

RESEARCH REPORT

Lifetime Employment-Related Costs to Women of Providing Family Care

Richard W. Johnson

Karen E. Smith

Barbara A. Butrica

February 2023



DISCLAIMER

This report was prepared for the U.S. Department of Labor's Women's Bureau by the Urban Institute, under Contract 1605C5-21-F-00040. The views expressed are those of the author and should not be attributed to the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement of same by the U.S. Government.

ABOUT THE URBAN INSTITUTE

The nonprofit Urban Institute is a leading research organization dedicated to developing evidence-based insights that improve people's lives and strengthen communities. For 50 years, Urban has been the trusted source for rigorous analysis of complex social and economic issues; strategic advice to policymakers, philanthropists, and practitioners; and new, promising ideas that expand opportunities for all. Our work inspires effective decisions that advance fairness and enhance the well-being of people and places.

Contents

Acknowledgments	iv
Executive Summary	v
Key Findings	v
Methods	vii
Introduction	1
Background	4
Prevalence of Caregiving	4
Immediate Economic Consequences of Caregiving	6
Long-Term Economic Consequences of Caregiving	11
Data and Methods	14
Simulating Family Care and Employment	15
Study Restrictions	19
Estimated Cost of Providing Care	20
Differences by Education	22
Differences by Race and Ethnicity	25
Differences by Number of Children	27
Conclusions	30
Notes	33
References	35
About the Authors	41
Statement of Independence	42

Acknowledgments

This report was funded by the U.S. Department of Labor, Women’s Bureau. We are grateful to them and to all our funders, who make it possible for Urban to advance its mission.

The views expressed are those of the authors and should not be attributed to the Urban Institute, its trustees, or its funders. Funders do not determine research findings or the insights and recommendations of Urban experts. Further information on the Urban Institute’s funding principles is available at urban.org/fundingprinciples.

The authors gratefully acknowledge Melissa Favreault’s many valuable contributions to this report. A former senior fellow at the Urban Institute, she conceptualized the project, generated the initial simulations, and wrote the first draft of the report. This report would not have been possible without her leadership and insights.

The authors are also indebted to the research staff at the Women’s Bureau, including Tiffany Boiman, Hari Chon, Amy Dalrymple, Mark deWolf, Jeffrey Hayes, Sarah Jane Glynn, Catherine Hill, Pat Humphlett, Christin Landivar, Gretchen Livingston, and Elyse Shaw, who provided valuable comments on earlier drafts of this report. Additionally, the authors gratefully acknowledge helpful input from Jerry Jacobs and Pilar Gonalons-Pons at the University of Pennsylvania.

This report does not constitute a formal statement of federal law or legal requirements and should not be construed as creating or articulating legal requirements or policy from the U.S. Department of Labor.

Executive Summary

Many women spend significant time providing essential care to children and adults with care needs. These caregiving activities often impose substantial economic costs on caregivers. Many caregivers must curtail their employment or stop work altogether to accommodate their care responsibilities. Declines in work hours reduce their earnings while they provide care and thus limit the subsequent retirement income they receive from Social Security and employment-based retirement plans, which depends on past earnings. Reduced employment can also slow caregivers' wage growth, especially for those who take lower-paying jobs or miss out on promotions because of their caregiving obligations. Thus, the economic cost of family care can persist long after caregiving activities end.

In this report, we use dynamic microsimulation techniques to project the lifetime employment-related costs of providing unpaid family care by women born between 1981 and 1985 who ever have biological children or stepchildren. We consider the care that a woman provides to her own children or stepchildren under age 18 who live with her and the care that she provides at ages 51 and older to her parents, parents-in-law, and spouses (including unmarried partners) with care needs. We estimate the lifetime employment-related cost of providing care as the earnings lost each year because of caregiving activities, summed over a lifetime, plus the related lifetime loss of retirement income from Social Security and employment-based retirement plans. Earnings losses generally reduce future retirement income.

Key Findings

Our simulations indicate that many mothers experience significant employment-related caregiving costs over their lifetimes. We report our estimates in inflation-adjusted 2021 dollars.

- The employment-related costs for mothers of providing unpaid care to minor children and parents, parents-in-law, and spouses (including unmarried partners) with care needs average \$295,000 over a lifetime.
- Lifetime earnings lost because of caregiving average \$237,000, 15 percent of what we project mothers would earn, on average, if they did not provide any family care. Lost earnings account for 80 percent of our total estimate of lifetime employment-related caregiving costs. The remaining 20 percent of lifetime costs results from lost retirement income from Social Security and employment-based retirement plans, which average \$58,000 over a lifetime.

- Lifetime caregiving costs are distributed unevenly across the population. When our simulations measure costs as lost dollars, we find that costs are especially high for mothers with multiple children, who generally provide more unpaid care than mothers with only one child, and for well-educated mothers, who generally earn higher wages than less-educated mothers. Lifetime costs average \$420,000 for college-educated mothers, \$202,000 for mothers who completed high school but did not attend college, and \$122,000 for mothers who did not complete high school.
- When we measure lost earnings as a share of lifetime earnings, we find that lifetime caregiving-related earning losses are especially high for less-educated mothers and Hispanic mothers. Lifetime caregiving-related earning losses represent 26 percent of potential earnings for mothers who did not complete high school and 19 percent of potential earnings for Hispanic mothers. Both groups tend to have more children than other women, and they also face other challenges that make balancing caregiving and employment difficult. Many Hispanic and less-educated workers are employed in jobs that offer little flexibility, for example, and many do not earn enough to afford paid childcare. These results underscore the importance of affordable childcare for mothers who work for pay.
- Although Black mothers incur lower employment-related care costs on average than other groups, the losses they experience can often lead to economic hardship because many Black workers earn relatively low wages. Care-related employment losses may contribute to the high old-age poverty rates experienced by Black and Hispanic adults and adults with limited education.
- We find that mothers incur lower employment-related caregiving costs over a lifetime when providing care to parents, parents-in-law, and spouses (including unmarried partners) than when providing care to minor children because relatively few women reduce their employment to provide adult care. Lifetime costs for providing care to these adults average \$43,000, only 15 percent of our estimate of average total lifetime care costs.
- Forgone earnings and subsequent retirement income are only some of the costs experienced by family caregivers. Out-of-pocket expenses incurred by caregivers, including spending on paid childcare, summer camps, and other supervised activities for children when school is not in session, supplemental paid care for older adults with care needs, and home modifications to accommodate people with disabilities, are often substantial. Caregiving activities are often stressful, taking a physical and emotional toll and forcing many caregivers to sacrifice much of their leisure time. True equity requires looking beyond purely monetary considerations to

include caregivers' available leisure and self-care time and the distribution of chore burdens within a household.

Methods

We compute the lifetime employment-related cost of family care by comparing outcomes under a baseline simulation and an alternative counterfactual simulation, both of which are generated by the Dynamic Simulation of Income Model 4 (DYNASIM4), Urban Institute's dynamic microsimulation model. Our baseline simulation projects women's lifetime employment and earnings under the assumption that when they provide family care, they reduce their work hours at a rate consistent with recent empirical evidence. In our counterfactual simulation, we project how much mothers would work and earn over a lifetime and how much subsequent retirement income they would receive when we eliminate the negative relationship between caregiving activities and annual earnings in our projections.

The estimated employment-related cost of providing care equals lifetime earnings, Social Security retirement payments, and payments from employment-based retirement plans received under the counterfactual simulation, minus lifetime earnings, Social Security payments, and retirement plan payments received under the baseline scenario. When computing care costs, we subtract projected employee contributions to employer-sponsored retirement plans and the employee portion of Social Security and Medicare payroll taxes because these payments reduce the amount workers can spend or save each year.

We restrict our analysis to women born between 1981 and 1985 who will ever have children. We exclude women who never have children because on average the lifetime economic cost of caring for children far exceeds the cost of caring for adults with care needs. We also exclude men because fathers are much less likely than mothers to reduce their labor supply to care for children. Our analysis focuses on members of the 1981 to 1985 birth cohort, who are now in their late thirties and early forties, because most women in this generation have already completed their childbearing and they have significant employment experience, making our projections for this group less speculative than they would be for younger cohorts.

Data limitations prevent us from including adult care recipients other than parents, parents-in-law, and spouses (including unmarried partners), or adult care provided before age 51. Because most people who provide adult care are older than 50, our age restriction on adult caregivers is unlikely to lead us to understate substantially the cost of such care.

Introduction

Most women in the United States bear primary responsibility for unpaid care work in their family, providing essential care to their children, grandchildren, and family members with disabilities. At relatively young ages, caregiving usually focuses on child care, while at older ages grandchild, parental, sibling, and spousal care generally predominate. Some caregivers, often referred to as members of the “sandwich generation,” simultaneously care for young children and elderly parents. Caregiving spans a wide range of activities, including tending to the basic personal needs of adults with serious disabilities, children, and infants; providing a safe and stimulating environment to help children flourish physically and intellectually; helping older adults with household chores and errands; and providing companionship and proper supervision to care recipients to ensure their safety and well-being.

Although the unpaid care women provide undoubtedly benefits their family members, caregiving activities can interfere with paid employment and reduce earnings. Some women switch to a part-time work schedule or stop working completely to accommodate caregiving responsibilities. Caregiving is more likely to disrupt employment for women than for men because women generally provide more care (Drago 2009; Livingston 2014; Zamarro and Prados 2021). In 2021, 66 percent of women with children younger than age 6 participated in the labor force, compared with 94 percent of men with children younger than 6 (Bureau of Labor Statistics 2022). Caregiving demands can also force some workers to move to lower-paying jobs or forgo promotions.

The COVID-19 pandemic, which emerged in the United States in March 2020, exacerbated many of the struggles facing employed caregivers, especially those with young children, as schools closed to in-person instruction and many child care centers stopped operating (Albanesi and Kim 2021; Alon et al. 2020; Collins et al. 2021; Fabrizio, Gomes, and Tavares 2021; Landivar et al. 2020; Lee and Parolin 2021; Lofton, Nadeau, and Seitelman 2021; Stevenson 2021). Less-educated workers and workers of color were often hit hardest by the pandemic because they are less likely than other workers to have flexible jobs and the ability to work remotely from home (Landivar and deWolf 2022; Pirtle and Wright 2021; Wolfe, Harknett, and Schneider 2021).

The earnings losses associated with caregiving sometimes end when care activities cease and caregivers return to their former work schedules at their original jobs. Caregiving can have longer-lasting economic consequences, however, if caregivers take lower-paying jobs or miss out on promotions to accommodate their caregiving obligations. Those transitions or lost opportunities could reduce wage growth and permanently lower future earnings. The economic consequences of caregiving

can also reverberate into retirement, as future payments from Social Security and employment-based retirement plans generally increase with earnings. Consequently, caregiving-related earnings reductions can jeopardize financial security in old age.

Information on caregiving's cumulative employment consequences is limited. Reliable estimates require many years of data, either historical or projected, to observe people as they move in and out of work and provide care to their children and other family members. Because such data are not generally available, estimates of the long-term employment effects of caregiving are typically based on hypothetical individuals and circumstances.

In this report, we use dynamic microsimulation techniques to estimate the lifetime employment-related cost of providing care to family members for a nationally representative sample of women born between 1981 and 1985 who ever have children or stepchildren. Using a nationally representative sample allows us to show the full distribution of lifetime caregiving costs. We measure these employment-related costs as the value of labor market earnings and associated payments from Social Security and employment-based retirement plans that mothers lose over their lifetimes when they reduce their work hours or leave the labor force to care for children under age 18 or certain adult family members with care needs. Our model projects lifetime earnings and later retirement income for mothers under the assumption that they reduce their labor supply consistent with recent empirical patterns, which vary by demographic and economic characteristics. We then compare these projections with women's lifetime earnings and retirement income simulated under the assumption that they do not reduce their labor supply to provide care.

Our simulations compute the cost of caring for children or stepchildren under the age of 18 and parents, parents-in-law, and spouses (including unmarried partners) with care needs. We restrict the analysis to mothers because the lifetime employment-related costs of caring for children far exceeds the cost of caring for adults with care needs, and we exclude men because fathers are much less likely than mothers to reduce their labor supply to care for children. Data limitations prevent us from including care to other adults with disabilities, such as adult children, siblings, and friends, or any adult care provided before age 51. We also exclude people who immigrated to the United States after age 26. Additionally, the analysis ignores caregiving costs unrelated to employment, such as out-of-pocket spending on paid child care and other goods and services, lost leisure time, and the physical and emotional toll that caregiving activities often take.

Our simulations indicate that for women who ever have children the average lifetime employment-related cost of providing unpaid care to children and certain adults with care needs is \$295,000 (in

2021 inflation-adjusted dollars). About 80 percent of those costs stem directly from the earnings lost when caregivers reduce their labor supply, with the remaining 20 percent coming from the loss of subsequent retirement income. The employment-related cost of providing unpaid care varies widely by education, race and ethnicity, and number of children. Total costs are especially high among mothers with multiple children, who generally provide more care than mothers with only one child, and well-educated mothers, who generally receive high wages. However, costs as a share of lifetime earnings are especially high among Hispanic mothers and mothers who did not complete high school, who generally have more children than other women and often work at jobs that offer little flexibility. Child care accounts for the vast majority of the employment-related cost of caregiving because relatively few mothers interrupt paid employment to provide care to their parents, parents-in-law, spouses, or unmarried partners. Nonetheless, many women who provide care to older adults while employed are stretched thin, often under enormous stress and forced to forgo much of their leisure time.

Background

To provide context for our analysis, we describe the prevalence of caregiving and discuss its short-term and long-term economic costs. We review the relevant literature and provide new estimates of the relationship between employment and care to children and adults and show how that relationship varies with education and race and ethnicity. The estimates are based on household survey data from the Health and Retirement Study (HRS) and the Survey of Income and Program Participation (SIPP), both of which ask respondents about their caregiving activities.¹

Prevalence of Caregiving

An extensive literature documents the prevalence of caregiving (see, for example, AARP and the National Alliance of Caregivers 2020; Wolff et al. 2016). Survey characteristics, such as how caregiving questions are worded and whether caregivers or care recipients are surveyed, affect estimated prevalence rates (Mudrazija and Johnson 2020).

