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Optimizing Enrollment in Employer Health Programs: A Comparison of Enrollment Strategies in the Diabetes Health Plan

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Abstract

Background—Many health programs struggle with low enrollment rates.

Objectives—To compare the characteristics of populations enrolled in a new health plan when employer groups implement voluntary versus automatic enrollment approaches.

Research Design—We analyzed enrollment rates from two different strategies: voluntary or automatic enrollment. We used regression modeling to estimate the associations of patient characteristics with the probability of enrolling within each strategy.

Subjects—5,014 eligible employees from 11 self-insured employers who had purchased the Diabetes Health Plan (DHP), which offers free or discounted copayments for diabetes related medications, testing supplies, and physician visits. Six employers used voluntary enrollment while five used automatic enrollment.

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Measures—The main outcome of interest was enrollment into the DHP. Predictors were gender, age, race/ethnicity, dependent status, household income, education level, number of comorbidities, and employer group.

Results—Overall, the proportion of eligible members who were enrolled within the automatic enrollment strategy was 91% compared with 35% for voluntary enrollment. Income was a significant predictor for voluntary enrollment but not for automatic enrollment. Within automatic enrollment, covered dependents, Hispanics, and persons with one non-diabetes comorbidity were more likely to enroll than other subgroups. Employer group was also a significant correlate of enrollment. Notably, *all* demographic groups had higher DHP enrollment rates under automatic enrollment than under voluntary enrollment.

Conclusions—For employer-based programs that struggle with low enrollment rates, especially among certain employee subgroups, an automatic enrollment strategy may not only increase the total number of enrollees but may also decrease some enrollment disparities.

Despite extensive recruitment efforts by health plans, state and local government, and other stakeholders many eligible individuals do not voluntarily enroll in health promotion or insurance benefit programs designed to improve health outcomes.[1] Employers are increasingly sponsoring wellness programs as a way to possibly decrease costs and increase productivity across a large component of the workforce.[2] However, despite the use of various approaches, enrollment in wellness programs often remains low.[3–5] Although many of these programs and benefits may improve access and outcomes among the subset of persons who are enrolled, with limited reach they are unlikely to improve the health of the overall targeted population.[6]

Many employer health programs use a voluntary enrollment approach, in which employees must actively join in order to be enrolled. However, voluntary program enrollees may have different demographic characteristics than the underlying population, in terms of gender, age, race/ethnicity, income, risk for chronic conditions or disability and other factors.[7] Voluntary program enrollees may also have different clinical characteristics than the underlying population, potentially representing either the "worried well" who may have less need for services or a sicker subgroup motivated to enroll because of the severity of their underlying condition. A recent review of enrollment into a variety of public benefit programs identified multiple barriers to voluntary enrollment and suggested automatic enrollment of all eligible participants as a preferential strategy.[8] There is little current, "real-world" data on patient-level differences comparing "voluntary" and "automatic" enrollment approaches. Such information may be useful in the design of future health promotion or insurance benefit programs.

Data from the rollout of the Diabetes Health Plan (DHP) at 11 self-insured employers, the first disease-specific health insurance plan for employees and their covered dependents with diabetes or pre-diabetes, provides a unique opportunity to assess the effectiveness of these two enrollment strategies. The DHP is offered by different employer groups using either a voluntary enrollment approach requiring employees to sign up, or an automatic enrollment approach that directly enrolls all eligible employees. We hypothesized that the automatic

enrollment strategy would enroll a larger and more representative sample of the underlying population, as compared to the voluntary enrollment strategy.

Methods

Study Design, Setting, and Participants

The Diabetes Health Plan (DHP), initiated in 2009, represents an innovative approach to care for patients with diabetes or pre-diabetes.[9] Purchased by several medium and large self-insured employers across the United States, the DHP eliminates or reduces copayments for medications and physician visits in order to incentivize evidence-based care. Eligible employees and their eligible covered dependents have the option of maintaining their standard plan or switching to a DHP plan. The latter adds DHP benefits to the standard plan while maintaining the same premium cost to the employee. The DHP also includes enhanced access to wellness programs at no additional cost to the employee. Table 1 shows the variations in features between the DHP and the standard plan.

