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Caregiving-Related Work Productivity Loss among Employed Family and other Unpaid Caregivers of Older Adults

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Abstract

Objectives: Although nearly half of all family and unpaid caregivers to older adults work, little is known about short-term work impacts of caregiving using measures encompassing both missed work time and reduced productivity while physically at work. We quantify the prevalence, costs, and correlates of caregiving-related work productivity loss.

Methods: We used the 2015 National Study of Caregiving and National Health and Aging Trends Study to estimate caregiving-related work absences (absenteeism) and reduced productivity while

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at work (presenteeism). We calculated costs of lost productivity using hours lost, compensation, and a wage multiplier, accounting for the additional cost of replacing employee time. We examined correlates of caregiving-related absenteeism and presenteeism separately, using multivariable logistic regression models, adjusting for caregiver sociodemographic characteristics, occupation and hours worked, role overload, older adult health, and use of respite care, support groups, flexible workplace schedules, help from family or friends, and caregiver training.

Results: We find nearly one in four (23.3%) of the estimated 8.8 million employed family caregivers either reported absenteeism or presenteeism over a one-month period due to caregiving. Among those affected, caregiving reduced work productivity by 1/3 on average – or an estimated $5,600 per employee when annualized across all employed caregivers - primarily due to reduced performance while present at work. Productivity loss was higher among caregivers of older adults with significant care needs, and varied according to sociodemographic characteristics and caregiver supports.

Conclusion: Findings emphasize the potential economic value of targeted policy intervention to support working caregivers.

Précis:

Caregiving reduced work productivity by 1/3 ($5,600 annual per caregiver) on average. Productivity loss was higher among caregivers of older adults with significant care needs.

INTRODUCTION

Nearly half of family and unpaid caregivers (family caregivers) to older adults work.[1] Because time and resources are finite, the demands of caregiving may lead to reduced work hours, unplanned absences, or temporary breaks in employment, with potential longer-term effects for career advancement and earnings.[1–3] Decisions regarding work and care are complex, dynamic, and highly personal,[1,2] encompassing multiple inter-related factors spanning individual and employer characteristics, caregiving circumstances, and occupation.[2]

While prior research has examined the broader economic impacts of caregiving,[4–8] understanding the short-term impacts of caregiving on work productivity may clarify pathways by which caregiving affects economic outcomes for employed family caregivers.[9] Surprisingly little is now known: some studies find modest short-term reductions in work hours[10,11] while others find negligible effects or effects that are concentrated in specific subgroups.[12] However, work productivity loss encompasses both missed time from work, known as absenteeism, as well as reduced performance due to employees not being fully functional while physically present on the job, known as presenteeism.[9,13,14] Available evidence suggests presenteeism exerts a large effect on productivity.[14,15] The available literature on absenteeism and presenteeism due to caregiving primarily draw on small, disease-specific convenience samples with limited generalizability.[9,13] A study by Wolff et al. examined work productivity loss in a nationally representative sample of family and other unpaid caregivers to community-dwelling older adults, but did not explore the correlates of absenteeism and presenteeism separately.[16] Caregiving involves a wide range of activities[16] and the variation in demands, caregiving experiences and supports can impact

productivity. Some tasks may necessitate absence from work, while caregiving stress and burnout, workplace culture and stigma, lack of employee resources, potential wage loss, and tasks conducted while at work, such as remote coordination, can prompt caregivers to remain at work but perform sub-optimally.[9,14,17] Having a stronger understanding of granular caregiving-related effects on work productivity loss is critically important in light of emerging findings indicating that antecedents of absenteeism and presenteeism are variable with distinct impacts and policy-solutions.[9,14,18]

This study draws on recent survey data, representative of family caregivers of older adults, with valid measures of caregiving-related work productivity loss to quantify the prevalence and magnitude of work productivity loss, including both absenteeism and presenteeism, among employed family caregivers.[13,19] We build on prior work by separately examining correlates of absenteeism and presenteeism across a comprehensive set of measures that span sociodemographic characteristics, caregiving demands, and by access to and use of caregiver supports. Due to the practical importance of understanding who is most affected by caregiving-related work productivity loss, we examine a composite measure of high work productivity loss. Our analysis is timely given ongoing national discussions on paid family leave, the introduction of the American Jobs Plan to support a caring society, and demographic trends and care delivery reforms suggesting increases in caregiving demands.[1,20,21] By clarifying pathways by which caregiving affects work productivity, this study may inform broader policy and practices to better support family caregivers in the workplace.

