Zero Dollar Diabetes Drug Coverage: Impact on Utilization, Costs and Adherence

PRIME THERAPEUTICS®

The SCHWAN FOOD COMPANY

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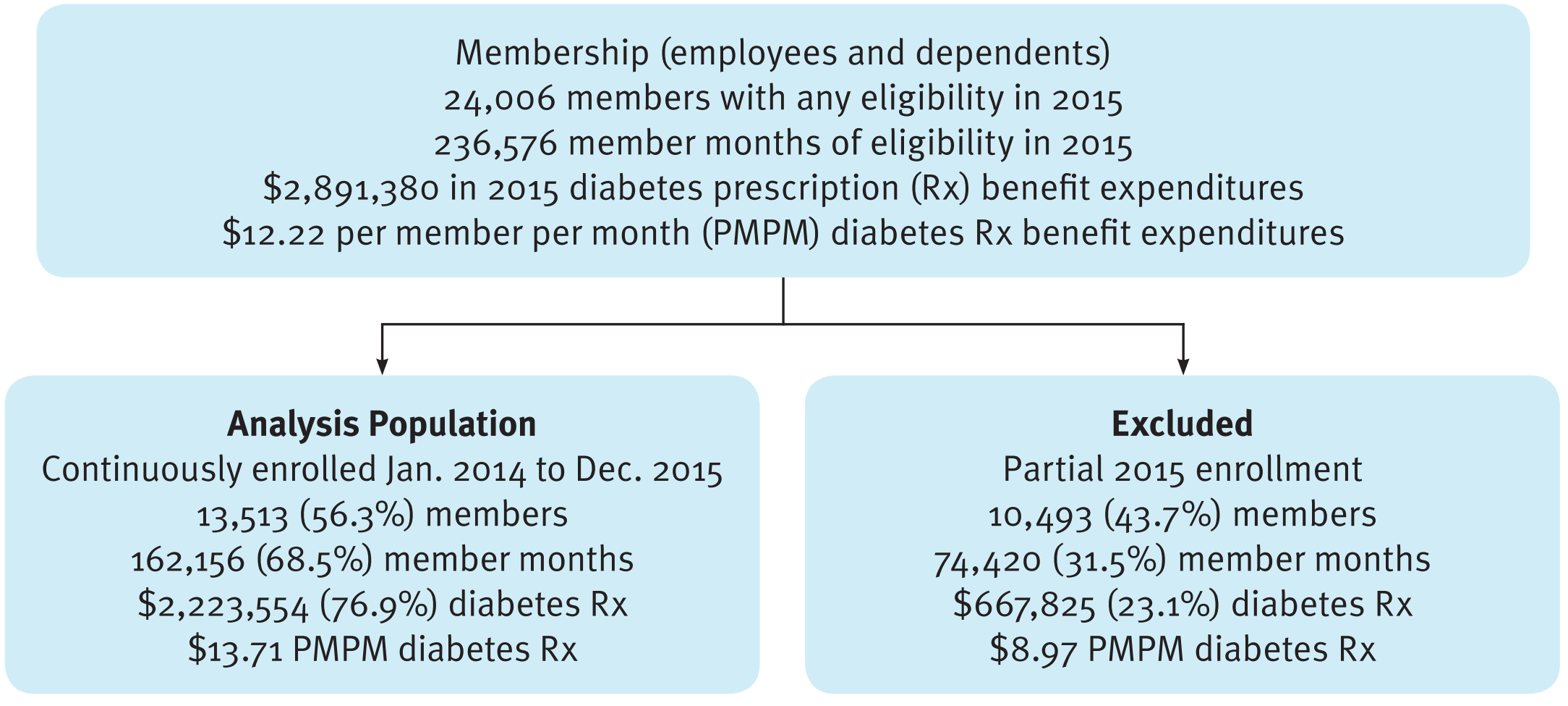
Background

