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Time away from work: Employed husbands of women treated for breast cancer

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Abstract

Purpose—We estimated the effect of cancer and its treatment on employment and weekly hours worked for employed men whose wives were newly diagnosed with breast cancer.

Methods—We collected employment data on 373 married, insured, and employed men from 2007 to 2011. The outcomes were employment, any decrease in weekly hours worked, and change in weekly hours worked from pre-diagnosis to two- and nine-months following treatment initiation relative to a non-cancer control group (N=451 for the two-month survey and N=328 for the nine-month survey) extracted from the Current Population Survey. We also stratified the cancer sample by those undergoing chemotherapy and radiation treatment at the time of the interviews and repeated the analysis.

Results—Men whose wives were newly diagnosed with cancer were more likely to decrease weekly hours worked ($p<.05$) two months following treatment initiation than men in the control group. However, the change in weekly hours worked was not statistically significantly different from the change experienced by men in the control group. No differences between the two groups were observed at the nine month interview.

Conclusions—Breast cancer treatment had a small, negative effect on work outcomes in employed husbands of affected women.

Implications for cancer survivors—While the results were generally favorable, more research is needed to understand the extent to which caregiving needs are met in an employed cancer population.

Introduction

Families often rely on informal caregiving to care for ill family members. Much of the public and policy attention is focused on the burdens associated with providing long-term informal care and policies to support caregivers [1]. However, short-term caregiving for an extended illness can also create considerable stress for a family. Furthermore, caregiving decisions made by an employed caregiver during a family member's acute illness and treatment can have long-term consequences such as employment loss and health insurance loss, if health insurance is dependent on continued employment.

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Husbands are the primary caregivers for married women with breast cancer [2]. The vast majority of women diagnosed with breast cancer are expected to survive, however treatment for breast cancer can be extensive, even for early stage disease. Treatment for early stage breast cancer may involve surgery and for more advanced stages, treatment includes radiation and/or chemotherapy followed by hormonal therapy. Radiation generally involves daily treatment for six weeks and chemotherapy can last a few months or up to a year or longer depending on the regimen and response to treatment. Side effects of radiation include skin irritation, pain, fatigue, low white blood cell count, and difficulty breathing [3]. Many patients experience nausea, vomiting, diarrhea, fatigue, hair loss, memory loss, infection, and mouth and throat sores when undergoing chemotherapy [4]. Women experiencing these and other symptoms often require formal and informal care. However, the ability for husbands to provide care may be constrained by employment. In this paper, we study the impact of breast cancer treatment on employed husbands of affected women.

When one member of a married couple becomes sick, particularly with cancer, the other member is likely to miss work to provide caregiving services [5]. Following the analysis of a survey of cancer patients' informal caregivers, Yabroff et al. [6] reported that spouses or partners of breast cancer patients spent approximately eight hours a day providing care, although the hours per day spent caregiving was inversely related to caregivers' socioeconomic status. Caregivers with low educational attainment or annual household income less than $20,000 spent more time whereas caregivers with more than a college degree and high income spent fewer hours per day. As would be expected, employed caregivers spent fewer total hours giving care than unemployed caregivers.

Prior research suggests that insurance contingent on continued employment influences an ill employee to devote time towards work to preserve health insurance coverage [7]. This incentive may also exist for employed spouses with employer-based insurance that covers an ill partner. Under these circumstances, spouses face tradeoffs between work and providing care at home, potentially leaving many families without an informal support system or having to rely on informal support outside of the home or alternatively, having to pay out of pocket for formal caregiving services. In a study of cancer survivors and their spouses, Hollenbeak et al. [8] found that husbands of cancer survivors were slightly less likely to be working than husbands of non-cancer controls (86% vs. 88%, p=.08), but among those that continued working, husbands of survivors worked 1.5 hours more per week than husbands of non-cancer survivors. The cancer sample comprised survivors and their spouses two to six years following a cancer diagnosis. Therefore, the survivors' need for care is likely to be less acute than it was during the active treatment phase. Nonetheless, Hollenbeak et al. [8] hypothesized that husbands of cancer survivors worked to compensate for lost income and to maintain health insurance for the family. Comparable studies, to our knowledge, have not been conducted on employed husbands whose wives are undergoing treatment.