In addition to these program benefits, the DHP was originally designed by the health plan to include several requirements to be met each year in order to maintain enrollment for the following year. These "compliance criteria" were ultimately determined by each employer, but potentially included a combination of the following: laboratory evaluations such as biannual HbA1c testing, annual cholesterol blood testing and/or annual microalbuminuria screening, biannual primary care visits, annual retinal exams, biannual mammography, and/or colon cancer screening for persons over the age of 50. Required tests were offered free to the enrolled DHP member.

Although the DHP enrolled both employees with diabetes and pre-diabetes, the current analysis is limited to the sample with diabetes. In order to be considered eligible for the DHP, employees with diabetes had to meet at least one of the following criteria during the prior one year: (1) one or more medical claims with an ICD-9 diagnosis code of 250.xx from a doctor's office, inpatient, or clinic visit, (2) any HbA1c value of 6.5%, fasting plasma glucose > 125 mg/dl, or 2-hour oral glucose tolerance test 200 mg/dl, (3) any prescription filled for insulin or an oral antiglycemic agent other than metformin, (4) direct referral as a result of onsite biometric screenings or from a medical provider.

When the DHP was first introduced, all participating employer groups offered the plan under a voluntary enrollment strategy. Some employers limited DHP eligibility to persons who had existing diagnoses of diabetes and these persons could voluntarily enroll. Other employers offered on site biometric screenings to detect new cases of diabetes, and allowed those with either new or existing diagnoses to voluntarily enroll.

Employer groups initially offering the DHP in late 2009 and 2010 had the option to enroll employees using an automatic enrollment approach. Each employer identified the eligible employees based on the criteria described above and notified them of their eligibility. Eligible individuals were automatically enrolled in the DHP at the beginning of the next enrollment period unless they made an active decision to opt-out in favor of having a standard health plan. The opt-out process was relatively simple for individuals who

preferred to remain in the standard health plan, usually involving a short form that could be returned to their designated DHP representative.

Using a cross-sectional design, we compared the 6 employer groups that offered voluntary enrollment and the 5 groups that used automatic enrollment to evaluate differences in an employee's likelihood of DHP enrollment. As shown in Figure 1, we restricted the sample to persons without gestational diabetes who were continuously enrolled with the health insurer one year before and one year after the DHP was offered, who were between the ages of 18–64 at baseline, were not missing key demographic variables or employee/dependent status, and whose enrollment status in the DHP could be confirmed. This resulted in our analytic sample of 1,549 persons who had the option of voluntary enrollment and 3,465 persons who were automatically enrolled but had been given the opportunity to "opt-out." The Institutional Review Board at UCLA reviewed and approved this study.

Variables

The outcome variable for this analysis was enrollment in the DHP. Enrollment data was provided by the health insurer, and individual-level information about reasons why employees did or did not enroll was not available. Predictor variables for this analysis included gender, age group (18–34, 35–44, 45–54, 55–64) and employee vs. covered dependent (18 years of age) status, which were member-reported and were acquired from the eligibility file provided by the health insurer. Other variables included education level (high school graduate or less, some college, bachelor's and above), race (white, Hispanic, black, Asian, other), and household income (<30k, 30–49k, 50–74k, 75–124k, 125k+) which were obtained by the health insurer from a third-party consumer marketing services firm. These variables were derived from a combination of census data, an algorithm analyzing first and last names, and an income database. A count of comorbidities were derived from administrative claims data provided by the health insurer and included each of 15 conditions based on ICD-9 codes: hypertension, hyperlipidemia, coronary artery disease, congestive heart failure, atrial fibrillation, end stage renal disease, osteoarthritis, rheumatoid arthritis, cancer, chronic obstructive pulmonary disease, stroke, peripheral vascular disease, dementia, and schizophrenia and other mental health diagnoses (e.g. depression, anxiety).

