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## EFFECT OF PHYSICIAN PAYMENT DISCLOSURE LAWS ON PRESCRIBING

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### To the Editor:

With the enactment of the Physician Payments Sunshine Provision of the Affordable Care Act, pharmaceutical manufacturers are now required to disclose certain types of payments—e.g. payments for consulting, honoraria, gifts, and travel—made to physicians.<sup>1</sup> This law is based on the premise that transparency in these kinds of transactions is of public importance and that disclosure requirements can act as a deterrent against *quid pro quo* exchanges; physicians will be reluctant to accept large payments from pharmaceutical firms if payments are publicly known and perceived as financial compensation for prescribing certain therapies.<sup>2,3</sup>

To predict possible deterrence effects of the federal sunshine law, we studied the experience of two states, Maine and West Virginia, that previously implemented similar disclosure laws. We focused on the effect of the laws on the prescribing of HMG-CoA reductase

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### Author Contributions

Dr Pham-Kanter had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. *Study concept and design:* Pham-Kanter. *Acquisition of data:* Nair, Pham-Kanter. *Analysis and interpretation of data:* Pham-Kanter, Nair, Alexander. *Drafting of the manuscript:* Pham-Kanter, Alexander, Nair. *Critical revision of the manuscript for important intellectual content:* Pham-Kanter, Alexander, Nair. *Statistical analysis:* Pham-Kanter. *Obtained funding:* Pham-Kanter, Nair, Alexander. *Administrative, technical and material support:* Pham-Kanter, Nair. *Supervision:* Pham-Kanter, Nair.

### Financial Disclosure

Dr. Pham-Kanter has no financial interests to disclose. Dr. Alexander is a consultant for IMS Health. Dr. Nair is a consultant for Janssen Services.

### Disclaimer

The contents of and opinions expressed in this report are solely the responsibility of the authors and do not necessarily represent the official views of the funders.

### Additional Contributions

Richard Read Allen, Igor Gorlach, Matthew Lemieux and Grace Njau acquired some of the data required for the analysis. We wish to acknowledge input from members of the Research Ethics Program of Harvard Catalyst, the Harvard Clinical and Translational Science Center (NIH Award UL1 RR 025758 and financial contributions from Harvard University and its affiliated academic health care centers).

inhibitors (statins) and selective serotonin reuptake inhibitors (SSRIs), two therapeutic classes in which marketing plays an important role in physicians' choice of treatment because the members within each class are pharmacologically similar to each other and highly substitutable. We hypothesized that, to the degree that physicians were influenced by industry payments to overprescribe branded therapies—and disclosure deterred doctors from accepting these payments—the disclosure laws would lead physicians to decrease prescribing of branded statins and SSRIs. We also looked at whether any switching from branded therapies to generics that we observed was associated with decreases in out-of-pocket costs for patients or decreases in overall prescription expenditures.

## Methods

To estimate the effect of the disclosure laws, we used a differences-in-differences, or interrupted time-series with control approach, comparing patterns of prescribing in states that enacted the laws to states that did not.<sup>4,5</sup> We compared the experience of Maine, a state which enacted a disclosure law in May 2004 to that of New Hampshire and Rhode Island, two demographically similar states which did not enact these laws. We also looked at the experience of West Virginia, a disclosure state which enacted a law in March 2004, compared to that of Kentucky and Delaware, two non-disclosure states. In our comparisons, we looked at the change in prescribing for SSRIs and statins in the disclosure state, before and after the disclosure law, and compared it to the change in prescribing in comparison states over the same period. A difference in prescribing in the disclosure state relative to the comparison states would reflect the potential impact of the disclosure laws.

We obtained detailed information about state payment disclosure laws from the legal databases Westlaw and LexisNexis. For information on prescription drug claims, we used the Thomson Reuters MarketScan database, one of the largest collections of health care claims of individuals who are privately insured through their employers. Using MarketScan claims, we focused on prescribing patterns between the third quarter of 2003 and the first quarter of 2009. We used state demographic information to identify comparison states, i.e. those states that did not pass disclosure laws but that are most similar demographically to our states of interest. Demographic data, such population, % black, % high school graduates, and per capita personal income were obtained from the American Community Survey conducted by the Census Bureau in 2002. Because the number of claims for branded and generic drugs at any given date is a function of the number of branded drugs that are on- or off-patent, we included as controls, indicators of whether a brand had market exclusivity at a given date, obtained from the FDA Orange book.

## Results

In Maine, the effect of the disclosure law on the use of branded statins was small (top panel of the Table). Depending on the control state, the law was associated with a 0.8 percentage point reduction (New Hampshire) to 5.3 percentage point reduction (Rhode Island) in the percentage of statin prescriptions that were for branded therapies. Thus, whereas the percentage of branded statins declined by 45.3% in the non-disclosure state of Rhode Island during this period, the decline in branded prescriptions in the disclosure state of Maine was

50.6% (45.3% + 5.3%). Results were similar, with negligible to small effects of the disclosure laws, in both Maine and West Virginia for both statins and SSRIs.

In the middle and bottom panels of the Table, we report the net effect of the disclosure law on out-of-pocket prescription costs for patients and on total expenditures including insurer payments. The changes we observed in switching from branded therapies to generic did not appear to translate into statistically significant decreases in out-of-pocket prescription costs or overall prescription expenditures.

## Comment

Our results show that the disclosure laws in the two states we examined had a negligible to small effect on physicians switching from branded therapies to the generics and no effect on reducing prescription costs. One reason may have been that the reporting that is required does not capture much of the marketing and promotional efforts that can influence physicians. Another reason may have been that the reporting categories were too aggregated to distinguish between legitimate and questionable payments. Finally, although these payments were disclosed to state agencies, payment information was not disseminated to the public in an accessible way.

Our analysis has several limitations. First, there may have been other changes happening at the same time as the disclosure laws that could have led to similar net effects, although we are not aware of any such changes. Second, our results are based on whether the comparison states are good comparisons. Because we chose the control states according to their demographic characteristics, it is possible that the control states differ from the disclosure states in other non-demographic ways that might affect prescribing behavior. Third, the use of branded therapies may be proportionately greater in our sample of individuals, who are privately insured, than in the general population; this might underestimate the true effect since prescribers of those with worse coverage may be quicker to switch to generics. Finally, our outcome measures may not be sufficiently sensitive to detect underlying deterrence effects and other benefits of the disclosure laws.

Overall, our results suggest that the Physician Payments Sunshine Provision in the federal health care law may have a limited effect on prescribing and on expenditures. Of course, transparency is important in its own right, but if deterring unnecessary costly prescribing is a concern for policymakers, more direct action may be required.

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