We examine the influence of breast cancer on employment and weekly hours worked on employed husbands whose wives are newly diagnosed with and in most cases, undergoing treatment for breast cancer. In addition to examining the effects of caregiving on husbands' employment and weekly hours worked, we test whether health insurance influences work decisions using a sample of men who are insured either by their own employer or by their wife's employer. We compare changes in employment and weekly hours worked in the cancer sample to a non-cancer control group extracted from the Current Population Survey (CPS).

Data

Data from this study was collected as part of a larger study that examined the effect of illness and health insurance on the labor supply of women newly diagnosed with breast cancer. The original study focused on married women, but also collected information on their spouse's labor supply. The enrollment details are described elsewhere [9]. In brief, we enrolled 496 employed married women within two months following surgery or initiating chemotherapy or radiation. Women were treated with intent to cure. We collaborated with three hospital-based treatment centers and five private oncology centers from urban and rural areas in Virginia. The study refusal rate was 20% and the retention rate was 92% over the study period. Based on effect sizes from prior work [7], the study was powered to detect a statistically significant difference ($p<.05$) in the proportion of women employed and the difference in weekly hours worked between those with and without employer-provided insurance. We did not prospectively have data on husbands' labor supply that could be used in sample size calculations.

At the end of the study, 262 women with insurance through their employer and 193 women with insurance through a spouse completed all three interviews. From this sample, we selected men employed at the time of their wife's diagnosis (n=394). Nineteen subjects were excluded because they were missing data on household income (n=10), race or education (n=3), or hours worked (n=3) and one subject was excluded because of data coding errors. Among the remaining sample of 373 men, 171 covered their wife through an employer-based policy and 202 men were covered by their wife's policy.

Starting in the fall of 2007 and ending in the fall of 2011, we interviewed women at three different times: at enrollment (a retrospective interview that referred to the employment situation at diagnosis), immediately following surgery or during chemotherapy or radiation treatment (aimed to be two months following the initiation of treatment), and nine months following treatment initiation. Husbands would most likely be called upon to provide caregiving at the two-month interview when treatment was most intensive for most women. The questionnaire asked about the couple's demographic characteristics, insurance characteristics, and labor supply. Women provided information on their husband's demographic and insurance characteristics as well as employment and weekly hours worked; husbands were not interviewed for the study.

We constructed a non-cancer control group from respondents to the Current Population Survey (CPS) residing in Virginia. The control group reduces confounding the effects of cancer with labor market conditions during the course of the study. In addition, the non-cancer control group allowed us to capture differences in hours worked between men with and without employer-provided health insurance, and without a wife recently diagnosed with cancer, to account for unmeasured differences between men with their own health insurance and those with insurance through their wife's employer that are correlated with remaining employed.

The CPS is a monthly survey of households conducted by the Bureau of the Census for the Bureau of Labor Statistics and is the primary source of information on labor force characteristics and behavior of the U.S. population. Respondents are interviewed to obtain information about the employment status of each member of the household 15 years of age and older. The CPS has a response rate of 91% to 93%, which is one of highest response rates among government sponsored surveys [10]. Households participating in the CPS are in the survey for four consecutive months, out for eight months, and then return for another four consecutive months before leaving the sample permanently [10]. The Annual Social and Economic supplement (commonly referred to as the "March supplement") includes

additional questions about health insurance coverage including the source of health insurance (e.g., employment-based, government, or uninsured) and household members covered [11].

We selected Virginia respondents who participated in the CPS and answered the March supplemental questions. We interviewed the cancer sample two and nine months from treatment initiation, which led to an average span of three months between diagnosis and the first post-treatment interview and 12 months between diagnosis and the second post-treatment interview. We used this interval to select the CPS controls since the baseline cancer interview referred back to the time of diagnosis. Respondents comparable to the baseline and first cancer sample interview were in their 1st month (denoted as "month-in-sample" (MIS 1)) and in MIS 4. We then selected controls to match the 12-month span between the cancer interviewees' baseline and second interview. Therefore, we selected respondents in MIS 1 and MIS 5, which were 12 months apart. Specific questions regarding diseases such as cancer were not part of the CPS, and so a few respondents in the control population may have had cancer.

