SELF-REPORTED HEALTH AND RISK BEHAVIORS: DO THEY INFLUENCE ATTITUDES TOWARD PRICING HEALTH INSURANCE?

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ABSTRACT

Responding to increasing cost of providing employee health care insurance, employers have instituted a number of direct (e.g., reduced benefits, limited access, increased copayments, etc.) and indirect (e.g., differential premiums, wellness programs, etc.) cost-savings efforts. While employee support for direct cost reductions may be limited, indirect efforts may receive modest support. Of interest in the present paper are indirect cost abatement efforts that focus on 12 lifestyle behaviors. The present paper will investigate the extent to which the individual's self-reported health and risk behaviors influence his/her attitudes regarding differential premiums based on these lifestyle behaviors.

INTRODUCTION

Some form of health insurance is offered to employees by approximately 60% of private organizations. While 59% of organizations with less than 100 employees offer health insurance, this benefit is offered by 93% of those organizations with 100 or more employees. Approximately 24% of all employers pay the full cost of health insurance and 13% pay for the cost of family coverage [14].

The average total monthly cost of health insurance for the employee is \$428 and an average of 81% is paid by the employer. The average total monthly cost for family coverage is \$1078 with the employer paying approximately 71% of cost [14].

In a survey of 400 firms, it is reported [15] that the average annual cost of medical insurance for an employee was \$5924. This amount represented approximately 14.5% of total payroll cost in 2005 and is an increase from the 11.9% reported in 2004.

Employers began to observe increased cost associated with providing health insurance beginning in the 1970s and 1980s [12]. Such increases continue today and it is expected that these costs will increase by approximately 10% in 2008 [1]. As employers were negatively impacted by increasing health benefit costs, they pursued a number of cost control options. The options can be considered as direct and indirect cost control methods. While these methods have the same goal, cost reduction, the process and impact on the employee are different. Consequently, these two methods will be briefly discussed below.

Direct Cost Control

Risk management through beneficial selection was a major tool for controlling cost prior to the passage and enactment of the Americans with Disabilities Act in 1990. Before ADA, risk reduction associated with the use of health benefits was pursued through preemployment medical exams, which were, for some organizations, extended to family members. By selecting low risk employees with low risk families, an organization could significantly reduce its exposure to increased insurance premiums based on employees' health care utilization.

After passage of the ADA, which seems to prohibit pre-employment physicals, the use of this form of risk reduction has been severely limited. That is, ADA does allow pre-employment physicals when it is determined that the applicant's health is a bona fide occupational qualification for job performance. It is obvious, however, that employers may secure health data from other sources [7].

The prohibition of beneficial risk selection as a risk reduction tool, caused employers to a focus on direct cost reduction efforts. In its most direct and extreme form, the organization simply discontinues the health care benefit. Because of the unfavorable variability of premiums, this course of action appeals primarily to small employers [10]. Larger employers seldom experience wide variations in premiums and, consequently, have fewer reasons to discontinue health benefits. Because of the assumed relation between health benefits and the employer's ability to attract applicants [11], employers appear to view discontinuation of health benefits as a last resort.

Many employers identified cost sharing as a reasoned approach to increased health benefit costs. Such cost-sharing efforts can take a number forms such as increased premiums, limits placed on covered health benefits, or the removal of certain health benefits. However, these efforts result in decreased health benefits for the employee or increased costs for the same benefits.

Employers often, however, simply increased the employee's deductibles and/or copayments. In many situations, employers also began to reduce employees' choice of medical providers by requiring higher employee co-payments for providers who were not included in the employer's or insurance provider's list of preferred providers.

These cost saving efforts may, unintentionally, compound the problem through adverse selection. That is, the healthiest employees will, if so motivated, simply drop the insurance and seek a less expensive personal policy. Only those who are the sickest will remain in the program, resulting in increased claim experiences. Because of problems associated with adverse selection, many employers are exploring indirect cost control methods.

Indirect Cost Control

Differential premiums based on lifestyle behaviors may seem a reasonable indirect cost control method. However, regulatory issues generally limit this approach to organizations that self-insure. Because a large medical claim may jeopardize the survival of a small organization, self-insurance, is considered a feasible approach only for large organizations. For large firms, self-insurance has the advantage of removing its health benefits from state jurisdiction and places it under federal regulation (ERISA, Employee Retirement Income Security Act). It also allows the organization to implement some form of individual pricing that charge employees higher premiums or deductibles for recognized unhealthy behaviors or conditions that do not fall under regulations of ADA.

