WHO LEAVES THE OREGON MEDICAL INSURANCE POOL WHEN PREMIUMS INCREASE?

by

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CERTIFICATE OF APPROVAL

This is to certify that the Master's thesis of

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Abstract

Introduction: The Oregon Medical Insurance Pool (OMIP) is a high-risk health insurance pool that provides health insurance to Oregonians who cannot obtain health insurance through other mechanisms. On January 1, 2006, premiums increased by 16.5%. On that date, 860 (6.0%) of OMIP's 14,336 enrollees discontinued their coverage. We used this natural experiment to determine the association between the decision to cease OMIP coverage and two enrollee characteristics of interest: chronic medical condition status and income level. **Methods:** This was a retrospective cohort study using data collected by OMIP to track enrollment and utilization of services. After exclusions, our study population consisted of 10,586 members, of whom 545 (5.1%) discontinued their OMIP coverage effective January 1, 2006. We performed a backwards stepwise logistic regression for our analysis with a primary outcome of discontinuation of OMIP enrollment on January 1, 2006. **Results:** In multivariate models, presence of any of four chronic medical conditions was significantly associated with *increased* odds of discontinuing enrollment in OMIP at the $p = 0.05$ level. These conditions were alcohol use, cancer, other neurological disorders, and pregnancy. There was not a statistically significant relationship between income and discontinuation of OMIP coverage ($p = 0.48$). Having a higher premium amount or a shorter length of enrollment were both statistically significant predictors of discontinuing OMIP enrollment. **Discussion:** The four medical conditions that were significantly associated with discontinuation of OMIP enrollment all had associations in the opposite direction from what we expected. Further investigation is necessary to delineate why members with these chronic medical conditions were more likely to disenroll. We did not find a significant association between income and OMIP discontinuation, which is contrary to previous research and may be due to data limitations. Our findings of a higher premium amount and shorter length of enrollment being associated with discontinuing OMIP coverage are logical and interesting. Further research is warranted to evaluate why certain groups are more inclined to leave high-risk pools when premiums increase and how these pools could better serve those in need of coverage.

Introduction

High-risk pools provide health insurance to over 192,000 Americans (Comprehensive Health Insurance for High-Risk Individuals, 2006). These pools provide health insurance to the group of people who cannot obtain health insurance through other mechanisms; that is, they do not have access to employer-sponsored insurance, are ineligible for Medicare or Medicaid, and are unable to obtain insurance through the individual market – usually because of chronic medical conditions that lead insurers to decline coverage.

Most high-risk pools are coordinated by state agencies, and states differ in their eligibility criteria, as well as in the premiums charged. There are scant data to inform the question of what is the "optimal" premium level or how enrollment is impacted by changes in premiums. In addition, little is known about how the presence of a chronic disease might affect a person's decision-making in the face of increased health insurance premiums.

Changes in Oregon's state-run high-risk health insurance pool, the Oregon Medical Insurance Pool (OMIP), created the opportunity for a natural experiment to study the impact of increased premiums. On January 1, 2006, OMIP premiums rose an average of 16.5%. On that date, 860 of OMIP's 14,336 enrollees discontinued their coverage (6.0%). In comparison, an average of 5.1% of enrollees discontinued their OMIP coverage on January 1st in the 3 years prior to 2006. This situation provided the opportunity to determine the association between the decision to cease OMIP coverage and two enrollee characteristics of interest: chronic medical condition status and income level.

We hypothesized that those OMIP enrollees who had lower incomes and/or those who did not have a chronic medical condition would be more likely to discontinue their coverage as a result of the increased premium. Other variables in the dataset that were explored as potential predictors of disenrollment included demographic characteristics, length of enrollment, premiums, out-of-pocket expenses, and amount of medical care received by each enrollee.

Methods

Study Design

This was a retrospective cohort study using data collected by OMIP to track enrollment and utilization of services. This study was approved by Oregon Health and Science University's institutional review board on November 13, 2006.

Study Population

Potentially eligible study subjects included all 14,336 people enrolled in OMIP as of November 1, 2005 who had not disenrolled by December 31, 2005. People who joined OMIP after November 1, 2005 were not studied since premium increases were announced at the end of November. Similarly, members who disenrolled before January 1, 2006 were not included because they left the plan before the premium increase.

OMIP members whose coverage was through one of the following groups were also excluded:

- 2,061 members in the portability portion of the Health Insurance Portability and Accountability Act (HIPAA);
- 502 members in CAREAssist, an HIV assistance program;
- 12 members in the Health Care Tax Credit program (HCTC);
- 136 members who had Medicare coverage;
- 1,039 members who were not primary policyholders (i.e. they were enrolled through a family member's plan).

We made the decision to exclude these groups in order to increase the generalizability of our results and to improve our ability to produce results that were interpretable. The HIPAA group consists of people who left their jobs and wished to stay on their former employers' plan, but moved out of network, sometimes even out-of-state. Since this group entered OMIP through a different mechanism than most members and since some

of them lived out-of-state, we chose to exclude them. The CAREAssist group was excluded due to its narrow scope of membership (limited to people who are HIV positive) and because they did not pay a premium and most had assistance with out-of-pocket expenses (OMIP Stat Pack, 2006). The HCTC group was excluded since it was so small. OMIP ended its Medicare group on January 1, 2006, so all members disenrolled. Finally, non-primary policyholders were excluded because their reasons for discontinuation may have been different than for primary members. Since the reason for their inclusion on a primary member's plan was not known, some of them may have qualified for less expensive insurance. Although we only included primary policyholders, we created a variable to indicate whether there were other family members on the plan to see whether it had any association with discontinuation of coverage.

After exclusions, our study population consisted of 10,586 members, of whom 545 (5.1%) discontinued their OMIP coverage effective January 1, 2006.

Data Sources

The demographic data were collected by Regence Blue Cross Blue Shield from the enrollee's initial application. They were not updated after enrollment, so information on changes in marital status, employment status, and income over the course of enrollment were not available. Reporting of demographic information was not mandatory for enrollment. Ethnicity was the least reported demographic category, with 72% of the study population responding. Marital status, the most reported demographic category, had an 82% response rate. Income, one of the key variables of interest, had an 81% response rate.

The claims data were also collected by Regence Blue Cross Blue Shield whenever members filed a claim. Available data included ICD-9 diagnosis codes, prescriptions obtained, coinsurance, copayment, and deductible amount for each claim, and the amount that OMIP paid for each claim. Audits were routinely performed on the data entry, which found a 96% rate of accuracy (Barry Burke, personal communication, January 2007). Regence Blue Cross Blue Shield gave the demographic and claims data to OMIP after collection. We received this dataset directly from OMIP.

