

*“I can't be bought for the price of a sandwich”*

Myths and solutions to pharmaceutical  
industry funding of health professionals



Barbara Mintzes, PhD  
School of Pharmacy University of Sydney,  
June 23, 2021, ISiUM Webinar

## Financial disclosure

- No pharmaceutical or device industry funding
- Expert witness for Health Canada, legal case on marketing & advertising of an unapproved drug.

# Common beliefs about the influence of drug companies on medical practice

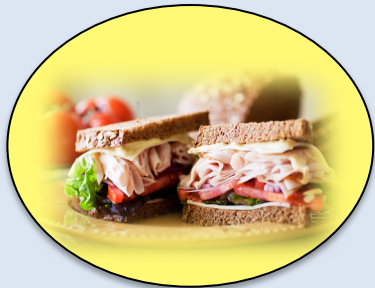
- “I’m not influenced.”
- “I’m just helping out my patients.”
- “I don’t take any notice.”



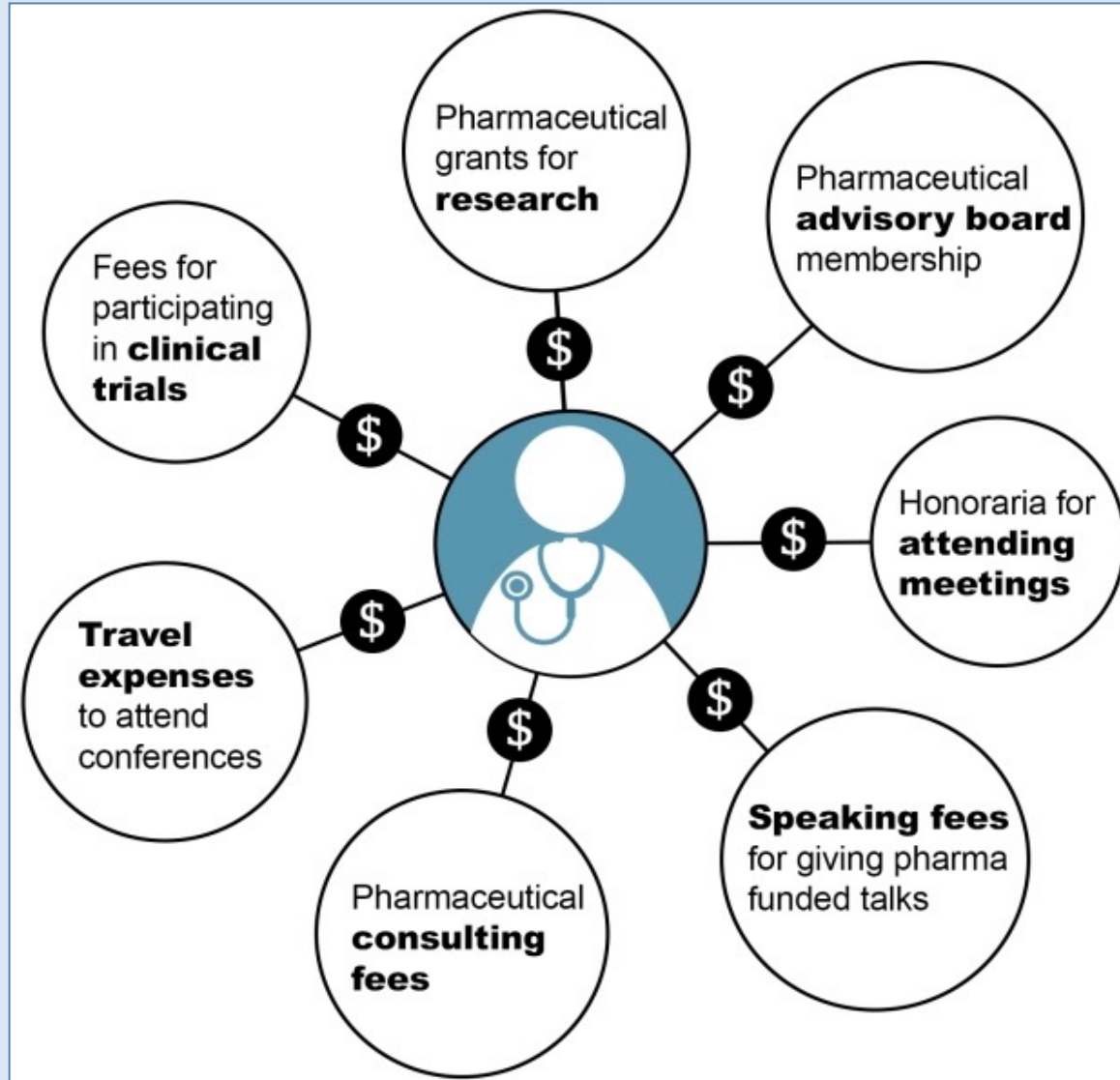
Source: *Le Monde, Science et Techno, Saturday, April 20, 2013*