From the CPS sample, we selected married employed and privately insured women between the ages of 30 and 64 years who responded to MIS 1. We then selected their husbands as the potential candidates for control subjects. This selection process matched the procedure we used to enroll the cancer sample. We then matched the selected CPS subjects across MIS 1 to MIS 5—taking all MIS observations in the period April 2007 through July 2010. Subjects were matched across surveys by comparing individual records within households. To ensure a correct match, first we matched records by household number, which changes if one household moves away and another takes its place. Second, within households we matched individual roster numbers that are retained from one MIS to the next. Third, we matched sex, race, and age from one roster number to the next to ensure that the correct individual answered each survey. Seventy-five subjects were excluded because their data did not match between interviews and 19 subjects were excluded because household income was missing. Using the procedure described above, we selected 451 controls to match to the first interview (MIS 1 and MIS 4) and 328 controls to match to the second interview (MIS 1 and MIS 5). Among the control subjects selected from MIS 1 and MIS 4, 241 controls insured their wives through their employment contingent health insurance and 210 did not insure their wives, and from the second set of controls (MIS 1 and MIS 5), 174 insured their wives and 154 did not.

Statistical Analysis

To estimate husband's labor supply, we estimated models for discontinuation in employment, any reduction in weekly hours worked, and change in hours worked relative to the baseline interview. We defined employment status as a binary variable that equals one if a husband reported that he stopped working for pay. Similarly, we defined a decrease in hours worked as a binary variable that equaled one if a husband reported fewer weekly hours worked relative to the hours reported in the baseline interview. We estimated separate multivariate logistic regression models for the first and second interviews.

In our estimation of weekly hours worked, we assumed that the same variables that affect employment also potentially affected hours worked. We estimated change in hours worked relative to the onset of breast cancer. We also estimated similar models of the percent change in weekly hours worked, but did not report the results because they were qualitatively similar to estimations of weekly hours worked. Weekly hours worked post-diagnosis were zero for men who reported that they were not employed. These models, which were not conditioned on being employed, also captured the effect of non-employment

for men no longer working. We also estimated models conditional on men reporting positive hours worked and the results were qualitatively similar. Therefore, we report findings from the unconditional models only. All models of change in weekly hours worked were estimated using Ordinary Least Squares (OLS) with robust standard errors.

We also estimated models where we restrict the breast cancer sample only to husbands of women who were receiving chemotherapy or radiation at the time of the interview. Relative to other breast cancer treatments, chemotherapy is associated with the greatest number of side effects and those side effects can be severe. In addition, chemotherapy occurs over many months and is expensive even for privately insured patients. Therefore, men with wives who received chemotherapy may have had greater demands for caregiving. However, the need to reduce hours worked could be offset by the need to maintain wages to pay for treatment and to remain attached to a job that provides health insurance. Radiation is also associated with side effects and expense, but occurs over a shorter period of time.

In addition to entering the variables of interest in the model linearly, we added interaction terms between cancer and whether the husband covered the wife with his employer-based policy. We repeated these estimations on the restricted treatment samples as well. In all cases, the interaction terms were statistically insignificant (results not shown). Therefore, we focus our discussion on the main results that report breast cancer and its treatment on husbands' labor supply.

Last, we also conducted a number of specification tests. These tests include estimating all models with and without propensity scores and using the propensity score for the matching rather than as a covariate. We also estimated linear probability models instead of logistic regression in the case of dichotomous outcomes. We used the bootstrap method with 500 replications to estimate the 95% confidence intervals of the coefficients. In all cases, the results were qualitatively similar, but marginal statistical significance was lost in employment models. These models originally predicted that husbands of women diagnosed with cancer would be more likely to stop working ($p<.10$), but when the bootstrapping method was used to estimate confidence intervals, the coefficients were not statistically significant, even at the 10% level.

Control variables

All control variables were measured for the pre-diagnosis period. We controlled for individual characteristics including age, race (Non-Hispanic white, Non-Hispanic African American, and other), education (high school diploma or less, some college or Associate's degree, Bachelor's or advanced degree), whether the couple had children under age 18, and annual household income (< $40,000, between $40,000 and $74,999, between $75,000 and $150,000, > $150,000). Age was specified as a continuous variable. We also controlled for weekly hours worked at the baseline interview. In addition to these controls, we controlled for whether the wife reduced her hours worked relative to the baseline interview. The addition of this control indicates the extent to which employed women were able to recover following treatment. All estimations included variables for the year of the interview (2007 through 2011).