Table 1 presents estimates of the prevalence of caregiving responsibilities among women and men ages 18 and older. The first column reports child care responsibilities, and the second column reports caregiving responsibilities for children or for other family members or friends with long-term illness or disability. These estimates are based on SIPP data and describe care provided in 2011, the last year the SIPP asked about unpaid care. The tabulations assume that all adults who live with one or more of their own children younger than age 18 shoulder some child care responsibilities.

Care responsibilities are common. Overall, 30 percent of women ages 18 and older live with one or more of their own minor children, and more than one in three (36 percent) live with at least one of their own minor children or provide care to other people with health problems. Overall, men are less likely than women to live with own minor children (25 percent) or to share caregiving responsibilities for their own minor children, other family members, or friends (29 percent). This estimate likely understates men's child care responsibilities because it does not count care provided by noncoresident fathers.

Caregiving responsibilities for women and men peak between ages 25 to 44 and then decline steadily as people age. The share living with one or more own minor children is higher at younger ages, and the share who provide care to family members and friends with health problems is higher at older ages. Among women ages 25 to 44, for example, nearly all care responsibilities are for children, with 63

percent having minor children in the household and only slightly more—65 percent—living with a minor child or caring for others with health problems. Among women ages 65 and older, in contrast, nearly all the care provided is for family members and friends with health problems, with only 0.4 percent living with minor children and 9 percent caring for family members or friends. Some caregivers, often referred to as members of the “sandwich generation” (De Rigne and Ferrante 2012), find themselves simultaneously caring for children and elderly parents. Among women ages 55 to 64, 4 percent live with at least one minor child and 16 percent provide care to children or adults. Gender differences in care responsibilities are largest at ages 25 to 44, when 65 percent of women and only 47 percent of men have care responsibilities, although as noted earlier we are likely underestimating men’s child care responsibilities.

TABLE 1
Percentage of Adults with Caregiving Responsibilities, by Gender, Age, and Care Recipients, 2011

	Women		Men	
	With own minor children at home	With own minor children at home or provide care to others	With own minor children at home	With own minor children at home or provide care to others
All	30	36	25	29
Age				
18-24	16	18	4	6
25-44	63	65	45	47
45-54	32	40	36	41
55-64	4	16	8	15
65 and older	0.4	9	1	8

Source: Authors’ calculations from the 2008 Survey of Income and Program Participation (SIPP) topical module 9.

Notes: The sample is restricted to adults ages 18 or older. The tabulation assumes that all adults who live with one or more of their own children younger than age 18 shoulder some child care responsibilities. Care to others includes unpaid assistance in the past month to family members or friends with a long-term illness or disability who live in the household or elsewhere.

About one in six older adults provide unpaid care to parents, parents-in-law, spouses, or unmarried partners, including 17 percent of women and 16 percent of men ages 55 and older (table 2). These caregiving activities are more common at ages 55 to 64, when many people are still employed, than at ages 65 and older, when many people are retired, suggesting that people who provide care to adults must often balance those responsibilities with their work obligations.

TABLE 2

Percentage of Adults Providing Unpaid Family Care to Parents, Parents-in-Law, or Spouses, by Gender and Age, 2018

	Women	Men
All	17	16
Age		
55–64	24	21
65 and older	11	13

Source: Authors' calculations from the 2018 Health and Retirement Study (HRS).

Notes: The sample is restricted to noninstitutionalized adults ages 55 and older. Care includes unpaid assistance provided over the past two years and covers help to unmarried partners.

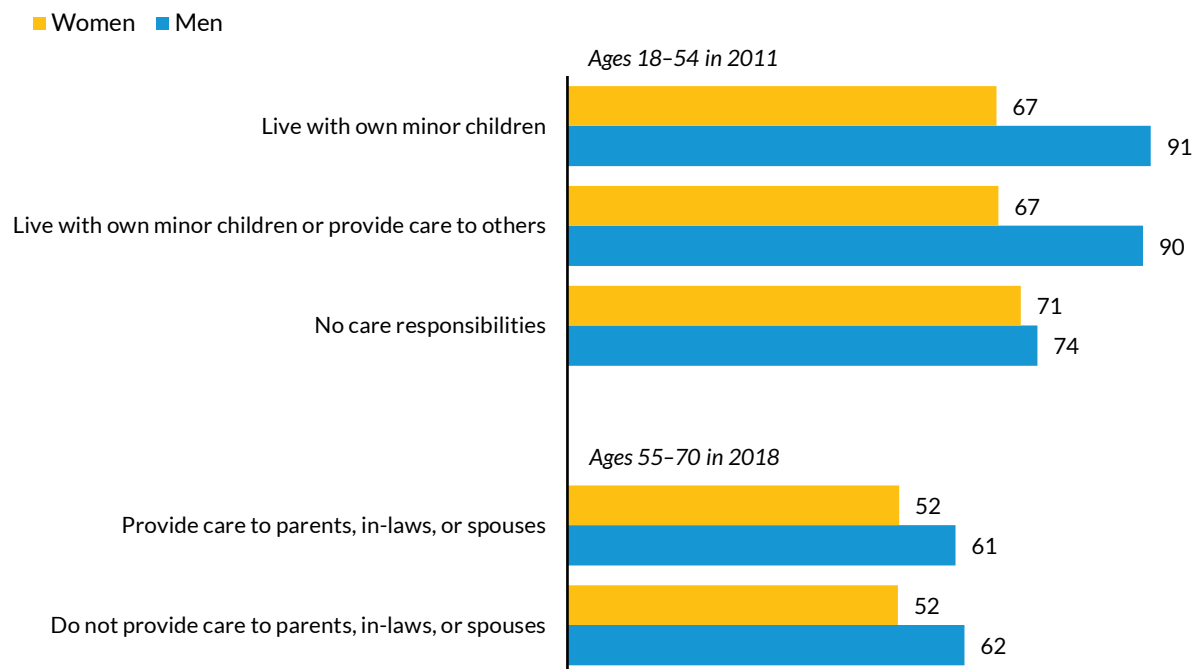
Immediate Economic Consequences of Caregiving

Although women's labor force participation has grown over time (Goldin 1990, 2006), women still bear most responsibility for the care of their children (Drago 2009; Livingston 2014; Yavorsky, Qian, and Sargent 2021) and adult family members (Bureau of Labor Statistics 2019; Reinhard, Levine, and Samis 2012). Caregiving responsibilities can make full engagement in the labor market difficult for women, and many studies have found a negative relationship between family care and labor force participation (Bittman, Hill, and Thomson 2007; Bolin, Lindgren, and Lundborg 2008; Butrica and Karamcheva 2014; Crespo and Mira 2014; Ettner 1995; Fahle and McGarry 2018; Ishizuka 2021; Ishizuka and Musick 2021; Kahn, García-Manglano, and Bianchi 2014; Kuziemko et al. 2021; Lee and Tang 2015; Lilly, Laporte, and Coyte 2010; Loughran and Zissimopoulos 2009; Pavalko and Artis 1997; Van Houtven, Coe, and Skira 2013).

Among women ages 18 to 54 in 2011, 67 percent of those with own minor children at home and 67 percent of those with own minor children at home or who provide care to other family members or friends are employed (figure 1). These employment rates are 4 percentage points lower than the employment rate for women in the same age group without caregiving responsibilities (71 percent). Among women ages 55 to 70, employment rates are identical for those who provide care to parents, parents-in-law, and spouses (including unmarried partners) and those without caregiving responsibilities (52 percent). Men's employment rates are higher for caregivers than noncaregivers at younger ages and slightly lower for caregivers than noncaregivers at older ages.

FIGURE 1

Percentage of Adults Employed by Caregiver Responsibilities, Age, and Gender



URBAN INSTITUTE

Source: Authors' calculations from the 2008 Survey of Income and Program Participation (SIPP) topical module 9 and 2018 Health and Retirement Study (HRS).

Notes: Employment rates between ages 18 and 54 in 2011 are from the SIPP. The SIPP analysis classifies people as caregivers if they share a household with their own children younger than age 18 or provide unpaid assistance to family members or friends with a long-term illness or disability. Employment rates between ages 55 and 70 in 2018 are from the HRS. The HRS analysis classifies people as caregivers if they provide unpaid assistance to parents, parents-in-law, or spouses (including unmarried partners).

Table 3 examines how employment rates for women ages 18 to 54 vary by caregiver status, age, race and ethnicity, and educational attainment. The largest differences in employment rates between noncaregivers and caregivers are for women ages 25 to 44, Hispanic women, and women with at least a bachelor's degree. Among Hispanic women, 64 percent of noncaregivers are employed, compared with 55 percent of women with own minor children at home and 56 percent of women who have own minor children at home or provide care to family members or friends with a long-term illness or disability. For Black women, by contrast, employment rates are lower for noncaregivers than for women with minor children at home. This pattern reflects both higher employment rates for young Black women and higher disability rates for older Black women compared with women of other races.

TABLE 3

Percentage of Women Ages 18 to 54 Who Are Employed, by Caregiver Responsibilities, 2011

	None	Have own minor children at home	Have own minor children at home or care for others
All	71	67	67
Age			
18-24	59	53	53
25-44	79	67	67
45-54	73	72	72
Race and ethnicity			
Non-Hispanic white	74	72	72
Non-Hispanic Black	63	67	67
Hispanic	64	55	56
All others	66	61	62
Educational attainment			
No high school diploma	43	42	42
High school diploma	63	58	59
Some college	71	71	71
Bachelor's degree or more	86	78	79

Source: Authors' calculations from the 2008 Survey of Income and Program Participation (SIPP), topical module 9.

Notes: The analysis classifies people as having caregiving responsibilities if they have some minor children of their own at home or if they provide care to family members or friends with a long-term illness or disability. Other race and ethnic groups include Asians, Pacific Islanders, American Indians, and Alaska Natives. We combine these groups because our sample is not large enough to generate reliable estimates for each individual group.

Numerous factors explain caregivers' decisions to leave the labor force, including preferences (Bearak et al. 2021), socioeconomic status (Lee et al. 2015), employer discrimination (Ishizuka 2021), and job demands (Anderson, Binder, and Krause 2003; Cha 2013; Ishizuka and Musick 2021). Caregiving demands can also influence caregivers' decisions about work. Studies find that mothers' labor force participation is influenced by the number of children they have (Avellar and Smock 2003; Kahn, García-Manglano, and Bianchi 2014) and whether their children have disabilities (Stabile and Allin 2012). Family caregivers who provide intensive care are also less likely to work (Nguyen and Connelly 2014) and more likely to take early retirement (Jacobs et al. 2014) than others.

Women with more minor children of their own are less likely to work than those with fewer children (table 4). Among mothers with children under age 18, those with three or more minor children are 15 percentage points less likely to be employed than those with only one or two minor children (55 versus 70 percent). Differences in women's employment rates by number of children are largest for Hispanic mothers and mothers with at least a bachelor's degree. Compared with women with one or two minor children, women with three or more minor children are 19 percentage points less likely to be employed among college graduates but only 7 percentage points less likely among those without a high

school diploma. In contrast, employment rates for non-Hispanic Black women with minor children do not vary with the number of own minor children in the household. Black women with one or two children are less likely to work than their white counterparts (67 versus 75 percent), whereas Black women with three or more children are more likely to work than their white counterparts (67 versus 59 percent).

TABLE 4

Percentage of Mothers Ages 18 to 54 Who Are Employed, by Number of Own Minor Children at Home and Weekly Care Hours Provided to Family and Friends with Long-Term Illness or Disability, 2011

	Care to Family Members or Friends with Health Problems			
	One or two own minor children	Three or more own minor children	Weekly care hours at or below the median	Weekly care hours above the median
All	70	55	76	60
Age group				
18-24	53	51	*	*
25-44	71	55	80	60
45-54	73	58	75	62
Race and ethnicity				
Non-Hispanic white	75	59	78	61
Non-Hispanic Black	67	67	75	55
Hispanic	60	43	66	63
All others	64	50	*	*
Educational attainment				
No high school diploma	44	37	54	35
High school diploma	61	50	66	47
Some college	73	63	76	60
Bachelor's degree or more	81	62	87	86

Source: Authors' calculations from the 2008 Survey of Income and Program Participation (SIPP) topical module 9.

Notes: Employment rates by number of own minor children are estimated for women with own minor children, and employment rates by hours of care to family or friends with long-term illness or disability are estimated for women who provide such care. The analysis counts only own minor children who live with their mother. The median amount of care provided to family or friends with long-term term illness or disability is 9.5 hours per week, calculated across all women providing care. Other race and ethnic groups include Asians, Pacific Islanders, American Indians, and Alaska Natives. We combine these groups because our sample is not large enough to generate reliable estimates for each individual group.

* Not reported because we lack enough observations to generate reliable estimates.

Intensive family care by women for family and friends with a long-term illness or disability is also associated with a reduced likelihood of paid work. Employment rates for women who provide more intensive care (i.e., weekly care hours above the median amount of 9.5 hours, calculated across all women providing care) are 16 percentage points lower (60 versus 76 percent) than for women who provide less intensive care (i.e., weekly care hours at or below the median). Differences in employment rates by care hours are largest for women ages 25 to 44, non-Hispanic Black women, and women with only a high school diploma. Although employment rates for Hispanic women and women with a bachelor's degree differ widely by the number of own minor children in the household, their employment rates do not vary much by the amount of care they provide to family and friends with long-term illness or disability.

Although overall employment rates among older women are similar for family caregivers and noncaregivers, employment rates differ more sharply with care intensity (table 5). Overall, 59 percent of women providing less intensive care (below the median amount of 250 hours per year calculated across all women providing care) are employed, compared with only 44 percent of older women providing more intensive care (annual care hours above the median). The largest difference in employment by care intensity is for non-Hispanic Black women, whose employment rates are 56 percent for those providing less intensive care but only 38 percent for those providing more intensive care. Employment rates for Hispanic women and women without high school diplomas, unlike those for other women, are higher for women providing more intensive care than for those providing less intensive care.

Like other studies, our findings suggest that caregiving is associated with lower labor force participation rates for women. Most women, however, continue to work while providing family care. Lu, Wang, and Han (2017) find that the majority of women who work before their children are born continue working in the first year after childbirth; a small percentage of women transition from full-time to part-time work schedules after childbirth, but most women maintain their prechildbirth work levels. Of the relatively small share of women who leave the labor force after childbirth, the majority do not return. The authors also find that Black, Hispanic, and Asian women who work full time before childbirth are more likely than white women to continue working full time after childbirth.

