

**THE RELATIONSHIP BETWEEN CANCER DIAGNOSIS AND  
PATIENT PRODUCTIVITY, CAREGIVER BURDEN, AND  
PERSONAL FINANCIAL HARDSHIP**

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# THE RELATIONSHIP BETWEEN CANCER DIAGNOSIS AND PATIENT PRODUCTIVITY, CAREGIVER BURDEN, AND PERSONAL FINANCIAL HARDSHIP

## INTRODUCTION

Cancer is the second most common cause of death in the United States, and an estimated 1.6 million newly diagnosed patients are expected in 2016.<sup>1</sup> However, recent research indicates that overall cancer death rates in the United States have decreased by 1.5% per year from 2003-2012.<sup>2</sup> There were more than 15.5 million survivors alive at the beginning of 2016; this number is expected to increase to 20.3 million in 2017.<sup>3</sup> Research has shown that the impact of cancer extends beyond clinical treatments and can cause financial hardship for patients and their families.<sup>4</sup> However, not as much is known about the impact of cancer on productivity and the economic burden on caregivers. The following study aimed to determine the prevalence and sources of financial hardship among cancer survivors and their caregivers.

## METHODOLOGY

This is a cross-sectional descriptive analysis of the 2011 Medical Expenditure Panel Survey (MEPS), Experiences with Cancer Survivorship data. The study sample includes adult cancer survivors with confirmed a cancer diagnoses, excluding respondents who reported having non-melanoma skin cancer. Cancer survivors were categorized into three groups: currently treated, treated less than 5 years ago, and not first time treated (**Appendix A**). Survey weights were used to compute national estimates and all analyses were conducted using SAS version 9.4.

## OVERVIEW OF SURVEY POPULATION

In 2011, there were an estimated 13.9 million adult cancer survivors in the United States, slightly more than two-thirds of the estimated survivor population in 2017. Fifteen percent of cancer survivors were being treated at the time of the survey and almost a third (31%) were treated within the last five years. Four in ten cancer survivors (43%) were treated between 5-20 years ago, and another 7 percent have not been treated for their cancer. For the majority (74%) of the currently treated patients, it was their first time receiving cancer related treatment.

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<sup>1</sup> <http://phrma.org/sites/default/files/pdf/decade-of-innovation-cancer.pdf>

<sup>2</sup> Ryerson et al. Annual Report to the Nation on the Status of Cancer, 1975-2012, featuring the increasing incidence of liver cancer. Cancer. 2016 May 1;122(9):1312-37.

<sup>3</sup> American Cancer Society. Cancer Treatment & Survivorship Facts & Figures 2016-2017. Available at: <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-048074.pdf>

<sup>4</sup> Banegas et al. For working-age cancer survivors, medical debt and bankruptcy create financial hardships. Health Aff 2016 January 35(1): 154- 61.

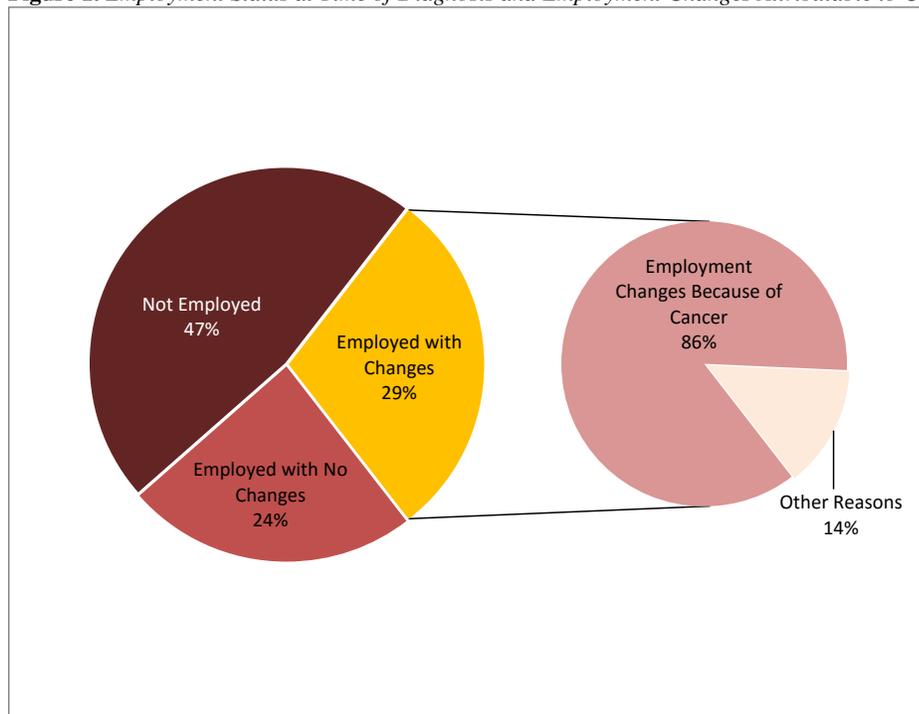
## FINDINGS

### *Employment and Productivity*

Research has shown that chronic and serious health conditions, such as cancer, can have an impact on patients' ability to maintain full-time employment.<sup>5,6</sup> Over half (53%) of all survivors who were currently treated were employed when they were diagnosed with cancer (**Figure 1, left**). Among those who were employed and made employment changes, 86 percent of these individuals experienced these changes as a result of their diagnosis (**Figure 1, right**). The most common employment change made among those who were currently undergoing treatment was to take extended paid time off (66%); however, nearly half (two-thirds (49%) of patients currently treated and employed reported taking unpaid time off from work. Other employment changes include reduced hours worked (23%), and moving to a flexible work schedule (17%).