A propensity score was estimated to balance the observable characteristics of the treatment (cancer) and control groups [12]. For an individual, the propensity score is the probability of being treated (or in this case, having cancer) based on observed characteristics. The propensity score was estimated using a probit model. The sample was then split into *5* intervals of the estimated propensity score, and the control subjects were matched to the cancer subjects using methods such as nearest-neighbor, radius matching, and kernel matching.[1] Within each interval, we tested if the subject's demographic and labor

characteristics differed between the treated (cancer) subjects and control subjects. This is the "balancing" test, which must be satisfied before the propensity score can be used [13]. Once the balancing condition was met by adding more interaction and higher order terms to the probit model, the propensity score was included in equations estimating the change in weekly hours worked.

5. Results

Descriptive statistics

Table 1 reports the descriptive statistics for men in the study sample, comparing the cancer sample to the control sample from MIS 1 and MIS 4 and from MIS 1 and MIS 5. When comparing the control and cancer samples (columns 1 and 2 to column 3), the cancer sample was about 7 years older, had more African Americans and fewer respondents with race as 'other,' had a higher annual household income, and fewer had children under age 18. Just over half of the men in the non-cancer control group insured their wives (53%) whereas just under half of men in the cancer sample insured their wives (46%).

Turning to labor supply, the cancer sample worked more weekly hours at the baseline interview than the control sample. At the first post-treatment interview, absolute hours worked were still higher in the cancer sample, but a greater percentage of men in the cancer sample decreased weekly hours worked (30% versus 23%). Women in the cancer sample also worked more weekly hours at baseline than women in the control sample, but were much more likely to experience declines in hours worked at the post-treatment interviews. At the nine month post-treatment interview, a higher percentage of men decreased hours worked (37% versus 26%) as did their wives (40% versus 29%), relative to the control group.

Employment

Table 2 reports the probability of stopping work at the two and nine month post-treatment interviews. Men whose wife had breast cancer were 2.6 times more likely to stop working at the two month post-treatment interview, but this estimate was only marginally statistically significant and when we re-estimated the models using the bootstrap model to estimate the confidence intervals, statistical significance at the 10% level was not present. Similarly, if their wives were undergoing chemotherapy or radiation at the time of the interview, men were about 3 times more likely to working at the two month interview, but again, statistical significance was only marginal. Statistically significant differences were not observed between the cancer and control groups at the nine-month post-treatment interview.

Reduce hours worked

Table 3 reports the probability of any decrease in weekly hours worked from the baseline period to the two and nine month post-treatment interviews. In these estimations, men with a wife diagnosed with breast cancer were more likely to reduce the number of weekly hours worked from baseline to the two month post-treatment interview. In the full sample at the two month post-treatment interview (column 1), men were 1.45 times more likely to reduce weekly hours worked ($p<.10$). When the cancer sample was restricted to men with wives receiving treatment, these men were about 1.70 more likely to reduce weekly hours worked ($p<.05$; columns 2 and 3). By the nine-month post-treatment interview, the effect of cancer

[1]We tested several matching methods including nearest neighbor, 1-to−1 matching with replacement, kernel matching with bootstrap standard errors, local linear regression, and spline matching. These methods yielded comparable results. We use the kernel method where all cancer subjects are matched with a weighted average of all controls with weights that are inversely proportional to the distance between the propensity scores of the cancer and control observations. For a review of matching methods see Becker and Ichino [13] and Smith and Todd [14].

was no longer statistically significant, although the odds ratio remained greater than 1. Men who insured their wives were less likely to reduce the number of weekly hours worked and men who worked more hours at baseline were more likely to the number of weekly hours worked.

Change in weekly hours worked

Table 4 reports change in weekly hours worked from baseline to the two- and nine-month post-treatment interviews without conditioning on employment. Although we observed that men who had wives with cancer were more likely to reduce hours worked, in Table 4, the absolute change in hours worked was not statistically significant. In other words, men who had wives diagnosed with and treated for breast cancer did not reduce the number of weekly hours worked by statistically significantly greater amounts than men in the non-cancer control group. Men who insured their wives reduced their hours by less (2.3 to 2.6 hours) than men who were dependent on their wives for insurance at the two month post-treatment interview ($p<.05$). Interaction terms between cancer and health insurance coverage was not statistically significant (results not shown).

