

# Out-of-Pocket Costs for Diabetes Medications in Employer-Sponsored Health Insurance Plans

Jennie Quach, MBA; Cody Midlam, PharmD; Chantell Sell, PharmD; and Jeff Levin-Scherz, MD, MBA

Public policy attention has focused on the out-of-pocket cost of insulin,<sup>1</sup> but little information is available on out-of-pocket costs of other diabetes drugs. Rationing insulin due to cost is immediately life-threatening, but failing to take other antidiabetes drugs increases the risk of future medical complications. We used a deidentified extract of pharmacy claims data from the WTW RxCollaborative for calendar year 2021 to assess out-of-pocket costs for 4 classes of diabetes medications in employer-sponsored health insurance (eAppendix [available at [ajmc.com](http://ajmc.com)]). This observational study of deidentified data required no institutional review board approval.

We analyzed a subset of claims from a database of employer-sponsored pharmacy benefit plans of more than 400 diverse large and small employers with 4.7 million members distributed widely geographically with collective spend of more than \$5.5 billion. We identified 313,791 unique members likely to have diabetes based on paid claims for the equivalent of at least 12 months of 1 or more medicines commonly used to treat diabetes. We restricted our analysis to 121,657 members with prescriptions for diabetes drugs in the following classes: insulins, dipeptidyl-peptidase-4 (DPP-4) inhibitors (gliptins), sodium-glucose cotransporter 2 (SGLT2) inhibitors, and glucagon-like peptide-1 (GLP-1) agonists.

## TAKEAWAY POINTS

- ▶ The out-of-pocket costs of some noninsulin diabetes medications are higher than the out-of-pocket costs of insulin.
- ▶ Policy makers and employers designing health benefit plans should consider the total burden of out-of-pocket drug costs.

We converted days of supply to months of supply and removed claims that were reversed, such as those not picked up at the pharmacy. Rebates given directly to the patient at the point of sale were included, but we did not have access to data on co-pay coupons. Some individuals without diabetes might have been prescribed GLP-1 medications for weight loss.

The median (IQR) annual out-of-pocket spending was \$327 (\$144-\$614) for insulins, \$400 (\$180-\$675) for DPP-4 inhibitors, \$430 (\$240-\$762) for SGLT2 inhibitors, and \$480 (\$240-\$891) for GLP-1 agonists (Table).

Sixty percent of members analyzed were taking a drug in 1 of these 4 classes, 31% were taking drugs in 2 of these classes, and 9% were taking 3 or more classes of these diabetes medications. For patients with diabetes treated with a single drug, median

**TABLE.** Out-of-Pocket Costs of 4 Classes of Diabetes Medications

Members	Member count	Member co-pays annualized (percentile)			
		25%	50%	75%	90%
Members taking a single diabetes drug by specific drug class					
Insulins	29,238	\$144	\$327	\$614	\$1072
DPP-4 inhibitors	9982	\$180	\$400	\$675	\$1076
SGLT2 inhibitors	14,504	\$240	\$430	\$762	\$1252
GLP-1 agonists	19,323	\$240	\$480	\$891	\$1600
All members taking any of these 4 classes of medication					
1 class only	73,047	\$199	\$400	\$746	\$1202
On drugs from 2 classes	37,098	\$406	\$800	\$1432	\$2250
On drugs from ≥3 classes	11,512	\$592	\$1138	\$1906	\$2963

DPP-4, dipeptidyl-peptidase-4; GLP-1, glucagon-like peptide-1; SGLT2, sodium-glucose cotransporter 2.

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annualized out-of-pocket spending on SGLT2 inhibitors and GLP-1 agonists was higher than out-of-pocket costs for insulins or DPP-4 inhibitors (Table). Median annualized out-of-pocket spending was higher for all 3 noninsulin medications than that of insulin for those taking a single agent. Mean and median annualized out-of-pocket spending were higher for those taking 2 or more classes of diabetes medications. The top decile of patients with diabetes taking 3 or more classes of diabetes medication spent close to \$3000 a year in out-of-pocket costs for these medications.

This analysis shows that out-of-pocket costs for diabetes medications other than insulin can be quite high for patients with employer-sponsored health insurance and that many with diabetes are prescribed multiple drugs with high out-of-pocket costs. Low cost sharing for insulin is important but is not adequate to prevent potential financial toxicity for many patients with diabetes. Those designing health benefit plans should consider the distribution of expected costs for all medications used to treat diabetes. ■

**Author Affiliations:** WTW (formerly known as Willis Towers Watson) (JQ, CM, CS, JL-S), Arlington, VA; Harvard T.H. Chan School of Public Health (JL-S), Boston, MA.

**Source of Funding:** None.

**Author Disclosures:** Drs Midlam, Sell, and Levin-Scherz are employees of WTW and Ms Quach is a former employee of WTW, a consulting firm that works with pharmacy benefit managers to procure medications for employer-sponsored health plans.

**Authorship Information:** Concept and design (JQ, CM, CS, JL-S); acquisition of data (JQ); analysis and interpretation of data (JQ, CM, CS, JL-S); drafting of the manuscript (JQ, CM, CS, JL-S); critical revision of the manuscript for important intellectual content (JQ, CM, CS, JL-S); and statistical analysis (JQ).