METHODS

Data Sources

We draw on the 2015 National Health and Aging Trends Study (NHATS)[22] and the National Study of Caregiving (NSOC),[23] two linked nationally representative surveys of older adults and their family and other unpaid caregivers. NHATS is an annual, population-based, in-person survey of Medicare beneficiaries ages 65 and older. In addition to completing physical and cognitive performance tests, NHATS participants are asked sociodemographic and health questions including how they perform daily activities such as mobility, self-care, transportation, medically oriented activities, and household tasks for health and functioning reasons. Family and unpaid helpers assisting NHATS participants with these activities are eligible for NSOC.

NSOC is a telephone survey of family and other unpaid caregivers who assist older adults with disabilities who live in community or residential care facilities. To yield a sample that is representative of all eligible caregivers, interviews are conducted with up to 5 eligible caregivers for each older adult. For older adults with more than 5 eligible caregivers, 5 caregivers are randomly selected, and the remaining caregivers are considered ineligible for the NSOC.[23] Both the NHATS and NSOC release survey weights that account for sampling and differential probabilities of selection and nonresponse to produce nationally-representative estimates of older adults and their family and other unpaid caregivers.[22,23]

The unit of analysis for this study is the caregiver. In 2015, 2,417 NHATS respondents identified 5,212 helpers who were eligible for NSOC.[23] NHATS respondents did not provide contact information for 1,711 eligible caregivers, and of the remaining 3,501 eligible caregivers, 1,297 could not be reached, yielding 67.2% and 63.0% first and second-stage response rates, respectively.[23] The analytic sample for this study is sourced from 2,204 NSOC respondents who assisted 1,458 older adults living in the community or residential care facilities with help from one or more family or other unpaid caregivers.

Measurement

Our approach to conceptualizing caregiving-related work productivity loss and its correlates is guided by theory relating to family-to-work role conflict,[24,25] Pearlin's Caregiving Stress Process Model,[26] and seminal literature on work productivity loss.[14] Family-to-work role conflict recognizes that in the context of finite time, tradeoffs in the allocation of effort may yield conflicts between job and caregiving roles. Pearlin's model articulates pathways by which the scope and impact of caregiving on work is affected by the interplay of caregiving circumstances such as availability and use of supportive services, objective stressors and subjective overload; we supplement this with measures on workplace factors, such as caregiver occupation and work schedule.[14,26,27] Following Pearlin, we categorize our measures by background and contextual factors, such as access to and use of caregiver supports, and sources of caregiving demand.

Caregiver Employment and Work Productivity Loss

Employment is defined as self-reporting working for pay, including being temporarily absent from one's job. This corresponds to 844 observations and almost 8.8 million employed working family caregivers, nationally. Work productivity loss is measured using the Work Productivity and Activity Impairment (WPAI) questionnaire, incorporating caregiver reports of both absenteeism and presenteeism.[13,28] Absenteeism is measured as a percent of hours of missed work due to caregiving. Caregivers were asked to report the number of hours usually worked and the number of hours that were missed from work in the past month to help the NHATS participant, separate from time missed for other reasons, such as vacation, being sick, or taking personal time.[19] Presenteeism is measured as the percentage of productive hours lost while working.[19] Those who reported no difficulty while at work are categorized as experiencing no presenteeism. Those who reported any difficulty were asked the degree to which helping the NHATS participant made it harder for them to get their work done on a scale of 1 to 10 with higher values indicating more time lost. For example, a rating of "2" would translate to 20% presenteeism. Overall work productivity loss is calculated as the sum of absenteeism with the product of presenteeism and time present at work.[19] Finally, we constructed a binary measure of high work productivity loss. Due to the absence of an established threshold to define high work productivity loss,[9] we categorized those who missed more than the 50th percentile of lost time from work as having high work productivity loss among the subset who experienced any productivity loss.

Background and Contextual Factors

Caregiver background and contextual factors encompass sociodemographic attributes, caregiving duration, workplace features and caregiving support. *Sociodemographic attributes*

include caregiver age, gender, race-ethnicity, education, and relationship to the older adult. Caregiving duration is measured in years. *Workplace characteristics* include caregiver work schedule and occupation. We categorized caregivers as working full-time (35+ hours) or part-time (<35 hours).[29] Self-reported occupation, linked to the Bureau of Labor Statistics[30] and the North American Industry Classification System,[31] and literature on occupational characteristics[32] were used to categorize caregiver occupation as blue, white, or pink collar. *Caregiver supports* refer to whether the participant received assistance from friends or family, used respite care, received caregiver training, used a caregiver support group or reported having access to a flexible workplace schedule.