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<http://www.cbc.ca/news/health/doctors-pharmaceutical-funding-1.4164625>

# Are Financial Payments From the Pharmaceutical Industry Associated With Physician Prescribing?

## A Systematic Review

Aaron P. Mitchell, MD, MPH; Niti U. Trivedi, MPH; Renee L. Gennarelli, MS; Susan Chimonas, PhD; Sara M. Tabatabai, BS; Johanna Goldberg, MSLS; Luis A. Diaz Jr., MD; and Deborah Korenstein, MD

**Background:** Financial payments from the drug industry to U.S. physicians are common. Payments may influence physicians' clinical decision making and drug prescribing.

**Purpose:** To evaluate whether receipt of payments from the drug industry is associated with physician prescribing practices.

**Data Sources:** MEDLINE (Ovid), Embase, the Cochrane Library, Web of Science, and EconLit were searched without language restrictions. The search had no limiting start date and concluded on 16 September 2020.

**Study Selection:** Studies that estimated the association between receipt of industry payments (exposure) and prescribing (outcome).

**Data Extraction:** Pairs of reviewers extracted the primary analysis or analyses from each study and evaluated risk of bias (ROB).

**Data Synthesis:** Thirty-six studies comprising 101 analyses were included. Most studies ( $n = 30$ ) identified a positive association between payments and prescribing in all analyses; the re-

mainder ( $n = 6$ ) had a mix of positive and null findings. No study had only null findings. Of 101 individual analyses, 89 identified a positive association. Payments were associated with increased prescribing of the paying company's drug, increased prescribing costs, and increased prescribing of branded drugs. Nine studies assessed and found evidence of a temporal association; 25 assessed and found evidence of a dose-response relationship.

**Limitation:** The design was observational, 21 of 36 studies had serious ROB, and publication bias was possible.

**Conclusion:** The association between industry payments and physician prescribing was consistent across all studies that have

- 36 studies; 30 positive; 6 mixed
- 89/101 analyses positive
- 9 temporal (exposure  $\longrightarrow$  effect)
- 25 dose-response

# Systematic review of studies of sales representatives (n=49 studies in 19 countries)

“ ...a regular feature in the daily lives of physicians across the world.”

