The Association Between Opioid-Related Industry Payments and Opioid Prescribing at the Individual and Ecological Level in Pennsylvania

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BACKGROUND

- 42,249 opioid overdose deaths nationwide in 2016, a five-fold increase since 1999
- Physicians who receive industry payments prescribe generic drugs at a lower rate
- Industry payments for a drug to a region are associated with higher market share of that drug in that region
- 1 in 12 of all physicians and 1 in 5 family practice physicians in the US received an opioid-related industry payment between 2013 and 2014
- 93% of opioid-related payments were for food/beverages between 2013 and 2014
- $46 million spent on opioid-related payments to physicians between 2013 and 2014
- Opioid-related payments one year predict higher opioid prescribing the next year

METHODS

- Merged 2015 Medicare Part D and Open Payments Data from PA
- Examined association between number of opioid-related payments received by individual physicians and their opioid prescribing rate (opioid claims/total claims)
- Physician specialties grouped into primary care, other specialty, pain management
- Aggregated prescribing and payment data to Pennsylvania Dartmouth Hospital Atlas of Health Care Hospital Service Areas (HSAs), N=128
- Analyzed relationship between HSA average opioid-related payments and HSA average days of opioid filled per physician

RESULTS

- 40,930 total physicians in the sample, 1,675 received opioid-related payments
- 28,894 with unsuppressed opioid prescribing rate, 1,636 of those received payments
- Primary care physicians who received opioid-related payments prescribed approximately three times more of all drugs than the state average
- More than 50% of pain management physicians received an opioid-related payment
- One additional payment to a physician was associated with 4.2% higher opioid-prescribing rate, with pain management prescribing at the highest rate and primary care prescribing at the lowest rate
- One additional payment per physician in an HSA was associated with 79% more days of opioid filled on average by each HSA physician

DISCUSSION & LIMITATIONS

- Opioid-related payments are associated with higher opioid prescribing rate at the individual level and the HSA level
- Certain physician specialties receive more payments at a higher monetary value than other specialties, and physicians who receive opioid-related payments prescribe a higher volume of all drugs
- Administrators and policy makers should consider revising rules related to pharmaceutical company marketing tactics

- Limitations
  - Suppression of low prescribing rates (derived from fewer than 11 beneficiaries) may underestimate the difference between those who did and did not receive industry payments due to greater missingness for unpaid physicians than paid physicians
  - Cross-sectional analysis: no temporality
  - HSAs cross state borders, but we only used PA payment and prescribing data (values from some border HSAs may be less reliable)
  - This data is derived from Medicare Part D claims, so it only reflects prescribing to the population of Pennsylvania Part D beneficiaries
  - Direction of association unknown: paid prescribers prescribe more or high volume prescribers targeted for marketing

CORE COMPETENCIES

1A1/1B4/1C4: Uses information technology in accessing, collecting, analyzing, using, maintaining, and disseminating data and information
1A4: Selects valid and reliable data/Analyzes the validity and reliability of data

Note: BS = Beta, CI = Confidence Interval, SE = Standard Error of the Estimate, p = p-value

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<th>95% CI</th>
<th>Ch-Square</th>
<th>DF</th>
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<td>Payments per HSA Physician</td>
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Note: DF = Degrees of Freedom, Be = Exponentiated Be, CI = Confidence Interval, SE = Standard Error of the Mean, LS Mean = Least Square Mean for the percent of all Part D claims accounted for by opioids, CI-Square reflects how strictly the sample reflects maximum likelihood estimates, the bottom Bayesian contrast estimates.

ACKNOWLEDGEMENTS

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