Caregiving Demand

Caregiving demands include *older adult functional status* (drawing from NHATS) and *subjective overload* (drawing on NSOC). Because caregiving demands are greater for older adults with cognitive and physical impairments than those without,[1] older adult functional status was measured using two binary measures of having dementia and severe disability. Dementia is measured using a validated algorithm that uses proxy responses to the Ascertain Dementia 8 (AD8) screening tool, cognitive performance tests, and self-reported physician diagnosis of Alzheimer's disease or dementia.[33] Severe disability refers to receiving help with 3 or more self-care (eating, dressing, bathing, toileting) or mobility (getting around inside, transferring, getting around outside) activities.[16] We define subjective overload based on caregiver reports of having more tasks than they can handle.

Data Analysis

We examine the estimated prevalence of caregiving-related absenteeism, presenteeism, and high work productivity loss and the extent to which absenteeism and presenteeism co-occur or are experienced separately. We then compute the costs of lost compensation of absenteeism and presenteeism using methods commonly used to measure the economic impact of work productivity loss.[15,34,35] Among employed family caregivers, we calculate the average proportion of hours lost in the last month due to absenteeism. We multiply this by hours usually worked in a one month period, a median wage multiplier of 1.28,[36] and average employee hourly compensation. The wage multiplier, measured as a proportion of the absent employee's daily wage, accounts for the additional cost associated with replacing employee time.[36] The average national hourly employee compensation for civilian workers in the United States in 2015 was $33.19, including wages and benefits.[37] We use a similar method to estimate the costs of lost compensation due to presenteeism, however we apply hours actually worked, and we do not incorporate a wage multiplier, as the employee remains physically present at work. Acknowledging sampling and measurement uncertainty, we calculate cost ranges using 95% confidence intervals from study sample values and 10% variation above and below average estimates for compensation and wage multiplier values.

We next profile the characteristics of employed family caregivers by whether they experienced absenteeism, presenteeism, and high work productivity loss. Finally, to assess similarities and differences in caregiving-related work impacts, we constructed multivariable logistic regression models to estimate the odds of reporting caregiving-related absenteeism, presenteeism, and high work productivity loss among employed family caregivers adjusting

for caregiver sociodemographic characteristics, work attributes, older adult function, role overload, and use of support services. All analyses utilize NHATS and NSOC survey weights to provide nationally representative estimates of older adults and their family and other unpaid caregivers, and to account for complex survey sampling design and differential probabilities of selection at the NHATS and NSOC sample levels. Analyses were undertaken using Stata 15.[38]

Limitations and Design Considerations

Limitations of our study include reliance on cross-sectional data impeding the ability to assess causality. As with all survey data, recall bias may affect responses pertaining to work productivity loss. Our study was constrained by available measures that were fielded in the NSOC, which did not include such characteristics as personality, job attachment, and workplace culture, all of which affect perceptions about work and leave-taking behavior.[14,27] While the measurement of work productivity loss is complex, the WPAI has been widely used to quantify work productivity loss.[13,28,35,39–41] However, reliance on self-reported measures of absenteeism and presenteeism are subjective in the interpretation of ratings. For example, a rating of 10 out of 10 in terms of work impacts would indicate that the employee had 100% productivity loss while at work which may overstate work loss, so results should be interpreted with caution.

RESULTS

Prevalence and Impact of Caregiving-Related Productivity Loss and Absenteeism

Of nearly 8.8 million family or other unpaid caregivers who were employed in 2015, more than 2 million, or about one in four (23.3%) experienced caregiving-related work productivity loss in the last month (Top Panel, Table 1). An estimated 1.2 million working caregivers experienced absenteeism (13.5%) or presenteeism (14.2%) with a smaller subgroup of less than 400,000 (4.3%) experiencing both. Nearly 1 million employed family caregivers were characterized as experiencing high work productivity loss, defined by experiencing at least 23.1% of work time lost, or an estimated 40 hours lost in the last month for those who worked full-time. This sub-group represented 11.1% of all employed family caregivers.

The magnitude of lost work time due to presenteeism was approximately 3.5 times that of absenteeism (6.9% versus 2.0%, respectively; Bottom Panel, Table 1). On average, caregiving led to 8.3% of work time lost among all employed family caregivers and 34.0% of work time lost among those who were affected. The average cost of lost compensation due caregiving-related absenteeism and presenteeism for all working caregivers over a one-month period was $126.27 and $338.00, respectively per employee, which translates to $1,515 and $4,056 annually (Table 2).