TABLE 5

Percentage of Women Ages 55 to 70 Who Are Employed, by Caregiver Status and Annual Hours of Care, 2018

	Noncaregivers	Caregivers	Care Hours at or Below the Median	Care Hours Above the Median
All	52	52	59	44
Race and ethnicity				
<i>Non-Hispanic white</i>	53	54	61	44
<i>Non-Hispanic Black</i>	49	46	56	38
<i>Hispanic</i>	45	47	40	52
<i>All others</i>	55	47	*	*
Educational attainment				
<i>No high school diploma</i>	29	30	19	36
<i>High school diploma only</i>	47	45	52	36
<i>Some college</i>	51	53	62	45
<i>Bachelor's degree or more</i>	63	61	66	54

Source: Authors' computations from the 2018 Health and Retirement Study (HRS).

Notes: The analysis considers only care provided to parents, parents-in-law, and spouses (including unmarried partners). The median amount of care provided is 250 hours per year, calculated across all women providing care. Other race and ethnic groups include Asians, Pacific Islanders, American Indians, and Alaska Natives. We combine these groups because our sample is not large enough to generate reliable estimates for each individual group.

* Not reported because we lack enough observations to generate reliable estimates.

The short-term economic burdens of caregiving extend beyond labor force participation and labor supply. Studies confirm that mothers tend to receive lower wages or earnings than fathers or women without children (Budig 2014; Budig and England 2001; Jee, Misra, and Murray-Close 2019; Mincer and Polachek 1974; Pal and Waldfogel 2016; Waldfogel 1997; Yu and Kuo 2017), and evidence suggests that people providing adult care earn less than workers who do not engage in family caregiving (Heitmuller and Inglis 2007; Skira 2015; Van Houtven, Coe, and Skira 2013; Wakabayashi and Donato 2005). The evidence on wage penalties for family caregivers is less conclusive than the evidence on motherhood wage penalties. Butrica and Karamcheva (2014) and Lilly, Laporte, and Coyte (2010), for example, find no evidence that adult caregivers earn less than those who do not provide care.

Long-Term Economic Consequences of Caregiving

In addition to forgoing earnings when they reduce their labor supply to tend to caregiving responsibilities, caregivers often receive lower wages once they return to work after their care responsibilities have ended. They may have missed promotions while absent from work, lost job tenure,

or seen their job skills erode and fail to keep pace with their peers (Spivey 2005). Earnings of workers who left the labor force may remain depressed for years after they return to work before rebounding to their original levels (Couch, Jolly, and Placzek 2009; Couch and Placzek 2010; Ruhm 1991; Stevens 1997). Additionally, caregivers do not contribute to employment-based retirement plans or Social Security when they are out of work, which can leave them ineligible for benefits or reduce the amount they receive if they do qualify (Favreault 2010; Favreault and Steuerle 2008; Meyer and Herd 2007). Long employment interruptions magnify these effects.

Data constraints force many studies to focus solely on the short-term economic costs of caregiving, but a few consider longer-term effects. These studies find that caring for children, parents, or spouses is associated with lower future levels of labor supply and earnings, as well as changes in retirement timing, income, and savings (Bolin, Lindgren, and Lundborg 2008; Butrica and Karamcheva 2014; Crespo and Mira 2014; Johnson and Favreault 2004; Rutledge, Zulkarnain, and King 2017; Tamborini and Purcell 2016; Weller and Tolson 2018, 2020). Favreault (2010) finds that nearly two-thirds of Social Security beneficiaries receiving Social Security income below the federal poverty level spent five or more years out of the labor force caring for children. Additionally, Wakabayashi and Donato (2006) find that women providing elder care are significantly more likely than noncaregivers to end up in poverty or receive public assistance eight years after they provide care.

Mothers are generally less likely to have long careers (35 or more work years) as they have more children (table 6).² Overall, 69 percent of women ages 62 and older who never have children work 35 or more years, compared with 59 percent of those with one or two children and 42 percent of those with three or more children. Among women with only a high school diploma, long careers are nearly as common for those without children as for those with only one or two children (58 percent versus 56 percent). However, long careers are much less prevalent among those with three or more children (40 percent). Black and Hispanic mothers with one or two children are somewhat more likely to have long careers than their counterparts who never have children. As with other women, however, Black and Hispanic mothers with three or more children are much less likely to have long careers than those with only one or two children.³

TABLE 6

**Percentage of Women Ages 62 and Older with 35 or More Years of Work Experience
by Number of Children Ever Born, 2018**

	None	One or Two	Three or More
All	69	59	42
Race and ethnicity			
<i>Non-Hispanic white</i>	73	61	45
<i>Non-Hispanic Black</i>	50	55	43
<i>Hispanic</i>	33	38	27
<i>All others</i>	*	48	34
Educational attainment			
<i>No high school diploma</i>	40	29	28
<i>High school diploma only</i>	58	56	40
<i>Some college</i>	75	61	45
<i>Bachelor's degree or more</i>	75	65	57

Source: Authors' computations from the Health and Retirement Study (HRS).

Notes: Other race and ethnic groups include Asians, Pacific Islanders, American Indians, and Alaska Natives. We combine these groups because our sample is not large enough to generate reliable estimates for each individual group.

* Not reported because we lack enough observations to generate reliable estimates.

Data and Methods

We use a dynamic microsimulation model to estimate the lifetime employment-related cost to women of providing care to family members. Our cost estimates depend on the extent to which caregivers reduce paid employment, which lowers earnings and subsequent payments from Social Security and employment-based retirement plans. We consider care for children under age 18 and certain adults with care needs, including parents, parents-in-law, and spouses (including unmarried partners). Data limitations prevent us from including other adult care recipients, such as siblings or adult children with disabilities, or any adult care provided by caregivers younger than age 51. Because most people who provide adult care are older than 50, our age restriction is unlikely to lead us to understate substantially the cost of such care.

We compute the lifetime employment-related cost of providing care to family members by comparing outcomes under two different simulations. Our baseline simulation projects women's lifetime employment, earnings, and income from Social Security and employment-based retirement plans under the assumption that when they provide family care they reduce their work hours consistent with recent empirical evidence. The caregiving-related employment reductions generated by our model vary with a worker's demographic characteristics, including education, race and ethnicity, and number of children. In our counterfactual simulation, we project how much mothers would work and earn over a lifetime and how much income they would receive in the form of retirement benefits when we eliminate the negative relationship between caregiving and annual earnings in our projections.

The estimated employment-related cost of providing care equals the additional lifetime earnings, Social Security retirement income, and payments from employment-based retirement plans received under the counterfactual simulation relative to the baseline simulation.⁴ When computing care costs, we subtract projected employee contributions to employer-sponsored retirement plans and the employee portion of Social Security and Medicare payroll taxes, because these payments reduce the amount workers can spend and save each year. We do not subtract federal and state income taxes, which are more difficult to allocate to incremental earnings. Future retirement income projected in the counterfactual simulation reflects how additional earnings generate more employee and employer retirement plan contributions, more investment returns on those contributions, and often more Social Security benefits.⁵

Our simulations tabulate the lifetime employment-related cost of providing unpaid care by summing each year until death the earnings lost because of caregiving activities and the associated loss

of retirement income. We report average cost estimates in 2021 inflation-adjusted dollars.⁶ We disaggregate costs by the age of the care recipient, showing costs incurred from caring for children younger than 6, children ages 6 to 17, and adults. When women provide care to children and adults in the same year, we attribute care costs to child care because women are more likely to reduce their labor supply when caring for children than when caring for adults. Our tabulations also show how simulated outcomes vary by education, race and ethnicity, and number of children.

Our analysis does not capture all costs associated with providing care. We do not include any out-of-pocket costs that caregivers sometimes incur, such as spending on paid child care, supplemental paid care for adults with care needs, home modifications, medication, adaptive equipment to help with personal care, or other supplies. The computations also exclude the nonfinancial costs of caregiving, such as lost leisure time and the stress and physical and emotional burdens that some caregivers experience (Legg et al. 2013; Leggett et al. 2021; Park 2021; Pinquart and Sorensen 2003, 2007; Roth et al. 2009; Spillman et al. 2014).

Simulating Family Care and Employment

Our projections come from the Dynamic Simulation of Income Model 4 (DYNASIM4), the Urban Institute's dynamic microsimulation model (Favreault, Smith, and Johnson 2015). DYNASIM4 starts with a sample of 128,656 individuals from the 2004 and 2008 SIPP panels. The model ages this starting sample in yearly increments to 2095, using parameters estimated from longitudinal data sources and macroeconomic and demographic assumptions about the future. This version of the model relies heavily on the intermediate assumptions of the 2021 Social Security trustees' report (Board of Trustees 2021) for projecting economic and demographic trends. Those assumptions capture the trustees' best guess about how the COVID-19 pandemic is affecting women's employment and how long those effects are likely to last.⁷

For every year of the projection period, DYNASIM4 simulates demographic events, such as births, deaths, schooling, marriages, divorces, and the onset of health problems and disability, and economic events, such as labor force participation, hours of work, hourly earnings, and retirement. The model simulates Social Security coverage and benefits, retirement plan coverage and participation, employer pension income, and distributions from retirement accounts. It also simulates home and financial assets (including assets held in retirement plans), health status, living arrangements, and income from nonspouse family members. DYNASIM4 includes detailed payroll and federal income tax calculators and computes Medicaid and Supplemental Security Income eligibility, participation, and benefits.

The baseline simulation projects the likelihood that women participate in the labor force each year and the annual number of hours worked for those in the labor force. Simulated employment rates show the percentage of adults working at any point in a year. Because some people move in and out of employment over the course of a year, DYNASIM4's employment rates exceed the monthly employment rates reported by the Bureau of Labor Statistics and shown in the previous section. DYNASIM4 uses different equations to project labor force participation and work hours for each gender, race (Black versus non-Black), and broad age group. For each group, equations project outcomes as functions of the number and ages of minor children in a household (including own children and stepchildren), education, marital status, region of the country, health and disability status, and job tenure, based on longitudinal data from the Panel Study of Income Dynamics. The equations also interact education with number of children by age. Consequently, the projected relationship between number of children in a household and hours of work varies with mothers' race and education. The estimated equations indicate that the negative relationship between labor supply and minor children is generally strongest when children are relatively young and for mothers with limited education, and it is stronger for white women than nonwhite women and for Hispanic women than non-Hispanic women.⁸ As a result, DYNASIM4 simulates fewer calendar years with any employment for women with minor children, especially children under age 6, than for women without dependent children (table 7). The differences are especially large for Hispanic women and women who did not attend college.

Our model uses separate equations for Black and non-Black adults and for men and women to project hourly wage rates. For each group, equations simulate wages as functions of age, education, marital status, region of the country, Hispanic origin, foreign birth, job tenure, and past wages. Each year, DYNASIM4 multiplies projected annual work hours by the projected hourly wage to simulate annual earnings. Because previous years' outcomes factor into the participation, work hours, and hourly wage equations, child care-related earnings reductions can reduce future earnings growth.

TABLE 7

Simulated Employment Rates for Women Ages 25 to 54*By presence of children younger than 18, race and ethnicity, and education*

	Children Younger than Age 18 in the Household (%)			
	None	Any	Younger than age 6	Ages 6–17
All	94	81	73	86
Race and ethnicity				
<i>Non-Hispanic white</i>	96	84	77	89
<i>Non-Hispanic Black</i>	94	90	88	92
<i>Hispanic</i>	88	65	53	74
<i>All others</i>	95	87	82	90
Educational attainment				
<i>Never attended college</i>	82	62	50	70
<i>At least some college</i>	98	90	85	94

Source: Authors' simulation from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: The analysis pools simulated annual observations on women ages 25 to 54 born between 1981 and 1985, and considers a woman's own children and any stepchildren who live with her. Other race and ethnic groups include Asians, Pacific Islanders, American Indians, and Alaska Natives. We combine these groups because our sample is not large enough to generate reliable estimates for each individual group. The estimates in the table show the percentage of years between ages 25 and 54 that a woman spends at least some time working for pay. These employment rates are higher than those reported in table 3 because they show the percentage of women employed at any point in a year, not in a single month.

The counterfactual simulation adjusts DYNASIM4's baseline equations for women's labor force participation and annual work hours to project how much women with children might have earned if their employment were not reduced when they were raising children. The adjusted equations zero out the coefficients for children and related interaction terms, thus eliminating any negative effect that children might have on employment. As in the baseline simulation, the counterfactual simulation generates annual earnings by multiplying projected annual work hours by the projected hourly wage. We assume that the additional earnings that caregivers would receive if they did not reduce their work hours would not prompt them to alter any other activities, such as later labor supply or savings.

DYNASIM4 also projects the likelihood that people ages 51 and older provide care to their parents, parents-in-law, and spouses (including unmarried partners) with care needs, and it projects the intensity of weekly care (no more than 2 hours, more than 2 hours but no more than 7, more than 7 hours but no more than 20, more than 20 hours but no more than 40, and more than 40 hours).⁹ Predictors in the adult care equation, estimated from HRS data, include age, gender, race and ethnicity, nativity, education, marital status, disability and health status, annual hours worked, years of work experience, annual unearned income, number of minor children, marital status, household size, and family financial assets and home equity. These equations reveal a weak negative relationship between a woman's

earnings and her provision of adult care, and DYNASIM4 projects that women who provide adult care work somewhat fewer hours than women who do not provide care (table 8). The differences, however, are modest.

TABLE 8

Simulated Employment Rates and Provision of Adult Care, Women Ages 51 to 59

By race and ethnicity and education

	Percent providing adult care	Women Who Provide Adult Care		Women Who Do Not Provide Adult Care	
		Percent employed	Mean annual work hours for those employed	Percent employed	Mean annual work hours for those employed
All	29	90	1,877	87	1,897
Race and ethnicity					
<i>Non-Hispanic white</i>	31	92	1,874	90	1,900
<i>Non-Hispanic Black</i>	28	93	2,086	90	2,035
<i>Hispanic</i>	26	80	1,773	76	1,825
<i>All others</i>	26	90	1,829	90	1,835
Educational attainment					
<i>No high school diploma</i>	17	41	1,299	49	1,498
<i>High school diploma only</i>	26	82	1,776	83	1,834
<i>Some college</i>	30	89	1,873	90	1,897
<i>Bachelor's degree or more</i>	33	98	1,936	97	1,978

Source: Authors' simulation from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: The analysis pools simulated annual observations on women ages 50 to 59 born between 1981 and 1985. Adult care consists of help to parents, parents-in-law, and spouses (including unmarried partners). Other race and ethnic groups include Asians, Pacific Islanders, American Indians, and Alaska Natives. We combine these groups because our sample is not large enough to generate reliable estimates for each individual group. These employment rates are higher than those reported in table 5 because they show the percentage of women employed at any point in a year, not in a single month.