Discussion

This study estimated the impact of cancer treatment on employed and insured husbands of women newly diagnosed with breast cancer relative to a non-cancer control group. At the two-month post-treatment interview, many women were receiving either chemotherapy or radiation treatment. We were specifically interested in whether these men stopped working, had any reduction in hours worked, and the change in hours worked relative to the baseline (pre-diagnosis) period. We also hypothesized that having employer-based health insurance would mediate the time away from work. Men whose wives were still receiving treatment for breast cancer two months post-treatment initiation were more likely to stop working (marginally statistically significant) and were more likely to reduce weekly hours worked relative to men in the non-cancer control group. However, change in weekly hours worked was not statistically significantly different from non-cancer controls. No differences in employment and weekly hours worked were observed at the nine month post-treatment interview. Although employment-based health insurance positively influenced employment and hours worked, there was not a differential effect based on whether or not the husband's wife was diagnosed with breast cancer.

We view our findings as mixed. An optimistic interpretation is that caregiving requirements from husbands of women with breast cancer have minimal impact on employment. Men were more likely to reduce hours worked, but not to a statistically significant extent. Perhaps women received care from providers other than their husbands or were minimally affected by treatment, perhaps due to better management of symptoms in the outpatient setting. A more pessimistic view of the findings suggests that husbands could not reduce hours worked in order to provide care for their wives and instead continued to work to insure job security. If this is the case, considerable emotional and stress may have been incurred by the family. Unfortunately, data were not collected to test these hypotheses. By the nine month post-treatment interview, no statistically significant differences in work outcomes were observed between the cancer and control groups, suggesting that the need for care from their husbands had resolved for most women.

The study has five main limitations. First, men did not self-report hours worked and instead we relied on women to report their husband's weekly hours worked. Therefore, there may be reporting error, but the direction of the bias is difficult to predict. Second, it is possible that a few subjects in the CPS had cancer or other conditions that would require caregiving. The effect of misclassifying a control subject would tend to reduce the difference between the

cancer and control subjects, but we believe the overall impact is this type of misclassification is minimal. Third, although we used propensity score methods to reduce baseline differences between the cancer and control samples, there were few variables available for matching and systematic differences may remain between the two groups. Fourth, the sample size was relatively small for men whose wives were receiving treatment in the nine month post-treatment interview. Nonetheless, the overall sample was large relative to what is currently in the published literature. Lastly, we studied employed and insured husbands of employed and insured women treated with intent to cure. This sample is likely to have better jobs and more household resources than a random population-based sample. Therefore, the true effect of breast cancer treatment on the employed husbands of affected women may be underestimated.

In spite of the study's limitations, it has several strengths including primary, longitudinal data collection from a sample of married women, many of whom were undergoing treatment at the time of the interview. Because they were undergoing treatment when interviewed, recall of husband's time away from work may be reasonably accurate. Future research is needed to determine if women who are undergoing treatment for breast cancer are getting their care needs met and if they seek more involvement in their care from their employed husbands. Likewise, more information is required from employed husbands and whether they feel that the care they provide is adequate. More information is also needed to better understand the pressures husbands feel to maintain employment during the treatment period. Although this is one of the few studies that focused on employed husbands, past research of others suggests that male caregivers tend to focus on tasks and minimize disruptions [15]. Nonetheless, the evidence suggests that husband's employment could be adversely affected by having a wife with treated for breast cancer, but these findings were only moderately statistically significant. The negative employment effects appear to resolve when women are no longer actively receiving treatment.