Premium data were compiled by OMIP using an estimated amount because OMIP did not receive per member per month (PMPM) data directly. These estimates ended up being within $1 to $2 of the actual premium amount since premiums are based on the member's age and choice of coverage plan (Barry Burke, personal communication, January 2007).

Key Variables

Outcome Variable:

The primary outcome of interest was discontinuation of enrollment in OMIP effective January 1, 2006 (1 = Yes; 0 = No).

Predictor Variables:

Primary Predictor Variables:

Our primary predictor variables were income and diagnoses reflecting chronic medical conditions. To examine our hypothesis about the association of chronic medical conditions with insurance discontinuation, we developed a list of major chronic medical

conditions based on published articles (Yu, Ravelo, Wagner and Barnett, 2004, Bynum et al., 2004, Ray et al, 2000, Hwang, Weller, Ireys, and Anderson, 2001, and Fishman, Van Korff, Lozano, and Hecht, 1997). We also looked at the prevalence of chronic medical conditions in the United States population (Davidoff et al., 2005). From these six sources, we developed a list consisting of 43 chronic medical conditions. In addition to looking at specific chronic medical conditions on our list, we also created a dichotomous variable to indicate whether an enrollee had at least one of the 43 chronic conditions on our list. For ease of communication, we will call this variable the "dichotomous presence of chronic medical condition" variable throughout this paper.

Information on ICD9 codes from the insurance claims was used to determine whether an enrollee had any of the 43 chronic medical conditions. In addition, in the dataset, there were many claims with the ICD9 code of "general symptoms" (ICD9 code 780), which was used by pharmacies when they billed OMIP after filling a prescription. Therefore, to ensure that we were properly capturing all people with a diagnosis, we also looked at prescription drug use. We identified 73 medications that were prescribed at least 1000 times. For drugs whose usage was limited to a single disease process, we assigned a diagnosis to the enrollee. For example, an enrollee with a prescription for metformin was considered to have diabetes even if he or she did not have an office visit with an ICD9 code for diabetes. On the other hand, enrollees with a prescription for a beta-blocker, but without an ICD9 code indicating one of the chronic medical conditions on our list, were not given a presumptive diagnosis, because beta-blockers have multiple indications for usage. We were able to classify 35 medications as specific to a single chronic medical condition.

Income was initially reported in 9 different categories. We combined these categories into approximate quartiles: $0-11,076, $11,077-25,000, $25,001-45,000, and $45,001 or greater.

Other Predictor Variables:

Other predictor variables included demographic characteristics, length of enrollment in OMIP, cost of premium, amount of money OMIP paid towards each enrollee's claims, and out-of-pocket expenses for each enrollee (including deductible, copayments, and coinsurance). In addition, there was a variable to indicate whether an enrollee received a premium subsidy through the Family Health Insurance Assistance Program (FHIAP) or was enrolled without a subsidy (in the "medical group").

We performed some variable transformations in preparation for our statistical analysis. As mentioned above, income, which was initially reported using 9 categories, was recoded roughly into quartiles. Also, we created a variable to indicate whether there were other family members enrolled in OMIP under the primary policyholder's plan. We created a second variable to denote whether the non-primary members were less than 21 years of age, greater than 21 years of age, or both less than and greater than 21 years of age.

Data Management

Before beginning the statistical analysis, data were thoroughly reviewed for inconsistencies. In particular, we checked for missing data, out of range or impossible

values, and other misclassification. The data manager at OMIP was consulted to clarify concerns. Microsoft Access was used for data management.

Statistical Analysis

1. Descriptive statistics: Descriptive statistics were calculated to describe the characteristics of the OMIP population as a whole as well as for the two groups of continuing and discontinuing OMIP enrollees. Calculated statistics included the mean, range, and standard deviation for continuous variables and frequencies for discrete variables. To visually inspect these variables, we made histograms for continuous variables and bar graphs for discrete variables.

2. Univariate Analyses: The relationship between each independent variable and the outcome was determined using simple logistic regression. Correlations were examined between predictor variables to assess for multicollinearity. Predictor variables were included in the multivariate analysis if the univariate analysis showed a p-value of < 0.25. When the relationship between logit of outcome and a predictor variable was not linear or when the variable had a large range, we transformed the continuous variable into quartiles. The following variables were transformed into quartiles: premium, out-of-pocket expenses, amount of money OMIP paid towards each enrollee's claims, and length of enrollment.

3. Multivariate analyses: Backwards stepwise regression was used to obtain a main effects model. Primary predictor variables, variables with $p < 0.25$ on univariate

analysis, clinically important variables, and potential confounding variables were kept in the preliminary main effects model. Variables considered to have clinical importance were premium, out-of-pocket expenses, amount of money OMIP paid for each enrollee's claims, length of enrollment, and whether an enrollee was part of FHIAP. We looked for confounding, using the criteria of whether a given variable changed the association between the other covariates and the outcome by more than 10%. Significance was considered as p-value < 0.05 in the final model. The final model included the primary predictors, statistically significant predictors, clinically important variables, and important confounding variables.

Two multivariate logistic regression models were created. One considered individual chronic medical conditions as covariates, provided that they had $p < 0.25$ in a univariate model. The second model used the dichotomous presence of chronic medical condition variable (the one indicating the presence of any of the 43 chronic conditions) as a covariate and did not include any of the individual chronic medical conditions.

4. Model diagnostics: Standard graphs were created to assess for influential data points. These included plots of the analog of Cook's influence statistic, the change in deviance residual, and the change in Pearson squared versus both the predicted probability and the leverage value. The models were re-run by removing suspicious influential data points to check their influence on model coefficient estimates. The goodness of fit of each model was assessed using the Hosmer-Lemeshow, Deviance, and Pearson's χ^2 tests.

All statistical analyses were performed using Intercooled Stata version 9.1 for Windows (StataCorp LP, College Station, TX).

Power Calculations

To determine the power in our study, Lenth's Power Calculations were used with the "test of equality of two proportions"(Lenth, 2006). The difference in the proportion of discontinued enrollees between those with and without a chronic medical condition will be used to illustrate these calculations. Please see Table 1 for the calculations.

