**Impact of payments from pharmaceutical companies and sources of information on prescribing decisions**

**Payments from drug companies to physicians are associated with higher volume and more expensive opioid analgesic prescribing [1]**

Published 2018, USA

Financial relationships between opioid drug manufacturer and physician.

Records of these financial relationships were released to the public in the Open Payments database maintained by the Centers for Medicare & Medicaid Services

To explore the relationship between opioid-related payments and prescribing, 2 groups of physicians were studied

1) those who received opioid-related payments in 2014 and 2015, but not in 2013

2) those who received opioid-related payments in 2015, but not in 2013 or 2014

**Results**;

6,443 physicians that received an opioid-related payment in 2014 and 2015, but not in 2013

9,529 physicians that received an opioid-related payment in 2015, but not in 2013 or 2014.

The two groups of physicians had a significant increase in

* Opioid expenditures
* Daily doses dispensed
* Expenditures per daily dose

Physicians who received higher payments had greater changes in mean opioid expenditures, daily doses, and expenditures per daily dose.

The relationship between opioid-related payments and physicians varied by specialty.

While there was a relatively large increase in prescribing opioid medications to recipient physicians under $ 45, the estimated size of the increases was much higher for doctors who got the most money.

Physicians who received opioid-related payments in 2014 and 2015, but not in 2013, received higher opioid-related payments on average than physicians who received opioid-related payments in 2015, but not in 2013 or 2014.

Increases in opioid prescribing were generally higher for the group that received payments related to opioids in 2014 and 2015, but not in 2013.

Opioid-related payments may have indirect effects in two ways;

First, opioids-related payments may lead doctors to recommend increased prescribing of opioid drugs among their professional networks.

Second, opioids-related payments may increase prescribing of Branded drugs, or increase medication prescribing more generally.

Recommendation: The intervention to help patients use and understand the open payments database, and apply the information may be helpful for making their own healthcare decisions.

**Association between payments from manufacturers of pharmaceuticals to physicians and regional prescribing: cross sectional ecological study [2]**

Published 2016, USA.

Participants : 45 949 454 Medicare Part D prescriptions written by 623 886 physicians to 10 513 173 patients for two drug classes: oral anticoagulants and non-insulin diabetes drugs. (306 hospital referral regions)

Association between payment from manufacturers of Pharmaceuticals and prescribing by physicians.

**Open Payments Program**: A program initiated as part of the 2010 Affordable Care Act and administered by the US Centers for Medicare and Medicaid Services. Pharmaceutical company reported all transfers of value to physicians ( money, food and beverages, speaker and consulting fees..). The data are searchable through a US government website and available to the public.

**Medicare Part D** provided drug coverage to more than 37 million Medicare Advantage and Fee Beneficiaries in 2014, accounting for 70% of all eligible Medicare beneficiaries.

Marketed drug was defined as any drug for which there were 100 payments or more during the study period.

Two drug classes are studied: **anticoagulants** and **non-insulin diabetes drugs**

**Results:**

**Payments and Prescribing:**

One additional payment in a hospital referral region was related to additional days filled of the marketed drug for oral anticoagulants and non-insulin diabetes drugs.

**Number of payments and average dollar value of  payments**

For two drug classes, the number of payments was associated with greater increase of the marketed drugs prescription compared to the equivalent dollar increase in the average value of these payments.

**Payments and Specialist**

For two drug classes, payments to specialists were associated with greater prescribing of marketed drugs than payments to non-specialists.

Moreover, while the overall payment types were similar between drug classes, endocrinologists received significantly more speaking and counseling fees than cardiologists and hematologists.

**Type of Payments**

For non-insulin diabetes drugs but not for oral anticoagulants, payments for speaker fees, consulting fees, honorariums, travel costs, and non-research grants were associated with greater regional prescribing of marketed drugs than payments for food and beverage gifts or educational materials.

Payments generally intended for physicians who provide “key opinion leadership” through speaking to and educating the clinical community, have significantly greater effects on the prescribing of marketed drugs within hospital referral regions among all physicians.

Payments to doctors are not necessarily harmful to patients, and they can benefit from educating doctors about effective, newly approved treatments that may have fewer negative effects, reduce the need to monitor tests, or improve adherence.

However, a small payment can negatively affect patients through inappropriate prescribing, or likely prescribing more expensive branded drugs when cheaper generic alternatives are available.

**Pharmaceutical companies information and antibiotic prescription patterns: A follow-up study in Spanish primary care [3]**

Published 2019, Spain

Impact of sources of drug information on antibiotic prescribing patterns among primary care physicians.

A cohort study covering all primary care physicians working for the NHS in Galicia was conducted in 2010 (n = 3675)

Questionnaire KAAR-11 (Knowledge and Attitudes Regarding Antibiotics and Resistance) was used.

Results:

The sources of information on antibiotics are an important determinant of the quantity and quality of antibiotic prescribing in primary care. Whereas commercial sources of information influence prescribing negatively, clinical guidelines are the sole resource associated with better indicators, albeit with lower effect magnitudes.

Majority of primary care physicians regularly receive pharmaceutical sales representatives and accept their gifts.

Regulations governing the relations between the pharmaceutical industry and the healthcare system are frequently infringed.

Physicians display contradictions in their relationship with the industry, justifying it and considering that it does not affect them on an individual basis, while at the same time regarding it as affecting their colleagues.

Clinical guidelines can be biased because of the authors’ conflicts of interests with pharmaceutical companies.

Something to also bear in mind is that public concern about antimicrobial resistance tends to favor more control over the rational use of antibiotics, which is reflected in more independent guidelines.

Recommendation: The need to reduce the impact of the industry and promote the use of more independent resources, such as the appropriate implementation of independent clinical guidelines, in order to rationalize antibiotic prescribing.

**References**

1. Zezza MA, Bachhuber MA (2018) “Payments from drug companies to physicians are associated with higher volume and more expensive opioid analgesic prescribing”. PLoS ONE.
2. Fleischman, William et al. (2016)“Association Between Payments from Manufacturers of Pharmaceuticals to Physicians and Regional Prescribing: Cross Sectional Ecological Study.” BMJ.
3. Ferna´ndez-A´lvarez I, Zapata-Cachafeiro M, Va´zquez-Lago J, Lo´pez-Va´zquez P, PiñeiroLamas M, Garcı´a Rodrı´guez R, et al. (2019) “Pharmaceutical companies information and antibiotic prescription patterns: A follow-up study in Spanish primary care”. PLoS ONE