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Article

Employer Purchasing of Depression Management Products Before and After Implementation of the Affordable Care Act

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Abstract: In a randomized control trial, employers were given evidence based presentations that demonstrated the positive return on investment of depression products which resulted in increased depression product purchasing behavior. 293 employers participated in the study that had at least 100 employees, were members of the National Business Coalition on Health, and had not previously purchased depression products for their employees two years prior to the marketing presentation. Study showed that even though a wide range of employers were included in the sample, the largest percentage were employers large in size. Depression product purchasing behavior, limited to the study sample, showed 267 (73%) of survey responses indicating no purchasing behavior, 30 (8%) indicating internal or external discussion about purchasing, 152 (14%) indicating both internal and external discussions, 15 (4%) indicating actual purchase of a depression product. After controlling for employer characteristics and if the employer received the evidence base presentation, employers were significantly more likely to engage in purchasing behavior after key provisions of the ACA were implemented. Results show that the odds of an employer being closer to purchasing a depression product were 85% greater after ACA implementation.

Keywords: Affordable Care Act, depression, disease management, employer-based purchasing

1. Introduction

Since it was passed in 2010, the Patient Protection and Affordable Care Act (ACA) has expanded insurance coverage for millions of people in America by providing health insurance with essential health benefits for those who originally could not afford it (1). Among the many provisions of the ACA was a mandate that mental health care be included in the ten essential health benefits that health insurance plans in the marketplace are required to cover. The ACA has also provided protection for people with preexisting conditions, including mental health problems and substance use disorders, prohibiting insurance companies from denying coverage for a preexisting condition and prohibiting medical underwriting (2). This insurance coverage is also subject to the Mental Health Parity and Addiction Equality Act (MHPAEA), which requires insurance companies to provide mental health and substance use disorder coverage that is comparable to general medical and surgical coverage in three aspects: financial, treatment, and care management (2).

Over the past few years, the United States has had the highest per capita healthcare expenditures in the world but with some of the worst health outcomes among industrialized nations (3). A large amount of these costs fall directly on employers, as they are one of the nation's primary suppliers of coverage. Thus, employers should be interested in value-based health programs, particularly for high-risk employees with chronic conditions (4). A provision of the ACA encourages employers to pay attention to the health status of their employees, where employers with programs that are health status based are eligible to receive a reward in the form of a waiver or discount that is up to 30% of the cost of employee-only coverage (4). Incentives such as these are provided to encourage employers to provide value-based healthcare and health programs to their employees in order to better control healthcare costs in the future.

Although recent studies have shown that major depression in the workplace is prevalent (5) and results in both increased absenteeism (6) and reduced work productivity (6, 7), and interventions for depression exist that provide a positive return on investment for employers (8-10), inclusion of depression management products in employee benefits is still uncommon. Furthermore, a previous study found that employers still did not choose to invest in depression management products even when presented with evidence-based data demonstrating the positive return on investment (11). However, the provisions of the ACA and the MHPAEA, which require employers to provide mental health benefits as part of essential health benefits and provide coverage equal to that of general medical care, may have resulted in employers paying closer attention to the mental health of their employees. According to the framework for disseminating evidence-based health promotion practices developed by the University of Washington Health Promotion Research Center, user organizations (employers) must first enter a stage of "readiness" before adopting or implementing these types of programs (12). The recent requirement of employers to pay for mental health services as well as some provisions of the ACA may have pushed employers to enter a stage of readiness to implement depression management programs, as they try to

manage the value of benefits provided to their employees. The purpose of this study was to determine if depression product purchasing behavior by employers changed after implementation of the ACA.

2. Methods

2.1 Sample. The sample of employers included in this study were participants of a randomized control trial to assess whether evidence-based presentations that demonstrated a positive return on investment of depression products resulted in increased depression product purchasing behavior (13). Employers were eligible for inclusion in the study if they were members of the National Business Coalition on Health, provided health insurance to their employees, have at least 100 employees, had not previously purchased depression products for their employees in the two years prior to the marketing presentation, and were randomized to receive one of the presentations (N=293). We further restricted the samples to employers who were randomized to the time period in which the presentation was to be made (N=153), with 54% receiving the presentation prior to implementation of the ACA and 46% receiving the presentation after implementation. As part of the study, interviews were conducted with employers at baseline to assess characteristics of the organization, as well as follow-up interviews at 12 months and 24 months after the presentation to assess depression product purchasing behavior. Eleven of the employers did not provide responses to all of the measures included in the analysis, resulting in a final sample of 142 unique employers who responded to an average of 2.5 out of the three surveys. Because the unit of analysis was an employer-year, a total of 354 observations (one observation for each employer for each wave of the survey) were used in the final analysis.

2.2 Measures. The dependent variable is an ordinal variable representing purchasing behavior ranging in value from 1 to 4 (1=attended presentation only; 2 = internal or external discussion about purchasing; 3 = external and internal discussion of purchasing; and 4 = purchased depression product) at the time of the survey. Purchasing behavior was measured at baseline, 12 months, and 24 months. The primary independent variable was an indicator of whether the purchasing behavior was observed before or after key provisions of the ACA were enacted on September 10, 2010. For example, if an employer's 12 month survey took place prior to September 10, 2010, the indicator would be coded as 0, but if the 24 month survey took place after September 10, 2010, the indicator variable associated with the 24 month response would be coded as 1. Surveys were administered to employers over time, with surveys occurring between October 2009 and November 2012. Of the 354 surveys administered, 115 were conducted prior to implementation of the ACA on September 10, 2010 and 239 were conducted after that date.