Statistical Analysis

We compared the unadjusted differences in enrollment within the voluntary and automatic enrollment groups. Using a multivariate logistic regression model to control for demographic and health variables, we determined the marginal predicted probabilities of being enrolled in the DHP. In addition to controlling for various demographic characteristics, we also included "enrollment method" to control for those who were offered the plan under voluntary versus automatic enrollment.

Finally, we conducted the same analysis using employer fixed effects with stratified models to compare the associations estimated among employer groups who offered voluntary enrollment versus those who offered automatic enrollment. We chose this specification because of the inherent flexibility, as fixed effects control for any confounding of patient-

level effects with employer characteristics and stratification allows enrollment strategy to fully interact with the other predictors in the model.

Results

None of the employer-level characteristics were significantly different between the automatic and voluntary enrollment groups (Table 2). Of persons meeting our study criteria (between 18–64 years of age and continuously enrolled in a UnitedHealth plan for 2 years), 8.7% had diabetes. Of the 1,549 eligible persons in the voluntary enrollment group, only 35% enrolled in the DHP, by opting into the program. Of the 3,465 persons in the automatic enrollment group, 91% enrolled in the DHP, by not opting out. Chi-square tests revealed significant unadjusted differences by race/ethnicity in the voluntary enrollment groups, with a higher percentage of white and Hispanic patients and a lower percentage of black patients, among those enrolled (Table 3). There were also differences by income and education in the voluntary enrollment groups, with a higher percentage of patients with income >75k, a lower percentage with a high school diploma or less, and a higher percentage with a bachelor's degree enrolled in the DHP as compared with the sample that did not enroll. Among the automatic enrollment groups, there was a higher percentage of men among DHP enrollees as compared with the sample that did not enroll (Table 3). There were also a higher percentage of Hispanic patients among the enrolled as compared with the non-enrolled.

Within the pooled regression controlling for demographics and enrollment strategy, we found that patients within an automatic enrollment setting were 58 percentage points more likely (P<.01) to enroll than those in a voluntary enrollment group. In the stratified adjusted analyses with all predictor variables simultaneously included (Table 4), within voluntary enrollment groups we found that black patients were actually more likely to be enrolled in the DHP (+ 8 percentage points, p=0.01) as compared to white patients. We also found that covered dependents were less likely to be enrolled in the DHP than employees (− 10, p<0.001), and patients with incomes of over 125k were more likely to be enrolled in the DHP than patients with incomes of under 30k (+ 17, p=0.04). Patients in the 45–54 age group were also more likely to be enrolled in the DHP (+ 10, p=0.03) compared with patients between 18 and 35 years of age. Examining the automatic enrollment groups, we found no significant differences by patient income or education, but Hispanics were more likely to remain enrolled in the DHP than white patients (+ 5, p<0.001), and covered dependents were more likely to remain enrolled in the DHP than employees (+ 2, p=0.02). Patients between 55 and 64 years of age were less likely to remain enrolled in the DHP (− 6, p=0.02) compared with patients between 18 and 35 years of age.

Finally, statistically significant differences in enrollment by employer group were observed within both the voluntary and automatic enrollment groups. In particular, rates of DHP enrollment among employers using the voluntary enrollment approach varied from 14% to 88%.

Discussion

In summary, enrollment rates varied <u>within</u> the groups of employers using voluntary and automatic enrollment approaches, as well as <u>between</u> employers using voluntary enrollment and those using automatic enrollment approaches. In the voluntary enrollment groups, black patients and high income patients were more likely, and covered dependents less likely, to "opt-in." In the automatic enrollment groups, Hispanic patients and covered dependents were less likely to "opt-out." We also observed significantly higher rates of enrollment across all subgroups as compared to voluntary enrollment.

The two enrollment strategies that we compared require very different levels of patient engagement and initiative. Among employers offering voluntary enrollment, eligible individuals must take personal initiative to enroll. They must first become aware of the program and then proceed through the proper channels or complete tasks required for enrollment (i.e., contact the appropriate representative to request an application form for enrollment). However, employees who are automatically enrolled are only required to take any action if they choose <u>not</u> to participate. In addition, the reasons for not being enrolled under each strategy are likely very different. There are numerous potential barriers to entry in a voluntary enrollment system, which may include poor communication about the program, lack of understanding of the program, and/or the opportunity cost of the time associated with the enrollment process. Within an automatic enrollment system, employees who choose to opt-out may do so because they have an existing competing insurance plan, are insured under another family member's plan, or for another financial or health reason.