The power calculations reflect the ability to detect a difference in the proportion of discontinued enrollees between those with and without a chronic medical condition. For example, the first four rows show the power to detect the difference between the group with a medical condition and the group without a medical condition when the prevalence of the chronic medical condition in the study population is 1%. For a disease with a prevalence of 1%, we had about 80% power to detect a 5.4% difference in the proportion of discontinuation between the people with and without the chronic condition at the 5% significance level using a two-sample test for proportions, when 2% of the group with the medical condition discontinued coverage.

Results

After exclusions, our study population consisted of 10,586 members, of whom 545 (5.1%) discontinued their OMIP coverage effective January 1, 2006. The mean age was 46.5 years. Almost two-thirds of our population was female (63.1%) and most of our study population reported their race as white (92.7%). Half were employed (50.8%) and 79.2% had a household income of $45,000 or less each year. Overall, 67.9% of the study population had at least one of the 43 chronic medical conditions on our list. The most prevalent chronic conditions were hyperlipidemia (22.4%), followed by hypertension (18.3%), diabetes (12.8%), and back pain (12.4%). Other enrollee characteristics are listed in Table 2.

The results of our univariate analyses are presented in Table 3. Of the 43 chronic medical conditions, 15 had a univariate association with a p-value < 0.25, meeting criteria to include in the multivariate model. The dichotomous presence of chronic medical condition variable had a univariate model with $p = 0.99$. Income, our other primary predictor variable, had a univariate model with $p = 0.14$. The demographic variables with $p < 0.25$ were marital status, employment, and ethnicity. Other variables meeting the cut-off criteria were length of enrollment and whether an enrollee was part of the FHIAP or medical enrollment group.

The results of our first final multivariate model, with the individual chronic condition covariates, are shown in Table 4. The final model included income, premium, out-of-pocket expenses, amount of money OMIP paid towards each enrollee's claims, length of enrollment, whether an enrollee was part of FHIAP, employment and four medical condition covariates, namely alcohol use, cancer, pregnancy, and other

neurological disorders. There were no statistically significant interaction terms. No important influential data points were detected and the Hosmer-Lemeshow test indicated a satisfactory fit.

In presenting the results, those pertaining to our key hypothesis will be stated first. In our first final multivariate model, presence of one of four medical conditions was significantly associated with ***increased odds*** of discontinuing enrollment at the p = 0.05 level: alcohol use (OR = 2.0, 95% CI 1.2-3.5), cancer (OR = 1.6, 95% CI 1.1-2.4), other neurological disorders (OR = 3.4, 95% CI 1.01-11.9), and pregnancy (OR = 2.3, 95% CI 1.3-4.0). The three most common diagnoses in the "other neurological disorders" category were Parkinson's disease, cerebral degeneration not otherwise specified, and myoneural disorders (most often myasthenia gravis). Regarding our other hypothesis, we did not find a statistically significant relationship between income and discontinuation of OMIP coverage (p = 0.48).

Among other variables in the model, having a higher premium amount or a shorter length of enrollment were both statistically significant predictors of discontinuing OMIP coverage. The overall p-values were 0.049 for premium and 0.007 for length of enrollment. Two comparisons were consistent with a pattern of a greater odds of disenrollment with higher premiums (details in Table 4). A premium greater than $5,208 was associated with increased odds of discontinuing enrollment compared to a premium of $1,776.01-$3,360 (OR = 1.5, 95% CI: 1.1-2.1). A premium of $3,360.01-$5,208 was associated with increased odds of discontinuing enrollment compared to a premium of $1,776.01-$3,360 (OR = 1.5, 95% CI: 1.1-1.9). For length of enrollment, there were two comparisons indicating a pattern of a greater odds of disenrollment with a shorter length

of enrollment (details in Table 4). Enrollment for greater than 37.99 months was associated with decreased odds of discontinuing enrollment compared to enrollment for 6.02 to 12.98 months (OR = 0.6, 95% CI 0.5-0.9). Enrollment for 12.99 to 37.98 months was associated with decreased odds of discontinuing enrollment compared to enrollment of 6.02 to 12.98 months (OR = 0.6, 95% CI 0.5-0.8).

Employment was the only demographic variable that showed a significant association with discontinuation (overall p-value = 0.007). There were two statistically significant findings when comparing employment categories. Enrollees who were self-employed were less likely to discontinue coverage than other employed enrollees (OR = 0.6, 95% CI 0.4-0.8). Retired enrollees were less likely to disenroll than those who were not employed (OR 0.8, 95% CI 0.6-0.99).

Other variables that were not statistically significant but that were kept in the model for clinical relevance were out-of-pocket expenses, amount of money OMIP paid towards each enrollee's claims, and whether an enrollee was part of FHIAP. Although not statistically significant, there were a few trends in these variables. There was a trend of increased odds of disenrollment with increased out-of-pocket expenses. As the amount of money paid toward enrollee's claims increased, there was a trend of a decreased likelihood of disenrollment.

The results of our second multivariate model are shown in Table 5. This model contained the dichotomous presence of chronic medical condition variable rather than the individual chronic medical condition variables. This variable indicated the presence of no chronic medical conditions versus one or more chronic medical conditions. All other

variables in the two models were the same, and the results of the two models were very similar.

In our second final multivariate model, the dichotomous presence of chronic medical condition variable was not statistically significant (OR = 1.0, 95% CI 0.7-1.3). As in the first model, we did not find a statistically significant relationship between income and discontinuation of OMIP coverage (p = 0.51). The non-key variables also had similar associations to those in the first model. Once again, length of enrollment and employment had significant overall p-values (0.01 for both). The same sets of comparisons for these two variables were significant. In addition, retired enrollees were more likely to continue their OMIP enrollment than employed enrollees (OR = 0.7, 95% CI 0.5-0.999). In this model, since the overall p-value for premium was not significant, we did not examine additional comparisons.

Discussion

In our first model, we found a statistically significant relationship between four chronic medical conditions and discontinuation of enrollment in OMIP after premiums increased on January 1, 2006. These four medical conditions were pregnancy, alcohol use, cancer and other neurological disorders.

Contrary to our hypothesis, all four of these medical conditions were associated with increased probability of discontinuing OMIP enrollment. Although it is unclear why this unexpected relationship existed within our study population, we will discuss some possible explanations for why such results may have occurred.