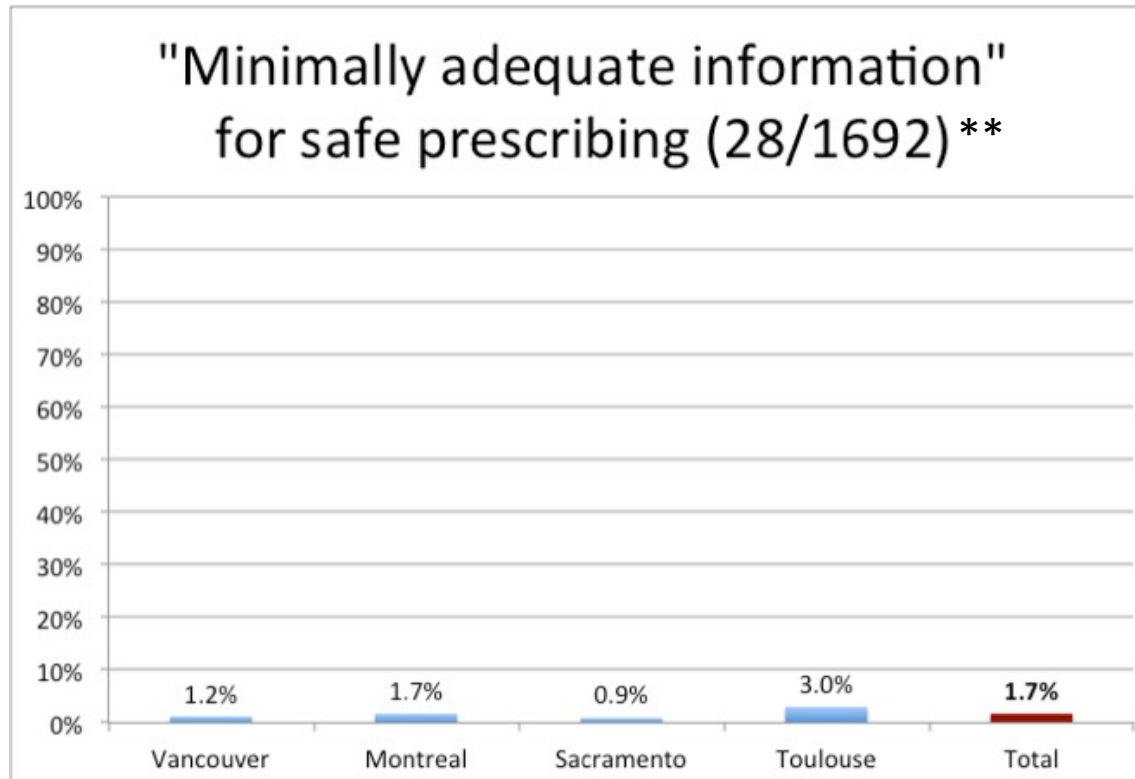


“ ...influence physicians’ attitudes and their prescribing behaviour...”

## HEALTH POLICY

## Pharmaceutical Sales Representatives and Patient Safety: A Comparative Prospective Study of Information Quality in Canada, France and the United States

Barbara Mintzes, PhD<sup>1</sup>, Joel Lexchin, MD<sup>2</sup>, Jason M. Sutherland, PhD<sup>1</sup>, Marie-Dominique Beaulieu, MD<sup>3</sup>,  
Michael S. Wilkes, MD<sup>4</sup>, Geneviève Durrieu, PharmD, PhD<sup>5</sup>, and Ellen Reynolds, BA<sup>6</sup>



“good drug if you are concerned about drug abuse, it cannot get abused” – hydromorphone, Canada\*

“no overdosing... no risk of addiction”  
- fentanyl, France\*

\*Mintzes & Lexchin. JGIM 2020; 35(12):3730-2

\*\*  $\geq 1$  indication,  $\geq 1$  common AE,  $\geq 1$  SAE  $\geq 1$  contra-indication; no unapproved indications or unqualified safety claims

“ Let a little bit of sunshine into this world of financial relationships – it is, after all, the best disinfectant”

- *Senator Grassley, introduction of U.S. Physician Payments Sunshine Act, 2007*<sup>1</sup>

Countries with “Sunshine Acts”: US, Denmark, France, Greece, Latvia, Portugal, Romania; Netherlands [*public-private*]

Industry self-regulatory transparency databases elsewhere



# Australian Transparency Reports

## Industry sponsored events for health professionals

### ***Oct 2011 to September 2015***

- 116,845 events or 608/ week
- Doctors at 82% of events; trainees at 38%
- Total cost: AUD \$286 million
- Food and drink at over 90%



# “Educational events” often explicitly product focused

## The Anxious, Depressed Patient

Dr Ian Katz,  
Consultant Psychiatrist,  
Monash Hospital

**Wednesday 6<sup>th</sup> August 2014**  
6.45pm – 9.30pm

**Kimberly Gardens**  
441 Inkerman Street,  
St Kilda East

For more information, please contact one  
of your AstraZeneca representatives:  
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**The Anxious,  
Depressed Patient**

