

Use and Employer Costs of a Pharmacotherapy Smoking-Cessation Treatment Benefit

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Background: Employers cite a lack of information on the cost of insurance coverage for smoking-cessation treatment as a barrier to its provision. This study describes the use of a new insurance benefit for smoking-cessation pharmacotherapy, and its pharmaceutical costs to a large public employer between 2001 and 2003.

Methods: Annual enrollment and pharmaceutical claims data were collected from the health plans that contracted with the Wisconsin Department of Employee Trust Funds (ETF). State employees, retirees, and adult dependents who obtained health insurance through the ETF constituted our sample, approximately 150,000/year. Pharmacotherapy benefit use was defined as a paid claim for one of four U.S. Food and Drug Administration–approved smoking-cessation medications. Pharmaceutical cost was defined as the ingredient cost (+) dispensing fee (–) member copayment. Analyses included estimation of the proportion of smokers who used the benefit each year and across 3 years, the average annual cost per user, and the per member per month (PMPM) pharmaceutical cost to the employer. Data were collected from 2001 to 2004 and analyzed in 2005–2006.

Results: Annual benefit use among smokers ranged from 6% to 7% with a 3-year rate of approximately 17%. The PMPM cost of the covered pharmacotherapy was approximately \$0.13.

Conclusions: The cost to employers of providing insurance coverage for smoking-cessation pharmacotherapy to their employees is low. By informing insurance purchasing decisions, these results may facilitate the adoption of such coverage, with the goal of ultimately reducing the proportion of employees who smoke.

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Introduction

As the primary source of health insurance for non-elderly Americans,¹ employers influence the design and scope of the health insurance benefits available to their employees.^{2–6} In the year 2000, the U.S. Public Health Service (PHS) recognized insurance coverage for smoking-cessation treatment (SCT) as a means by which employers could use this influence to reduce smoking prevalence in their employee populations.^{7,8}

Despite the health and productivity gains that may accrue to employers who provide SCT to their employ-

ees,^{9–11} employers have not consistently adopted this PHS recommendation.^{12,13}

They cite lack of information on the cost of the benefit as their primary data need to justify coverage of clinical preventive services such as SCT.¹⁴ Although several studies have examined the use or cost of an SCT insurance benefit,^{7,15–17} there are no published reports of employer costs for an SCT pharmacotherapy benefit over time. Yet, health policy analysts agree that the cost of an SCT benefit is an essential element in an effective business case for SCT insurance coverage.¹⁸

Purpose

This study examined the use and costs of a new SCT pharmacotherapy benefit for a state government employer. In January 2001, the State of Wisconsin Department of Employee Trust Funds (ETF) introduced a health insurance benefit for SCT for its insured employees, retirees, and their dependents. ETF required that state employee health insurance plans provide one 3-month course of prescription pharmacotherapy and one office visit for counseling per calendar year; counseling was not required to obtain pharmacotherapy.

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There was no lifetime limit. The benefit was presented to employees among other health plan or benefit changes in the first pages of the group health insurance plans and provisions booklet.¹⁹

Design features of earlier studies were combined in the current study to strengthen the generalizability of findings to state governments and private employers. Specifically, population-based data of insured employees/retirees^{7,17} were used rather than data from volunteer samples.^{15,16} To determine benefit use, claims^{7,16} were collected rather than self-reported^{15,17} data. Additionally, to capture potential fluctuations in benefit use over time, an observation period of 3 years was used in contrast to the 1-year period used in previous research.^{7,15,16}

Methods

Design

In this observational study annual enrollment and pharmaceutical claims data were collected from the health plans that contracted with ETF from 2001 to 2003. Of the 18 health plans or insurance carriers that contracted with ETF, 16 participated in the study. One indemnity health plan was not required to provide the new SCT benefit, and a second plan declined to participate. These 16 plans served approximately 93.5% of the insured Wisconsin state employee and retiree population. (ETF, unpublished data, January 2005). From each plan pharmaceutical claims data between 2001 and 2004 for Zyban and three nicotine replacement products (nasal spray, inhaler, transdermal patch) were collected.

Fourteen health plans provided individual-level claims data that accounted for approximately 88% of the insured state employee population. User-specific identifiers were assigned by these plans and maintained across years. The remaining two plans, accounting for approximately 5.2% of the insured state employee population, provided only aggregate-level claims data that consisted of the unique number of adult claimants, the number of filled prescriptions, the average quantity per prescription, and the total amount paid.

Sample

The study sample included Wisconsin State employees, adult dependents, and retirees who obtained health insurance through one of 16 employer-sponsored health plans that participated in the study.

Measures

Within each calendar year, a benefit user was defined as an individual with at least one pharmaceutical claim for one of the four covered medications. In collaboration with the health plans, the cost of the pharmacotherapy benefit was defined as the ingredient cost plus dispensing fee minus member copayment. The pharmacotherapy benefit cost was net of manufacturers' discounts and rebates to the plans. The copayment structure for prescription medications was identical across plans. Prior research estimated the population's smoking prevalence rate at 15.6% in 2001 and 13.2% in 2002

in the insured Wisconsin State Employee population.¹⁷ The 2002 rate was assumed for 2003.

This study was approved by the University of Wisconsin–Madison Health Sciences Human Subjects Committee, #2001-311.