Heavy alcohol users may have been dissatisfied with the substance abuse treatment available under the plan or may have prioritized health insurance coverage differently than other members. Mental health and substance abuse parity went into effect in 2007, after the time period of our study, so during the study period OMIP members faced yearly limits on both inpatient and outpatient treatment (Barry Burke, personal communication, March 2008). If heavy alcohol users found the benefits to be inadequate, they may have decided to discontinue their OMIP enrollment.

Pregnant women may have had alternative means of obtaining health insurance as a result of their pregnancy. Eligibility for the Oregon Health Plan, Oregon's Medicaid program, changes from 100% of the Federal Poverty Level for non-pregnant adults to 185% of the Federal Poverty Level for pregnant women (OHP Program Manual, 2008). In addition, pregnant members may have gotten married since enrollment, becoming eligible for coverage under their spouse's insurance. Since demographic information was collected only at the time of enrollment, changes in marital status were not known.

Another possible explanation is that pregnant women who are otherwise healthy are rejected in the individual insurance market when they are pregnant but qualify for lower cost individual insurance policies after delivery – encouraging them to disenroll from OMIP.

Finally, people with cancer or neurological disorders may have been more likely to qualify for disability, which would have allowed them to receive Medicare and would have led to a higher likelihood of discontinuing their OMIP coverage. Also, people with cancer or neurological disorders may have become impoverished due to high medical expenditures, making them eligible for Medicaid.

One explanation for our lack of findings in the expected direction (i.e. that someone with a chronic medical condition would continue OMIP coverage) is insufficient power. Although we have a large sample size, most of the chronic medical conditions that we considered had a low prevalence, which limited our power to detect statistically significant differences. In addition, our power was further limited by the relatively small size of the group of enrollees discontinuing OMIP. However, this possible explanation does not address the finding that four chronic medical conditions were associated with disenrollment but in the opposite direction from that hypothesized.

In the second model, with the dichotomous presence of chronic medical condition variable, we did not find a statistically significant association between discontinuation of OMIP coverage and the presence of a chronic medical condition. We had expected to find significantly lower odds of disenrollment if a member had a chronic medical condition.

We did not find a statistically significant relationship between income and discontinuation of enrollment in OMIP in either model. We had expected that lower-income enrollees would be more likely to disenroll than higher-income enrollees after premium increases. Previous research has found that having a lower income is associated with an increased likelihood of forgoing health insurance, although the previous study did not look at a high-risk pool or at decisions to continue coverage after enrollment (Polsky, 2005). One possible explanation for our findings is that enrollees' incomes changed but we only had self-reported data from the time of enrollment in OMIP. Therefore, the expected trend may exist but we could not detect it with the available data.

The lack of findings related to our key hypotheses may be due to the unchanged disenrollment level compared to the baseline level, despite the premium increase. For the FHIAP and medical groups alone, 5.3% of members discontinued their OMIP coverage on January 1, 2006. The comparable average over the three years prior to 2006 was 5.4%. Therefore, one reason for our lack of findings related to our key hypotheses may have been because the premium increase did not lead to higher disenrollment than in other years.

A higher premium amount and shorter length of enrollment were significantly associated with discontinuing OMIP coverage in both models. Although these were not key questions in our study, they are worth considering. Members paying higher premiums were more likely to disenroll after the premium increases than those paying lower premiums. One might expect such a result. The high premiums charged by high-risk pools are known to be substantial barriers for those eligible for enrollment, so raising an already high premium would be expected to cause attrition (Pollitz and Bangit, 2005,

Pollitz et al., 2005). Also, members who had been enrolled longer were significantly less likely to leave the plan when the premiums rose. This may show a level of satisfaction with the plan, or it may reflect the population that is the most limited in finding alternate mechanisms for obtaining health insurance coverage.

Our findings are certainly relevant to public health. First, being insured has been shown to be positively associated with improved health (Hadley, 2003). Having health insurance increases a person's access to health care, which provides the individual with the opportunity to be healthier by receiving routine preventive care and better management of chronic diseases. The increased OMIP premiums resulted in a loss of health insurance for 5% of members. In particular, those with the four statistically significant medical conditions (other neurological disorders, pregnancy, alcohol use, and cancer) may have special needs that could have been addressed by changing the plan's benefits. For example, improved substance abuse treatment or maternity care could have influenced some members to continue their health insurance coverage.

From a public health standpoint, it is also good for people to continue coverage with the same health insurance plan. Longer term enrollment in the same plan allows members to continue to see the same providers (i.e. increased continuity of care). Continuity of care leads to better health outcomes (Cabana and Jee, 2004). By developing a longer term relationship with a physician, it is easier to stay up-to-date on recommended prevention and screening and also to develop an effective treatment regimen for any existing diseases. It is plausible that those members who disenrolled may have been more likely to have changed providers, resulting in the potential for a decreased quality of their health.

From both of these public health perspectives, the goal to improve health is to find a way for people to continue their health insurance coverage and to have continuity of care with the same provider. Our study has shown which OMIP members are most likely to discontinue their OMIP coverage.

This study has increased the body of knowledge about members' responses to increases in premiums in a high-risk pool, especially which characteristics make members more likely to discontinue enrollment after premium increases. There are no published studies in the literature on this topic. We have benefited from living in a state with a large high-risk pool and from having full use of a dataset that contains information about many variables.

Limitations:

Bias

Misclassification is the most likely source of bias in our study. The three most likely sources of misclassification are the incomplete demographic information; the lack of updated information about marital status, income, and employment; and the difficulty classifying disease diagnoses.

Demographic information was self-reported and not verified. Depending on the variable, data were missing for 18-28% of members. We did analyze those members reporting demographic data compared to those not reporting this data with respect to our outcome variable and did not find any significant differences. This finding indicates that our results were subject to non-differential misclassification, reducing the power to detect associations.

In addition, demographic data were only collected at the time of enrollment, and it would have been helpful to have updated data for those members enrolled for a long period of time. Marital status, income, and employment are all subject to change and our findings might have been different if these variables had been updated during the study period.

Another potential source of misclassification was from the claims data, which did not allow identification of all chronic medical conditions. There were many claims with a "general symptoms" (780) ICD code, which was used for prescription drug claims. Based on these claims, we attempted to properly classify members into medical condition categories, but certain drugs have multiple indications. To reduce the chance of misclassification, we only assigned diagnoses to 780 visits for drugs with very specific indications. However, there were probably some members with a medical condition who were misclassified as not having the medical condition based on our approach. On the other hand, this misclassification would have occurred only if the enrollee had prescriptions for treatment of the medical condition without provider visits at which an ICD9 diagnosis code was assigned for the condition.