The analysis controls for organizational characteristics and whether the employer received the evidence based presentation that presented the return on investment of depression products or the usual marketing presentation. Organizational characteristics include firm size (100-500 employees, 501-2500 employees, >2500 employees), number of years the oldest part of the firm has been in business, total number of employment sites with at least 100 employees, and whether benefits were privately insured, self-insured, or a mix of private and self-insurance.

2.3 Analysis. Because the dependent variable is an ordered categorical variable and was measured at multiple time points, a random effects ordered logistic regression was used to account for potential correlation of error terms by employer and time. Thus, the analysis assessed the relative odds of moving up one category in purchasing behavior (e.g. no action to internal or external discussion about purchasing, internal or external discussion to internal and external discussion, etc.) in the post-ACA implementation period compared to the pre-ACA implementation period. Because on ordered logistic model was used, the analysis assumes that the association of the post-ACA implementation time period on the odds of moving up one category is the same regardless of the category (i.e. move from 1 to 2 is the same as 3 to 4). All analyses were conducted using Stata Version 13 (14).

3. Results

The characteristics of the employers participating in the study are presented in Table 1. Although a wide range of employers were included in the sample, the largest percentage of employers were large in size, with over 2500 employees (43%), were well established (mean age of 81 years), and operated in many locations (mean of 28 work sites with at least 100 employees). The majority of firms had a mix of self-insured and privately insured benefits (52%), with fully self-insured being the next most common (28%).

Depression product purchasing behavior was fairly limited in the study sample, with 267 (73%) of survey responses indicating that the employer engaged in no purchasing behavior, 30 (8%) indicating either internal or external discussion about purchasing, 152 (14%) indicating both internal and external discussions about purchasing, and 15 (4%) indicating actual purchase of a depression product. Before controlling for employer characteristics, the mean score on the purchasing scale was 1.41 prior to ACA implementation and 1.54 after ACA passage, which was not statistically significant (p=.096). The proportion of employers indicating an actual purchase before and after ACA implementation was also not statistically significant (2.4% vs. 3.8%, p=.24). However, after controlling for employer characteristics and whether or not the employer received the evidence base presentation in the multivariate analysis (Table 2), employers were significantly more likely to engage in purchasing behavior after key provisions of the ACA were implemented in September 2010 (OR=1.85, p=.049). Thus, the odds of an employer being one step closer to purchasing a depression product was 85% greater after ACA implementation.

4. Discussion

Although purchasing behavior for depression products was not exhibited very often among the employers included in the study, there was an 85% increase in the odds of demonstrating purchasing behavior for depression products after key provisions of the Affordable Care Act were enacted in September 2010. While the study design used in this analysis was not able to establish a causal relationship between the ACA and purchasing behavior, it is an encouraging finding. Given that depression management products can not only improve the health of the population, but can also improve worker productivity and show a positive return on investment to employers (9, 10, 15), an increase in purchasing and adoption of depression management products can have spillover effects throughout the economy (16). For example, increased worker productivity can result in increased profit for employers,

greater gross domestic product, and increase tax revenue that can be used to further invest in public programs.

Even though there is a positive return on investment of depression management products and health promotion products in general, with a return on investment estimated to be between $2-$4 for every $1 spent (17), providing this information directly to employers does not have an observable impact on purchasing of these products (11). Thus, other mechanisms need to be used to encourage employers to invest in the health of their workforce, including government intervention. The ACA, by requiring employers to carry health insurance that includes mental health treatment as an essential health benefit, may have led employers to more carefully consider the cost of treating mental health conditions in their employees in an attempt to manage how much they pay for health insurance premiums. This may have made them more likely to consider purchasing additional benefits designed to manage depression and other mental health conditions in their workforce.

The observed increase in depression product purchasing behavior after implementation of the ACA in this study suggests that governmental policies may be a good mechanism to entice employers to purchase value-based depression or other health promotion products. This is particularly relevant given that employers tend to not implement programs based on value-based purchasing principles (18). The reason for the lack of value-based purchasing by employers may be due to management tending to focus on short term returns as opposed to long term returns. Health promotion activities tend to take several years before return on investment is realized, thus making managers less likely to invest in these types of products, instead focusing on investments that produce short term returns. Additionally, because there is a fair amount of churning within an employer's workforce, with a third of all employees having two or fewer years working for their current employer (19), employers may not directly benefit from their investments in employees' health. This economic externality can lead employers to not consider the full benefit of investing in health promotion activities, and thus not make these investments. When externalities such as this are present which prevent the market from achieving optimal outcomes, government intervention are often required (20). While it appears that the ACA may have positively impacted purchasing behavior, further government interventions, such as providing tax breaks to employers who invest in health promotion and disease management programs, may be needed to spur employers to invest in these programs.

There are several limitations which should be considered when interpreting the results of this study. First, this was a simple pre-post design, with no contemporaneous control group, limiting causal inference. Although purchasing behavior increased after implementation of the ACA, it is possible that other unobserved factors that coincided with implementation of the ACA may have influenced purchasing decisions over time. Additionally, the data used from this study was from a sample of large employers that belonged to the National Business Coalition on Health, thus study results may not be generalizable to other employers. Additionally, half of the employers included in this study received a presentation demonstrating the positive return on investment of depression products. Although the analysis controlled for whether the employer received the presentation and a previous study found that this type of presentation did not significantly impact purchasing decisions, employer exposure to this type of information may further reduce generalizability.

However, even with these limitations, this study provides some evidence that the ACA may have had some unintended positive consequences regarding employer provision of health benefits. Further

research is necessary to determine whether the ACA or other health policies influence purchasing of value-based health benefits by employers and to determine the best interventions or policies to encourage value-based purchasing.

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Conflicts of Interest

State any potential conflicts of interest here or "The authors declare no conflict of interest".

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