The additional earnings assigned to caregivers in the counterfactual simulation often lead to increased retirement benefits from employers and Social Security. DYNASIM4 simulates coverage by an employment-based retirement plan based on personal characteristics, including education, age, union coverage, and employment sector. The model also simulates the likelihood that workers in a defined-contribution retirement plan contribute to that plan, the amount they contribute, and the amount their employer contributes, based on personal characteristics. Account balances earn investment returns and grow over time, and DYNASIM4 simulates withdrawals in retirement. Benefit calculators in DYNASIM4 also simulate Social Security benefits based on marriage and earnings histories. The counterfactual simulation recomputes Social Security payments and retirement plan account balances based on the additional earnings that caregivers receive, as some caregivers with retirement plans contribute to those plans during their caregiving spells.

Because DYNASIM4 projects outcomes for a nationally representative sample of the entire population, our simulations capture the full diversity of women's caregiving experiences. They reflect differences among women in earnings and employment; fertility histories; the likelihood, number, timing, and duration of caregiving spells; and other characteristics. They also reveal how caregiving varies by personal characteristics, including education and race and ethnicity. As a result, they provide a more nuanced picture of the economic costs associated with caregiving than previous studies, some of which rely on prototypical caregivers or make simple assumptions about how much caregivers would have earned if they did not provide family care (Madowitz, Rowell, and Hamm 2016; Metlife Mature Market Institute 2011).

Study Restrictions

We restrict our analysis to women born between 1981 and 1985 who are projected to have any own biological children or any stepchildren.¹⁰ We exclude women who never have children because the lifetime economic cost of caring for children far exceeds the cost of caring for adults with care needs. We also exclude men because fathers are much less likely than mothers to reduce their labor supply to care for children. Our analysis focuses on members of the 1981 to 1985 birth cohort, who are now in their late thirties and early forties, because most women in this generation have already completed their childbearing and have significant employment experience, making our projections for this group less speculative than they would be for later generations. Also, because DYNASIM4 begins projecting earnings in the early 2000s, the 1981 to 1985 cohort is young enough so that we are able to resimulate nearly all their projected lifetime earnings in the counterfactual simulation.

The simulations further exclude immigrants who entered the United States after age 26 because we do not have information on their employment or caregiving experiences before they arrived in the country.

Estimated Cost of Providing Care

We project that for mothers born between 1981 and 1985, who are now in their late thirties and early forties, the average lifetime employment-related cost of providing unpaid care is \$295,000 (figure 2). Eighty percent of this cost is the direct loss of earnings when caregivers leave the labor force or reduce their work hours. Average lost earnings are \$237,000, whereas average retirement benefits lost when forgone earnings reduce subsequent payments from Social Security and employment-based retirement plans total \$58,000. Earnings lost by women because of their caregiving activities represent a nontrivial share of their lifetime earnings. We project that average earnings lost to caregiving activities total 15 percent of what they would have earned if they did not provide care.

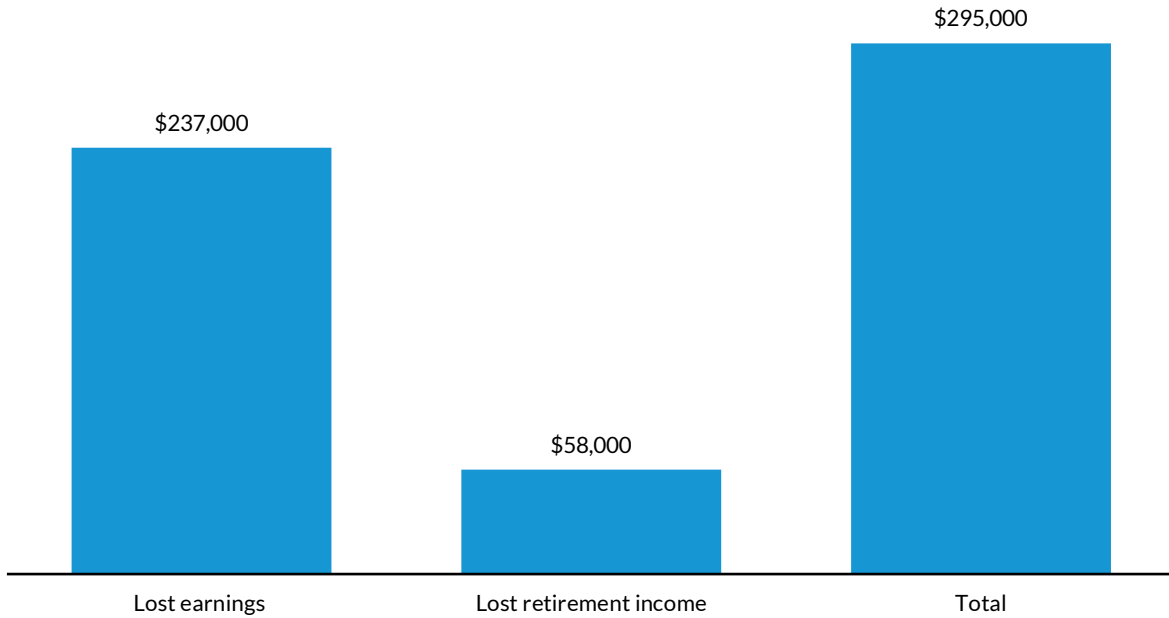
Eighty-five percent of employment-related costs associated with caregiving activities in our simulation arise from child care (figure 3). The average lifetime cost to mothers associated with providing care to children younger than age 6 is \$145,000, and the average cost of providing care to children ages 6 to 17 is \$107,000. Because the older group represents twice as many person-years as the younger group, annual care costs are nearly three times as high for children younger than 6 as children ages 6 to 17. Mothers with children younger than 6 are much more likely to stop working or reduce their work hours than mothers with older minor children. The projected average lifetime employment-related cost of providing care to parents, parents-in-law, and spouses (including unmarried partners) average \$43,000.

Adult care imposes much lower employment-related caregiving costs than child care because relatively few women reduce their work hours when they provide adult care. Moreover, many women who provide care to spouses are older and not employed. Our simulations assume that caregivers ages 70 and older would not have worked if they did not provide care, so our simulations do not assign any caregiving-related costs to those older caregivers. We may understate the cost of adult care because when women provide care to children and adults in the same year we attribute those costs to child care, which is generally more time intensive than adult care, and we are unable to account for adult care provided by women younger than 51. Because we restrict our analysis to women who ever had children, all the women in our sample spend some time over their lifetime providing child care, but relatively few provide adult care. Caregiving costs can be substantial for those women who provide adult care, and our estimate of the average employment-related cost of adult care would increase significantly if we considered only women who provided care to adult family members. Additionally, our cost estimates ignore the leisure time that caregivers sacrifice and the stress and physical burdens that many caregivers of older adults experience (Cohen et al. 2020; Pinquart and Sorensen 2003).

FIGURE 2

Average Lifetime Employment-Related Cost of Providing Unpaid Care, Mothers Born between 1981 and 1985

2021 inflation-adjusted dollars



URBAN INSTITUTE

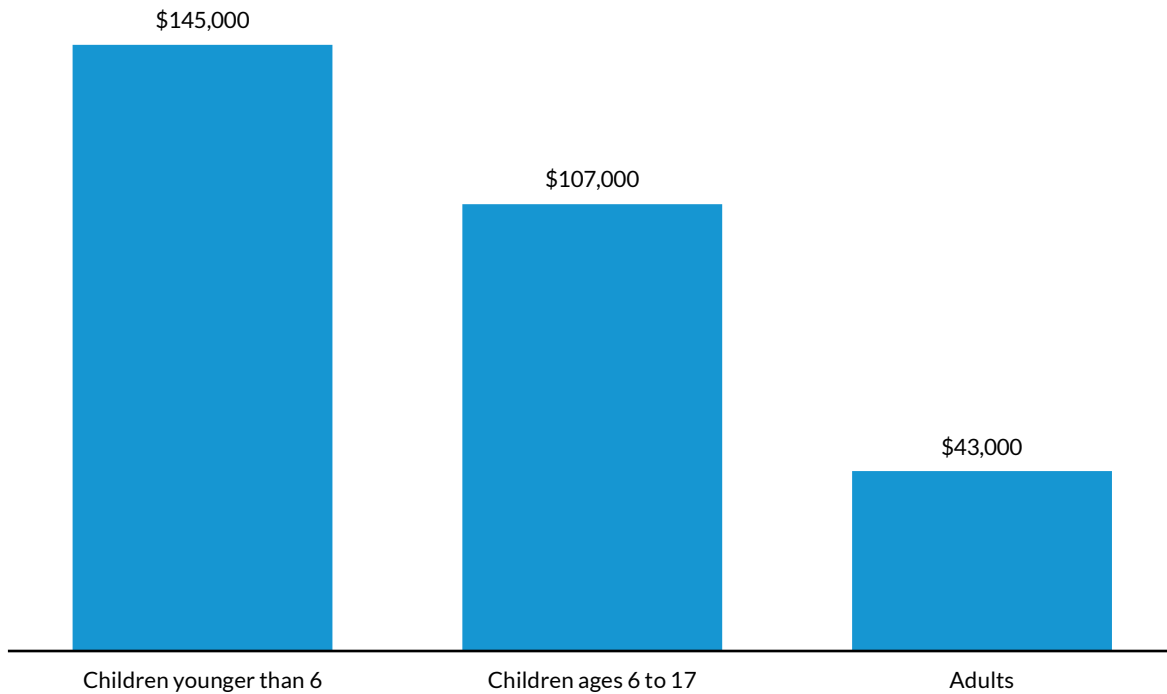
Source: Authors' estimates from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: Estimates are restricted to women born between 1981 and 1985 who are projected to have children or stepchildren and include care provided to own children or stepchildren younger than age 18, parents, parents-in-law, and spouses (including unmarried partners). The sample excludes women who die before age 65 and those who immigrated to the United States after age 26. The value of lost earnings subtracts employee contributions to employment-based retirement plans and the employee portion of Social Security and Medicare payroll taxes associated with the additional earnings we project women would have received if they did not provide unpaid family care.

FIGURE 3

Average Lifetime Employment-Related Cost of Providing Unpaid Care, Mothers Born between 1981 and 1985

By age of care recipient, 2021 inflation-adjusted dollars



URBAN INSTITUTE

Source: Authors' estimates from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: Estimates are restricted to women born between 1981 and 1985 who are projected to have children or stepchildren and include care provided to own children or stepchildren younger than age 18, parents, parents-in-law and spouses (including unmarried partners). The sample excludes women who die before age 65 and those who immigrated to the United States after age 26.

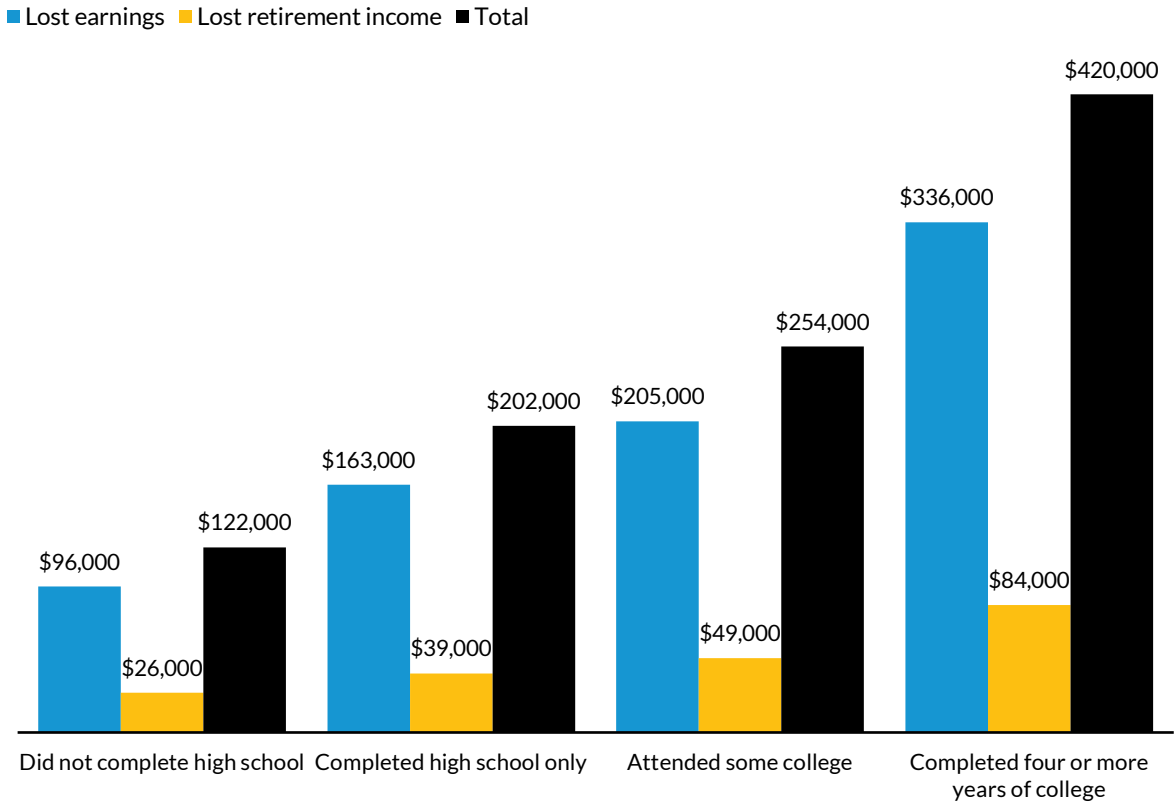
Differences by Education

Overall caregiving costs increase with education, but they decline as a share of potential lifetime earnings as education increases. We project that the average lifetime employment-related cost of providing unpaid care amounts to \$420,000 for mothers who completed four or more years of college, compared with \$202,000 for mothers who completed high school (or the equivalent) and did not attend college and \$122,000 for mothers who did not complete high school (figure 4). College-educated mothers generally incur high caregiving costs because they earn higher wages than mothers with less education. Retirement income lost to caregiving activities also increases with education, partly because

better-educated workers are more likely to be covered by and participate in an employment-based retirement plan than less-educated workers.