Cancer diagnosis and treatment has also implications for early or delayed retirement. Among those currently treated who were working at the time they were diagnosed, one in six (16%) reported retiring earlier than they had planned. However, for patients undergoing treatment for at least the second time, the share increased to more than one in four (26%). Among patients age 55 or older currently receiving treatment, one in five (20%) reported retiring earlier than they had planned. A smaller percentage of these adults reported delaying retirement and continuing to work because of the diagnosis, treatment, or lasting effects.

**Figure 1.** *Employment Status at Time of Diagnosis and Employment Changes Attributable to Cancer among Cancer Survivors*



<sup>5</sup> Zajacova et al. Employment and income losses among cancer survivors: Estimates from a national longitudinal survey of American families. *Cancer*. 2015 Dec 15;121(24):4425-32.

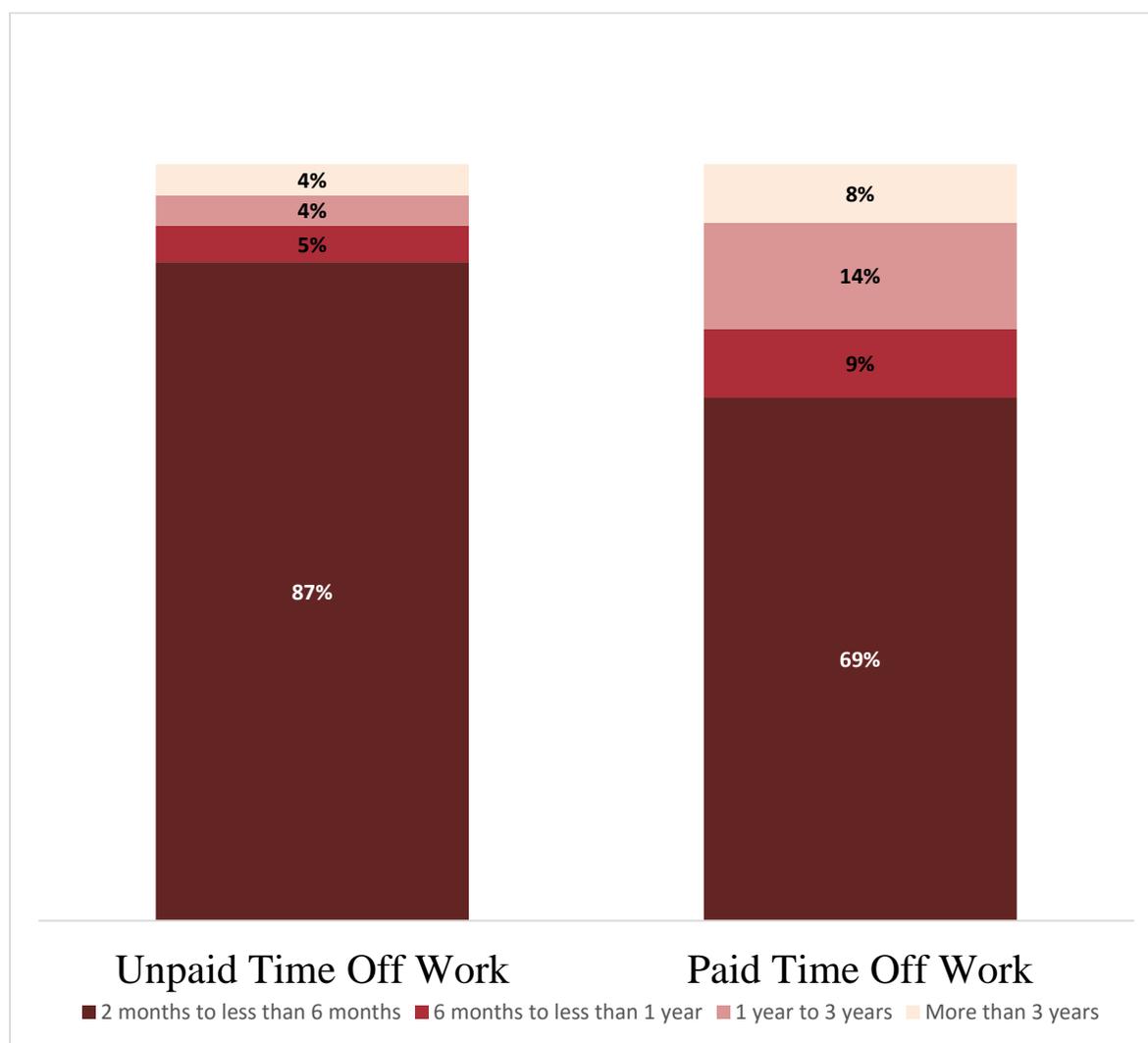
<sup>6</sup> Short et al. Employment pathways in a large cohort of adult cancer survivors. *Cancer*. 2005 Mar 15;103(6):1292-301.