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Table 1

Cancer and CPS Controls MIS 1, MIS 4, and MIS 5 Sample Characteristics, Married, Employed, and Insured Men

	(1) Control MIS 1 to MIS 4	(2) Control MIS 1 to MIS 5	(3) Cancer
N	451	328	373
Age, Mean (SD)	46.06 (9.41)	46.09 (9.36)	53.35 (7.80)***
Race			***
Non-Hispanic White	76.76	78.42	78.95
Non-Hispanic Black	13.22	11.87	17.11
Other	10.02	9.71	3.95
Education			
High school or less	30.49	30.94	27.37
Some college or Associates degree	23.45	23.38	22.89
Bachelor or Advanced degree	46.06	45.68	49.74
Household income			***
<$40,000	6.82	6.47	2.37
$40,000–$75,000	25.59	25.54	17.37
$75,000–$150,000	42.00	42.09	53.42
>$150,000	25.59	25.90	26.84
Has children under 18 years old	62.69	64.03	44.47***
Insures wife	53.44	53.05	45.84
Baseline hours worked			
Weekly hours worked, Mean (SD)	44.48 (9.27)	44.53 (9.64)	47.03 (10.46)***
Wife weekly hours worked, Mean (SD)	38.24 (10.85)	38.35 (10.48)	40.87 (11.54)***
2 months post-treatment			
Percent stopped working	1.77	N/A	3.21
Weekly hours worked, Mean (SD)	42.69 (11.82)	N/A	44.36 (13.05)**
Change in hours worked, Mean (SD)	−1.79 (10.59)	N/A	−2.67 (10.22)
Percent change in hours worked, Mean (SD)	−0.02 (0.38)	N/A	−0.05 (0.25)
Percent who decreased hours worked	23.01	N/A	36.01***
Percent with a wife who decreased hours worked	27.88	N/A	61.76***
9 months post-treatment			
Percent stopped working	N/A	4.27	4.76
Weekly hours worked, Mean (SD)	N/A	42.91 (13.16)	44.46 (16.10)
Change in hours worked, Mean (SD)	N/A	−1.70 (11.10)	−2.99 (12.36)
Percent change in hours worked, Mean (SD)	N/A	−0.02 (0.33)	−0.06 (0.28)*
Percent who decreased hours worked	N/A	26.43	37.04***
Percent with a wife who decreased hours worked	N/A	28.82	49.74***

Notes: MIS=month in sample; CPS=Current Population Survey; SD=standard deviation. Statistics shown as percentages unless otherwise noted. In the second interview, the cancer sample decreased by 3 subjects due to missing weekly hours worked (n=2) and one subject becoming disabled.

*$p < .1$,

**$p < .05$,

***$p < .01$.

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Table 2

Stopped working at two and nine month post-treatment interviews, (Odds ratios [95% CI])

	Two month post-treatment interview			Nine month post-treatment interview		
	Full sample	**Chemotherapy only**	**Chemotherapy or Radiation**	**Full sample**	**Chemotherapy only**	**Chemotherapy or Radiation**
N	824	677	734	698	362	384
Cancer	2.642 * [0.849,8.225]	3.108 * [0.897,10.774]	3.036 * [0.922,10.002]	0.843 [0.324,2.198]	2.729 [0.543,13.712]	1.570 [0.381,6.465]
Covers wife	0.419 [0.141,1.241]	0.337 [0.092,1.232]	0.374 [0.114,1.224]	0.578 [0.259,1.291]	0.558 [0.174,1.783]	0.569 [0.189,1.713]
Hours worked at baseline	0.921 *** [0.880,0.965]	0.918 *** [0.866,0.973]	0.917 *** [0.870,0.965]	0.959 ** [0.925,0.994]	0.969 [0.918,1.022]	0.971 [0.924,1.022]
Wife reduced hours worked	0.499 [0.173,1.441]	0.485 [0.144,1.633]	0.440 [0.138,1.406]	1.489 [0.702,3.158]	2.121 [0.718,6.270]	1.562 [0.553,4.407]
Race						
African American	1.585 [0.503,4.992]	1.547 [0.456,5.254]	1.611 [0.500,5.187]	0.965 [0.362,2.574]	1.204 [0.318,4.560]	1.009 [0.277,3.672]
Other	0.712 [0.072,7.066]	0.929 [0.087,9.896]	0.890 [0.083,9.597]	0.549 [0.063,4.780]	0.849 [0.081,8.955]	0.910 [0.089,9.343]
Age	1.118 ** [1.008,1.241]	1.085 [0.972,1.211]	1.097 * [0.985,1.222]	1.027 [0.951,1.108]	1.006 [0.913,1.108]	1.015 [0.924,1.114]
Education						
Some College	1.486 [0.390,5.653]	1.693 [0.439,6.535]	1.552 [0.405,5.943]	1.428 [0.545,3.744]	1.856 [0.488,7.064]	1.350 [0.378,4.819]
Bachelor or Advanced Degree	0.951 [0.256,3.533]	0.705 [0.169,2.941]	0.754 [0.193,2.952]	0.876 [0.321,2.392]	0.795 [0.185,3.418]	0.603 [0.148,2.461]
Household Income						
$40,000–$75.000	0.717 [0.091,5.675]	0.495 [0.054,4.533]	0.614 [0.073,5.160]	0.875 [0.173,4.432]	0.607 [0.086,4.298]	0.816 [0.124,5.383]
$75,000–$150,000	0.822 [0.092,7.315]	0.651 [0.058,7.300]	0.787 [0.084,7.393]	0.374 [0.061,2.311]	0.115 * [0.010,1.340]	0.199 [0.020,1.981]
>$150,000	0.988 [0.100,9.753]	0.356 [0.024,5.329]	0.620 [0.053,7.247]	0.469 [0.070,3.157]	0.039 ** [0.002,0.874]	0.073 * [0.004,1.359]
Has Children <18	3.266 * [1.000,10.669]	3.098 * [0.837,11.460]	3.860 ** [1.075,13.862]	1.003 [0.409,2.461]	0.698 [0.198,2.469]	0.797 [0.234,2.714]