FIGURE 4
Average Lifetime Employment-Related Cost of Providing Unpaid Care, Mothers Born between 1981 and 1985

By education, 2021 inflation-adjusted dollars



URBAN INSTITUTE

Source: Authors' estimates from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: Estimates are restricted to women born between 1981 and 1985 who are projected to have children or stepchildren and include care provided to own children or stepchildren younger than age 18, parents-in-law, spouses, and partners. We classify women with a GED as having completed high school. The sample excludes women who die before age 65 and those who immigrated to the United States after age 26. The value of lost earnings subtracts employee contributions to employment-based retirement plans and the employee portion of Social Security and Medicare payroll taxes associated with the additional earnings we project women would have received if they did not provide unpaid family care.

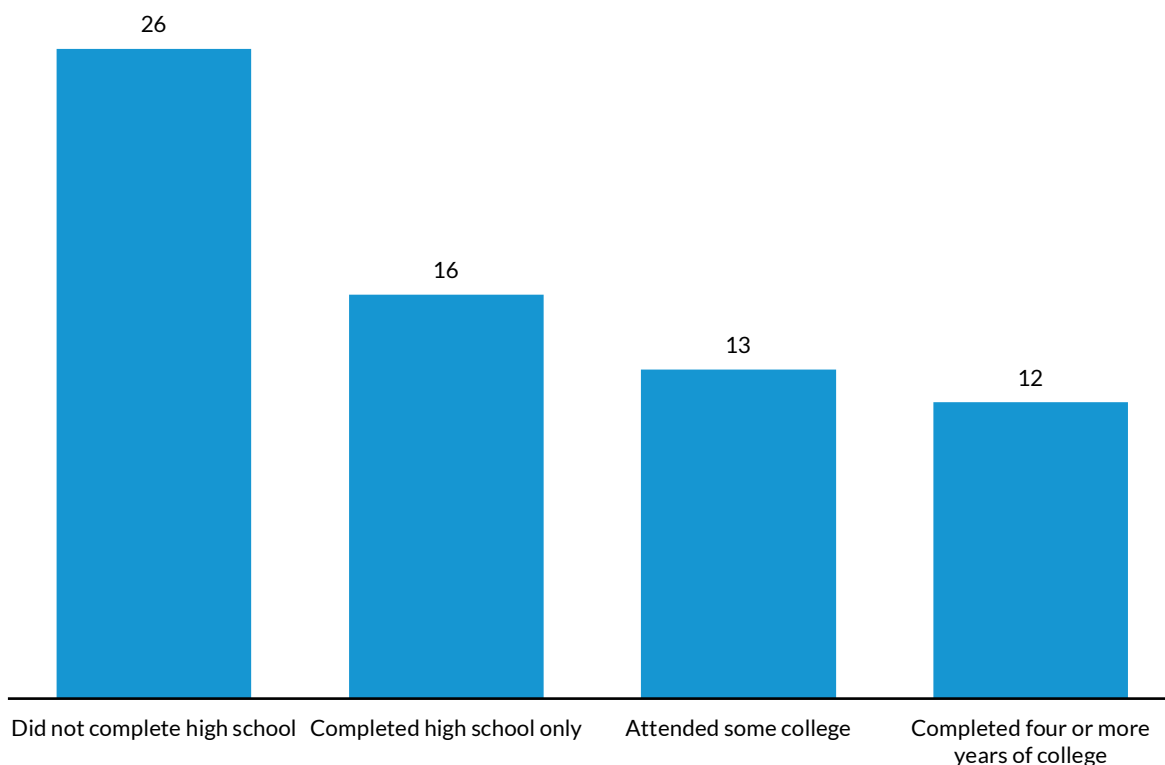
When expressed as a share of lifetime earnings, however, earnings lost because of caregiving activities fall as education increases (figure 5). Average earnings lost to caregiving activities represent 26 percent of total lifetime earnings for mothers who did not complete high school, compared with 16

percent of lifetime earnings for mothers who completed high school (or obtained a GED) and 12 percent for mothers who completed four or more years of college. Costs expressed as a share of lifetime earnings are relatively high for mothers with limited education because they are more likely than better-educated mothers to drop out of the labor force or reduce their paid work hours when they provide family care, and less-educated mothers tend to have more children. Additionally, paid child care may be unaffordable for many women with limited education, and relatively few less-educated workers hold jobs that provide flexible schedules and ease child care responsibilities.

FIGURE 5

Average Forgone Earnings from Providing Unpaid Care, Mothers Born between 1981 and 1985

By education, as a percentage of projected lifetime earnings if women did not provide unpaid care



URBAN INSTITUTE

Source: Authors' estimates from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: Estimates are restricted to women born between 1981 and 1985 who are projected to have children or stepchildren and include care provided to own children or stepchildren younger than age 18, parents, parents-in-law, spouses, and partners. We classify women with a GED as having completed high school. The sample excludes women who die before age 65 and those who immigrated to the United States after age 26.

Differences by Race and Ethnicity

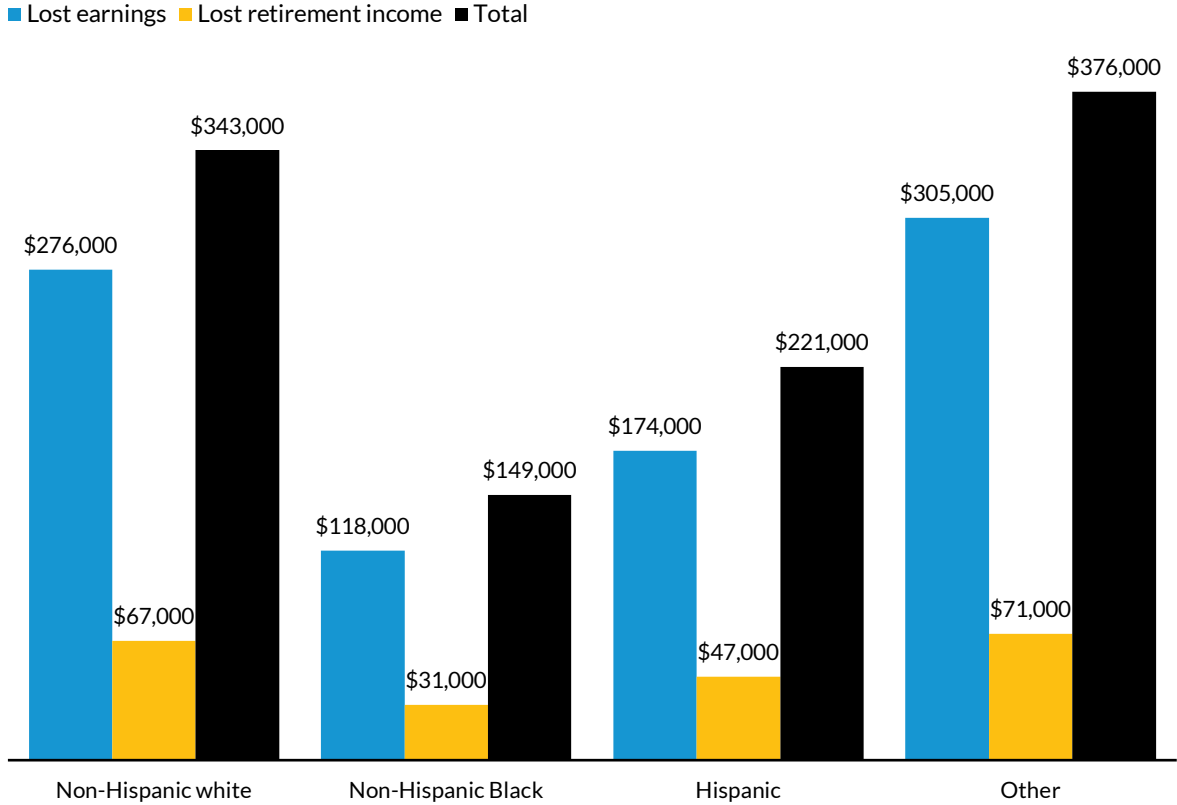
Projected lifetime employment-related caregiving costs also vary by race and ethnicity. Compared with Black and Hispanic mothers, costs are higher for white mothers and mothers in other racial groups, including Asians, Pacific Islanders, American Indians, and Alaska Natives (figure 6). The projected average lifetime employment-related cost of providing unpaid care is \$343,000 for non-Hispanic white mothers and \$376,000 for mothers in other racial groups, more than twice as much as for Black mothers. This disparity reflects the relatively high earnings received by white workers and workers of other race groups.

Racial and ethnic patterns in lifetime care costs differ when we measure costs as a share of potential lifetime earnings. Hispanic mothers lose nearly a fifth of their potential lifetime earnings to caregiving activities, more than any other racial and ethnic group (figure 7). The average share of lifetime earnings lost to caregiving activities reaches 19 percent for Hispanic mothers, compared with 8 percent for Black mothers, 15 percent for non-Hispanic white mothers, and 14 percent for mothers in other racial groups (including Asians, Pacific Islanders, American Indians, and Alaska Natives). Care-related losses make up a large share of Hispanic mothers' earnings because Hispanic mothers are less likely to work when they have young children than other mothers. Earnings losses for Hispanic mothers, who earn less on average than non-Hispanic white mothers, are likely to lead to economic hardship. Despite their smaller size, Black women's caregiving-related earnings losses can also undermine economic security because many Black women receive limited earnings.

FIGURE 6

Average Lifetime Employment-Related Cost of Providing Unpaid Care, Mothers Born between 1981 and 1985

By race and ethnicity, 2021 inflation-adjusted dollars



URBAN INSTITUTE

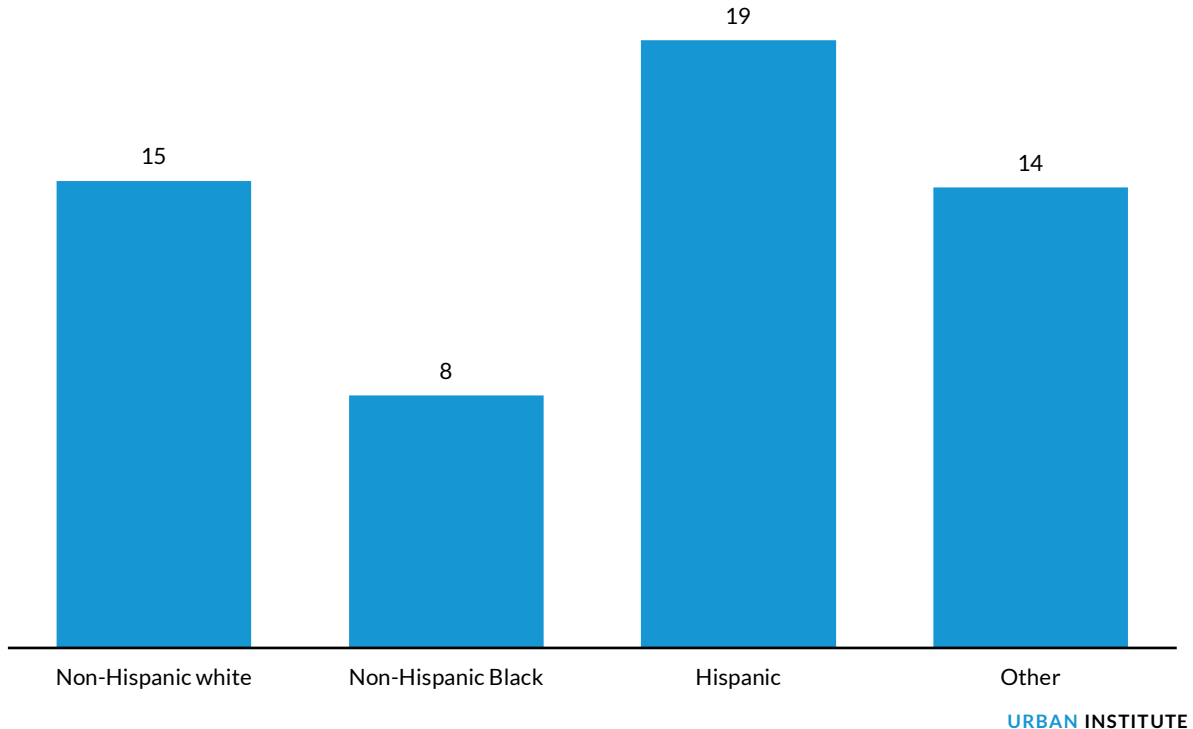
Source: Authors' estimates from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: Estimates are restricted to women born between 1981 and 1985 who are projected to have children or stepchildren and include care provided to own children or stepchildren younger than age 18, parents-in-law, spouses, and partners. Other race and ethnic groups include Asians, Pacific Islanders, American Indians, and Alaska Natives. We combine these groups because our sample is not large enough to generate reliable estimates for each individual group. The sample excludes women who die before age 65 and those who immigrated to the United States after age 26. The value of lost earnings subtracts employee contributions to employment-based retirement plans and the employee portion of Social Security and Medicare payroll taxes associated with the additional earnings we project women would have received if they did not provide unpaid family care.

FIGURE 7

Average Forgone Earnings from Providing Unpaid Care, Women Born between 1981 and 1985

By race and ethnicity, as a percentage of projected lifetime earnings if women did not provide unpaid care



Source: Authors' estimates from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: Estimates are restricted to women born between 1981 and 1985 who are projected to have children or stepchildren and include care provided to own children or stepchildren younger than age 18, parents, parents-in-law, spouses, and partners. Other race and ethnic groups include Asians, Pacific Islanders, American Indians, and Alaska Natives. We combine these groups because our sample is not large enough to generate reliable estimates for each individual group. The sample excludes women who die before age 65 and those who immigrated to the United States after age 26.