- According to the Centers for Disease Control (CDC), 29 million Americans have diabetes with Type 2 diabetes accounting for 90 percent to 95 percent of all diagnosed individuals.[1] Diabetes was the seventh leading cause of death in the U.S. and is the leading cause of kidney failure (nephropathy), lower-limb amputations, and adult-onset blindness (retinopathy).
- More than 20 percent of health care spending is for people with diagnosed diabetes.[1]
- Glucose lowering medications have been shown to lower the incidence and progression of diabetes microvascular complications such as nephropathy and retinopathy.[2]
- Increased adherence to glucose lowering diabetes medication has been associated with decreased hospitalization risk and lower total medical costs.[3]
- A negative association between increasing an individual's out-of-pocket cost for their diabetes medication (i.e., cost share) and diabetes medication adherence has been shown.[4]
- In 2008, Blue Cross and Blue Shield of North Carolina lowered generic diabetes drug cost shares to zero, for their fully insured membership. They found a 3.8 percentage diabetes medication adherence improvement.[5]
- Little is known about the impact of reducing diabetes drug cost shares to zero for generic and brand formulary diabetes medications within a large self-insured population.

Objective

- Compare pre post annual diabetes drug utilization, costs, and adherence from a matched control group to the intervention group, a large self-insured employer that implemented a zero dollar formulary brand and generic diabetes drug coverage benefit.