### Caregiver Impact

Caregivers include friends or family members who assist patients in coping with their diagnosis. This may consist of accompanying them to doctor's appointments, providing transportation, making decisions about treatment, and participating in other ways to improve the patient's quality of life. Over one in three (37%), or 5 million, cancer survivors reported receiving assistance from a caregiver.

Caregivers, like cancer survivors themselves, made changes to their work schedules in response to a cancer diagnosis. One in four (25%) caregivers reported making employment changes to accommodate their caregiving role. For many caregivers, this change was not temporary, as almost a third (32%) reported making work schedule changes for at least two months. More than a third of all caregivers taking either paid or unpaid time off from work were away from their jobs for between two and six months (**Figure 2**). A higher percentage of caregivers reported taking unpaid time off from work compared to paid time off (23% vs. 13%).

**Figure 2.** Length of Time off From Work for Caregivers Reporting Changes to Work Schedule Greater than Two Months



### Financial Hardship

Cancer diagnoses can place a financial strain on patients and their families. Many cancer survivors experience financial hardship, such as going in to debt or declaring bankruptcy.<sup>7</sup> Previous research has shown that even small amounts of debt can have a major impact on the financial health of families.<sup>8</sup> In 2011, 10 percent of currently treated cancer survivors surveyed, and 15 percent of patients undergoing repeat treatment, reported borrowing money or going into debt because of cancer. Of the survivors who borrowed money or went into debt, eight in ten (80%) borrowed up to \$25,000. Ultimately, 17% filed for bankruptcy.

### **DISCUSSION**

As the population of cancer survivors continues to increase, the loss of productivity and financial hardship for cancer patients and their families may continue to grow. The analysis demonstrated that many cancer survivors are employed at the time of their diagnosis, which has impacts on productivity and retirement planning. Cancer survivors reported making changes to their work schedule to accommodate treatment or because of the effects of treatment. This reduction in productivity has wider reaching effects than the reduction in income experienced by survivors and their families.

The financial hardship associated with cancer is complex. As the data indicates, survivors themselves are not the only ones with employment or productivity issues with a cancer diagnosis. Caregivers play an important role in the wellbeing and treatment.<sup>9</sup> However, caregivers also reported changes to their work schedules which can have a similar impact on productivity.

### **LIMITATIONS**

The MEPS samples the U.S. population and non-institutionalized individuals only, which may result in the exclusion of high-cost populations in long-term care. Because survey data are self-reported, and may be subject to recall bias and misclassification, diagnoses cannot be confirmed. The small sample size of survivors with certain cancers does not permit further analysis of financial impact by site of cancer.

### **CONCLUSION**

External factors beyond the receipt of treatment, such as employment changes for both patients and their caregivers, can contribute to income instability. Further research into understanding and addressing sources of economic burden that are not solely related to medical spending will help inform beneficial public policy and treatment procedures. The results of this analysis suggest that there is a need to develop and evaluate health and employment intervention programs to reduce disruptions in work and improve outcomes for cancer survivors and their families.

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<sup>7</sup> Banegas et al. For working-age cancer survivors, medical debt and bankruptcy create financial hardships. *Health Aff* 2016 January 35(1): 154-61.

<sup>8</sup> Yabroff et al. Financial hardship associated with cancer in the United States: Findings from a population-based sample of adult cancer survivors. *J Clin Oncol*. 2016 Jan 20;34(3):259-67.

<sup>9</sup> Glajchen M. The emerging role and needs of family caregivers in cancer care. *The journal of supportive oncology*. 2003 Dec;2(2):145-55.

### *Appendix A: Treatment History Detail*

Cancer survivors receiving treatment at the time the survey was administered were classified as “currently treated,” while those not receiving treatment at the time of the survey were classified as “not currently treated.” For patients in the latter group, we describe their treatment history based on when they were last treated, i.e. (i) treated less than 5 years ago, (ii) treated 5 years ago to more than 20 years ago, and (iii) did not receive treatment. A subset of survivors in the “currently treated” group may also have received treatment at some point in the past, in which case they were also classified as “not first time treated.”

We describe the relationship between financial hardship and treatment history for the following treatment groups:

- Currently treated;
- Treated less than 5 years ago (mutually exclusive from ‘currently treated’); or
- Not first time treated (subset of ‘currently treated’).