Promotion of New Diabetes Products in the District of Columbia

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Abstract

Background: Growth in pharmaceutical expenditures for diabetes outpaced growth in diabetes prevalence. Prescribers accepting gifts and meals from pharmaceutical companies have been linked with higher prescription rates and costs.[1] Pharmaceutical marketing to these prescribers and patients often promotes newer, more expensive drugs, such as the GLP-1 analogues and SGL-2 inhibitors. These two drug classes are more expensive but no more effective than metformin, the recommended first-line treatment for diabetes, and the oldest and cheapest available treatment. [2] We investigated how cost of diabetes treatment was affected by marketing practices in the District of Columbia.

Methods: The AccessRx program in DC requires pharmaceutical companies to report gifts given to healthcare providers, drug advertising expenses, and the salaries for staff engaged in promotional activities ("detailing expenses"). We combined data from AccessRx and the federal Open Payments system to estimate promotional payments. We used Medicaid drug utilization data to examine spending for diabetes treatment.

Results: In 2014, DC Medicaid spent more than $17.1 million on pharmaceutical treatments for diabetes. We estimated that ten companies spent $3.8 million in detailing expenses to market diabetes drugs in 2014. SGLT-2 inhibitors and GLP-1 analogues had the highest estimated detailing expenses, each totaling more than $1.2 million. From 2014 to 2015, DC Medicaid spending for Victoza (liraglutide), a GLP-1 analogue, increased 51% (from $183,873 to $362,230) and Invokana (canagliflozin), a SGLT-2 inhibitor, increased 213% (from $8,933 to $27,958).

Conclusions: Pharmaceutical promotion drives unnecessary use of newer, more expensive medications. The District of Columbia should provide education on rational prescribing for diabetes treatment (including diet and exercise).

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More information about pharmaceutical marketing in DC can be found at https://doh.dc.gov/service/prescription-drug-marketing-costs-access-rx

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References

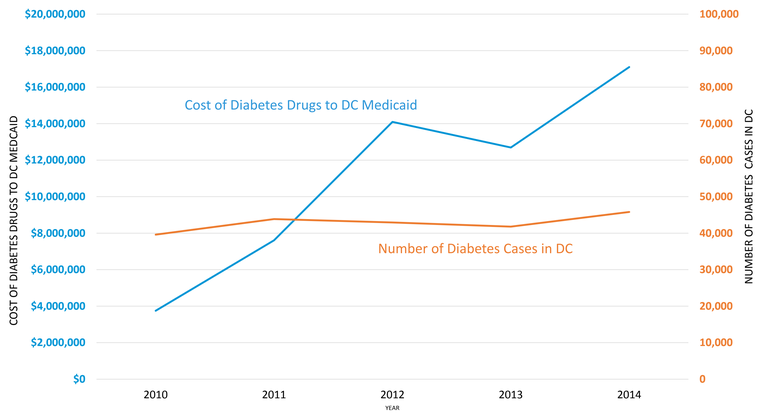
1. Perlis RH, Perlis CS. Physician payments from industry are associated with greater Medicare Part D prescribing costs. PLoS One. 2016;11(5):e0155474.
DeJong C, Aguilar T, Tseng CW, et al. Pharmaceutical industry-sponsored meals and physician prescribing patterns for Medicare beneficiaries. JAMA Intern Med. 2016
2. Prescrire International. Hypoglycaemic therapy in type 2 diabetics. Prescrire Int. 2015 Apr;24(159):103- 106.
Prescrire International. Glucose-lowering treatment of type 2 diabetics. Prescrire Int. 2015 May;23(160):130-135.
3. BRFSS. District of Columbia Department of Health. Annual Health Report Behavioral Risk Factor Surveillance System. 2015 Jun.
4. Wood S, Eckert JC, Hogenmiller A, Sundaramoorthy DW, Cook S, Fugh-Berman A. Impacts of Pharmaceutical Marketing on Healthcare in the District of Columbia. Diabetes in the District of Columbia. District of Columbia Department of Health. 2016 Sep 30.
5. Pharmaceutical Marketing Expenditures in the District of Columbia, 2014. District of Columbia Department of Health. 2016 Jan 29.