We found that covered dependents were significantly less likely than employees to be enrolled within voluntary enrollment, but were significantly more likely to be enrolled under the automatic enrollment strategy. Covered dependents were required to meet the same eligibility requirements as eligible employees. It is possible that covered dependents were less likely to be aware of the DHP and voluntarily enroll, since they may not have received promotional communications distributed at the workplace. On the other hand, covered dependents may be less likely to have typical "opt-out" reasons such as a better benefit through a spouse or a choice of a different health insurance plan. Therefore, they may be less likely to opt-out under automatic enrollment.

We also found that affluent patients (annual household incomes greater than 125k) were much more likely to voluntarily enroll in the DHP than patients with annual household incomes of <30k. Copayment reductions are more likely to influence adherence among patients for whom the out-of-pocket cost of medications is a greater burden (refs). To the extent that program-related resources are disproportionately devoted to higher income groups, the DHP goal of reduction in cost-related non-adherence may be less pronounced with use of a voluntary enrollment approach.

Among racial/ethnic groups, we found that Hispanics were least likely to make an "active" enrollment choice about their health insurance by opting out. This is consistent with prior studies showing lower levels of initiating use of outpatient health services by Hispanics as compared to other racial/ethnic groups.[10–11] Language barriers or beliefs about healthcare

have been listed as possible causes of these differences.[12–13] An automatic enrollment approach may be one way to overcome racial disparities in employer health program participation. Research has shown that the type of health insurance an individual is offered has the strongest effect on healthcare utilization among Hispanics, as rates of preventive care used among Hispanics were much greater among those enrolled in HMO as opposed to fee-for-service plans, suggesting that copayment or coinsurance costs may be a major deterrent for seeking preventive care.[16] Since the DHP is designed to minimize or eliminate copayments, this type of value-based benefit feature combined with an automatic enrollment approach could potentially increase use of both diabetes-specific services (e.g. routine HbA1c checks and retinal exams) as well as general preventive services (e.g. mammograms).

The strongest determinant of enrollment rates within both voluntary and automatic enrollment groups was the employer. We believe that these differences may be driven by variation in marketing the plan to employees, use of financial incentives for participation at the employee level, and implementation of compliance criteria. Although the study team did not collect this information in a standardized manner, communications with the health plan design team indicate that employers with the highest voluntary enrollment rates tend to be those that offer multiple wellness programs or incentives, and have designated wellness champions or wellness committees that take an active role in decisions about health programs.

Our analysis has two notable limitations. First, no small or medium sized employers (<1,000 employees) purchased the DHP so the analysis is limited to large employers. We are therefore unable to generalize these results to smaller companies. However, because of this, the results are unlikely to be effected by changes cause by the Affordable Care Act as these patients were with larger companies already offering insurance. Secondly, potential ceiling effects may limit the ability of our analyses to detect differences in enrollment rates with the automatic enrollment strategy.

The first and arguably most important barrier to access for any health plan or health program is enrollment of eligible individuals. Our findings of increased enrollment of blacks and higher income patients with voluntary enrollment, as well as a higher probability of remaining enrolled for Hispanics and covered dependents with automatic enrollment, may help inform future policies around employer health programs. It is important to note that employees who are automatically enrolled may be less likely to fully engage with the benefits and features available, which may diminish the overall effectiveness of the program. The administrative burden of including these less engaged patients in a health program may present an excessive burden in certain cases. Conversely, programs that use a voluntary enrollment approach are likely to have more engagement among participants but will likely need to make a large up-front investment in time and financial resources to drive up enrollment.