Efforts to charge premiums based on the employee's health were ended by HIPAA (Health Insurance Portability and Accountability Act of 1996), which requires that covered employees be charged the same premium regardless of pre-existing conditions or health. In 2007, employers received some relief from the prohibition when HIPAA rules were modified to allow financial incentives for wellness programs. These incentives or rewards can be as large as 20% of the cost of coverage for the employee [8].

Federal and state regulations of differential premiums and/or incentives are insufficiently precise that legal assistance is required prior to implementation of any premium/incentive programs [8] [18]. However, single company examples of successful efforts to decrease health benefit costs (e.g. [1]; [3]; [6]; [13]; [17]) suggest that incentive programs have the potential to reduce health care benefit costs.

None of the above examples suggests, however, that all employees are willing to participate in offered wellness programs. Participation in wellness programs can vary from approximately 75% for intensive intervention programs to not more than 20% for a simple program [17]. Similar participation rates are observed for visits to employer provided health clinics [4].

Low participation rates lead Dow Chemical [13] to institute a bonus system for it health staff that is based on their ability to enroll employees in the company's wellness program. As would be expected, organizations choose the unhealthy behaviors based on health cost, and the lower level of participation may be a function of whether employees agree with the list of unhealthy behaviors that are eligible for incentives. In essence, employees may not participate in company sponsored wellness programs simply because of their attitudes toward the included unhealthy behaviors.

Health and Risk Behavior

It can be assumed that both adverse selection and moral hazard may influence the individual's decision to purchase health insurance. Adverse selection, noted earlier, describes the situation where those who are unhealthy tend to purchase health insurance, while healthy individuals will not make such a purchase. Moral hazard is created by

those who have health insurance engaging in unhealthy behaviors that lead to increased insurance usage.

The present paper is concerned with the potential impact of adverse selection on employees' attitudes toward indirect cost control efforts. Specifically, to what extent do the employee's perceptions of his/her healthy risk behavior influence attitudes toward differential premiums for health insurance? Because moral hazard concerns the use of health insurance, it will not be discussed here.

The effects of different attitudes toward health insurance, health, and risk have been noted for race and ethnic background [19], outcome risk [16], and genetic testing [5]. Each of these studies suggests that in one form or another, the person's attitudes regarding his/her health will influence attitudes toward health insurance.

Similar to the focus of the present study, Doirnon, Jones, and Savage [2] report that selfassessed health status reflects a strong positive correlation with the purchase of private health insurance. If support for indirect cost control efforts (i.e., differential pricing or wellness programs) is to be obtained, it is necessary to understand the impact of a person's self-reported health and risk behaviors on his/her attitudes toward unhealthy lifestyle behaviors.

METHOD

Data were collected from 84 undergraduate business students enrolled in a senior level business class at a southeastern state-supported university. Responses were recorded on a questionnaire that described 12 lifestyle behaviors (Appendix A) that are similar to factors for which health risk has been established by epidemiology [9].

Instructions provided students information as to how premiums for group health are determined. The instructions then asked if it were rational for the premiums to be the same for everyone regardless of an individual's health behavior. For the 12 lifestyle behaviors, respondents were asked whether it was rational (support)or irrational (lack of support) to consider an individual's health behavior in determining that person's health care insurance premium. While, as noted above, most programs that differentially price health insurance are based on some form of incentive, it was thought that this approach would best measure respondents' attitudes regarding the identified lifestyle behavior.

Two similar questions asked respondents to provide a general evaluation of their health and risk behaviors. The two questions used a six point scale and each was anchored by Above Average (1) and Below Average (6).

The analysis sample was 83 (one respondent failed to complete the questionnaire) and consisted of 45 females and 38 males with an average age of 22.7 years. As expected for an undergraduate class, 72.3 percent indicated no management experience (M=.9518, s.d.=2.67), eight were married, and five indicated they had children. Three scales developed through factor analysis (Unsafe Behavior, Indulge, Unhealthy Behavior) are

used for analysis purposes and no overall effect was detected for the gender, age, work experience, or marital status variables (MANOVA: Unsafe Behavior, F=1.380, p=ns; Indulge, F=.855, p=ns; Unhealthy Behavior, F=1.11, p=ns). As a result the sample was treated as homogeneous.

RESULTS AND DISCUSSION

The means and standard deviations for the 12 lifestyle behaviors are shown in Table 1. Preliminary information regarding support for recognizing an individual's behavior in setting health care insurance premiums can be developed by using values less than the mid-point of the response scale (3.5) as indicating support with values greater than 3.5 showing a lack of support. Values less than 3.5 are underlined in Table 1 and show that five lifestyle behaviors receive support for recognition in determining health insurance premiums. The strongest support is reflected for Smoking, Other Uses of Tobacco, and Drinking. Strong resistance to recognition of unsafe lifestyle behavior is shown for Risky Recreational Behavior and Not Maintaining Healthy Weight.

