

IMPACT OF DEPENDENTS' DEPRESSION ON EMPLOYEE HEALTH BENEFITS COST: QUANTIFYING THE BURDEN OF CARE

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Introduction

In 1999 the American Medical Association found that the economic impact of depression in the U.S. is estimated to be \$43 billion per year. Only 30 percent of this cost went to medical services. The rest was attributable to premature death and lower productivity in the workplace.

Clearly, employers pay much of these costs. But, not all employer-paid depression-related cost is attributable to employees with depression. And not all the impact of dependents' depression lies in dependent healthcare costs. This analysis studies the impact of a dependent's depression on the employee caregiver's health and answers the question, "What is the economic burden of care?"

This analysis quantifies the difference in employee health benefits cost between employees with at least one depressed dependent and employees with no depressed dependents. Healthcare, sick leave, short- and long-term disability (STD and LTD), workers' compensation claims, and employee population data are used to quantify the increased employee costs associated with having a dependent with depression.

Methods

Using 1998 data, this study examines 42,000 geographically-disperse employees. Employees without any dependents were excluded from the analysis, leaving nearly 25,000 employees with dependents. All of the employees in the study were continuously employed and enrolled in a healthcare plan from 1995 to 1998. Also, each employee was eligible to receive sick leave, STD, and LTD benefits throughout 1998. An employee was defined to have a dependent with depression if any of the employee's dependents had a healthcare service during 1998 with a primary ICD9 code signifying depression (any of the following: 296.2x, 296.3x, 296.5x, 296.82, 298.0x, 300.4x, 309.0x, 309.1x or 311.xx).

Nine censored (tobit) regression models were used to isolate and quantify the impact of having a depressed dependent on different health benefit costs incurred by the employee. The following response variables were examined: employee medical cost, sick leave cost, STD cost, LTD cost, workers' compensation cost, total employee cost, dependent medical cost, total cost, and total days absent from work. Each model controlled for the possible confounding impacts of age, gender, exempt status, number of covered dependents, and regional distribution. The models not only allowed one to determine which cost types were significantly different among employees with and without depressed dependents, but the models also provided a quantification of that difference.

Results

After controlling for confounding factors, employees with depressed dependents incurred 99 percent higher dependent medical costs (excluding dependent costs) ($p < 0.0001$) and 27 percent higher sick leave costs ($p < 0.01$) than did employees without depressed dependents. Total employee-specific costs (including healthcare, sick leave, STD, LTD, and workers' compensation) were 71 percent higher ($p < 0.0001$) for employees with depressed dependents.

Results for total days absent and for STD costs were similar, but less significant. Employees with depressed dependents were absent 11.5 percent more often ($p < 0.13$) than employees without depressed dependents. Also, employees with depressed dependents incurred 5.6 percent higher STD costs ($p < 0.21$).

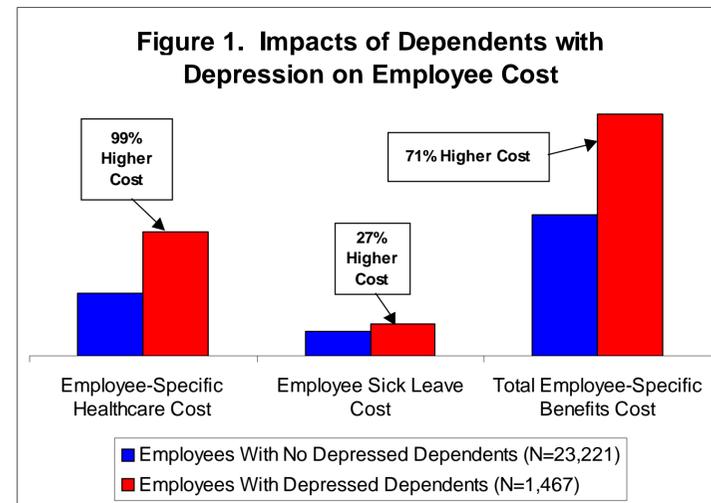
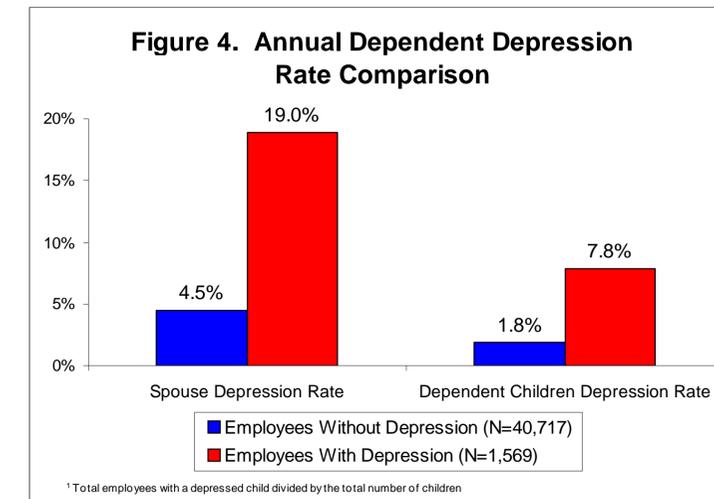
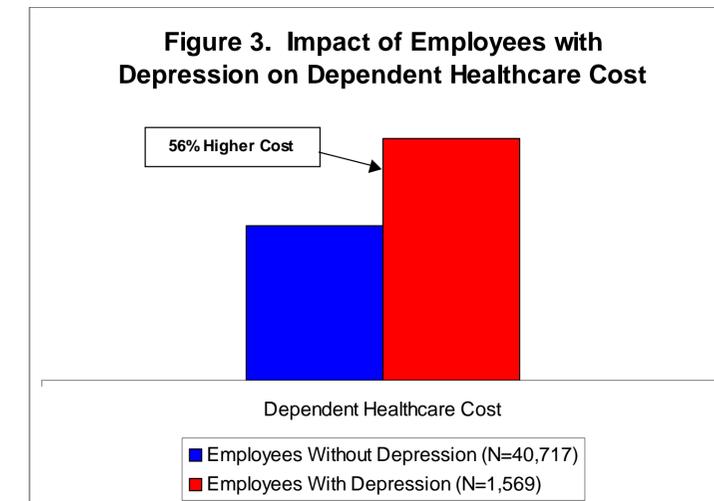