Generalizability

Our study involved a highly selective population of high-risk pool enrollees. Oregon's high-risk pool is especially focused on providing affordable insurance for low- and middle-income Oregonians who do not have access to health insurance through other mechanisms. Our findings are generalizable to other states' high-risk pools if they have a similar enrolled population. They are not generalizable to the general population, since

we have studied a very specific population. By definition, OMIP members have a higher prevalence of chronic medical conditions than the general population, so their decisions to continue enrollment in the face of higher premiums are likely to be different. It is reasonable to speculate that OMIP members would prioritize having health insurance more highly than the general population, although the present study was not designed to test this hypothesis.

Within OMIP, we only looked at two of the enrollment groups: FHIAP and medical. We made this decision because we were concerned about the generalizability of findings from other groups, since each had a very specialized niche. We did look at the disenrollment rates of these other groups. All groups had similar disenrollment rates, between 4 and 6%. Medicare was not considered, because all members were dropped from OMIP coverage as of January 1, 2006 due to enactment of the Medicare Part D prescription drugs benefit (Barry Burke, personal communication, March 2008). Also, the Health Care Tax Credit group only had 12 members, so we did not consider their disenrollment rate. See Table 6 for detailed disenrollment rates, by enrollment group.

Confounding

We did not encounter any variables that produced important confounding in our model. Certainly, uncontrolled confounding may exist. For example, we did not have information about socio-economic status (SES), which could be associated with both our outcome and predictor variables. A person may prioritize health insurance coverage differently based on his SES, and presence of a chronic medical condition and income could both be associated with SES.

Future Directions:

The most puzzling finding in our study was the increased likelihood of discontinuing coverage if a member had one of four medical conditions (other neurological disorders, alcohol use, pregnancy, and cancer). Qualitative studies would be a logical step to help understand this observation. Semi-structured interviews or focus groups could be conducted with current and former members with these specific medical conditions. A quantitative approach could follow the qualitative study. A phone or mail survey of members with one of the four medical conditions could be developed to test hypotheses developed from the qualitative research, in order to determine why these members were more likely to disenroll and to help understand the policy implications of this finding.

In addition, future studies should assess what happened to members after they discontinued their coverage. Did they find other means to obtain health insurance? If not, were they able to receive medical care? Where? Was there any change in their health status after becoming uninsured? A cost analysis of medical expenditures comparing the time period during OMIP enrollment and that after discontinuing OMIP coverage may be useful in deciding how much public funding should be allocated to supporting this plan. Another interesting question to examine is whether people were more likely to discontinue coverage for their family members when the premiums increased, even if they continued their own coverage. Finally, it would be useful to look at whether members who discontinued their coverage had to switch providers, and if so, whether this negatively impacted the quality of their care or affected their health status.

Conclusions:

The presence of one of four chronic medical conditions (other neurological disorders, alcohol use, pregnancy, and cancer) was significantly associated with discontinuation of OMIP enrollment after premium increases. There was not a significant association between income and discontinuation of OMIP enrollment. Higher premiums and shorter length of enrollment were significantly associated with discontinuation of OMIP enrollment. In our second model, we did not find a significant association between our dichotomous presence of a chronic medical condition variable and discontinuation of OMIP enrollment.

High-risk pools fill a gap in our fragmented system of health insurance and deserve further consideration as a mechanism to increase people's ability to obtain health insurance. Our findings indicate that certain groups may be more inclined to leave high-risk pools, and future studies could uncover how these pools could better serve those in need of coverage.

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Table 1. Power calculations for 10,586 subjects for alpha = 0.05

Chronic medical condition prevalence	Percent of people with chronic condition who discontinued OMIP	Percent of people without chronic condition who discontinued OMIP	Size of the difference detected	Power
1%	2.0	7.4	5.4	0.81
1%	5.0	12.4	7.4	0.80
1%	7.5	16.1	8.6	0.80
1%	10.0	19.5	9.5	0.81
5%	2.0	4.1	2.1	0.80
5%	5.0	8.0	3.0	0.81
5%	7.5	11.1	3.6	0.80
5%	10.0	14.1	4.1	0.81
10%	2.0	3.5	1.5	0.82
10%	5.0	7.2	2.2	0.81
10%	7.5	10.1	2.6	0.81
10%	10.0	12.8	2.8	0.81
15%	2.0	3.2	1.2	0.80
15%	5.0	6.8	1.8	0.80
15%	7.5	9.7	2.2	0.82
15%	10.0	12.4	2.4	0.80

Table 2. Characteristics of Study Subjects

Variable	All Subjects (n = 10,586)	Discontinued Coverage (n = 545)	Continued Coverage (n = 10,041)	Percent of Missing Data
Age (mean ±SD)	46.5 (±14.1)	46.9 (±14.4)	46.5 (±14.1)	0
	Number (Percent)	Number (Percent)	Number (Percent)	Percent
Gender				0
Male	3903 (36.9)[*]	194 (35.6)	3709 (36.9)	
Female	6683 (63.1)	351 (64.4)	6332 (63.1)	
Marital Status				18.5
Married	4089 (47.4)	197 (45.0)	3892 (47.5)	
Single/Never Married	2914 (33.8)	145 (33.1)	2769 (33.8)	
Divorced	1287 (14.9)	80 (18.3)	1207 (14.7)	
Widowed	342 (4.0)	16 (3.7)	326 (4.0)	
Employment				19.2
Employed	2003 (23.4)	128 (29.6)	1875 (23.1)	
Not employed	3033 (35.5)	158 (36.5)	2875 (35.4)	
Self-employed	2346 (27.4)	90 (20.8)	2256 (27.8)	
Retired	1170 (13.7)	57 (13.2)	1113 (13.7)	
Income[†]				19.1
$0-$11,076	2355 (27.5)	124 (28.6)	2231 (27.4)	
$11,077-$25,000	2636 (30.8)	151 (34.9)	2485 (30.6)	
$25,001-$45,000	1794 (20.9)	81 (18.7)	1713 (21.1)	
$45,001+	1782 (20.8)	78 (18.0)	1704 (21.0)	
Ethnicity				28.0
African-American	64 (0.8)	1 (0.3)	63 (0.9)	
Asian/Pacific Islander	162 (2.1)	7 (1.9)	155 (2.1)	
Hispanic	174 (2.3)	11 (2.9)	163 (2.3)	
Native American	67 (0.9)	5 (1.3)	62 (0.9)	
Other	91 (1.2)	9 (2.4)	82 (1.1)	
White	7063 (92.7)	345 (91.3)	6718 (92.8)	

[*] Percentages appear in parentheses. Due to rounding, they may not add up to 100%.