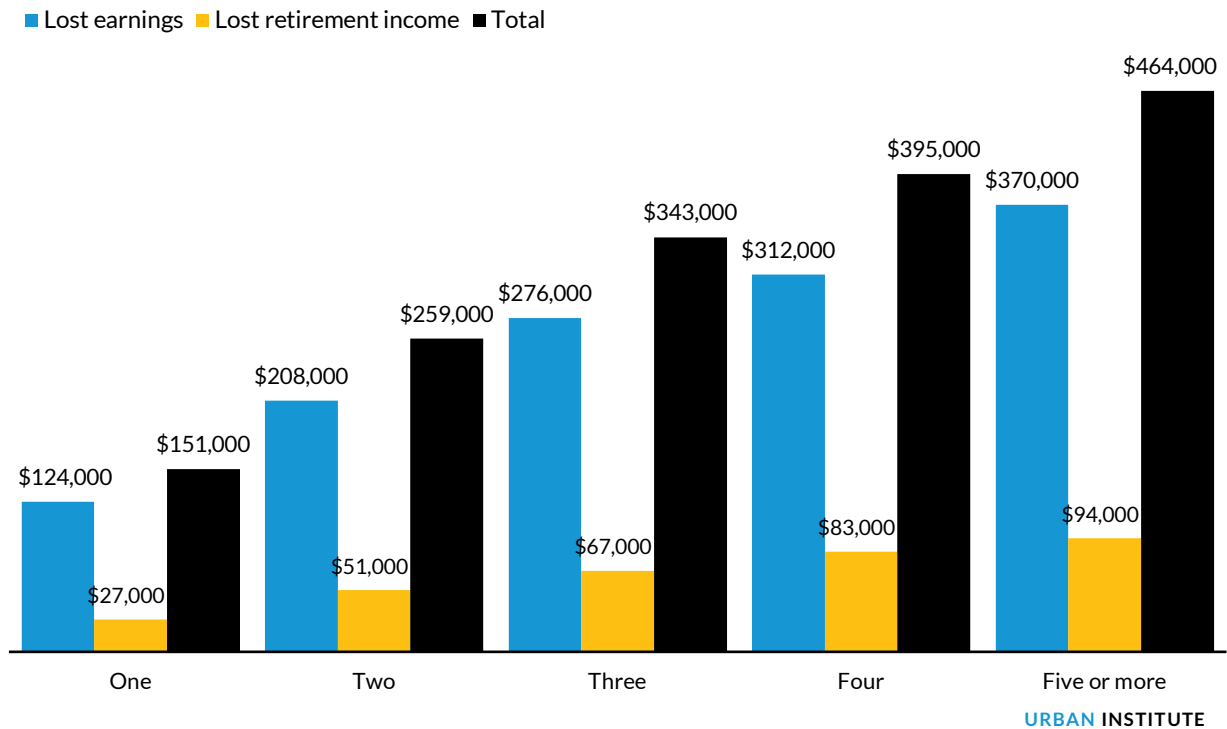
Differences by Number of Children

The projected lifetime cost of providing unpaid care increases sharply with number of children. The average lifetime employment-related cost increases from \$151,000 for mothers who had only one child to \$343,000 for mothers with three children and to \$464,000 for mothers with five or more children (figure 8). Caregiving costs increase with the number of children because mothers with more children tend to reduce their lifetime supply more than mothers with fewer children. Also, less-educated mothers generally have more children than better-educated mothers, and less-educated women are more likely to reduce their labor supply when they have children because they generally have less flexible jobs and are less able to afford paid child care than better-educated mothers. Projected forgone

earnings from providing unpaid care increases from 6 percent of potential lifetime earnings for mothers with one child to 16 percent of potential lifetime earnings for mothers with three children and to 32 percent for mothers with five or more children (figure 9).

FIGURE 8
Average Lifetime Employment-Related Cost of Providing Unpaid Care, Mothers Born between 1981 and 1985

By number of children, 2021 inflation-adjusted dollars



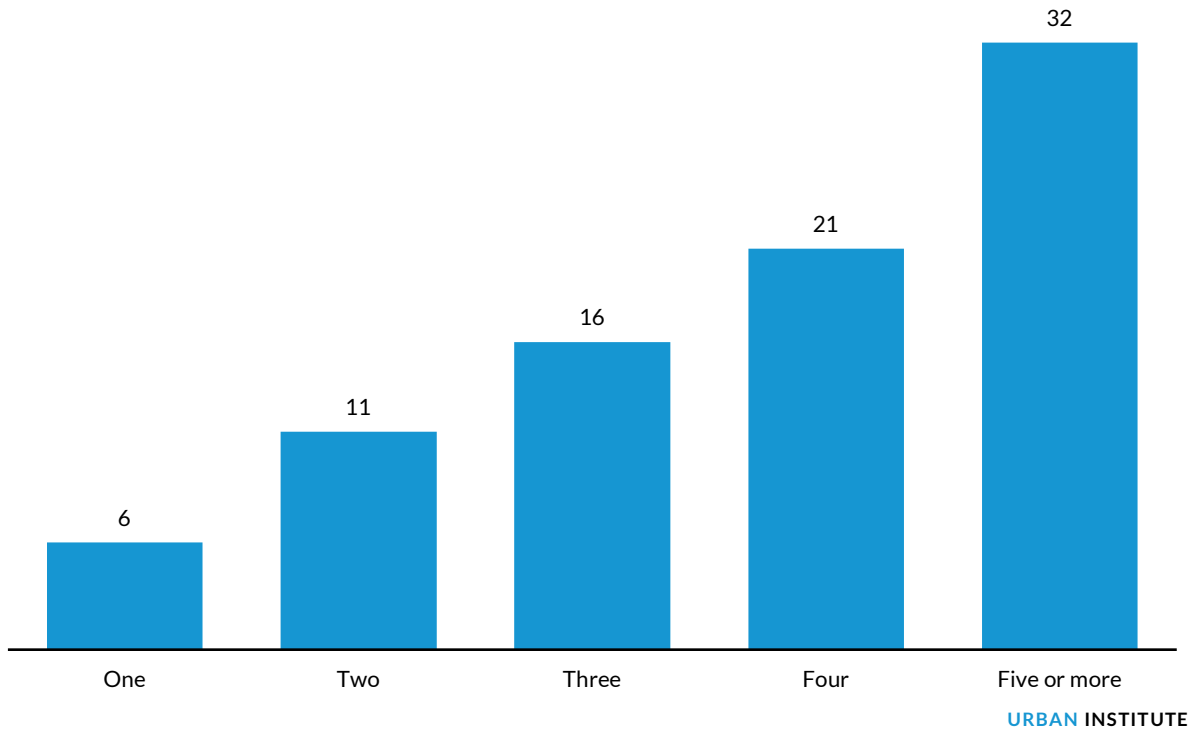
Source: Authors' estimates from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: Estimates are restricted to women born between 1981 and 1985 who are projected to have children or stepchildren and include care provided to own children or stepchildren younger than age 18, parents-in-law, spouses, and partners. The sample excludes women who die before age 65 and those who immigrated to the United States after age 26. The value of lost earnings subtracts employee contributions to employment-based retirement plans and the employee portion of Social Security and Medicare payroll taxes associated with the additional earnings we project women would have received if they did not provide unpaid family care.

FIGURE 9

Average Forgone Earnings from Providing Unpaid Care, Women Born between 1981 and 1985

By number of children, as a percentage of projected lifetime earnings if women did not provide unpaid care



Source: Authors' estimates from the Dynamic Simulation of Income Model 4 (DYNASIM4), run id982.

Notes: Estimates are restricted to women born between 1981 and 1985 who are projected to have children or stepchildren and include care provided to own children or stepchildren younger than age 18, parents, parents-in-law, spouses, and partners. The sample excludes women who die before age 65 and those who immigrated to the United States after age 26.

Conclusions

Many caregivers experience significant employment-related costs when they provide unpaid care to children and adults with disabilities. They must often curtail their employment or stop work altogether, reducing their earnings while they provide care and thus limiting their subsequent retirement benefits. As mothers' employment has increased and become more continuous over the past several decades, care-related employment losses now more often involve a reduction in work hours than a complete withdrawal from the labor force. Reduced employment can lower caregivers' wage growth, especially for caregivers who take lower-paying jobs or miss out on promotions. Thus, the economic cost of family caregiving can persist long after caregiving activities end.

Our simulations quantify the lifetime employment-related cost of providing unpaid family care for women born between 1981 and 1985 who had children. The average loss of lifetime earnings from providing care totals \$237,000 in 2021 inflation-adjusted dollars, or 15 percent of what mothers would have earned if they did not experience caregiving-related employment reductions. Adding in lost retirement benefits, we conclude that the average total lifetime employment-related cost to mothers from providing care is \$295,000. To the extent that we fail to capture fully long-term earnings losses associated with the slower lifetime wage growth experienced by caregivers who must give up promotions or transition to lower paying jobs, this estimate will understate actual costs.

Caregiving costs are not distributed evenly across the population. Total employment-related caregiving costs are higher-than-average for mothers with multiple children, who generally devote more time to caregiving than mothers with fewer children, and for well-educated mothers, who generally earn high wages. However, costs as a share of potential lifetime earnings are particularly high for Hispanic and less-educated mothers, who often earn relatively low wages. Both groups have more children than average, but they also face other challenges that make balancing caregiving and employment difficult. Many Hispanic and less-educated workers are employed in jobs that offer little flexibility, for example, and many do not earn enough to use paid child care. Although Black mothers incur lower employment-related care costs on average than other groups, the losses they experience can often lead to economic hardship because many Black workers earn relatively low wages. Care-related employment losses may contribute to the high old-age poverty rates experienced by Black and Hispanic adults and adults with limited education (Johnson 2021). Our results underscore the importance of affordable child care for mothers who work for pay.

Estimates from previous studies of the lifetime costs associated with caregiving-related career interruptions vary widely. Using longitudinal administrative earnings, Neumeier, Sørensen, and Webber (2017) estimated the lifetime motherhood earnings gap at about \$350,000 for women born in the late 1940s, declining to \$280,000 for those born in the late 1960s. Madowitz, Rowell, and Hamm (2016) estimate that leaving the labor force for five years to care for children would reduce lifetime earnings for a young woman working full time, full year and earning the median wage by \$467,000, or 19 percent of her potential income. Their analysis, which accounts for losses in earnings, wage growth, Social Security benefits, and retirement account assets, assumes only full-time work or complete withdrawal from the labor force, uses stylized assumptions about retirement plans that may be optimistic for less-skilled workers, and focuses on five-year caregiving-related withdrawals from the labor force, which are uncommon. Calhoun and Espenshade (1988) estimate married mothers' opportunity cost of providing child care using multistate life table techniques and nationally representative data, but they focus on a limited number of representative cases. Their estimates for the 1960 birth cohort suggest that a white mother with a high school diploma and two children could expect to forgo about \$44,000 in earnings in 1981 dollars, equivalent to \$188,700 in lost earnings in 2021 dollars when adjusted for average wage growth over time. An important contribution of our study is that we consider a nationally representative sample of mothers, simulate caregiving-related reductions in work hours as well as labor force withdrawals, and account for the wide diversity in mothers' employment and caregiving activities.

We find that the vast majority of employment-related costs associated with caregiving arise from caring for children and that the cost of providing care to spouses and unmarried partners with disabilities or elderly parents or parents-in-law is relatively low, although not trivial. Our results stem primarily from our use of forgone earnings to measure costs, since relatively few women reduce their employment to provide elder care. Estimated caregiving costs are generally higher when measured as the cost of replacing unpaid family care with help from paid providers than when measured as the earnings lost by unpaid helpers (Arno, Levine, and Memmott 1999; Johnson and Schaner 2005; Reinhard et al. 2019). We may understate the cost of caring for adults because we consider only care for spouses (including unmarried partners), parents, and parents-in-law, ignoring other important recipients of unpaid family care such as adult children with disabilities, and we are unable to measure adult care provided by caregivers younger than age 51. We also set caregiving costs to zero for caregivers ages 70 and older because we assume that these caregivers would not work for pay, and when women provide care to both children and adults in the same year, we attribute those costs to child care, which tends to be more time intensive than adult care. Additionally, all the women in our analysis spend some time caring for children, because we restrict our analysis to mothers, but relatively few provide adult care, reducing our estimate of the average cost of providing adult care.

Other studies have concluded that the cost of elder care is substantial for people caring for family members with significant care needs. Hurd et al. (2013) estimate the cost of providing one year of care to a person with dementia at about \$15,000 (in 2010 dollars) when measured as lost wages and about \$30,000 when measured as the cost of replacing unpaid care with paid care. These estimates correspond to about \$21,300 and \$42,600 in 2021 wage-indexed dollars. However, dementia patients generally need much more intensive care and supervision than most care recipients. The employment-related cost of providing care to older adults is much lower when averaged across all women who had children, only a small fraction of whom provide care to dementia patients.

The Metlife Mature Market Institute (2011) estimate the average lifetime economic impact on women who care for aged parents at more than \$274,000 among those who exit the labor force to provide care and \$185,000 among those who reduce their work hours to provide care. This estimate reflects lost wages and lost benefits from Social Security and employer-sponsored retirement plans. Although these figures are based on actual caregivers in the HRS, they may overstate costs because they do not acknowledge that most caregiving spells last less than one to two years (Bittman, Hill, and Thomson 2007; Butrica and Karamcheva 2014). Also, many caregivers sacrifice leisure time rather than reduce work hours or drop out of the labor force. By focusing on just a few cases that may be nonrepresentative, the Metlife estimates fail to capture the diversity of caregivers and care recipients. Relatively few women reduce their labor supply to care for aging parents, so costs averaged over all women are much lower.

Forgone earnings and retirement income are only some of the costs experienced by caregivers. Out-of-pocket expenses, including spending on paid child care, summer camps and other supervised activities for children when school is not in session, supplemental paid care for older adults with care needs, and home modifications to accommodate people with disabilities, can be substantial (Espenshade 1984; Lino et al. 2017; Rainville, Skufca, and Mehegan 2016). Caregiving activities are often stressful, taking a physical and emotional toll and forcing many caregivers to sacrifice much of their leisure time. True equity requires looking beyond purely monetary considerations to include caregivers' available leisure and self-care time and the distribution of chore burdens within a household.

Notes

¹ The HRS is a nationally representative longitudinal survey of adults ages 51 and older conducted by the University of Michigan's Institute for Social Research with primary funding from the National Institute on Aging. It collects detailed information on demographic characteristics, labor supply, and earnings, among many other topics, and asks respondents whether they provide help to parents, parents-in-law, spouses, or partners. The survey asks respondents whether they provided parents or parents-in-law with personal care or household assistance of at least 100 hours over the past two years, and how many hours per week and weeks per month they provided help. The HRS also asks respondents if they provided at least 50 hours of assistance over the past year to surviving spouses or partners or if they provided care in the last three months of life to recently deceased spouses or partners. The survey then asks helpers about the number of hours per week and weeks per month they provided care.