**Address Correspondence to:** Jeff Levin-Scherz, MD, MBA, Harvard T.H. Chan School of Public Health, 677 Huntington Ave, Boston, MA 02115. Email: [jlevin@hsph.harvard.edu](mailto:jlevin@hsph.harvard.edu).

## REFERENCE

1. Amin K, Claxton G, Rae M, Cox C. Out-of-pocket spending on insulin among people with private insurance. *KFF*. March 24, 2022. Accessed July 5, 2023. <https://www.kff.org/health-costs/issue-brief/out-of-pocket-spending-on-insulin-among-people-with-private-insurance/>

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## **eAppendix**

### **Methodology: Out-of-pocket costs for non-insulin medications in employer-sponsored health insurance plans**

1. The PBM provided claims data of diabetic medications for members with diabetes. The data was loaded in Microsoft Access (Version 2202) and the relevant fields in eAppendix Table 1 were used in the analysis.

#### **eAppendix Table 1.**

Claim Id
Member ID
PBM Drug Classification
RxCnt
Member Cost
Plan Paid
Days of Supply

2. Claims were adjusted to account for days of supply and translated to a script count. For example, a member could have picked up 1 pharmacy claim for a 3 - month supply. These claims were adjusted based on the days of supply indicator provided by the PBM to a script count in eAppendix Table 2.

#### **eAppendix Table 2.**

<b>Days of Supply</b>	<b>Scripts</b>
<=34	1
>34 and <=68	2
>68	3

3. We limited the data to unique members that had at least 12 scripts across all diabetic drugs for the analysis. This was to exclude members who were treated for diabetes for only a small portion of the year.
4. Therapeutic classes provided by the PBM were reclassified into the following four specific classes reviewed, based on the following table:

**eAppendix Table 3.**

<b>PBM Drug Classification</b>	<b>WTW Class Description</b>
INSULINS	Insulin
ANTIHYPERGLYCEMIC-SOD/GLUC COTRANSPORT2(SGLT2) INH	SGLT2
ANTIHYPERGLYINCRETIN MIMETIC(GLP-1 RECEP.AGONIST)	GLP1
ANTIHYPERGLYCEMICDPP-4 INHIBITOR- BIGUANIDE COMBS.	DPP4
ANTIHYPERGLYCEMIC-SGLT2 INHIBITOR- BIGUANIDE COMBS.	SGLT2
ANTIHYPERGLYCEMIC DPP-4 INHIBITORS	DPP4
ANTIHYPERGLYDPP-4 ENZYME INHIB.- THIAZOLIDINEDIONE	DPP4
ANTIHYPERGLYCEMIC SGLT-2 AND DPP-4 INHIBITOR COMB	DPP4
ANTIHYPERGLYINSULINLONG ACT-GLP-1 RECEPT.AGONIST	GLP1
ANTIHYPERGLY-SGLT-2 INHIBDPP-4 INHIBBIGUANIDE CB	DPP4
DIPEPTIDYL PEPTIDASE-4 (DPP-4) INHIBITORS	DPP4 inhibitors
DIPEPTIDYL PEPTIDASE-4 INHIBITOR- BIGUANIDE COMBINATIONS	DPP4 inhibitors
DPP-4 INHIBITOR-THIAZOLIDINEDIONE COMBINATIONS	DPP4 inhibitors
INCRETIN MIMETIC AGENTS	GLP1 agonists
INSULIN	Insulin
INSULIN-INCRETIN MIMETIC COMBINATIONS	GLP1 agonists
SGLT2 INHIBITOR - DPP-4 INHIBITOR - BIGUANIDE COMB	SGLT2 inhibitors
SGLT2 INHIBITOR - DPP-4 INHIBITOR COMBINATIONS	SGLT2 inhibitors
SODIUM-GLUCOSE CO-TRANSPORTER 2 (SGLT2) INHIBITORS	SGLT2 inhibitors
SODIUM-GLUCOSE CO-TRANSPORTER 2 INHIBITOR-BIGUANIDE COMB	SGLT2 inhibitors

5. The members identified in step 1 were queried against the drug classifications in eAppendix Table 2 to identify all members that had a script within the 4 specified classes. All scripts for each of these classes were aggregated for each unique member and populated into excel.

6. The following fields were pulled into excel to calculate the average copay per member and the average plan paid.

**eAppendix Table 4.**

Member ID
WTW Classification
Total Script Count
Total Member Cost
Total Plan Paid

7. The PBM unique member ID was used to identify if the member had scripts in 1, 2, 3, or 4 classes.
8. A pivot table (Microsoft Excel version 2202) was used to classify unique members by the number of classes to capture the average member cost and the average client paid.
9. PERCENTILE function in excel was used for each percentile e.g., 25%, 50% based on the range of the pivot table that was filtered for the specified number of classes.
10. Data was annualized to represent a full year's worth of member and plan paid.
11. PBM provided the full population over the same time period in aggregate to calculate the % of total members evaluated.