Characteristics of Caregivers Who Experience Work Productivity Loss

Caregiving context, demand, and supports were associated with work productivity loss but the strength and magnitude varied by absenteeism, presenteeism, and high work productivity loss (Table 3). Absenteeism was more common among female versus male

caregivers (17.1% versus 7.9%; p<0.01). Caregivers of “other” relationships were less likely than spouses and adult children to report absenteeism (6.4% versus 14.5% and 16.8%, respectively; p<0.01). Caregivers with some college education or more were more likely to experience presenteeism (16.4% versus 8.2%; p<0.01) and high work productivity loss (12.8% versus 6.6%; p=0.03) only. Blue collar workers were less likely than white- and pink-collar workers to experience presenteeism (7.4% versus 16.7% and 15.1%; p=0.05).

Caregivers of older adults with dementia and severe disability were more likely to report absenteeism (18.5% versus 10.0%; p<0.01 and 31.7% versus 11.7%; p<0.0001, respectively), presenteeism (17.4% versus 12.0%; p=0.04 and 29.5% versus 12.7%; p<0.0001), and high work productivity loss (14.5% versus 8.8%; p=0.02 and 26.0% versus 9.7%; p<0.001). Role overload was highly associated with presenteeism (23.6% versus 6.2%; p<0.0001) and high work productivity loss (19.3% versus 4.1%; p<0.0001) only.

Aside from support group attendance, caregiver supports were associated with some measures of work productivity loss. Caregivers using respite were more likely to experience absenteeism (20.0% versus 12.0%; p=0.02), presenteeism (25.0% versus 11.9% p<0.01), and high work productivity loss (21.2 versus 8.9%; p<0.01). Lack of support from family and friends was associated with presenteeism (24.1% versus 11.7%; p<0.01) and high work productivity loss (20.4% versus 8.7%; p<0.001). Caregivers’ receipt of training was associated with high work productivity loss (24.8% versus 10.0%; p=0.03) only. Access to flexible work hours was associated with presenteeism (16.6% versus 9.9%; p=0.04) only.

Correlates of Caregiving-Related Work Productivity Loss

In multivariable regression models, female (versus male) caregivers had nearly three times the odds of reporting absenteeism (aOR: 2.7; 95% CI: 1.3, 5.5), and caregivers of a filiation other than that of son or daughter had less than half the odds of reporting absenteeism, compared to adult child caregivers (aOR: 0.4; 95% CI: 0.2, 0.7). Better educated caregivers (aOR: 2.1; 95% CI: 1.1, 3.8) and spousal versus adult child caregivers (aOR: 2.8; 95% CI: 1.4, 5.4) had far greater odds of experiencing presenteeism, whereas Black caregivers had a lower odds of reporting presenteeism (aOR: 0.54; 95% CI: 0.3, 0.97) relative to non-Hispanic White caregivers. Caregiver age, duration, occupation type, and work schedule were not associated with any form of work productivity loss.

Older adult dementia status was not associated with any measure of work productivity loss. However, employed family caregivers of an older adult with severe disability had approximately a two-fold higher odds of reporting absenteeism (aOR: 2.6; 95% CI: 1.5, 4.5), presenteeism (aOR: 2.0; 95% CI: 1.2, 3.4), and high work productivity loss (aOR: 2.2; 95% CI: 1.3, 3.7). Role overload was associated with a five-fold greater odds of experiencing presenteeism (aOR: 4.9; 95% CI: 2.9, 8.2) and high work productivity loss (aOR: 5.3; 95% CI: 2.9, 9.9) but not absenteeism.

Caregiver supports were not associated with absenteeism but were strongly associated with presenteeism and high work productivity loss. Receiving caregiving assistance from family and friends was associated with less than half the odds of experiencing both presenteeism (aOR: 0.4; 95% CI: 0.2, 0.9) and high work productivity loss (aOR: 0.4; 95% CI: 0.2,

0.8) whereas caregivers who used respite care had a two-fold higher odds of reporting presenteeism (aOR: 2.1; 95% CI: 1.2, 3.7) and high work productivity loss (aOR: 2.1; 95% CI: 1.2, 3.7). Caregiving training was associated with a three-fold higher odds of high work productivity loss only (aOR: 3.0; 95% CI: 1.1, 7.9). Support group use was not associated with any measure of work productivity loss, and access to a flexible workplace schedule was associated with presenteeism only (aOR: 2.3; 95% CI: 1.1, 4.6)

DISCUSSION

This study comprehensively assesses the prevalence, magnitude, and correlates of caregiving-related absenteeism and presenteeism in a nationally representative sample of family and other unpaid caregivers of older adults. We find that nearly 1 in 4 employed caregivers missed work or experienced productivity loss while at work over a one-month period due to caregiving. Among those affected, caregiving reduced work productivity by 1/3 on average – or an estimated $5,600 on average when annualized across all working caregivers - primarily due to presenteeism. Although worse health and function of older adults was positively associated with absenteeism, presenteeism, and high work productivity loss, correlates were otherwise highly variable across caregiver socio-demographic characteristics, perceptions of role overload, and use of supports. Taken together, this study provides new and more nuanced evidence of the scope and magnitude of a less visible economic consequence of caregiving, with important considerations for health services and policy.