**Wednesday, 6<sup>th</sup> August 2014**  
6.45pm – 9.30pm

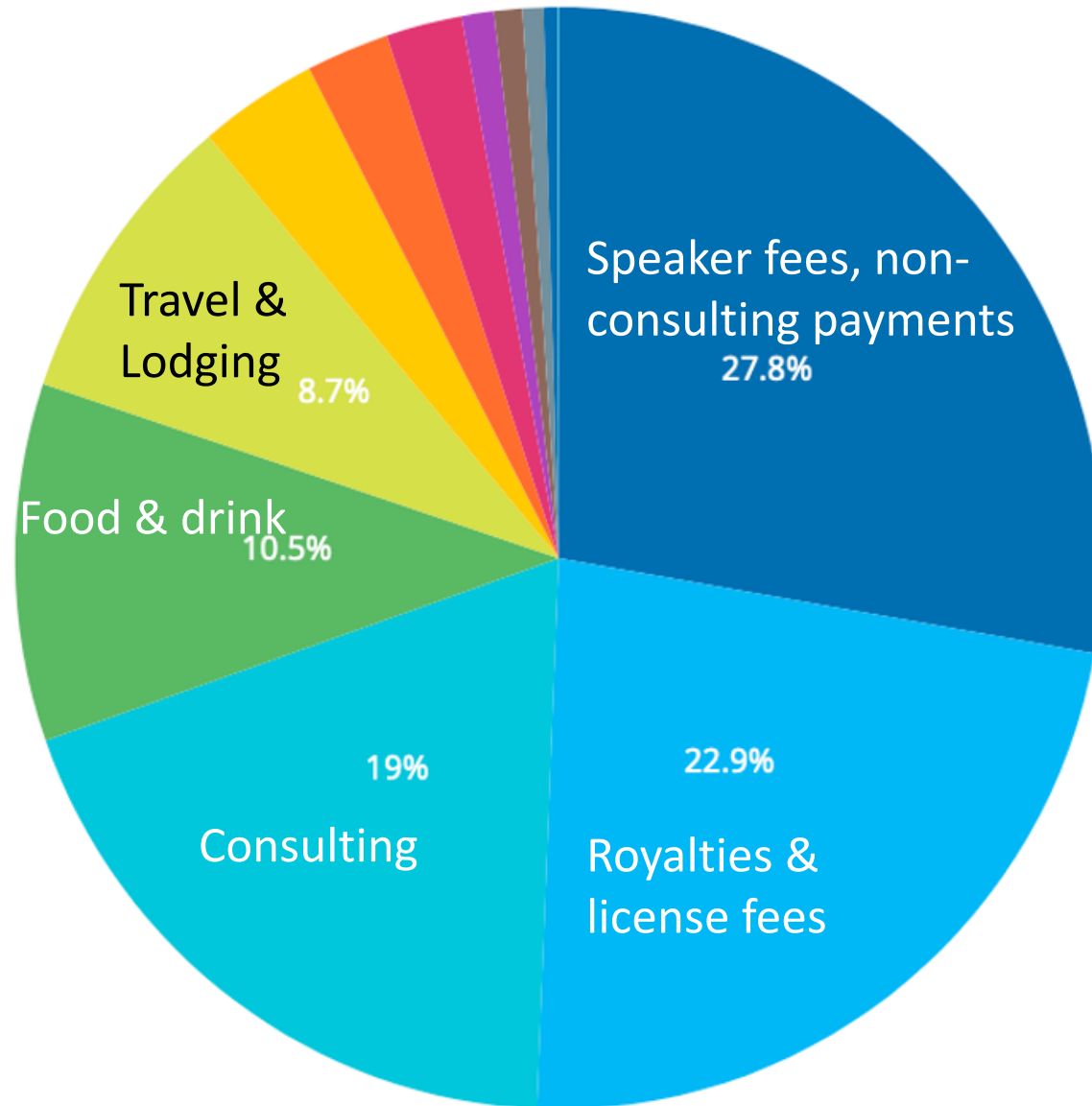
**Kimberly Gardens**  
441 Inkerman Street,  
St Kilda East

**AstraZeneca**  
Neuroscience

# US Sunshine Act – implemented in 2013

- All drug and device manufacturers
- All payments to **doctors** >\$10
- Name, address, specialty, national ID, license #
- Payments linked to promoted drugs and devices
- Payment details– amount, date, nature
- **Extensive research linking payments to prescribing**

# US non-research payments in 2019; total = \$2.3 billion



## Food & drink

- US \$241 million
- 96% of 615,000 doctors
- Median \$141.70
  - 4 /year;\$35



“I can’t be bought for the price of a sandwich.”