Figure 1. Schwan's Analysis Population Member Identification

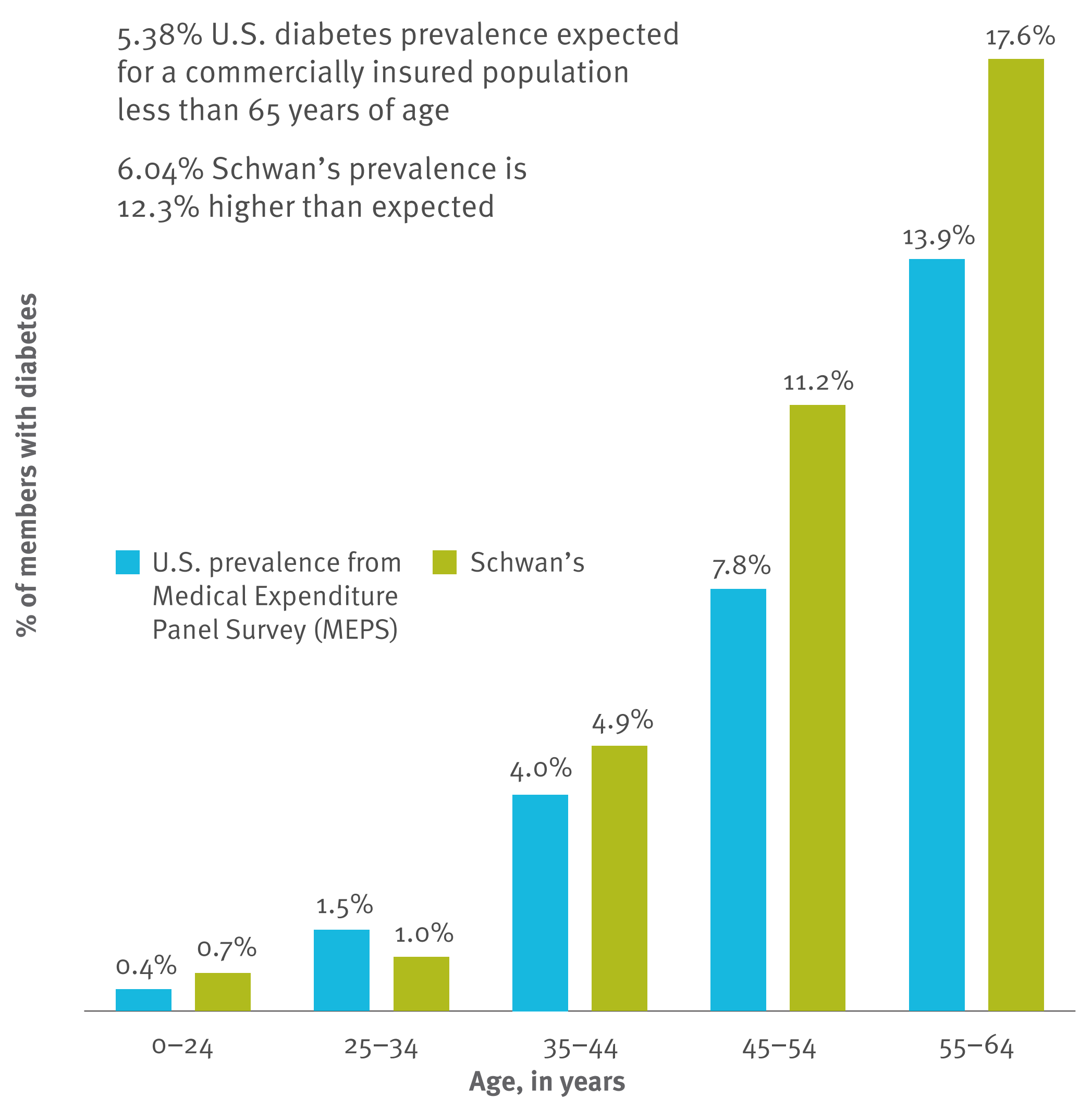


Membership (employees and dependents)
24,006 members with any eligibility in 2015
236,576 member months of eligibility in 2015
$2,891,380 in 2015 diabetes prescription (Rx) benefit expenditures
$12.22 per member per month (PMPM) diabetes Rx benefit expenditures

Analysis Population
Continuously enrolled Jan. 2014 to Dec. 2015
13,513 (56.3%) members
162,156 (68.5%) member months
$2,223,554 (76.9%) diabetes Rx
$13.71 PMPM diabetes Rx

Excluded
Partial 2015 enrollment
10,493 (43.7%) members
74,420 (31.5%) member months
$667,825 (23.1%) diabetes Rx
$8.97 PMPM diabetes Rx

Figure 2. Diabetes Prevalence of Schwan's Membership* Compared to the National Rate



*All members were continuously enrolled in 2014 and 2015 and met Healthcare Effectiveness and Information Dataset (HEDIS) definition for diabetes diagnosis.

Medical Expenditure Panel Survey (MEPS). https://meps.ahrq.gov/mepsweb/data_stats/MEPS_topics.jsp?topicid=4Z1

Results

- During 2015, Schwan's insured 24,006 individuals for 236,576 member months of eligibility and had $2,891,380 in diabetes pharmacy benefit plan plus member expenditures equating to $12.22 per member per month (PMPM) in diabetes benefit expense **(Figure 1)**.
  - 13,513 (56.3 percent) members were continuously enrolled during 2014 and 2015, accounting for 162,156 (68.5 percent) of the member months, $2,223,554 (76.9 percent) of the diabetes pharmacy benefit expenditures at $13.71 PMPM.

2015 Diabetes Prevalence (Figure 2)

- 5.38 percent U.S. national diabetes prevalence
- 6.04 percent Schwan's national employer insured population (employees and dependents) diabetes prevalence
  - Schwan's insured population had a 12.3 percent higher diabetes prevalence

Comparison of the 2014 to 2015 Change in Diabetes Drug Utilization, Adherence and Costs (Tables 1 and 2)

- 816 (6.04 percent) of the 13,513 Schwan's continuously enrolled during 2014 and 2015 met diabetes diagnosis HEDIS criteria.
- 8,160 matched comparison members with diabetes were identified; matching 10 to 1 with each Schwan's diabetes member on age, gender and state of residence.
- Member cost share (i.e., out of pocket expense) PPPY for diabetes drugs change was a:
  - $253 decrease for Schwan's
  - $42 increase for the matched comparison group
- Total cost for diabetes drugs PPPY change was a:
  - $1,010 increase PPPY for Schwan's
  - $855 PPPY increase for the matched comparison
- Diabetes drug adherence:
  - increased 4.4 percentage points for Schwan's
  - increased 2.5 percentage points for the matched comparison
- Diabetes claims generic fill rate (GFR) change was:
  - 4.6 percentage point decrease for Schwan's
  - 1.5 percentage point decrease for the matched comparison
- Diabetes drug claims PPPY change was a:
  - 4.2 increase for Schwan's
  - 2.2 increase for the matched comparison group