[†] The incomes were divided into four groups that were as equal as possible, but they are not strict quartiles since the data was originally provided in 11 categories that could not be combined to make four equal groups.

Family members enrolled on plan				0
Yes	642 (6.1)	33 (6.1)	609 (6.1)	
No	9944 (93.9)	512 (93.9)	9432 (93.9)	
Premium*				0
≤ $1,776	2646 (25.0)	138 (25.3)	2508 (25.0)	
$1,776.01-$3,360	2792 (26.4)	133 (24.4)	2659 (26.5)	
$3,360.01-$5,208	2873 (27.1)	148 (27.2)	2725 (27.1)	
> $5,208	2275 (21.5)	126 (23.1)	2149 (21.4)	
Out of Pocket Expenses				0
≤ $154	2649 (25.0)	132 (24.2)	2517 (25.1)	
$154.01-$753.78	2644 (25.0)	137 (25.1)	2507 (25.0)	
$753.79-$1,654.48	2647 (25.0)	138 (25.3)	2509 (25.0)	
> $1,654.48	2646 (25.0)	138 (25.3)	2508 (25.0)	
Amount paid toward enrollee's claims†				0
≤ $0	2689 (25.4)	138 (25.3)	2551 (25.4)	
$0.01-$481.10	2604 (24.6)	138 (25.3)	2466 (24.6)	
$481.11-$2,769.43	2647 (25.0)	142 (26.1)	2505 (25.0)	
>$2,769.43	2646 (25.0)	127 (23.3)	2519 (25.1)	
Length of enrollment (months) ‡				0
≤ 6.01	2324 (22.0)	119 (21.8)	2205 (22.0)	
6.02-12.98	3037 (28.7)	185 (33.9)	2852 (28.4)	
12.99-37.98	2653 (25.1)	129 (23.7)	2524 (25.1)	
> 37.99	2572 (24.3)	112 (20.6)	2460 (24.5)	
Enrollment group				0
FHIAP (subsidized)	3655 (34.5)	209 (38.3)	3446 (34.3)	

* The premiums were divided into four groups that were as equal as possible, but they are not strict quartiles since the data had multiple people at certain levels of premiums.

† In some cases, the plan was owed money, which is why there were values less than zero. This occurred in two scenarios: 1) when the plan had overpaid a provider and expected reimbursement and 2) when the enrollee owed the plan money for a prescription drug.

‡ The length of enrollment was divided into four groups that were as equal as possible, but they are not strict quartiles since the data had multiple people with certain lengths of enrollment.

Medical (non-subsidized)	6931 (65.5)	336 (61.7)	6595 (65.7)	
Hypertension	1941 (18.3)	107 (19.6)	1834 (18.3)	0
Congestive Heart Failure	128 (1.2)	8 (1.5)	120 (1.2)	0
Angina or Coronary Artery Disease	341 (3.2)	19 (3.5)	322 (3.2)	0
Dysrrhythmia	334 (3.2)	19 (3.5)	315 (3.1)	0
Valvular disease	153 (1.5)	10 (1.8)	143 (1.4)	0
Atherosclerosis	92 (0.9)	3 (0.6)	89 (0.9)	0
Coagulopathy	77 (0.7)	1 (0.2)	76 (0.8)	0
Hereditary anemia	5 (0.05)	0 (0)	5 (0.05)	0
Other anemias	348 (3.3)	14 (2.6)	334 (3.3)	0
Seizure disorder	164 (1.6)	10 (1.8)	154 (1.5)	0
Paralysis	42 (0.4)	2 (0.4)	40 (0.4)	0
Other neurological disorder	33 (0.3)	4 (0.7)	29 (0.3)	0
Tuberculosis	2 (0.02)	0 (0)	2 (0.02)	0
Organic brain disease	35 (0.3)	1 (0.2)	34 (0.3)	0
Psychoses	555 (5.2)	41 (7.5)	514 (5.1)	0
Alcohol use	201 (1.9)	18 (3.3)	183 (1.8)	0
Drug use	87 (0.8)	10 (1.8)	77 (0.8)	0
Other psychiatric disorder	465 (4.4)	31 (5.7)	434 (4.3)	0
Peptic ulcer, GERD, gastritis	526 (5.0)	27 (5.0)	499 (5.0)	0
Renal disease	84 (0.8)	6 (1.1)	78 (0.8)	0
Liver disease	191 (1.9)	8 (1.5)	183 (1.8)	0
Rheumatoid arthritis	233 (2.2)	16 (2.9)	217 (2.2)	0
Developmental delay	19 (0.2)	3 (0.6)	16 (0.2)	0
Cerebrovascular disease	131 (1.2)	8 (1.5)	123 (1.2)	0
Migraine	223 (2.1)	7 (1.3)	216 (2.2)	0
Cataract	216 (2.0)	13 (2.4)	203 (2.0)	0
Osteoarthritis	512 (4.8)	24 (4.4)	488 (4.9)	0
Osteoporosis	146 (1.4)	7 (1.3)	139 (1.4)	0
Back pain	1313 (12.4)	73 (13.4)	1240 (12.4)	0
Multiple sclerosis	59 (0.6)	2 (0.4)	57 (0.6)	0
Anxiety	366 (3.5)	13 (2.4)	353 (3.5)	0

Spinal cord injury	5 (0.05)	0 (0)	5 (0.05)	0
Dementia	14 (0.1)	0 (0)	14 (0.1)	0
Benign prostatic hypertrophy	104 (1.0)	7 (1.3)	97 (1.0)	0
Benign uterus	120 (1.1)	7 (1.3)	113 (1.1)	0
Pregnancy	195 (1.8)	17 (3.1)	178 (1.8)	0
Diabetes mellitus	1351 (12.8)	78 (14.3)	1273 (12.7)	0
Thyroid disease	1134 (10.7)	63 (11.6)	1071 (10.7)	0
Aids	92 (0.9)	2 (0.4)	90 (0.9)	0
Depression	1779 (16.8)	104 (19.1)	1675 (16.7)	0
Hyperlipidemia	2376 (22.4)	121 (22.2)	2255 (22.5)	0
Pulmonary disease	1052 (9.9)	67 (12.3)	985 (9.8)	
Cancer	563 (5.3)	37 (6.8)	526 (5.2)	0
Dichotomous presence of chronic disease	7183 (67.9)	370 (67.9)	6813 (67.9)	0

Table 3. Univariate associations between discontinuation of OMIP enrollment and patient characteristics, claims variables and presence of chronic medical conditions.