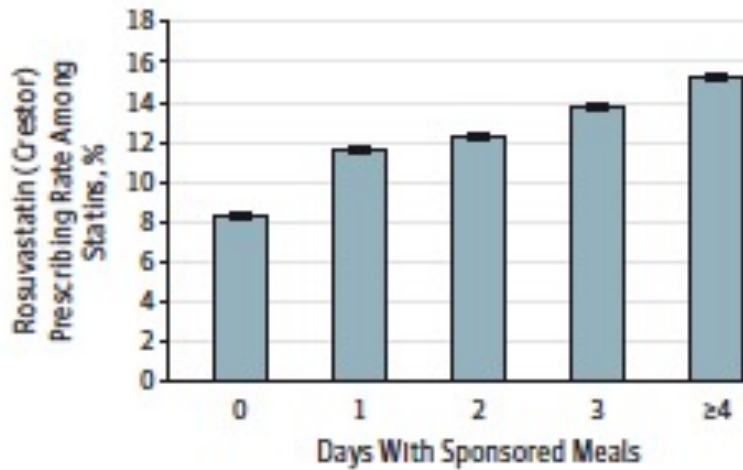


*De Jong et al. JAMA Intern Med 2016; doi: 10.1001/jamainternmed.2016.2765*

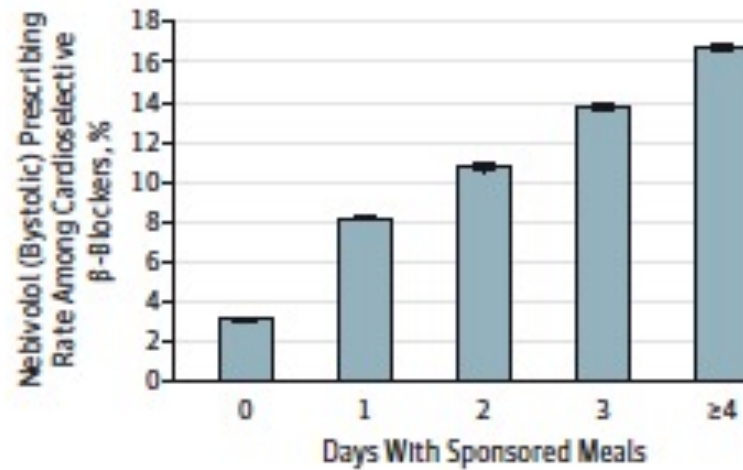
<https://theconversation.com/drug-companies-are-buying-doctors-for-as-little-as-a-16-meal-61364>

Figure 1. Target Branded Drugs as a Percentage of All Filled Prescriptions In the Class In 2013, Across Days Receiving Target Drug-Sponsored Meals