Forthcoming analyses will evaluate the effectiveness of the DHP in terms of key outcomes such as control of cardiovascular risk factors, utilization of care and total costs. However, based on previous research we expect that lower cost-sharing applied across entire

populations will enhance medication adherence and may also drive these more distal outcomes.[15–17] In a quickly evolving health policy environment, innovative ideas and a strong push in the direction of wellness and population management will likely result in millions of dollars being spent on new health promotion programs. If these programs enroll only small and unrepresentative proportions of targeted individuals, it will be very difficult to not only evaluate the likely impact on the larger population but also to disseminate effective programs to a broad spectrum of eligible patients. An automatic enrollment approach may prove critical in overcoming entrance barriers that hinder participation in health promotion programs which may ultimately decrease costs and lead to better health outcomes.[4–6,19]

Acknowledgments

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Figure 1.
Data Flow Chart for 11 Companies Offering the DHP

Table 1

Features and costs by DHP and Standard Plan

Feature	DHP	Standard Plan
Office Visit Copays		
Primary Care	$0	$20
Specialist (e.g. endocrinology)	$0–10	$30
Premium Cost to the Employee	Standard	Standard
Prescription Copays		
Metformin, Statins, ACE/ARB	$0	$5–15
Lab Tests	Covered	Covered
Online Tracking	Included	Availability Varied
Diabetes Disease Management	Included	Availability Varied
Weight Management	Included	Availability Varied

Table 2

Baseline employer-level characteristics of voluntary DHP enrollment and automatic DHP enrollment

Employer-level characteristic	Voluntary Enrollment Groups (n=6)	Automatic Enrollment Groups (n=5)	P-value
Mean number of employees (SD)	8,661 (3,586)	11,117 (13,988)	0.69
Mean employee age (SD)	30.5 (4.5)	40.9 (14.2)	0.12
Mean % female (SD)	45.5 (3.6)	49.3 (6.5)	0.26
Mean employee salary (SD)	$65,513 (5,505)	$65,037 (6,377)	0.90
Mean % of employees with diabetes (SD)	3.8 (2.3)	5.7 (1.6)	0.15
Race/ethnicity distribution of employees			
Mean % White (SD)	61.1 (8.3)	64.1 (17.8)	0.72
Mean % Hispanic (SD)	16.7 (9.0)	14.8 (18.0)	0.83
Mean % Black (SD)	12.1 (14.7)	7.7 (5.6)	0.55
Mean % Asian (SD)	2.0 (1.2)	1.9 (1.5)	0.91

Table 3

Unadjusted percent of DHP eligible patients with diabetes from either the voluntary enrollment group or the automatic enrollment group

Characteristics	DM Patients Offered Voluntary DHP Enrollment			DM Patients Offered Automatic DHP Enrollment		
	Enrolled (34.6%; N=536)	Not Enrolled (65.4%; N=1013)	P-value of chi-squared tests of unadjusted differences	Enrolled (91.2%; N=3160)	Not Enrolled (8.8%; N=305)	P-value of chi-squared tests of unadjusted differences
Gender						
Male (ref)	64%	60%	0.11	54%*	42%	0.00
Female	36%	40%	0.11	46%*	58%	0.00
Age group						
18 – <35 (ref)	4%	6%	0.20	3%	3%	0.75
35 – <45	17%	14%	0.14	9%	7%	0.29
45 – <55	42%*	34%	0.00	29%*	18%	0.00
55 – <64	37%*	47%	0.00	60%*	72%	0.00
Race Group						
White (ref)	58%*	53%	0.04	66%	70%	0.14
Hispanic	17%*	12%	0.02	12%*	7%	0.01
Black	18%*	28%	0.00	13%	15%	0.53
Asian	1%	1%	0.97	1%	2%	0.18
Relationship						
Employee (ref)	77%*	72%	0.02	74%*	81%	0.01
Dependent	23%*	28%	0.02	26%*	19%	0.01
Household income						
Under 30 (ref)	9%	12%	0.09	8%	8%	0.83
30 – 49	29%*	34%	0.04	29%	28%	0.73
50 – 74	26%	27%	0.66	29%	31%	0.41
75 – 124	24%*	19%	0.02	26%	22%	0.17
125 and over	5%*	2%	0.00	3%	3%	0.63
Education level						
HS or less (ref)	40%*	45%	0.05	48%	48%	0.93
Some college	48%	48%	0.88	45%	45%	0.93
Bachelor's and above # of non-diabetes comorbidities	10%*	5%	0.00	4%	5%	0.43