Variable	**Odds ratio (95% CI)**	**P-value $p < 0.25$ $p < 0.05$**
Age	1.0 (0.996-1.008)	0.50
Gender (Female vs. Male)	1.1 (0.9-1.3)	0.53
Marital Status		**0.24**
Divorced	reference	
Married	0.8 (0.6-0.998)	***0.048***
Single/never married	0.8 (0.6-1.0)	**0.10**
Widowed	0.7 (0.4-1.3)	0.29
Employment		***0.002***
Employed	reference	
Not employed	0.8 (0.6-1.0)	**0.08**
Self-employed	0.6 (0.4-0.8)	***0.000***
Retired	0.8 (0.5-1.0)	**0.08**
Income		**0.14**
$0-$11,076	reference	
$11,077-$25,000	1.1 (0.9-1.4)	0.47
$25,001- $45,000	0.9 (0.6-1.1)	0.27
$45,001+	0.8 (0.6-1.1)	**0.19**
Ethnicity		**0.18**
African-American	reference	
Asian/Pacific Islander	2.8 (0.3-23.6)	0.33
Hispanic	4.3 (0.5-33.6)	**0.17**
Native American	5.1 (0.6-44.7)	**0.14**
Other	6.9 (0.8-56.0)	**0.07**
White	3.2 (0.4-23.4)	**0.245**
Family members enrolled in plan (yes vs. no)	1.0 (0.7-1.4)	0.99
Premium		0.66
≤ $1,776	reference	
$1,776.01- $3,360	0.9 (0.7-1.2)	0.44
$3,360.01-$5,208	1.0 (0.8-1.3)	0.92
> $5,208	1.1 (0.8-1.4)	0.62
Out-of-pocket expenses		0.98
≤ $154	reference	
$154.01-$753.78	1.0 (0.8-1.3)	0.74
$753.79-$1,654.48	1.0 (0.8-1.3)	0.70
> $1,654.48	1.0 (0.8-1.3)	0.70

Amount paid toward enrollee's claims*		0.79
≤ $0	reference	
$0.01-$481.10	1.0 (0.8-1.3)	0.78
$481.11-$2,769.43	1.0 (0.8-1.3)	0.70
>$2,769.43	0.9 (0.7-1.2)	0.58
Length of enrollment (months)		***0.03***
≤ 6.01	reference	
6.02-12.98	1.2 (0.9-1.5)	**0.13**
12.99-37.98	0.9 (0.7-1.2)	0.68
> 37.99	0.8 (0.6-1.1)	**0.21**
Enrollment group (FHIAP vs. medical)	1.2 (0.997-1.4)	**0.06**
Hypertension	1.1 (0.7-1.4)	0.44
Congestive heart failure	1.2 (0.6-2.5)	0.57
Angina or coronary artery disease	1.1 (0.7-1.7)	0.72
Dysrrhythmia	1.1 (0.7-1.8)	0.65
Valvular disease	1.3 (0.7-2.5)	0.44
Atherosclerosis	0.6 (0.2-2.0)	0.42
Coagulopathy	0.2 (0.03-1.7)	**0.16**
Hereditary anemia	cannot be calculated due to zero cell value	
Other anemias	0.8 (0.4-1.3)	0.34
Seizure disorder	1.2 (0.6-2.3)	0.58
Paralysis	0.9 (0.2-3.8)	0.91
Other neurological disorder	2.6 (0.9-7.3)	**0.08**
Tuberculosis	cannot be calculated due to zero cell value	
Organic brain disease	0.5 (0.1-4.0)	0.55
Psychoses	1.5 (1.1-2.1)	***0.02***
Alcohol use	1.8 (1.1-3.0)	***0.02***
Drug use	2.4 (1.2-4.7)	***0.01***
Other psychiatric disorder	1.3 (0.9-1.9)	**0.13**
Peptic ulcer, GERD, gastritis	1.0 (0.7-1.5)	0.99
Renal disease	1.4 (0.6-3.3)	0.41
Liver disease	0.8 (0.4-1.6)	0.55
Rheumatoid arthritis	1.4 (0.8-2.3)	0.23
Developmental delay	3.5 (1.01-11.9)	***0.049***
Cerebrovascular disease	1.2 (0.6-2.5)	0.62
Migraine	0.6 (0.3-1.3)	**0.18**
Cataract	1.2 (0.7-2.1)	0.56
Osteoarthritis	0.9 (0.6-1.4)	0.63

* In some cases, the provider or enrollee owed money to the plan, which is why there were values less than zero.

Osteoporosis	0.9 (0.4-2.0)	0.85
Back pain	1.1 (0.9-1.4)	0.47
Multiple sclerosis	0.6 (0.2-2.6)	0.54
Anxiety	0.7 (0.4-1.2)	**0.16**
Spinal cord injury	cannot be calculated due to zero cell value	
Dementia	cannot be calculated due to zero cell value	
Benign prostatic hypertrophy	1.3 (0.6-2.9)	0.47
Benign uterus	1.1 (0.5-2.5)	0.73
Pregnancy	1.8 (1.1-3.0)	**0.03**
Diabetes mellitus	1.2 (0.9-1.5)	0.27
Thyroid disease	1.1 (0.8-1.4)	0.51
Aids	0.4 (0.1-1.7)	**0.21**
Depression	1.2 (0.9-1.5)	**0.15**
Hyperlipidemia	1.0 (0.8-1.2)	0.89
Pulmonary disease	1.3 (0.99-1.7)	**0.06**
Cancer	1.3 (0.9-1.9)	**0.12**
Dichotomous presence of chronic medical condition	1.0 (0.9-1.2)	0.99

Table 4. Association between discontinuation of OMIP enrollment with demographic, enrollment, claims and individual chronic medical condition variables in multivariate model.