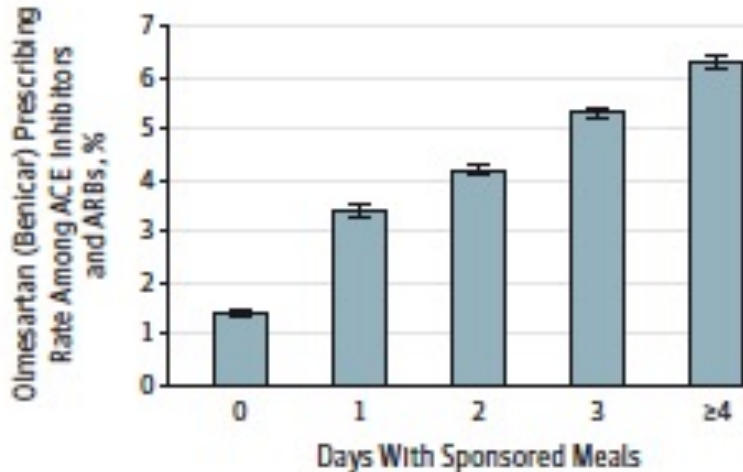
**A** Rosuvastatin



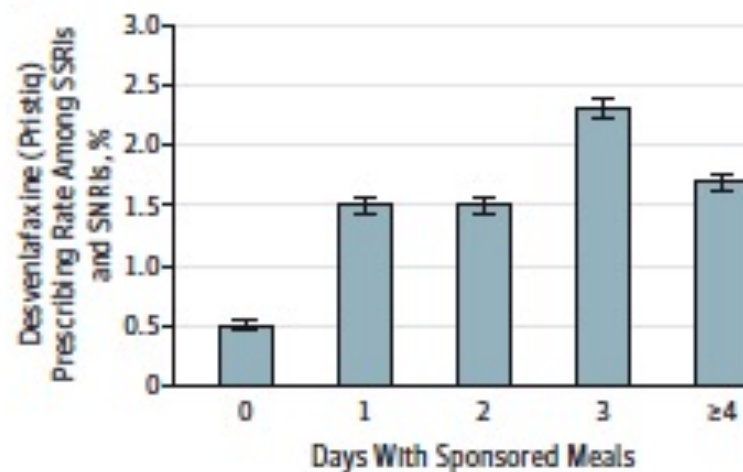
**B** Nebivolol



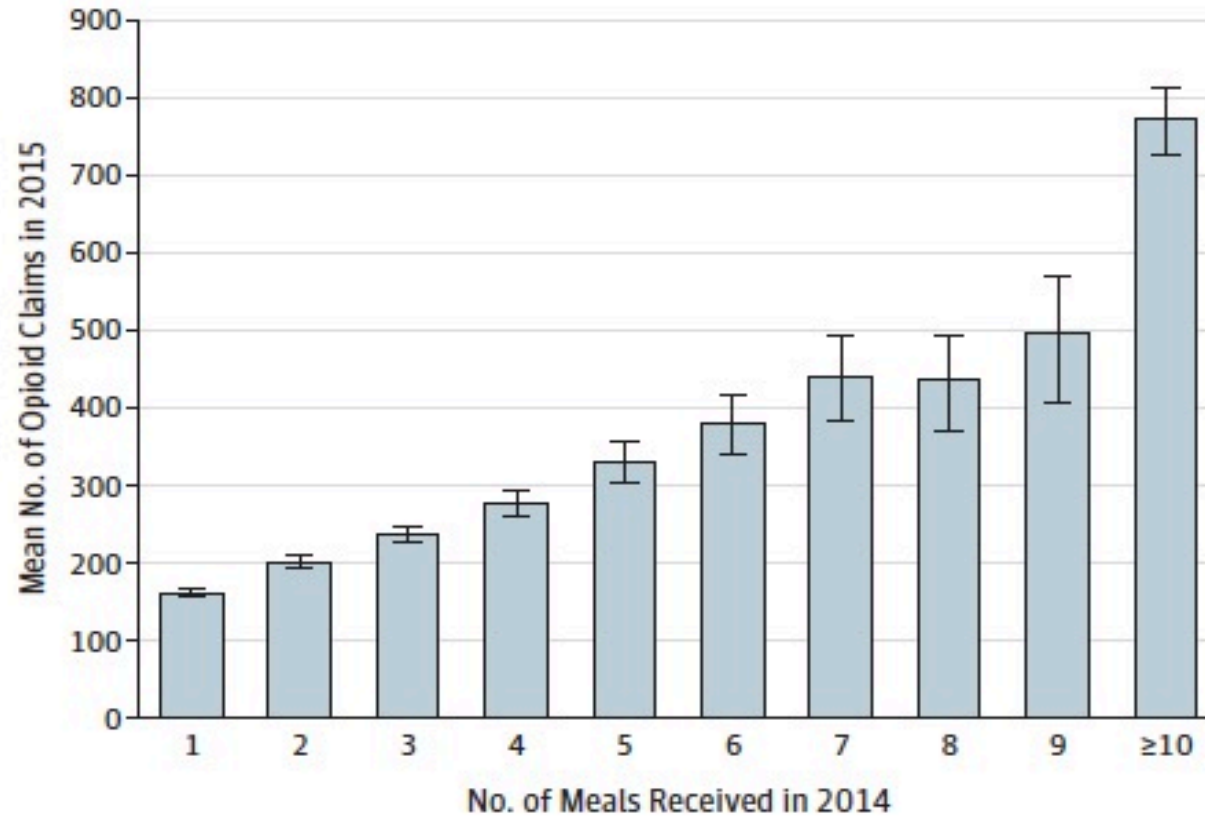
**C** Olmesartan



**D** Desvenlafaxine



**Figure. Opioid Prescription Claims in 2015 for 25 471 Physicians Who Received Any Industry Meals Related to Opioid Marketing During 2014**