Figure 2. Analysis Population Descriptive Statistics

Factors	Average per Employee	
	Employees With No Depressed Dependents (N=23,221)	Employees With Depressed Dependents (N=1,467)
Covered Spouse	86%	89%
Number of Covered Children	1.3	1.6
Total Covered Dependents	2.1	2.5
Employee Age	41.9	42.8
Percent Female	22%	13%
Percent Exempt	33%	39%
Zip Code 1st Digit = 0	11%	10%
Zip Code 1st Digit = 1	6%	5%
Zip Code 1st Digit = 2	7%	6%
Zip Code 1st Digit = 3	38%	39%
Zip Code 1st Digit = 4	7%	7%
Zip Code 1st Digit = 5	3%	3%
Zip Code 1st Digit = 6	6%	7%
Zip Code 1st Digit = 7	9%	7%
Zip Code 1st Digit = 8	5%	5%
Zip Code 1st Digit = 9	8%	8%

Additionally, employees with depressed dependents had 642 percent higher dependent medical costs ($p < 0.0001$) and 180 percent higher total costs ($p < 0.0001$) than employees without depressed dependents.

On a related note, this analysis found that the economic burden of care is also felt when it is the employee that has depression. In this case, employees with depression have 56 percent higher *dependent* medical costs ($p < 0.001$) than do employees not suffering from depression (controlling for the number of dependents an employee has). Also, 19 percent of the spouses of depressed employees were also diagnosed with depression, while only 4.5 percent of spouses of non-depressed employees had depression. This quadrupled depression rate for spouses is similar for children of depressed employees as well.



Discussion

When calculating the economic impact of depression, an easily overlooked, but very significant aspect is the impact of depression on the family members of a person with depression. This analysis quantifies this impact in the setting of an employed population.

An employee whose dependent has depression has significantly higher employee-specific health benefit costs than an employee whose dependents do not have depression. This is true even after controlling for differences (in age, gender, location, and other factors) between employees with and without depressed dependents. Furthermore, employees with depression have higher *dependent* healthcare costs, showing that the caregiver cost impact goes both ways.

At least two possible reasons exist. First, employees with depressed dependents are likely affected by the additional stress and responsibility associated with caring for and compensating for someone with depression. This burden may take its toll on the health of the caregiver. Second, as shown, one family member is more likely to have depression when another family member is already depressed. Thus, employees with depressed dependents are more likely to be depressed themselves, with their own depression adding to the increased costs.

Thus, employers, bearing much of the economic cost of depression, must recognize the impact that depression has on the caregiver as well as on the person with depression. This is particularly important when it is the dependent that is depressed, since increased caregiver costs will surface in multiple employee benefit areas. Employers may use this information to design or refine EAP and other mental health programs to account for issues associated with the burden of care.

Further investigation is warranted to determine the impact of a dependent's depression on the at-work productivity rates of employees using person-level work-output data.

Conclusions

- Employees with depressed dependents incurred **99 percent higher employee-specific healthcare costs** (excluding dependent costs) than did employees without depressed dependents.
- Employees with depressed dependents incurred **27 percent higher sick leave costs** than did employees without depressed dependents.
- Employees with depressed dependents incurred **71 percent higher total employee-specific costs** (healthcare, sick leave, STD, LTD, workers' compensation) than did employees without depressed dependents.
- Depressed employees had 56 percent higher **dependent** healthcare costs than did non-depressed employees.