The SIPP is a nationally representative longitudinal household survey conducted by the US Census Bureau that collects information on demographics, household composition, employment and earnings, income and wealth, and government program participation. Unlike the HRS, it covers all age groups. In 2011, the most recent year the survey collected data on the provision of unpaid care, it asked both workers and nonworkers about any caregiving responsibilities they had in the past month for a person with a long-term illness or disability. The survey collected information on the relationship of the care recipient, whether the care recipient lived in the same household, and the type, number of hours, and years of care provided.

² Social Security benefits are based on the highest 35 years of wage-adjusted earnings.

³ This result for Black women differs from results reported in table 4, which show that Black women with three or more minor children are no less likely to be employed at ages 18 to 54 than women with one or two minor children. The tables use data from different surveys and examine outcomes at different ages.

⁴ Instead of using this opportunity cost measure, showing what caregivers could have earned if they did not provide care, some studies use a replacement cost measure, showing how much families would have to pay to replace hours of unpaid child care and family care with help from paid caregivers (Arno, Levine, and Memmott 1999; Hurd et al. 2013; Murphy 1978, 1982).

⁵ These additional simulated earnings can also qualify a caregiver for future Social Security benefits, which require 10 years of covered earnings. If these additional simulated earnings occur during a caregiver's low-earning years and thus do not increase her average earnings during her top 35 earning years, they will not boost her Social Security benefits. Retirees have the option of receiving 50 percent of their spouse's Social Security payments and 100 percent of their deceased spouse's Social Security payments instead of collecting on their own earnings record. Additional earnings by a caregiver would not increase her Social Security benefits if she elects to receive spousal benefits.

⁶ When summing annual costs to generate a lifetime measure, we adjust only for inflation. An alternative approach would be to calculate a present discounted value, which gives more weight to costs incurred early in life than those incurred later.

⁷ A later version of DYNASIM4, updated after we completed the analysis reported here, incorporates the Social Security trustees' 2022 assumptions.

⁸ DYNASIM4 simulates labor force participation rates for all people in the model ages 16 to 80. The model includes separate labor market equations for Black people and non-Black people for four age groups (16 to 24, 25 to 54, 55 to 64, and 65 to 80). The non-Black equations include Hispanic indicators. DYNASIM4's participation equations generate different overall labor force participation rates for Black people than for other nonwhite people because the groups generally differ in terms of personal characteristics that enter into the participation equations, such as age, school enrollment, education, marital status, health, disability, and Social

Security benefit receipt. The participation equations also control for spouse characteristics, state-level unemployment rates, and birth year.

⁹ Because our model of family care was estimated on HRS data, which samples older Americans and provides information on care provided only to parents, parents-in-law, and spouses (including unmarried partners), DYNASIM4 does not project unpaid adult care provided by caregivers under age 51 or care provided to friends or other family members.

¹⁰ DYNASIM4 does not model adoptions.

References

- AARP and the National Alliance of Caregivers. 2020. *Caregiving in the U.S. 2020*. Washington, DC: AARP.
- Albanesi, Stefania, and Jiyeon Kim. 2021. "Effects of COVID-19 Recession on the US Labor Market: Occupation, Family, and Gender." *Journal of Economic Perspectives* 35 (3): 3–24. <https://www.jstor.org/stable/27041212>.
- Alon, Titan, Matthias Doepke, Jane Olmstead-Rumsey, and Michèle Tertilt. 2020. "This Time It's Different: The Role of Women's Employment in a Pandemic Recession." NBER Working Paper No. 27660. Cambridge, MA: National Bureau of Economic Research.
- Anderson, Deborah J., Melissa Binder, and Kate Krause. 2003. "The Motherhood Wage Penalty Revisited: Experience, Heterogeneity, Work Effort, and Work-Schedule Flexibility." *Industrial and Labor Relations Review* 56: 273–94. <https://doi.org/10.2307/3590938>.
- Arno, Peter S., Carol Levine, and Margaret M. Memmott. 1999. "The Economic Value of Informal Caregiving." *Health Affairs* 18 (2):182–88. <https://doi.org/10.1377/hlthaff.18.2.182>.
- Avellar, Sarah, and Pamela J. Smock. 2003. "Has the Price of Motherhood Declined Over Time? A Cross-Cohort Comparison of the Motherhood Wage Penalty." *Journal of Marriage and Family* 65 (3): 597–607. <https://www.jstor.org/stable/3600026>.
- Bearak, Jonathan Marc, Anna Popinchalk, Kristen Lagasse Burke, and Selen Anjur-Dietrich. 2021. "Does the Impact of Motherhood on Women's Employment and Wages Differ for Women Who Plan Their Transition into Motherhood?" *Demography* 58 (4): 1301–25. <https://doi.org/10.1215/00703370-9295218>.
- Bittman, Michael, Trish Hill, and Cathy Thomson. 2007. "The Impact of Caring on Informal Carers' Employment, Income, and Earnings: A Longitudinal Approach." *Australian Journal of Social Issues* 42 (2): 255–72. <https://doi.org/10.1002/j.1839-4655.2007.tb00053.x>.
- Board of Trustees, Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. 2021. *2021 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds*. Washington, DC: Board of Trustees, Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds.
- Bolin, Kristian, Bjorn Lindgren, and Petter Lundborg. 2008. "Your Next of Kin or Your Own Career? Caring and Working Among the 50+ of Europe." *Journal of Health Economics* 27: 718–38. <https://doi.org/10.1016/j.jhealeco.2007.10.004>.
- Budig, Michelle J. 2014. "The Fatherhood Bonus and the Motherhood Penalty: Parenthood and the Gender Gap in Pay." Washington, DC: Third Way.
- Budig, Michelle J., and Paula England. 2001. "The Wage Penalty for Motherhood." *American Sociological Review* 66: 204–25. <https://doi.org/10.2307/2657415>.
- Bureau of Labor Statistics. 2019. "Unpaid Eldercare in the United States – 2017–18 Data from the American Time Use Survey." Washington, DC: US Department of Labor.
- . 2022. "Employment Characteristics of Families—2021." News Release. Washington, DC: US Department of Labor.
- Butrica, Barbara A., and Nadia S. Karamcheva. 2014. "The Impact of Informal Caregiving on Older Adults' Labor Supply and Economic Resources." Final report to the US Department of Labor's Employee Benefits Security Administration. Washington, DC: Urban Institute.
- Calhoun, Charles A., and Thomas J. Espenshade. 1988. "Childbearing and Wives' Foregone Earnings." *Population Studies* 42 (1): 5–37. <https://www.jstor.org/stable/2174526>.

- Cha, Youngjoo. 2013. "Overwork and the Persistence of Gender Segregation in Occupations." *Gender & Society* 27 (2): 158–84. <https://doi.org/10.1177/0891243212470510>.
- Cohen, Gabriela, Maria Julieta Russo, Jorge A. Campos, and Ricardo F. Allegri. 2020. "Living with Dementia: Increased Level of Caregiver Stress in Times of COVID-19." *International Psychogeriatrics* 32 (Special Issue 11): 1377–81. <https://doi.org/10.1017/S1041610220001593>.
- Collins, Caitlyn, Leah Ruppanner, Liana Christin Landivar, and William J. Scarborough. 2021. "The Gendered Consequences of a Weak Infrastructure of Care: School Reopening Plans and Parents' Employment during the COVID-19 Pandemic." *Gender & Society* 35 (2): 180–93. <https://doi.org/10.1177/08912432211001300>.
- Couch, Kenneth A., and Dana W. Placzek. 2009. "Earnings Losses of Older Displaced Workers: A Detailed Analysis with Administrative Data." *Research on Aging* 31 (1): 17–40. <https://doi.org/10.1177/016402750832463>.
- Couch, Kenneth A., Nicholas A. Jolly, and Dana W. Placzek. 2010. "Earnings Losses of Displaced Workers Revisited." *American Economic Review* 100 (1): 572–589. <https://doi.org/10.1257/aer.100.1.572>.
- Crespo, Laura, and Pedro Mira. 2014. "Caregiving to Elderly Parents and Employment Status of European Mature Women." *Review of Economics and Statistics* 96 (4): 693–709. <https://www.jstor.org/stable/43554949>.
- De Rigne, LeaAnne, and Stephen Ferrante. 2012. "The Sandwich Generation: A Review of the Literature." *Florida Public Health Review* 9: 95–104. <https://digitalcommons.unf.edu/fphr/vol9/iss1/12>.
- Drago, Robert. 2009. "The Parenting of Infants: A Time-Use Study." *Monthly Labor Review*. October: 33–43. <https://www.bls.gov/opub/mlr/2009/article/parenting-of-infants-a-time-use-study.htm>.
- Espenshade, Thomas J. 1984. *Investing in Children: New Estimates of Parental Expenditures*. Washington, DC: Urban Institute Press.
- Ettner, Susan L. 1995. "The Impact of 'Parent Care' on Female Labor Supply Decisions." *Demography* 32: 63–79. <https://doi.org/10.2307/2061897>.
- Fabrizio, Stefania, Diego B. P. Gomes, and Marina M. Tavares. 2021. "COVID-19 She-Cession: The Employment Penalty of Taking Care of Young Children." Working Paper WP/21/58. Washington, DC: International Monetary Fund.
- Fahle, Sean, and Kathleen McGarry. 2018. "Women Working Longer: Labor Market Implications of Providing Family Care." In *Women Working Longer: Increased Employment at Older Ages*, edited by Claudia Goldin and Lawrence F. Katz, 157–81. Chicago: University of Chicago Press.
- Favreault, Melissa. 2010. "Why Do Some Workers Have Low Social Security Benefits?" The Retirement Policy Project Discussion Paper 10–03. Washington, DC: Urban Institute.
- Favreault, Melissa M., Karen E. Smith, Richard W. Johnson. 2015. *The Dynamic Simulation of Income Model (DYNASIM): An Overview*. Washington, DC.
- Favreault, Melissa M., and C. Eugene Steuerle. 2008. "The Implications of Career Lengths for Social Security." The Retirement Policy Project Discussion Paper 08–03. Washington, DC: Urban Institute.
- Goldin, Claudia. 1990. *Understanding the Gender Gap: An Economic History of American Women*. New York: Oxford University Press.
- . 2006. "The Quiet Revolution That Transformed Women's Employment, Education, and Family." *American Economic Review* 96 (2): 1–50. <https://doi.org/10.1257/000282806777212350>.
- Heitmueller, Axel, and Kirsty Inglis. 2007. "The Earnings of Informal Carers: Wage Differentials and Opportunity Costs." *Journal of Health Economics* 26 (3): 821–41. <https://doi.org/10.1016/j.jhealeco.2006.12.009>.
- Hurd, Michael D., Paco Martorell, Adeline Delavande, Kathleen J. Mullen, and Kenneth M. Langa. 2013. "Monetary Costs of Dementia in the United States." *New England Journal of Medicine* 368: 1326–34. <https://doi.org/10.1056/NEJMsa1204629>.

- Ishizuka, Patrick. 2021. "The Motherhood Penalty in Context: Assessing Discrimination in a Polarized Labor Market." *Demography* 58 (4): 1275–1300. <https://doi.org/10.1215/00703370-9373587>.
- Ishizuka, Patrick, and Kelly Musick. 2021. "Occupational Inflexibility and Women's Employment During the Transition to Parenthood." *Demography* 58 (4): 1249–74. <https://doi.org/10.1215/00703370-9373598>.
- Jacobs, Josephine C., Audrey Laporte, Courtney H. Van Houtven, and Peter C. Coyte. 2014. "Caregiving Intensity and Retirement Status in Canada." *Social Science & Medicine* 102: 74–82. <https://doi.org/10.1016/j.socscimed.2013.11.051>.
- Jee, Eunjung, Joya Misra, and Marta Murray-Close. 2019. "Motherhood Penalties in the US, 1986–2014." *Journal of Marriage and Family* 81: 434–49. <https://doi.org/10.1111/jomf.12543>.
- Johnson, Richard W. 2021. "Policy Options to Reduce the Black-White Gap in Retirement Security." *Journal of Elder Policy* 1 (2): 83–112. <https://www.journalofelderpolicy.org/johnson.html>.
- Johnson, Richard W., and Melissa M. Favreault. 2004. "Economic Status in Later Life among Women Who Raised Children Outside of Marriage." *Journal of Gerontology: Social Sciences* 59B (6): S315–23. <https://doi.org/10.1093/geronb/59.6.s315>.
- Johnson, Richard W., and Simone G. Schaner. 2005. "Value of Unpaid Activities by Older Americans Tops \$160 Billion per Year." Washington, DC: Urban Institute.
- Kahn, Joan R., Javier García-Manglano, and Suzanne M. Bianchi. 2014. "The Motherhood Penalty at Midlife: Long-Term Effects of Children on Women's Careers." *Journal of Marriage and the Family* 76 (1): 56–72. <https://doi.org/10.1111/jomf.12086>.
- Kuziemko, Ilanya, Jessica Pan, Jenny Shen, and Ebonya Washington. 2021. "The Mommy Effect: Do Women Anticipate the Employment Effects of Motherhood?" Working Paper No. 24740. Cambridge, MA: National Bureau of Economic Research.
- Landivar, Liana Christin, and Mark DeWolf. 2022. "Mothers' Employment Two Years Later: An Assessment of Employment Losses and Recovery during the COVID-19 Pandemic." Washington, DC: Women's Bureau, US Department of Labor.
- Landivar, Liana Christin, Leah Ruppner, William J. Scarborough, and Caitlyn Collins. 2020. "Early Signs Indicate that COVID-19 Is Exacerbating Gender Inequality in the Labor Force." *Socius: Sociological Research for a Dynamic World* 6: 1–3. <https://doi.org/10.1177/237802312094799>.
- Lee, Emma K., and Zachary Parolin. 2021. "The Care Burden during COVID-19: A National Database of Child Care Closures in the United States." *Socius: Sociological Research for a Dynamic World* 7 1–10. <https://doi.org/10.1177/23780231211032028>.
- Lee, Yeonjung, and Fengyan Tang. 2015. "More Caregiving, Less Working: Caregiving Roles and Gender Difference." *Journal of Applied Gerontology* 34 (4): 465–83. <https://doi.org/10.1177/0733464813508649>.
- Lee, Yeonjung, Fengyan Tang, Kevin H. Kim, and Steven M. Albert. 2015. "The Vicious Cycle of Parental Caregiving and Financial Well-Being: A Longitudinal Study of Women." *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* 70 (3): 425–31. <https://doi.org/10.1093/geronb/gbu001>.
- Legg, Lynn, Chris J. Weir, P. Langhorne, L.N. Smith, and D.J. Stott. 2013. "Is Informal Caregiving Independently Associated with Poor Health? A Population-Based Study." *Journal of Epidemiology and Community Health* 67: 95–97. <https://doi.org/10.1136/jech-2012-201652>.
- Leggett, Amanda N., Alicia Carmichael, Natalie Leonard, Jeanette Jackson, Matthias Kirch, Erica Solway, Jeffrey T. Kullgren, Dianne Singer, Preeti N. Malani, and Richard Gonzalez. 2021. "Care Challenges Due to COVID-19 and Mental Health Among Caregivers of US Adults with a Chronic or Disabling Condition." *Innovation in Aging* 5 (3): 1–10. <https://doi.org/10.1093/geroni/igab031>.