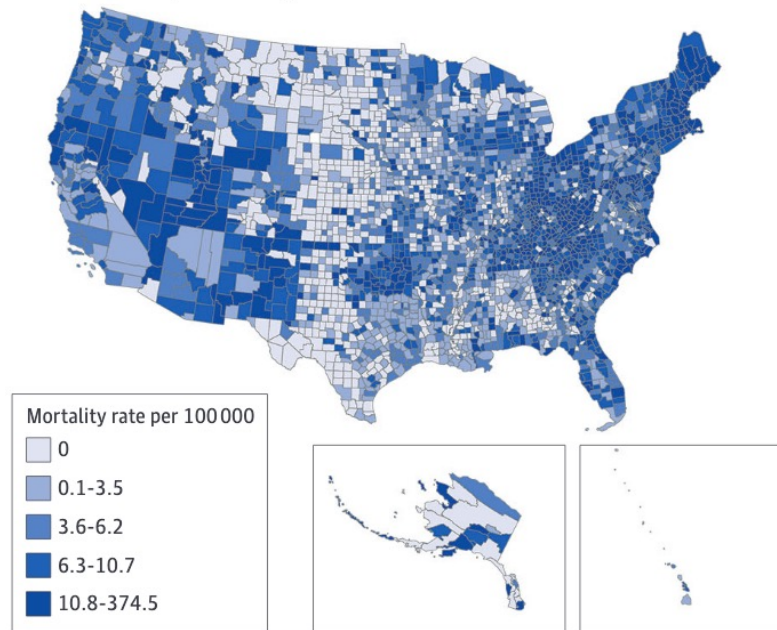
Analysis excludes 296 (1.1%) of the 25 767 physicians who received opioid marketing in 2014; these physicians received only nonmeal payments. Error bars represent 95% confidence intervals for the estimates.

- N=369,139 physicians
- 25,471 with meals
- Median cost = US \$13

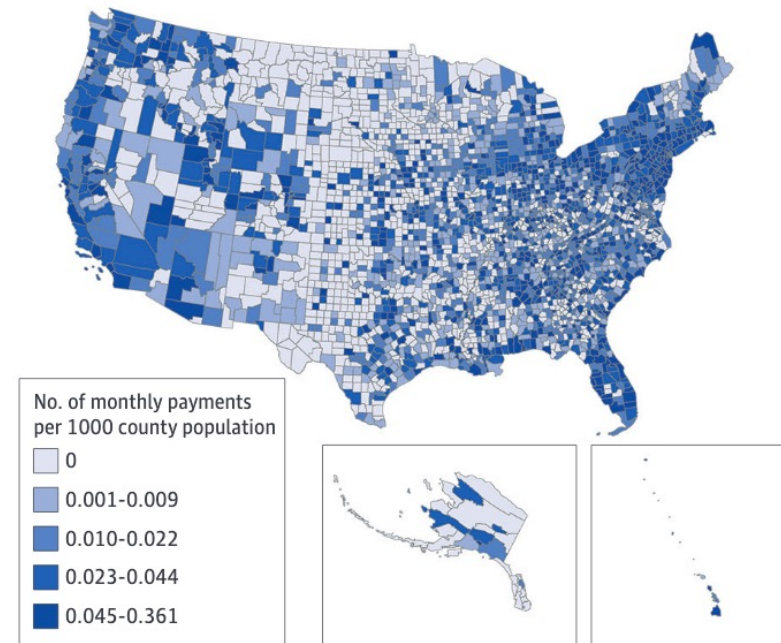
# Mortality from prescription opioid overdose versus payments to doctors per US county

Hadland et al. JAMA Network Open.2019;2(1):e186007.