Table 1

Means and Standard Deviations Measuring the Rationality of Recognizing Individual Behavior in Setting Health Insurance Premiums for 12 Lifestyle Behaviors

Lifestyle Behavior	M	S.D.	
Smoking	2.30	1.50	
Other Uses of Tobacco	<u>2.58</u>	1.47	
Drinking (Liquor, Wine, etc.)	<u>3.22</u>	1.38	
Unsafe Sex	<u>3.38</u>	1.58	
Not Following Doctor's Orders	3.65	1.45	
Unhealthy Eating Habits	3.88	1.34	
Unsafe Driving	3.90	1.49	
Not Using Seat Belts	3.67	1.68	
Lack of Exercise	3.81	1.40	
Risky Recreational Behavior (skydiving, auto racing, etc.)	3.94	1.64	
Not Maintaining Healthy Weight	3.94	1.19	
Not Getting Annual Physical Exam	<u>3.39</u>	1.58	

Given the recent attention to obesity, the lack of support for Not Maintaining Healthy Weight is surprising. However, respondents may be sensitive to health issues related to obesity, but may not equate healthy weight to obesity. This may suggest the need to change the weight "message."

Table 2 shows the results of factor analysis (principal components, varimax rotation), which identified three underlying dimensions (eigen values ≥ 1.0). Each factor is defined by three lifestyle behaviors (underlined and bold). The remaining lifestyle behaviors

exhibited cross-loadings that prevent their inclusion in any one of the three factors. Lifestyle scales were named based on the lifestyle behaviors that compose the factors and scale values were computed (average responses for the summed lifestyle behaviors).

Table 2

		Factors	
Lifestyle Behavior	Ι	II	III_
Smoking	003	<u>.961</u>	037
Other Uses of Tobacco	.083	.934	.055
Drinking	.231	. <u>622</u>	.359
Unsafe Sex	.612	.455	.200
Not Following Doctor's Orders	.495	.327	.203
Unhealthy Eating Habits	.334	011	<u>.801</u>
Unsafe Driving	<u>.805</u>	.093	.338
Not Using Seat Belts	.810	.178	.172
Lack of Exercise	.590	134	.608
Risky Recreational Behavior	.842	086	.142
Not Maintaining Healthy Weight	.053	.240	<u>.830</u>
Not Getting Annual Physical Exam	.271	.120	.666

Factor Analysis of the Rationality of Recognizing Individual Behavior in Setting Health Insurance Premiums for 12 Lifestyle Behaviors

The means, standard deviations, and reliabilities for the Unsafe Behavior, Indulge, and Unhealthy Behavior are shown in Table 3. Using the same values, above, to indicate support (<3.5) or lack of support (>3.5), it can be observed that only the Indulge factor, underlined, receives support for recognizing the individual's behavior in setting health care insurance premiums. This is consistent with the discussion of the means shown in Table 1 because the Indulge factor includes the three lifestyle behaviors noted above as receiving the strongest support.

Table 3

Means, Standard Deviations, and Reliabilities for Three Factors Representing the Rationality of Recognizing Individual Behavior in Setting Health Insurance Premiums

	Factor	M	S.D.	<u>Alpha</u>
I.	Unsafe Behavior	3.84	1.41	.847
II.	Indulge	2.70	1.27	.844
III.	Unhealthy Behavior	3.59	1.13	.749
	•			

Self-reported Health Behavior (SRHB) and Risk Behavior (SRRB) were measured by two questions that asked respondents to evaluate, in general, their Health and Risk Behavior. A response scale of 1-6 was used with anchors of Above Average (1) and Below Average (6). Data for the SRHB and SRRB questions were divided at the midpoint for analysis purposes. For the SRHB question, responses 1-3 were set to a value of one with a value of two representing responses 4-6. Because "Below Average" would represent a low risk behavior for the SRRB question, the scoring was reversed (i.e., 1-3=2 and 4-6=1).

Analysis of the three factors by the Health Behavior and Risk Behavior question was by MANOVA and the results are shown in Table 4. As shown in Table 4, SRHB exhibited a significant effect on Unhealthy Behavior, but no significant effect on the other two factors. Neither SRRB behavior nor the interaction between SRHB and SRRB show a significant effect on any of the three factors.

