state-level issues.
- ²¹ Pavetti, LaDonna, Ife Finch and Liz Schott. 2013. “TANF Emerging from the Downturn a Weaker Safety Net.” Washington: Center for Budget and Policy Priorities. At: <http://www.cbpp.org/files/3-1-13tanf.pdf>
- ²² Rosenbaum, Dorothy. 2013. “The Relationship between SNAP and Work Among Low-Income Households.” Washington: Center on Budget and Policy Priorities. At: <http://www.cbpp.org/files/1-29-13fa.pdf>.



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