The prevalence and magnitude of caregiving-related work productivity loss observed in this study is notably high and greater than prior national reports of productivity loss due to personal health. The Bureau of Labor Statistics estimated 0.9% absenteeism, nationally, in 2015 for personal illness or injury and 0.4% lost work time for other reasons, such as taking time off to care for a child, spouse, or parent.[42] The American Productivity Audit, a national survey of the U.S workforce conducted from 2001 to 2002, found that presenteeism accounted for approximately 3.3% of lost productivity for personal health reasons, assuming a 40-hour work week.[15] Estimates of disease-specific impacts (e.g., due to pain, respiratory, mental and cardiovascular illness) have found absenteeism to vary from 0.4% to 10.7%, and presenteeism to vary from 3.3% to 40% in lost time.[15,39,43–45] Prior studies of caregiving convenience samples have found absenteeism to vary from 2.1% to 12.8%, and presenteeism to vary 7.9% to 33.5% in lost time.[16,46–48] Our nationally representative findings highlight the importance of caregiving-related work productivity loss and the need for targeted supports.

Taken together, our results suggest the annual caregiving-related work productivity loss to be approximately $5,600 per employed caregiver, translating to $49.1 billion in the aggregate across the estimated 8.8 million working caregivers to older adults. Because prior studies that have quantified caregiving-related economic impacts have largely omitted presenteeism, estimates to date have been notably lower than reported herein.[2,9,11,49] Our findings demonstrate the importance of understanding and quantifying a broader range of work-related impacts that extend beyond personal sickness or parental responsibilities

and reinforce caregiving as a life-course issue with consequential impacts for individuals, families, employers, and the long-term care system.

Variability in correlates of absenteeism, presenteeism, and high work productivity loss observed in this study demonstrate the complex interplay between care and work, and heterogeneity of caregiving circumstances.[1] That absenteeism was more common among working caregivers who are female is consistent with prior studies[2,9] and aligns with societal expectations regarding the gendered role of nurture-based tasks as a more visible manifestation of caring responsibilities. Identifying policies that enable workers to successfully navigate competing demands of work and care[9,13] will be critical to address identified downstream gender inequities in foregone earnings.[11,50] The greater degree of presenteeism and high work productivity loss experienced by more educated caregivers is consistent with replacement challenges that inhibit leave-taking in skilled jobs,[2,14] while the lower likelihood of experiencing presenteeism among Black caregivers is less clear but likely related to a complex set of factors involving education, work environment, and social norms regarding family and care.[51–53] The strong association between older adult functional impairment and work productivity loss is concerning given that those providing greater caregiving intensity come from historically marginalized backgrounds.[1,2,52] Workers assisting older adults with greater care needs may be less able or willing to pay for or arrange supports or services to avert missed work time, suggesting a pathway by which caregiving compounds social and economic inequities.

Seminal work on absenteeism and presenteeism conceptualize these outcomes as discrete events affecting longer-term outcomes such as health status and employment tenure.[14,18] Our study contributes to the field of productivity research by separately assessing both of these measures of work productivity impacts in a national sample of working family caregivers. Notwithstanding the potential economic effects of long-term work productivity loss,[14] caregivers who have difficulty reconciling care and work may experience stress and decrements in their own health and well-being.[9] The success of employer and health systems strategies to alleviate caregiving-related work impacts is contingent on the ability to understand and monitor the prevalence and scope of caregiving and related effects. To that end, healthcare teams and employers may consider incorporating screening questions to assess caregiver needs to inform relevant referrals and support.[1]

Our findings that employees who receive help from family and friends are less likely to experience presenteeism and high work productivity loss are encouraging in suggesting the potential value of alternative sources of support in attenuating work productivity loss. The positive relationship between other supports, such as respite care and a flexible workplace schedule, and productivity loss could reflect temporal ambiguity and signal a response to caregiving demands. Longitudinal studies are needed to better understand this relationship. Work productivity loss can also be cyclical,[14] and engagement with resources may reflect an initial struggle to balance work and care prior to finding relief. Qualitative research may also be useful in gaining more insight into this process. Understanding the subjectivity and complexity of measuring absenteeism and presenteeism, future studies should compare different methods of assessing caregiving-related work productivity loss.