Characteristics	DM Patients Offered Voluntary DHP Enrollment			DM Patients Offered Automatic DHP Enrollment		
	Enrolled (34.6%; N=536)	Not Enrolled (65.4%; N=1013)	P-value of chi-squared tests of unadjusted differences	Enrolled (91.2%; N=3160)	Not Enrolled (8.8%; N=305)	P-value of chi-squared tests of unadjusted differences
0 (ref)	12%	13%	0.73	8%	11%	0.12
1	23%	24%	0.68	19%*	12%	0.00
2	35%	36%	0.94	32%	31%	0.63
3	16%	16%	0.79	22%	23%	0.58
4	14%	11%	0.19	19%	23%	0.06
Employer group						
1 (ref for voluntary groups)	9%	9%	0.74			
2	15%*	7%	0.00			
3	9%*	5%	0.01			
4	21%*	63%	0.00			
5	26%*	14%	0.00			
6	21%*	2%	0.00			
7 (ref for auto-enroll groups)	—			56%*	83%	0.00
8	—			6%	5%	0.55
9	—			30%*	9%	0.00
10	—			4%*	2%	0.02
11	—			4%*	1%	0.04

Table 4

The adjusted predicted and marginal probabilities of being enrolled in the DHP from either the voluntary enrollment group or the automatic enrollment group

Characteristics	DM Patients Offered Voluntary DHP Enrollment		DM Patients Offered Automatic DHP Enrollment	
	Predicted and Marginal Probabilities of Being Enrolled	P-value	Predicted and Marginal Probabilities of Being Enrolled	P-value
Gender				
Male (ref)	0.33		0.92	
Female	+0.04	0.13	−0.01	0.15
Age group				
18 – <35 (ref)	0.28		0.94	
35 – <45	+0.06	0.26	+0.00	0.93
45 – <55	**+0.10**	**0.03**	+0.01	0.58
55 – <64	+0.06	0.23	**−0.06**	**0.02**
Race Group				
White (ref)	0.33		0.90	–
Hispanic	−0.02	0.52	**+0.05**	**0.00**
Black	**+0.08**	**0.01**	+0.02	0.21
Asian	−0.05	0.61	−0.03	0.59
Relationship				
Employee (ref)	0.37		0.91	
Dependent	**−0.10**	**0.00**	**+0.02**	**0.02**
Household income				
Under 30 (ref)	0.32		0.92	
30 – 49	+0.04	0.38	−0.01	0.50
50 – 74	+0.01	0.86	−0.03	0.16
75 – 124	+0.02	0.61	+0.00	0.89
125 and over	**+0.17**	**0.04**	−0.01	0.86
Education level				
HS or less (ref)	0.33		0.91	
Some college	+0.01	0.71	+0.01	0.45
Bachelor's and above # of non-diabetes comorbidities	+0.08	0.17	−0.03	0.35
0 (ref)	0.32		0.88	
1	+0.01	0.79	**+0.06**	**0.00**
2	+0.02	0.53	+0.04	0.09
3	+0.02	0.71	+0.03	0.13
4	+0.08	0.06	+0.02	0.36
Employer group				
1 (ref for voluntary groups)	0.38		–	
2	**+0.20**	**0.00**	–	
3	**+0.14**	**0.03**	–	

Characteristics	DM Patients Offered Voluntary DHP Enrollment		DM Patients Offered Automatic DHP Enrollment	
	Predicted and Marginal Probabilities of Being Enrolled	**P-value**	**Predicted and Marginal Probabilities of Being Enrolled**	**P-value**
4	**−0.24**	**0.00**	–	
5	**+0.12**	**0.01**	–	
6	**+0.50**	**0.00**	–	
7 (ref for auto-enroll groups)	–		0.87	
8	–		+0.03	0.16
9	–		**+0.11**	**0.00**
10	–		**+0.10**	**0.00**
11	–		**+0.07**	**0.01**