Table 4

MANOVA Results for the Effects of Self-Assessed Health and Risk Behaviors on Unsafe Behavior, Indulge, and Unhealthy Behavior Factors

Factor	Health Behavior		<u>Risk E</u>	Behavior	Health x Risk		
	F^*	р	F^*	р	F^* p		
Unsafe Behavior Indulge Unhealthy Behavior	3.413 .179 5.011	.068 .673 .028	.938 .001 .858	.336 .982 .357	.259 .613 .137 .712 .000 .992		

**d.f.*=1,82

An evaluation of the group data shows that the low SRHB, or healthy, group evaluated the Unhealthy Behavior factor (M=3.69, s.d.= 1.162) higher than did the high SRHB, or unhealthy, group (M=2.97, s.d.=.594) and the mean differences is statistically different (t=2.087, d.f.=81, p=.04). In essence, the healthy group would be less inclined to increase health insurance premiums for unhealthy behavior. And, obviously, the unhealthy group would be more inclined to increase health care insurance premiums. Correlation results (r=-.226, p=.04) confirmed this negative relation.

These results are inconsistent with the concept of adverse selection, which posits that those who are unhealthy will choose to purchase health insurance, but that those who are healthy will tend not to make such a purchase. These results are, however, consistent with research which consistently shows the opposite [2], suggesting that adverse selection may not operate in the manner proposed by many risk models.

CONCLUSIONS

The concept of adverse selection argues that individuals who are at high health risk are more likely to purchase health insurance than those who are considered at low risk. Differential premiums for health insurance that recognize the individual's health risk might be considered a method of equalizing the risk-cost difference between the high and low risk groups. As such, the high risk group would be required to pay more than the low risk group. While the Health Insurance Portability and Accountability Act of 1996 prohibits differential premiums for employer provided health insurance, recent changes in the law allow wellness benefits. Good health behavior or participation in a wellness program can effectively reduce the individual's health insurance premiums. Or, of concern to the organization, reduce its health care costs.

Overall, respondents agreed to increased premiums for those whose behavior included Smoking, Other Uses of Tobacco, and Drinking. It might be concluded that those who express a willingness to consider these behaviors as a basis for health care premiums may also be willing to participate in wellness programs directed at the same behaviors.

Inconsistent with the concept of adverse selection, neither SRHB nor SRRB had an effect on Unsafe Behavior or Indulge behavior nor was there and interaction effect on any of the three factors. Only Unhealthy Behavior was affected by SRHB. Analysis of the SRHB groups produced results inconsistent with the adverse selection model. That is, those in the unhealthy group were willing to support increased health care premiums, but those in the healthy group were not.

These results may suggest that factors other than health risk influence respondents' attitudes toward health care premiums. One reasonable explanation is that those who engage in unhealthy behavior believe it is fair to pay higher premiums. Except for a "social good" explanation, it is difficult to explain why those who are healthy would not support differential health care premiums. Obviously, the lack of a concrete explanation for the healthy group's attitudes offers the opportunity for additional research directed at the influence of the individual's attitudes on adverse selection.

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APPENDIX A

PRICING HEALTH INSURANCE

In general, if you are a member of a group health insurance plan, everyone in the group is charged the same price for the insurance. When members of the group engage in unhealthy or risky behavior that results in medical costs, all members of the group share in any increase in the cost of the insurance. One might ask why all members of the group must pay for the unhealthy or risky behaviors of a few members.

The following questions ask you whether <u>you think</u> it would be RATIONAL to consider an individual's unhealthy or risky behavior in pricing group health insurance for that person. In answering the following questions, **consider only the listed behavior**, **do not be concerned** <u>either</u> about the intensity or "how much" of the behavior would be required to initiate an additional cost <u>or</u> how the behavior would be detected.

R	Very Rational				Iı	Very Irrational	
SMOKING	1	2	3	4	5	6	
OTHER USES OF TOBACCO	1	2	3	4	5	6	
DRINKING (Liquor, Wine,etc.)	1	2	3	4	5	6	
UNSAFE SEX	1	2	3	4	5	6	
NOT FOLLOWING DOCTOR'S ORDERS	1	2	3	4	5	6	
UNHEALTH EATING HABITS	1	2	3	4	5	6	
UNSAFE DRIVING	1	2	3	4	5	6	
NOT USING SEAT BELTS	1	2	3	4	5	6	
LACK OF EXERCISE	1	2	3	4	5	6	
RISKY RECREATIONAL BEHAVIOR (e.g., skydiving, auto racing)	1	2	3	4	5	6	

NOT MAINTAINING A HEALTHY WEIGHT	1	2	3	4	5	6
NOT GETTING ANNUAL PHSYCIAL EXAM	1	2	3	4	5	6