Methods

- The study design was a retrospective quasi-experimental pre post comparison with a concurrent matched control group.
- Eligibility, medical benefit claims, and pharmacy benefit claims were analyzed for the members insured by The Schwan Food Company (intervention group), during 2014 and 2015. A limited data set was created to ensure individuals privacy. Summary diabetes pharmacy benefit expenditures were calculated.
  - To compare Schwan's diabetes prevalence among their insured population with the national rate, the Healthcare Effectiveness Data and Information Set (HEDIS) diabetes quality measures criteria[6] were used to identify Schwan's members with diabetes. The Schwan's diabetes prevalence was then compared to the national Medical Expenditure Panel Survey (MEPS) diabetes prevalence rate. Presence of diabetes for an individual within the MEPS dataset identified via an answered "yes" to the question, "Has a doctor ever told you that you have diabetes?" or had a pharmacy claim for an antihyperglycemic agent other than metformin. Complete pharmacy claim information by national drug code (NDC) number is present in MEPS data.
- To compare diabetes pharmacy benefit utilization and cost for Schwan's members with a population as similar as possible except for their diabetes drug benefit design:
  - We first categorized a limited dataset of Prime's commercially insured members (Schwan's and non-Schwan's) who were continuously enrolled in 2014 and 2015 as having or not having a diagnosis of diabetes, by applying the widely used HEDIS quality measure criteria for diabetes to all of each member's pharmacy and medical claims during these two years.
  - We then selected a stratified random sample of 10 non-Schwan's members with diabetes matched to each Schwan's member with diabetes by state of residence, sex and one year age group.
- 2014 and 2015 annual use and cost for Schwan's and the matched comparison group of non-Schwan's members were then compared on key pharmacy metrics: diabetes drug adherence, diabetes pharmacy benefit generic drug use percentage, diabetes pharmacy drug claims per member with diabetes and the total diabetes pharmacy benefit annual cost per member with diabetes.
- Diabetes drug adherence was defined using the proportion of days covered (PDC) method endorsed by the Pharmacy Quality Alliance (PQA) and used by CMS.[7] An individual is defined as adherent if their PDC is ›/= 80 percent during the analysis year.
- Mean diabetes drug claims per member with diabetes was calculated by summing all the members weighted 30 day supply diabetes drug claims during the calendar year divided by the number of diabetes members. Weighting of a claim to a 30 day supply occurred when a claim that had a greater than 34 day supply. A claim with a 35 to 83 day supply was weighted as two 30 day supply claims, and a claim with 84 or more days supply was weighted as three 30 day supply claims.
- Diabetes pharmacy benefit drug claims filled with a generic (i.e., generic fill rate [GFR]) percentage was calculated by dividing all diabetes weighted claims billed as being dispensed with a generic by all diabetes drug weighted claims.
- Total diabetes pharmacy benefit annual cost per patient per year (PPPY) for individuals with diabetes was defined as plan plus member expense; cost was not adjusted for any rebates or coupons, as rebate and coupon amounts are not available.
- Descriptive statistics were used for all comparisons.

Table 1. Diabetes Pharmacy Benefit Mean: 2014 and 2015 Per Patient Per Year (PPPY) Costs

	Mean diabetes pharmacy benefit claims **member share** PPPY				Mean diabetes pharmacy benefit claims **total paid**‡ PPPY			
Population*	2014		2015	% change	2014		2015	% change
Schwan's members with diabetes (n = 816)	$327	→	$74	77%↓	$1,694	→	$2,704	60%↑
Matched comparison members with diabetes† (n = 8,160)	$367	→	$409	11%↑	$2,082	→	$2,937	41%↑

PPPY = per patient per year, for individuals with diabetes only

*All members were continuously enrolled in 2014 and 2015 and met Healthcare Effectiveness and Information Dataset (HEDIS) definition for diabetes diagnosis.