Notes: Estimated using multivariate logistic regression models. 95% Confidence Intervals shown in brackets. Estimations also include a variable for propensity score and its squared term and dummy variable for year of interview. Omitted variables include non-cancer, insured by wife, wife did not reduce her weekly hours worked, white, non-Hispanic, high school or less education, less than $40,000 annual income, and does not have children under age 18.

* $p < .1$,

** $p < .05$,

*** $p < .01$.

Table 3

Decreased weekly hours worked at two and nine month post-treatment Interviews, (Odds ratios [95% CI])

	Two month post-treatment interview			Nine month post-treatment interview		
	Full sample	**Chemotherapy only**	**Chemotherapy or Radiation**	**Full sample**	**Chemotherapy only**	**Chemotherapy or Radiation**
N	824	677	734	698	362	384
Cancer	1.449 * [0.957,2.192]	1.699 ** [1.062,2.719]	1.679 ** [1.076,2.621]	1.057 [0.690,1.620]	1.988 [0.856,4.617]	1.129 [0.540,2.359]
Covers wife	0.692 ** [0.489,0.980]	0.689 * [0.466,1.018]	0.629 ** [0.433,0.913]	1.010 [0.713,1.432]	0.882 [0.532,1.464]	0.877 [0.537,1.433]
Hours worked at baseline	1.090 *** [1.069,1.112]	1.091 *** [1.067,1.116]	1.089 *** [1.066,1.112]	1.061 *** [1.041,1.081]	1.076 *** [1.046,1.107]	1.074 *** [1.046,1.104]
Wife reduced hours worked	1.269 [0.891,1.808]	1.356 [0.908,2.023]	1.253 [0.859,1.827]	1.650 *** [1.177,2.315]	1.687 ** [1.024,2.780]	1.477 [0.910,2.395]
Race						
African American	1.149 [0.708,1.864]	1.293 [0.765,2.186]	1.315 [0.795,2.176]	0.855 [0.520,1.405]	1.556 [0.767,3.156]	1.412 [0.719,2.777]
Other	0.998 [0.487,2.047]	0.879 [0.403,1.918]	0.819 [0.377,1.780]	0.670 [0.310,1.448]	0.770 [0.297,1.998]	0.808 [0.313,2.085]
Age	1.010 [0.977,1.044]	1.018 [0.983,1.055]	1.024 [0.989,1.061]	1.016 [0.982,1.051]	1.018 [0.975,1.064]	1.018 [0.975,1.062]
Education						
Some College	1.442 [0.898,2.316]	1.883 ** [1.111,3.193]	1.844 ** [1.111,3.060]	1.140 [0.708,1.835]	1.659 [0.849,3.243]	1.498 [0.779,2.879]
Bachelor or Advanced Degree	0.983 [0.626,1.543]	1.123 [0.679,1.859]	1.120 [0.694,1.806]	0.835 [0.532,1.309]	0.831 [0.435,1.587]	0.762 [0.402,1.442]
Household Income						
$40,000–$75.000	1.251 [0.489,3.202]	1.118 [0.425,2.944]	1.266 [0.483,3.317]	0.734 [0.307,1.753]	0.521 [0.185,1.466]	0.585 [0.213,1.604]
$75,000–$150,000	1.642 [0.625,4.314]	1.600 [0.591,4.333]	1.835 [0.681,4.945]	1.010 [0.413,2.467]	0.606 [0.211,1.736]	0.723 [0.258,2.024]
>$150,000	1.744 [0.655,4.643]	1.480 [0.537,4.076]	1.824 [0.667,4.989]	0.977 [0.393,2.426]	0.635 [0.218,1.845]	0.778 [0.272,2.223]
Has Children <18	1.114 [0.764,1.624]	1.289 [0.847,1.961]	1.257 [0.838,1.886]	1.056 [0.720,1.547]	1.241 [0.716,2.151]	1.322 [0.775,2.257]