Analysis of DC Medicaid Spending

In 2014, **one in eleven** (9.1%) of DC residents had diabetes. Diabetes was the **ninth leading cause of hospitalization** in DC, with 1,572 visits. Diabetes was the **fifth leading cause of death** in DC, killing more people than lower respiratory diseases, Alzheimer's disease, HIV/AIDS, or homicides.[3]

The District of Columbia Medicaid prescription drug program cost $153 million in 2014, of which **Medicaid reimbursed $151.9 million**. Drugs to treat diabetes made up more than 10% of all DC Medicaid drug spending. Between 2010 and 2014, DC Medicaid spending on diabetes drugs jumped 350% from $3.7 million to $17.1 million.[4]

Cost of Diabetes Drugs to DC Medicaid and Number of DC Diabetes Cases



GLP-1 analogues and SGLT-2 inhibitors are both relatively new classes of diabetes drugs, and both classes had relatively low numbers of prescriptions reimbursed by DC Medicaid in 2014. GLP-1 analogues had the highest costs per prescription, ranging from $404 - $489. SGLT-2 inhibitors also had high costs per prescriptions, ranging from $271 - $303. These newer drug classes show modest benefits but are far more expensive than the older, more efficacious diabetes drug metformin.[2]

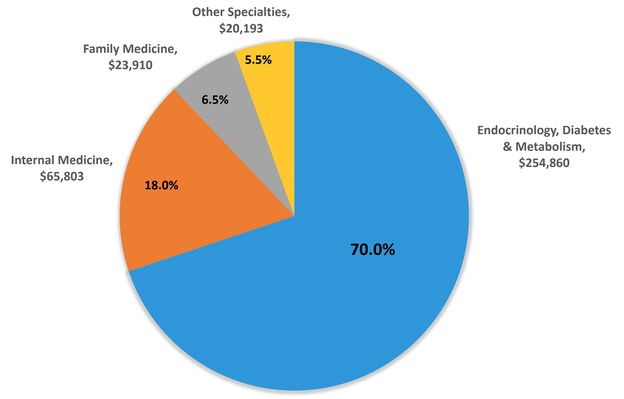
Promotion of Diabetes Drugs

In 2014, pharmaceutical and device manufacturers reported a total of **$91.1 million** for gift, advertising, and aggregate (detailing) expenses in the District of Columbia.[5]

We identified 50 diabetes drugs (42 branded and 8 generic drugs). According to data from Open Payments, physicians accepted more than **$360,000 worth of gifts** related to diabetes medication from pharmaceutical and device manufacturers.

Invokana (canagliflozin), a SGLT-2 inhibitor, was the diabetes drug with the most associated payments with $154,000. Bydureon (exenatide) and Victoza (liraglutide), both GLP-1 analogues, were associated with gifts to physicians totaling $65,191 and $44,659 respectively.

Payments to Physicians Associated with Diabetes Drugs across Medical Specialties



Attributed Detailing Formula

Gifts for a specific drug / Company's Total Gifts × Company's Aggregate Spending (Salaries and other expenditures related to marketing) = Estimated Aggregate Detailing Expenditures for the Specific Drug

Food and Beverage, Non-CME Activities — From Open Payments

From AccessRx

Summary of Attributed Detailing

Class of Drug	Number of Companies	Estimated Attributed Aggregate Detailing Expenditures
GLP-1 analogues	4	$1,295,681
SGLT-2 inhibitors	4	$1,227,029
DPP-4 inhibitors	5	$635,773
Insulin analogues	3	$523,936
DPP-4 inhibitor combinations	4	$72,968
		$3,755,387

Estimating Diabetes Detailing Expenses

To estimate the amount spent on detailing for each diabetes drug, we developed a methodology to combine information from Open Payments and AccessRx. Drugs were grouped by class in order to maintain the confidentiality of proprietary data. The attributed aggregate detailing amount could be a marker for how extensively specific drugs are being marketed in the District.

We estimate that these ten companies spent about $3.8 million in salary for sales staff to promote diabetes drugs in the District of Columbia. The newly approved SGLT-2 inhibitor and GLP-1 analogue drug classes had the highest estimated detailing amounts, totaling more than $1.2 million each. We predicted that high expenditures for promoting these classes in 2014 would precede an increase in the number of prescriptions reimbursed by DC Medicaid for these two classes of antidiabetics in 2015.

As follow-up to this analysis, we found that spending for some SGLT-2 inhibitors and GLP-1 analogues had increased. From 2014 to 2015, DC Medicaid spending for Victoza (liraglutide), a GLP-1 analogue, increased 51% (from $183,873 to $362,230) and Invokana (canagliflozin), a SGLT-2 inhibitor, increased 213% (from $8,933 to $27,958).

While our research shows some connection between marketing and increased public expenditures on drugs, further research into the effects of pharmaceutical marketing on prescribing choices and its effect on public programs like Medicaid is needed.