†Schwan's diabetes members were matched 10 to 1, from a 15 million commercially insured population of non-Schwan's members with diabetes. Matching was done on state of residence, gender and age in years.

‡Total paid = members share plus plan paid

Table 2. Change in Diabetes Drug Utilization: Adherence, Generics and Claims

Population*	2014 diabetes drug adherence‡		2015 diabetes drug adherence‡	2014 diabetes generic fill rate¥		2015 diabetes generic fill rate¥	2014 mean PPPY diabetes drug claims€		2015 mean PPPY diabetes drug claims€
Schwan's members with diabetes (n = 816)	71.6%	→	76.0%	47.2%	→	42.6%	15.5	→	19.7
Matched comparison members with diabetes† (n = 8,160)	69.8%	→	72.3%	45.4%	→	43.9%	14.9	→	17.1

PPPY = per patient per year, for individuals with diabetes only

*All members were continuously enrolled in 2014 and 2015 and met Healthcare Effectiveness and Information Dataset (HEDIS) definition for diabetes diagnosis.[6]

†Schwan's diabetes members were matched 10 to 1, from a 15 million commercially insured population of non-Schwan's members with diabetes. Matching was done on state of residence, gender and age in years.

‡Adherence was defined using the proportion of days covered (PDC) method endorsed by the Pharmacy Quality Alliance (PQA) and used by Centers for Medicare & Medicaid Services (CMS). An individual is defined as adherent if their PDC is ›/= 80 percent during the analysis year.[7]

¥Diabetes claims generic fill rate (GFR) is calculated by taking all diabetes claims billed as being dispensed with a generic divided by all diabetes drug claims. All claim counts based on weighted claims. See Methods for claim weighting methodology.

€Mean diabetes drug claims per member with diabetes was calculated by summing all the members weighted 30 day supply diabetes drug claims during the calendar year divided by the number of diabetes members.

Conclusions

- When assessing a population's expenditures for a condition it is essential to understand how comparable the population is to the national prevalence rate. In this analysis, the Schwan's insured population was found to have a 12.3 percent higher diabetes prevalence than the national rate. Therefore, Schwan's would be expected to have higher diabetes pharmacy benefit expenditures and utilization due to their higher disease burden.
- For this large employer, a zero dollar cost share for generic and branded formulary diabetes drugs was associated with increased diabetes drug utilization, improved diabetes drug adherence, greater than $250 PPPY member cost share savings, and an additional $155 PPPY increase in total diabetes drug cost compared to a matched control group.
- The decreased diabetes GFR seen after implementing the zero dollar cost share for generic and branded formulary diabetes drugs was expected. The change in GFR was a function of increasing overall diabetes drug utilization, as the majority of drug categories used to treat diabetes are available only as branded products and all insulins are branded products.
- The 77 percent decrease, to $74 per year, out-of-pocket paid by Schwan's insured individuals for their diabetes medications, met the employer's goal of reducing the diabetes medication cost burden on their employees and employees' dependents and was associated with increased medication adherence.
- Schwan's, self-insured employer, continues to provide zero dollar coverage for insulin, generic diabetes drugs and preferred formulary brand diabetes drugs.

Limitations

- Data are limited to a single large employer in the U.S.; therefore findings may not be generalizable to other insured populations.
- Administrative pharmacy and medical claims have the potential for miscoding and include assumptions of member actual drug use and diagnosis.
- Medical events and costs were not evaluated. Although higher diabetes medication adherence has been associated with lower hospitalization rates and lower medical costs, this study did not assess medical events or costs.
- The comparison group was closely matched by sex and age, but otherwise only matched by insurer and state of residence. They may have had other important differences from the intervention group.
- It is anticipated that it may take longer than the observation period in this study for changes in prescribing and drug use to be fully realized following a significant benefit change.

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