The prevalence and magnitude of caregiving-related work productivity loss found in this study suggests potential value to be derived by policies and workplace interventions that facilitate balancing work and care. Family leave policies seek to support employees by affording flexibility and financial security to address caregiving demands while maintaining job security. However the Family and Medical Leave Act is unpaid and perpetuates inequities due to the exclusion of as many as 40% of employees and the impossibility of leave without pay for those at the bottom of the wage distribution.[54] The Families First Coronavirus Response Act, a bill granting employees paid leave to care for quarantined individuals[55] has been found to have led to reduced COVID-19 transmissions,[56] and is an example of the favorable effects that caregiver supports may have beyond labor force outcomes.

The results of this work reinforce the understanding that while unpaid caregiving contributes significant value to society, there are significant opportunity costs related not only to productivity but also to health.[57] As the health system shifts towards value-based care and continues to engage with family caregivers as critical members of the care team, it is important to integrate caregiver needs and supports into health assessments and interventions.[58–60] Technological advancements suggest a promising avenue for a more efficient delivery of a wide range of resources, however equity around access to technology remains a concern.[61]

CONCLUSIONS

Our study shines a spotlight on an under-recognized economic consequence of caregiving. Shortages in the paid long-term care workforce[62] alongside the impact of COVID-19 which has altered employment resources and exacerbated caregiving demands, heighten the urgency of stronger and more effective supports for employed family caregivers.[63,64] Population ageing, concerns regarding the growing demand for and cost of care, and concerns regarding equity in the workplace have simulated national dialogue and progress in support of structured policies and interventions. The Recognize, Assist, Include, Support, and Engage (RAISE) council has identified promising workplace supports and health systems strategies to facilitate the work-life balance of employed family caregivers.[17,65]

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HIGHLIGHTS

This is the first study to comprehensively assess the prevalence, magnitude, and correlates of caregiving-related work productivity loss in a nationally representative sample of family and other unpaid caregivers of older adults. The prevalence and magnitude of caregiving-related work productivity loss found in this study suggests potential value to be derived by policies and interventions that facilitate balancing work and care.

Table 1:

Distribution of Caregiving-Related Productivity Loss and Reasons for Work Absence among Employed Family Caregivers (n=844)

Panel A: Distribution of Caregiving-Related Productivity Loss among Employed Caregivers		
Type of Productivity Loss	**Weighted Estimates (n)**	**Percentage Affected %**
All Employed Family Caregivers	8,762,000 (844)	100.00
No Work Productivity Loss	6,721,000 (638)	76.70
Any Work Productivity Loss	2,041,000 (206)	23.30
--Absenteeism only	798,000 (81)	9.11
--Presenteeism only	863,000 (81)	9.85
--Both Absenteeism and Presenteeism	380,000 (44)	4.34
*High Work Productivity Loss	974,000(102)	11.12

Panel B: Average Percentage of Work Time Lost in the Last Month due to Caregiving		
Source of Lost Work Time	**All Caregivers n=844 (% and 95% CI)**	**Caregivers Affected by Any Productivity Loss, n=206 (% and 95% CI)**
Absenteeism	1.96 (1.35, 2.57)	8.04 (5.74, 10.34)
Presenteeism	6.85 (5.55, 8.14)	28.06 (23.90, 32.21)
Overall Work Productivity Loss†	8.30 (6.90, 9.70)	34.01 (29.93, 38.09)

Source: 2015 National Study of Caregiving. Estimates are weighted and rounded to the nearest 1000.

*High work productivity loss is defined as missing more than the median lost time from work among those who experienced either absenteeism or presenteeism, which was 23.1% nationally, from weighted estimates.

†Work productivity loss estimates are calculated for each observation and then the average is generated for the sample. This value differs slightly from calculating work productivity loss manually using average sample absenteeism and presenteeism estimates, due to variation in each observation's standard deviation relative to sample mean estimates.