Variable	**Odds ratio (95% CI)**	**P-value** ***p < 0.05***
Premium		***0.049***
≤ $1,776	reference	
$1,776.01-$3,360 vs. ≤ $1,776	0.9 (0.6-1.3)	0.60
$3,360.01-$5,208 vs. ≤ $1,776	1.3 (0.9-2.0)	0.18
> $5,208 vs. ≤ $1,776	1.4 (0.9-2.1)	0.20
>$5,208 vs. $3,360.01-$5,208	1.0 (0.8-1.4)	0.86
>$5,208 vs. $1,776.01-$3,360	1.5 (1.1-2.1)	***0.02***
$3,360.01-$5,208 vs. $1,776.01-$3,360	1.5 (1.1-1.9)	***0.01***
Out of Pocket Expenses		0.46
≤ $154	reference	
$154.01-$753.78	1.0 (0.7-1.5)	0.79
$753.79-$1,654.48	1.2 (0.8-1.9)	0.33
> $1,654.48	1.5 (0.9-2.5)	0.15
Amount paid toward enrollee's claims*		0.21
≤ $0	reference	
$0.01-$481.10	1.0 (0.7-1.4)	0.94
$481.11-$2,769.43	0.9 (0.5-1.3)	0.48
>$2,769.43	0.6 (0.4-1.1)	0.09
Length of enrollment (months)		***0.007***
≤ 6.01	reference	
6.02-12.98 vs. ≤ 6.01	1.1 (0.7-1.6)	0.66
12.99-37.98 vs. ≤ 6.01	0.7 (0.4-1.1)	0.12
> 37.99 vs. ≤ 6.01	0.7 (0.4-1.1)	0.11
> 37.99 vs. 12.99-37.98	1.0 (0.7-1.4)	0.96
> 37.99 vs. 6.02-12.98	0.6 (0.5-0.9)	***0.003***
12.99-37.98 vs. 6.02-12.98	0.6 (0.5-0.8)	***0.002***
Enrollment group (FHIAP vs. medical)	1.1 (0.8-1.4)	0.52
Employment		***0.007***
Employed	reference	

* In some cases, the enrollee actually owed money to the plan, which is why there were values less than zero. See comment in Table 2.

Not employed vs. Employed	0.8 (0.6-1.0)	0.08
Self-employed vs. Employed	0.6 (0.4-0.8)	***0.001***
Retired vs. Employed	0.7 (0.5-1.0)	0.06
Retired vs. Self-employed	0.8 (0.6-1.2)	0.34
Retired vs. Not employed	0.8 (0.6-0.99)	***0.04***
Self-employed vs. Not employed	0.9 (0.6-1.3)	0.50
Income		0.48
$0-$11,076	reference	
$11,077- $25,000	1.2 (0.9-1.5)	0.24
$25,001- $45,000	1.0 (0.7-1.4)	0.87
> $45,001	1.0 (0.7-1.4)	0.90
Alcohol use (yes vs. no)	2.0 (1.2-3.5)	***0.01***
Pregnancy) (yes vs. no)	2.3 (1.3-4.0)	***0.01***
Cancer (yes vs. no)	1.6 (1.1-2.4)	***0.02***
Other neurological disorder (yes vs. no)	3.5 (1.01-11.9)	***0.047***

Table 5. Association between discontinuation of OMIP enrollment with demographic, enrollment, claims, and dichotomous presence of chronic medical condition variable in the multivariate model.

Variable	**Odds ratio (95% CI)**	**P-value** ***p < 0.05***
Premium		0.07
≤ $1,776	reference	
$1,776.01-$3,360 vs. ≤ $1,776	0.9 (0.6-1.3)	0.58
$3,360.01-$5,208 vs. ≤ $1,776	1.3 (0.9-1.9)	0.22
> $5,208 vs. ≤ $1,776	1.3 (0.8-2.1)	0.23
> $5,208 vs. $3,360.01-$5,208	1.0 (0.8-1.4)	0.85
> $5,208 vs. $1,776.01-$3,360	1.5 (1.1-2.1)	***0.03***
$3,360.01-$5,208 vs. $1,776.01-$3,360	1.4 (1.1-1.9)	***0.01***
Out of pocket Expenses		0.50
≤ $154	reference	
$154.01-$753.78	1.1 (0.7-1.6)	0.68
$753.79-$1,654.48	1.3 (0.8-2.1)	0.28
> $1,654.48	1.5 (0.9-2.6)	0.16
Amount paid toward enrollee's claims*		0.56
≤ $0	reference	
$0.01-$481.10	1.0 (0.7-1.4)	0.94
$481.11-$2,769.43	0.9 (0.6-1.4)	0.64
>$2,769.43	0.7 (0.4-1.3)	0.27
Length of enrollment (months)		***0.01***
≤ 6.01	reference	
6.02-12.98 vs. ≤ 6.01	1.1 (0.7-1.6)	0.64
12.99-37.98 vs. ≤ 6.01	0.7 (0.4-1.1)	0.13
> 37.99 vs. ≤ 6.01	0.7 (0.4-1.1)	0.12
> 37.99 vs. 12.99-37.98	1.0 (0.7-1.3)	0.92
> 37.99 vs. 6.02-12.98	0.6 (0.5-0.9)	***0.003***
12.99-37.98 vs. 6.02-12.98	0.6 (0.5-0.9)	***0.003***
Enrollment group (FHIAP vs. Medical)	1.1 (0.8-1.4)	0.68
Employment		***0.01***
Employed	reference	
Not employed vs. Employed	0.8 (0.6-1.03)	0.08
Self-employed vs. Employed	0.6 (0.4-0.8)	***0.000***
Retired vs. Employed	0.7 (0.5-0.999)	***0.049***
Retired vs. Self-employed	0.8 (0.6-1.2)	0.35

* In some cases, the provider or enrollee owed money to the plan, which is why there were values less than zero.

Retired vs. Not employed	0.7 (0.6-0.98)	***0.04***
Self-employed vs. Not employed	0.9 (0.6-1.2)	0.45
Income		0.51
$0-$11,076	reference	
$11,077-$25,000	1.2 (0.9-1.5)	0.27
$25,001-$45,000	1.0 (0.7-1.3)	0.83
$45,001+	1.0 (0.7-1.4)	0.87
Dichotomous presence of chronic medical condition (yes vs. no)	1.0 (0.7-1.3)	0.80

Table 6. Disenrollment rate from OMIP on January 1, 2006 by enrollment group

Group	Total in group	Discontinued OMIP coverage	Continued OMIP coverage	Percent discontinuing coverage
FHIAP	4042	230	3812	5.7
Medical	7583	382	7201	5.0
CareAssist (HIV)	502	21	481	4.2
HIPAA	2061	91	1970	4.4
HCTC	12	0	12	0
Medicare	136	136	0	100