Notes: Estimated using multivariate logistic regression models. 95% Confidence Intervals shown in brackets. Control and omitted variables are the same as reported in Table 2.

* $p < .1$,

** $p < .05$,

*** $p < .01$.

Table 4

Change in weekly hours worked at two and nine month post-treatment Interviews

	Two month post-treatment interview			Nine month post-treatment interview		
	Full sample	**Chemotherapy only**	**Chemotherapy or Radiation**	**Full sample**	**Chemotherapy only**	**Chemotherapy or Radiation**
N	824	677	734	698	362	384
Cancer	−0.0738 (0.885)	−0.518 (1.022)	−0.269 (0.973)	1.814 (1.261)	−1.076 (2.673)	0.895 (2.219)
Covers wife	2.395*** (0.734)	2.335*** (0.822)	2.556*** (0.795)	0.453 (1.028)	−0.185 (1.526)	−0.0704 (1.466)
Hours worked pre-diagnosis	−0.283*** (0.0374)	−0.287*** (0.0442)	−0.287*** (0.0419)	−0.241*** (0.0507)	−0.285*** (0.0811)	−0.295*** (0.0770)
Wife reduced hours worked	0.0228 (0.763)	−0.0385 (0.870)	−0.210 (0.832)	−1.727* (1.010)	−1.051 (1.530)	−0.513 (1.470)
Race						
African American	−0.246 (1.017)	−0.393 (1.118)	−0.691 (1.089)	0.145 (1.423)	−2.862 (2.183)	−2.011 (2.063)
Other	0.221 (1.471)	0.212 (1.575)	0.279 (1.574)	2.104 (2.149)	1.727 (2.775)	1.705 (2.751)
Age	−0.0834 (0.0693)	−0.0581 (0.0749)	−0.0701 (0.0741)	−0.173* (0.0995)	−0.151 (0.134)	−0.156 (0.129)
Education						
Some College	−0.253 (1.005)	−1.234 (1.120)	−0.688 (1.091)	0.305 (1.405)	−0.129 (2.052)	0.954 (1.989)
Bachelor or Advanced Degree	0.135 (0.930)	−0.171 (1.027)	−0.121 (0.994)	1.792 (1.308)	2.953 (1.897)	3.679** (1.853)
Household Income						
$40,000–$75,000	−0.566 (1.746)	−0.549 (1.861)	−0.455 (1.835)	−2.793 (2.485)	−3.215 (3.088)	−3.378 (2.984)
$75,000–$150,000	−0.461 (1.818)	−0.219 (1.945)	−0.410 (1.914)	−2.561 (2.579)	−2.490 (3.188)	−3.074 (3.082)
>$150,000	−0.0559 (1.870)	0.972 (2.000)	0.505 (1.971)	−1.772 (2.646)	−0.432 (3.263)	−1.007 (3.177)
Has Children <18	−1.389* (0.797)	−1.285 (0.883)	−1.589* (0.866)	−0.401 (1.121)	−0.00543 (1.653)	−0.00448 (1.590)

Notes: Estimated using ordinary least squares regression. Standard errors shown in parentheses. Control and omitted variables are the same as reported in Table 2.

*$p < .1$,

**$p < .05$,

***$p < .01$.