Table 2:

Cost of Lost Compensation due to Caregiving-Related Work Productivity Loss in the Last Month, Among all Employed Family Caregivers (n=844)

Type of Productivity Loss	Absenteeism, (Range)‡	Presenteeism, (Range)‡	Cost Total
Average Percent of Work Time Lost	1.96% (1.35, 2.57)	6.85% (5.55, 8.14)	-
Average Hours Worked	151.64 (147.47, 155.80)	148.67 * (145.48, 151.80)	-
Hourly Compensation	$33.19 (29.87, 36.51)	$33.19 (29.87, 36.51)	-
Wage Multiplier	1.28 (1.15, 1.41)	N/A	-
Cost of Lost Compensation per Employee, Last Month†	$126.27 ($68.39, $206.13)	$338.00 ($241.17, $451.14)	$464.27 ($309.55, $ 657.27)
Cost of Lost Compensation per Employee, Annualized	$1,515.24 ($820.68, $2,473.56)	$4,056.00 ($2,894.04, $ 5,413.68)	$5,571.24 ($3,714.72, $7,887.24)

‡Ranges correspond to 95% confidence intervals for sample estimates and 10% variation above and below the mean estimate for compensation and wage multiplier values.

*Average hours worked after subtracting average hours lost due to absenteeism

Table 3:

Characteristics of Employed Family Caregivers by Absenteeism, Presenteeism, and High Work Productivity Loss (Row %)

Characteristics, row %	Sample (col %)	Any Absenteeism		Any Presenteeism		Any High Work Productivity Loss	
	(n=844)	Yes (n =125)	P - Value	Yes (n=125)	P - Value	Yes (n=102)	P - Value
Number of caregivers, millions (row %)	8.8 (100.00%)	1.2 (14.19%)		1.2 (13.45%)		1.0 (11.12%)	
Caregiver Background							
Age, mean (SE)	53.5 (0.9)	52.2 (1.3)	0.29	52.7 (1.6)	0.51	52.7 (1.7)	0.64
Gender							
Female	60.20%	17.14%	**<0.01**	15.91%	0.20	13.06%	0.10
Male	39.80%	7.86%		11.60%		8.19%	
Race							
White non-Hispanic	67.70%	12.66%		15.83%		11.76%	
Black non-Hispanic	13.26%	10.95%	0.15	8.70%	0.12	7.97%	0.49
Other race-ethnicity	19.04%	18.00%		12.19%		11.02%	
Education							
High School or less	26.89%	11.68%	0.50	8.18%	**<0.01**	6.58%	**0.03**
Some college or more	73.11%	14.10%		16.40%		12.79%	
Relationship to older adult							
Spouse	6.52%	14.47%		25.12%		15.83%	
Son/Daughter	62.42%	16.84%	**<0.01**	14.49%	0.06	12.02%	0.33
Other	31.06%	6.41%		11.30%		8.32%	
Duration of caregiving, years							
up to 2 years	22.10%	17.90%		14.24%		13.17%	
3 to 5 years	37.25%	12.82%	0.29	13.97%	0.99	9.24%	0.53
6+ years	40.64%	11.60%		14.37%		11.72%	
Occupation Type *							
White Collar	31.08%	17.61%		16.73%		14.15%	
Blue Collar	18.55%	9.72%	0.11	7.38%	0.05	6.71%	0.15
Pink Collar	50.37%	12.25%		15.13%		10.87%	
Work Schedule							
Full-time (35+ hours per week)	68.40%	14.62%	0.24	13.39%	0.48	13.29%	0.22
Part-time (< 35 hours per week)	31.60%	10.90%		15.94%		10.12%	
Caregiving Demand							
Older adult dementia							
Yes	41.06%	18.47%	**0.01**	17.38%	**0.04**	14.47%	**0.02**
No	58.94%	9.95%		11.97%		8.78%	
Older adult has severe disability							

Characteristics, row %	Sample (col %)	Any Absenteeism		Any Presenteeism		Any High Work Productivity Loss	
	(n=844)	Yes (n =125)	P - Value	Yes (n=125)	P - Value	Yes (n=102)	P - Value
Yes	9.00%	31.65%	**<0.0001**	29.49%	**<0.0001**	26.01%	**<0.001**
No	91.00%	11.65%		12.68%		9.65%	
Caregiver reported role overload							
Yes	46.12%	15.56%	0.15	23.57%	**<0.0001**	19.27%	**<0.0001**
No	53.88%	11.63%		6.16%		4.14%	
Caregiver Supports							
Caregiving help from family or friends							
Yes	79.62%	13.33%	0.87	11.68%	**<0.01**	8.74%	**<0.01**
No	20.38%	14.02%		24.06%		20.42%	
Respite care use							
Yes	17.85%	20.01%	**0.02**	24.98%	**<0.01**	21.20%	**<0.01**
No	82.15%	12.02%		11.85%		8.93%	
Receipt of training							
Yes	7.61%	20.83%	0.24	26.76%	0.05	24.79%	**0.03**
No	92.39%	12.84%		13.16%		9.99%	
Attends a support group							
Yes	3.52%	21.47%	0.44	9.61%	0.59	9.61%	0.84
No	96.48%	13.15%		14.36%		11.17%	
Access to a flexible workplace schedule							
Yes	64.40%	13.84%	0.73	16.58%	**0.04**	12.56%	0.18
No	35.60%	12.73%		9.87%		8.51%	

Source: 2015 National Study of Caregiving. Sampling weights were applied to produce nationally representative estimates of family and other unpaid caregivers to older adults.