**A** Mean mortality rate from prescription opioid overdoses across US counties (2014-2016)



**C** Payments to physicians (2013-2015)

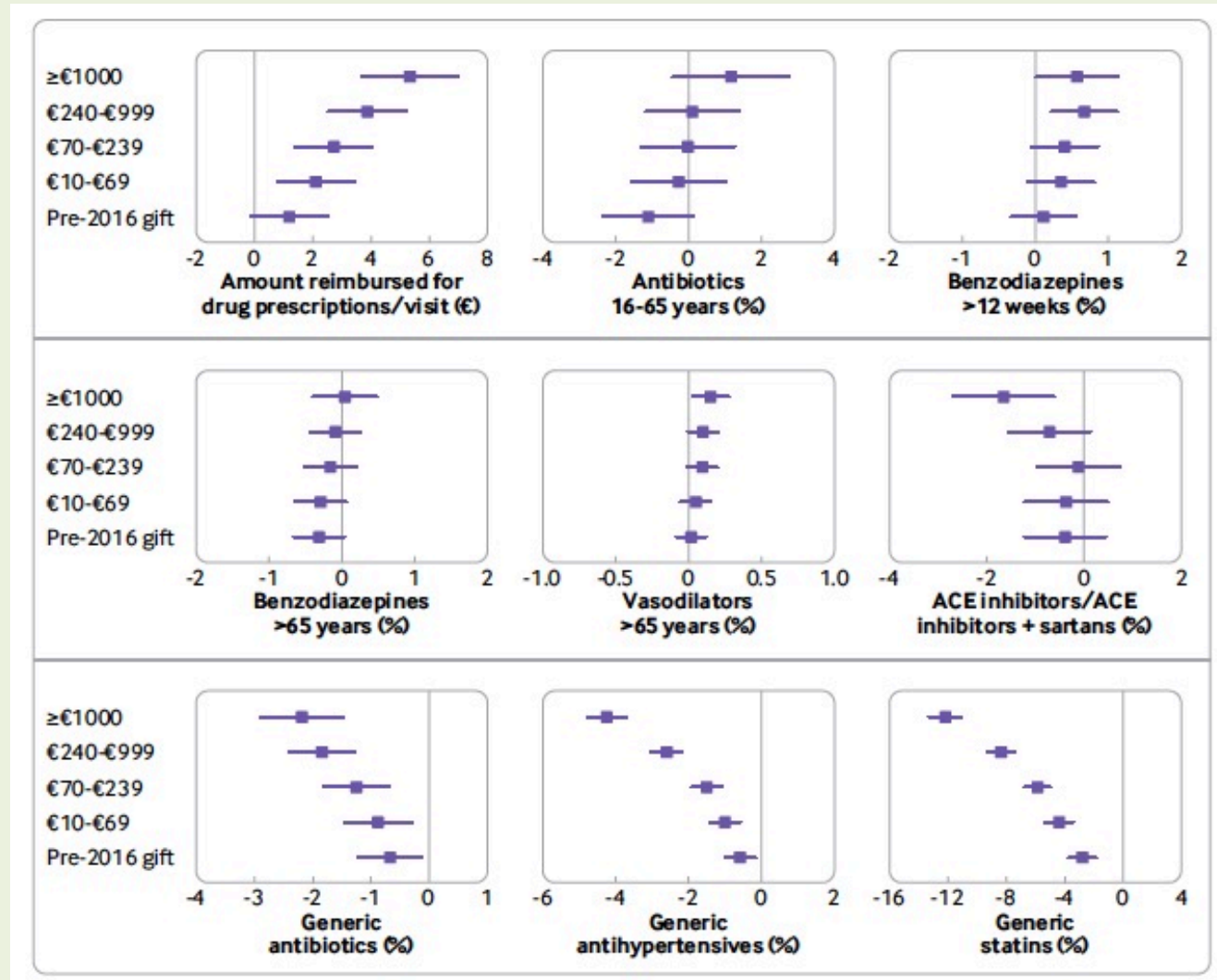


“Increased county-level opioid marketing was associated with elevated overdose mortality 1 year later, an association mediated by opioid prescribing rates; per capita, the number of marketing interactions with physicians demonstrated a stronger association with mortality than the dollar value of marketing.”



# French Transparency Database

Again, even small payments matter (n=41,257 GPs)



A taster...



# In conclusion

- Sunshine Acts are a window, not a disinfectant
- Industry funding is widespread and influential
- Even small payments matter
- To improve medicine use, we must support independence



# Prescribing of drugs of “uncertain medical benefit”\*

**Table 4** Adjusted odds ratios and 95% confidence intervals for prescribing vs. not prescribing a drug based on receiving any payment vs. no payment from the manufacturer making the drug<sup>a</sup>

Drug	Manufacturer	Odds Ratio	95% Confidence Interval
Lovastatin ER	Actavis (Andrx)	2.59	0.93–7.18
Almotriptan	Janssen	1.40	0.75–2.61
Amlodipine+olmesartan	Daiichi-Sankyo	<b>2.40</b>	<b>2.29–2.52</b>
Ibuprofen+famotidine	Horizon	<b>8.06</b>	<b>5.42–12.00</b>
Saxagliptin+metformin	AstraZeneca	<b>2.21</b>	<b>2.10–2.34</b>
Naproxen+esomeprazole	Horizon	<b>5.96</b>	<b>5.08–7.00</b>

<sup>a</sup>adjusted for gender, specialty, region, therapeutic category and overall prescribing volume  
p-value <0.05 are presented in boldface

Sharma *et al.* *BMC Health Services Research* (2018) 18:236

*\*extra slide on another study on payments vs. prescribing appropriateness*