Analysis

Descriptive summaries of the data included the number of enrollees as of July 1 of each year, the number of benefit users, the number of prescriptions per drug per year, the number of months of medication supplied, and the total cost of the pharmacotherapy benefit. Average cost of the benefit per user, and the per member per month (PMPM) cost of the benefit were calculated. These numbers were linked together by the following:

Prevalence rate = # smokers/ # enrollers

Use rate = # users/ # smokers

PMPM = (avg. annual cost per user times prevalence rate)/12

Additionally, the contribution of change in medication type and quantity to the change in the average cost of the benefit per user was analyzed by holding prices constant over time. Analyses were conducted in 2005–2006.

Results

Total users declined in each year despite a larger number of enrollees in 2003 relative to 2001 (see [Table 1](#)). Approximately 6%–7% of smokers used the benefit in any one year. There were 3595 unique benefit users across the study years. Thus, the 3-year benefit use rate among smokers was approximately 17%. Months of nicotine patch use increased in each year while Zyban use declined. Overall, the number of months of medication supplied declined in each year. The PMPM cost ranged from approximately \$0.13–\$0.14 ([Table 2](#)). With drug prices held constant, there was no change in the average standardized cost per benefit user between 2001 and 2002, and an increase between 2002 and 2003.

Discussion

Both public and private employers report a common need for cost information to consider coverage for smoking-cessation treatment and other preventive health benefits.^{14,20} This study was designed to meet the data needs of employers that are contemplating the addition of insurance coverage for smoking-cessation treatment, state government employers in particular.

State governments are often the largest employers in their states, and provide health insurance to more than 5 million employees and retirees nationwide.²¹ Additionally, state governments have played a leadership role relative to other employers in their healthcare purchasing practices.^{6,22} In many markets, state and other public employers influence both what insurers

Table 1. SCT pharmacotherapy benefit use for Wisconsin state employees, retirees, and adult dependents

	2001	2002	2003
Total enrollees	146,912	155,754	155,470
% male enrollees	48%	48%	48%
Total users	1680	1480	1293
Users as % of enrollees	1.1%	1.0%	0.8%
Users as % of smokers ^a	7.3%	7.2%	6.3%
% male users	47%	48%	49%
Average age of users	43.8	44.3	45.2
Total No. prescriptions filled	3391	3014	2775
No. prescriptions per user	2.0	2.0	2.1
Number of months of medication supplied (daily dose)			
Nicotine patch (1 patch)	343.0	515.4	565.0
Nicotrol inhaler (11 cartridges)	91.2	76.7	89.8
Nicotrol nasal spray (24 1-mg doses)	12.8	5.4	26.0
Zyban (2 tablets)	2407.0	1932.4	1621.8
Total number of months of medication supplied	2854	2529.9	2302.6

^aEstimated smoking prevalence of 15.6% in 2001 and 13.2% in 2002 from CAHPS study of the insured Wisconsin State Employee Population. We assume a smoking prevalence rate of 13.2% for 2003.

SCT, smoking-cessation treatment.

offer employers and what employers offer employees.²² Thus, a state's experience with an SCT benefit may also be of interest to other large employers. The results provide an estimate of the costs of a smoking-cessation pharmacotherapy benefit and a key input for cost-effectiveness analyses of SCT coverage that complements the existing literature on treatment efficacy.⁸

Limitations

The Wisconsin state employee population has a low smoking prevalence rate estimated from self-reported data, is well-educated,¹⁷ and predominantly White.²³ Nonetheless, these results will be of use to a variety of employers. Although there is no research on the association of educational status or race/ethnicity and SCT benefit use, research suggests that there is no association between treatment use and a variety of factors that may vary in employee populations including gender, health, marital status, education, number of smokers in household or among friends, and presence of work restrictions on smoking.²⁴ Thus, employers can substitute their own population's smoking prevalence rate and this study's per user costs to estimate their SCT benefit's PMPM cost.

The cost estimates above reflected the cost of the pharmacotherapy alone and did not include the costs of counseling, or the costs of treating smoking cessation beyond the employer's defined benefit (e.g., off-label

use of Wellbutrin). To the extent that plan members used Wellbutrin off-label for smoking-cessation treatment prior to the introduction of the benefit, study results will overstate the net costs of the new benefit. Finally, this study examined one particular benefit, a 3-month course of pharmacotherapy, and costs will vary according to benefit design. Pharmacotherapy, however, is the most commonly covered treatment modality for smoking cessation.^{12,13,25-27}

Conclusion

This study provides employers with real-world cost data to inform their healthcare purchasing decisions. Although recommended to employers as a leading preventive healthcare benefit,¹⁴ the actual cost of providing employees with insurance coverage for evidence-based smoking-cessation treatment was previously unknown. In this analysis, the cost of SCT pharmacotherapy was approximately \$0.13 PMPM. By addressing employers' stated need for SCT insurance benefit cost data, these results may facilitate the adoption of such coverage, and encourage a reduction in employee smoking.

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Table 2. SCT pharmacotherapy benefit cost for Wisconsin state employees, retirees, and adult dependents

	2001	2002	2003
Total cost of SCT benefit	\$245,339	\$242,911	\$242,310
Avg cost of SCT benefit per user	\$146.04	\$164.13	\$187.40
Avg cost of SCT benefit per enrollee	\$1.67	\$1.56	\$1.56
PMPM cost of SCT benefit	\$0.14	\$0.13	\$0.13

PMPM, per member per month; SCT, smoking-cessation treatment.

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In keeping with recent JAMA recommendations, Dr. Fiore does not consult for nor does he accept honoraria from the pharmaceutical industry. In 1998, the University of Wisconsin (UW) appointed Dr. Fiore to a named Chair, made possible by an unrestricted gift to UW from GlaxoWellcome.

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