*Blue collar work includes skilled and unskilled manual labor jobs such as manufacturing, farming, and maintenance. White collar work refers to technical, scientific, and managerial jobs. Pink collar work refers to service-oriented and support roles such as administrative work, social work, teaching, and nursing, among others

Table 4:

Multivariable Logistic Regression: Absenteeism, Presenteeism, and High Work Productivity Loss

	Absenteeism	Presenteeism	High Work Productivity Loss
Caregiver Background	**Odds Ratio‡ (95% CI)**	**Odds Ratio‡ (95% CI)**	**Odds Ratio‡ (95% CI)**
Age	0.99 (0.97, 1.00)	0.99 (0.97, 1.00)	0.99 (0.97, 1.01)
Gender			
Female	**2.66 (1.29, 5.48)**	1.10 (0.55, 2.18)	1.44 (0.70, 2.96)
Male	Reference	Reference	Reference
Race			
White non-Hispanic	Reference	Reference	Reference
Black non-Hispanic	0.78 (0.43, 1.44)	**0.54 (0.30, 0.97)**	0.69 (0.39, 1.24)
Other race-ethnicity	1.74 (0.93, 3.26)	0.81 (0.41, 1.61)	1.10 (0.52, 2.36)
Education			
High School or less	Reference	Reference	Reference
Some college or more	1.03 (0.54, 1.96)	**2.08 (1.14, 3.79)**	1.98 (0.91, 4.29)
CG Relationship to older adult			
Son/Daughter	Reference	Reference	Reference
Spouse	0.93 (0.37, 2.32)	**2.76 (1.41, 5.42)**	1.58 (0.55, 4.49)
Other	**0.37 (0.18, 0.74)**	1.33 (0.69, 2.60)	1.16 (0.63, 2.13)
Duration of caregiving, years			
up to 2 years	1.55 (0.82, 2.91)	0.93 (0.48, 1.81)	1.09 (0.55, 2.15)
3 to 5 years	1.24 (0.63, 2.44)	1.02 (0.52, 1.99)	0.80 (0.39, 1.62)
6+ years	Reference	Reference	Reference
Occupation Type			
White Collar	1.56 (0.86, 2.83)	0.77 (0.43, 1.38)	1.08 (0.56, 2.07)
Blue Collar	1.12 (0.44, 2.84)	0.56 (0.24, 1.28)	0.83 (0.34, 2.11)
Pink Collar	Reference	Reference	Reference
Caregiver works part-time (vs full-time)	0.78 (0.40, 1.53)	0.86 (0.46, 1.60)	1.18 (0.61, 2.28)
Caregiving Demand			
Older adult has dementia	1.60 (0.91, 2.83)	1.37 (0.86, 2.16)	1.45 (0.92, 2.30)
Older adult has severe disability	**2.59 (1.50, 4.47)**	**2.03 (1.23, 3.37)**	**2.19 (1.30, 3.67)**
Caregiver reported role overload	1.13 (0.73, 1.76)	**4.88 (2.89, 8.24)**	**5.28 (2.92, 9.87)**
Caregiver Supports			
Caregiving help from family or friends	0.94 (0.44, 2.03)	**0.43 (0.21, 0.89)**	**0.40 (0.21, 0.77)**
Respite care use	1.26 (0.79, 2.01)	**2.13 (1.23, 3.66)**	**2.06 (1.16, 3.67)**
Receipt of training	1.35 (0.60, 3.04)	2.35 (1.00, 5.50)	**2.95 (1.10, 7.90)**
Support group use	1.31 (0.44, 3.89)	0.39 (0.05, 3.19)	0.53 (0.07, 3.81)
Access to a flexible workplace schedule	1.14 (0.63, 2.05)	**2.25 (1.11, 4.55)**	1.73 (0.84, 3.58)

Source: 2015 National Study of Caregiving. Sampling weights were applied to produce nationally representative estimates of family and other unpaid caregivers to older adults.

[≠]Odds of any absenteeism, any presenteeism, and high work productivity loss for models 1, 2, and 3, respectively. Each model is adjusted for caregiver background characteristics, measures of caregiving demand and access to and use of caregiver supports.