- Lilly, Meredith B., Audrey Laporte, and Peter C. Coyte. 2010. "Do They Care Too Much to Work? The Influence of Caregiving Intensity on the Labour Force Participation of Unpaid Caregivers in Canada." *Journal of Health Economics* 29 (6): 895–903. <https://doi.org/10.1016/j.jhealeco.2010.08.007>.
- Lino, Mark, Kevin Kuczynski, Nestor Rodriguez, and TusaRebecca Schap. 2017. *Expenditures on Children by Families, 2015*. Miscellaneous Publication No. 1528–2015. Washington, DC: US Department of Agriculture, Center for Nutrition Policy and Promotion.
- Livingston, Gretchen. 2014. "Growing Number of Dads Home with the Kids: Biggest Increase among those Caring for Family." Washington, DC: Pew Research Center.
- Lofton, Olivia, Nicolas Petrosky-Nadeau, and Lily Seitelman. 2021. "Parents in a Pandemic Labor Market." Working Paper 2021-04. San Francisco: Federal Reserve Bank of San Francisco.
- Loughran, David S., and Julie M. Zissimopoulos. 2009. "Why Wait? The Effect of Marriage and Childbearing on the Wage Growth of Men and Women." *Journal of Human Resources* 44 (2): 326–49. <https://doi.org/10.3368/jhr.44.2.326>.
- Lu, Yao, Julia Shu-Huah Wang, and Wen-Jui Han. 2017. "Women's Short-Term Employment Trajectories Following Birth: Patterns, Determinants, and Variations by Race/Ethnicity and Nativity." *Demography* 54 (1): 93–118. <https://doi.org/10.1007/s13524-016-0541-3>.
- Madowitz, Michael, Alex Rowell, and Katie Hamm. 2016. "Calculating the Hidden Cost of Interrupting a Career for Child Care." Washington, DC: Center for American Progress.
- Meyer, Madonna Harrington, and Pamela Herd. 2007. *Market Friendly or Family Friendly? The State of Gender and Inequality in Old Age*. New York: Russell Sage Foundation.
- MetLife Mature Market Institute. 2011. *The MetLife Study of Caregiver Costs to Working Caregivers: Double Jeopardy for Baby Boomers Caring for their Parents*. Westport, CT: The MetLife Mature Market Institute.
- Mincer, Jacob, and Solomon Polchek. 1974. "Family Investments in Human Capital: Earnings of Women." *Journal of Political Economy* 82 (2): S76–S108. <https://doi.org/10.1086/260293>.
- Mudrazija, Stipica, and Richard W. Johnson. 2020. "Economic Impacts of Programs to Support Caregivers." Final Report to the Assistant Secretary for Planning and Evaluation, Office of Disability, Aging, and Long-Term Care Policy. Washington, DC: U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation.
- Murphy, Martin. 1978. "The Value of Nonmarket Household Production: Opportunity Costs Versus Market Cost Estimates." *Review of Income and Wealth* 24 (3): 243–55. <https://doi.org/10.1111/j.1475-4991.1978.tb00051.x>.
- . 1982. "Comparative Estimates of the Value of Household Work in the United States for 1976." *Review of Income and Wealth* 28 (1): 29–43. <https://doi.org/10.1111/j.1475-4991.1982.tb00604.x>.
- Neumeier, Christian, Todd Sørensen, and Douglas Webber. 2017. "The Implicit Costs of Motherhood over the Lifecycle: Cross-Cohort Evidence from Administrative Longitudinal Data." *Southern Economic Journal* 84 (3): 716–33. <https://doi.org/10.1002/soej.12239>.
- Nguyen, Ha Trong and Luke Brian Connelly. 2014. "The Effect of Unpaid Caregiving Intensity on Labour Force Participation: Results from a Multinomial Endogenous Treatment Model." *Social Science & Medicine* 100: 115–22. <https://doi.org/10.1016/j.socscimed.2013.10.031>.
- Pal, Ipshita, and Jane Waldfogel. 2016. "The Family Gap in Pay: New Evidence for 1967 to 2013." *RSF: The Russell Sage Foundation Journal of the Social Sciences* 2 (4): 104–27. <https://doi.org/10.7758/RSF.2016.2.4.04>.
- Park, Sung S. 2021. "Caregivers' Mental Health and Somatic Symptoms During COVID-19." *Journals of Gerontology: Series B* 76 (4): e235–40. <https://doi.org/10.1093/geronb/gbaa121>.

- Pavalko, Eliza K., and Julie E. Artis. 1997. "Women's Caregiving and Paid Work: Causal Relationships in Late Midlife." *Journal of Gerontology* 52B: S170–S179. <https://doi.org/10.1037/0882-7974.18.2.250>.
- Pinquart, Martin, and Silvia Sorensen. 2003. "Differences between Caregivers and Noncaregivers in Psychological Health and Physical Health: A Meta-Analysis." *Psychology and Aging* 18 (2): 250–67.
- . 2007. "Correlates of Physical Health of Informal Caregivers: A Meta-Analysis." *Journal of Gerontology* 62B: P126–P137. <https://doi.org/10.1093/geronb/62.2.P126>.
- Pirtle, Whitney N. Laster, and Tashelle Wright. 2021. "Structural Gendered Racism Revealed in Pandemic Times: Intersectional Approaches to Understanding Race and Gender Health Inequities in COVID-19." *Gender and Society* 35 (2): 168–79. <https://doi.org/10.1177/08912432211001302>.
- Rainville, Chuck, Laura Skufca, and Laura Mehegan. 2016. *Family Caregiving and Out-of-Pocket Costs: 2016 Report*. Washington, DC: AARP.
- Reinhard, Susan C., Lynn Friss Feinberg, Ari Houser, Rita Choula, and Molly Evans. 2019. "Valuing the Invaluable 2019 Update: Charting a Path Forward." Washington, DC: AARP Public Policy Institute.
- Reinhard, Susan C., Carol Levine, and Sarah Samis. 2012. *Home Alone: Family Caregivers Providing Complex Chronic Care*. Washington, DC: AARP Public Policy Institute.
- Roth, David L., Martinique Perkins, Virginia G. Wadley, Ella M. Temple, William E. Haley. 2009. "Family Caregiving and Emotional Strain: Associations with Quality of Life in a Large National Sample of Middle-Aged and Older Adults." *Quality of Life Research* 18 (6): 679–88. <https://doi.org/10.1007/s11136-009-9482-2>.
- Ruhm, Christopher J. 1991. "Are Workers Permanently Scarred by Job Displacements?" *American Economic Review* 81 (1): 319–24. <https://www.jstor.org/stable/2006805>.
- Rutledge, Matthew S., Alice Zulkarnain, and Sara Ellen King. 2017. "How Much Does Motherhood Cost Women in Social Security Benefits?" CRR WP 2017-14. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- Skira, Meghan M. 2015. "Dynamic Wage and Employment Effects of Elder Parent Care." *International Economic Review* 56 (1): 63–93. <https://doi.org/10.1111/iere.12095>.
- Spillman, Brenda C., Jennifer Wolff, Vicki A. Freedman, and Judith D. Kasper. 2014. "Informal Caregiving for Older Americans: An Analysis of the 2011 National Study of Caregiving." Report to the Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.
- Spivey, Christy. 2005. "Time off at What Price? The Effects of Career Interruptions on Earnings." *Industrial and Labor Relations Review* 59 (1): 119–40. <https://www.jstor.org/stable/25063018>.
- Stabile, Mark, and Sara Allin. 2012. "The Economic Effects of Childhood Disability." *Future of Children* 22 (1): 65–96. <https://doi.org/10.1353/foc.2012.0008>.
- Stevens, Ann Huff. 1997. "Persistent Effects of Job Displacement: The Importance of Multiple Job Losses." *Journal of Labor Economics* 15 (1): 165–88. <https://www.jstor.org/stable/2535319>.
- Stevenson, Betsey. 2021. "Women, Work, and Families: Recovering from the Pandemic-Induced Recession." The Hamilton Project. Washington, DC: Brookings Institution.
- Tamborini, Christopher R., and Patrick J. Purcell. 2016. "Women's Household Preparation for Retirement at Young and Mid-Adulthood: Differences by Children and Marital Status." *Journal of Family and Economic Issues* 37: 226–41. <https://doi.org/10.1007/s10834-015-9449-0>.
- Van Houtven, Courtney H., Norma B. Coe, and Meghan Skira. 2013. "The Effect of Informal Care on Work and Wages." *Journal of Health Economics* 32 (1): 240–52. <https://doi.org/10.1016/j.jhealeco.2012.10.006>.

- Wakabayashi, Chizuko, and Katherine M. Donato. 2005. "The Consequences of Caregiving: Effects on Women's Employment and Earnings." *Population Research and Policy Review* 24: 467–88. <https://doi.org/10.1007/s11113-005-3805-y>.
- . 2006. "Does Caregiving Increase Poverty among Women in Later Life? Evidence from the Health and Retirement Survey." *Journal of Health and Behavior* 47: 258–74. <https://doi.org/10.1177/002214650604700305>.
- Waldfoegel, Jane. 1997. "The Effect of Children on Women's Wages." *American Sociological Review* 62 (2): 209–17. <https://doi.org/10.2307/2657300>.
- Weller, Christian E., and Michele E. Tolson 2018. "Do Unpaid Caregivers Save Less for Retirement?" *The Journal of Retirement* 6 (2): 61–73. <https://doi.org/10.7275/28197671>.
- . 2020. "The Retirement Savings Penalty Borne by Women." *Challenge* 63 (4): 201–18. <https://doi.org/10.1080/05775132.2020.1723290>.
- Wolfe, Rebecca, Kristen Harknett, and Daniel Schneider. 2021. "Inequalities at Work and the Toll of COVID-19." Washington, DC: Health Affairs.
- Wolff, Jennifer L., Brenda C. Spillman, Vicki A. Freedman, and Judith D. Kasper. 2016. "A National Profile of Family and Unpaid Caregivers Who Assist Older Adults with Health Care Activities." *JAMA Internal Medicine* 176 (3): 372–79. <https://doi.org/10.1001/jamainternmed.2015.7664>.
- Yavorsky, Jill E., Yue Qian, and Amanda C. Sargent. 2021. "The Gendered Pandemic: The Implications of COVID-19 for Work and Family." *Sociology Compass* 15 (6). <https://doi.org/10.1111/soc4.12881>.
- Yu, Wei-hsin, and Janet Chen-Lan Kuo. 2017. "The Motherhood Wage Penalty by Work Conditions: How Do Occupational Characteristics Hinder or Empower Mothers?" *American Sociological Review* 82 (4): 744–69. <https://doi.org/10.1177/0003122417712729>.
- Zamarro, Gema, and Maria Jose Prados. 2021. "Gender Differences in Couples' Division of Childcare, Work and Mental Health During COVID-19." *Review of Economics of the Household* 19: 11–40. <https://doi.org/10.1007/s11150-020-09534-7>.

About the Authors

Richard W. Johnson is a senior fellow in the Income and Benefits Policy Center at the Urban Institute, where he directs the Program on Retirement Policy. An expert on financial security at older ages, he has authored or coauthored more than 200 journal articles, book chapters, research reports, and policy briefs and testified before Congress and federal commissions. His current research focuses on older Americans' employment and retirement decisions, long-term services and supports for older adults with disabilities, reform options for federal retirement programs, and state and local pensions. Recent studies have examined job loss at older ages, occupational change after age 50, the financial and health risks people face as they approach retirement, and the Social Security plans released during the 2020 Democratic presidential primary.

Karen E. Smith is a senior fellow in the Income and Benefits Policy Center, where she is an internationally recognized expert in microsimulation. Over the past 30 years, she has developed microsimulation models for evaluating Social Security, pensions, taxation, wealth and savings, labor supply, charitable giving, health expenditure, student aid, and welfare reform. Smith has played a lead role in the development of Urban's Dynamic Simulation of Income microsimulation model and the Social Security Administration's Modeling Income in the Near Term microsimulation model. Her recent work includes analyzing Social Security plans released during the 2020 Democratic presidential primary; estimating the impact of the Great Recession on retirement well-being; analyzing income and asset accumulation patterns; evaluating the effect of disability on earnings and mortality; and using statistical matching to impute earnings, taxes, and spouse characteristics. Smith also has written extensively on demographic and economic trends and their implications for retirement well-being.

Barbara A. Butrica is a senior fellow in the Income and Benefits Policy Center at the Urban Institute. She has more than two decades of experience conducting research on the economics of aging, including older workers, pensions and retirement plans, Social Security, and retirement security. Her recent studies have examined the role of debt on labor force participation and Social Security benefit claiming, the retirement prospects of workers in alternative work arrangements, how caregiving affects work and retirement savings, the impact of the Social Security, pension, and tax systems on work incentives at older ages, the effect of the Great Recession on 401(k) participation and contributions, and strategies for improving the employment prospects of low-income incumbent older workers.

STATEMENT OF INDEPENDENCE

The Urban Institute strives to meet the highest standards of integrity and quality in its research and analyses and in the evidence-based policy recommendations offered by its researchers and experts. We believe that operating consistent with the values of independence, rigor, and transparency is essential to maintaining those standards. As an organization, the Urban Institute does not take positions on issues, but it does empower and support its experts in sharing their own evidence-based views and policy recommendations that have been shaped by scholarship. Funders do not determine our research findings or the insights and recommendations of our experts. Urban scholars and experts are expected to be objective and follow the evidence wherever it may lead.



500 L'Enfant Plaza SW
Washington, DC 20024

www.urban.org