HCCA Compliance Institute

Conflicts of Interest and Big Data: What Can We Learn from Large Databases of Provider Disclosures?

Part I – Evaluating COI at the Macro Level

March 27, 2017

Agenda

• Introductions
• Understanding Conflicts of Interest
• What is “Big Data”?
• Big Data Meets Conflicts of Interest: The “Open Payments” Database
• Other sources of Big Data useful for the analysis of Conflicts of Interest
• How Big Data analysis is providing a trove of data for Journalists
• Use of Big Data at the Macro level
  ➔ National and Regional Data Analysis
My Background

- 40 Years in Health Care
- MBA in Healthcare Management
- Medical Practice Manager
- Practice Plan Director at Temple, UCLA
- Consultant
- Co-Founder of HCCS
- VP HCCS/HealthStream

Understanding Conflicts of Interest
Who is at Risk?

• Any organization that regularly acquires pharmaceuticals or medical devices

• Any organization that employs or provides a practice location for physicians

• Any organization conducting research funded by the federal government

• Any non-profit organization

What is at Risk?

• The Financial Health of your Institution
  ➔ Research funding
  ➔ Purchasing decisions

• Your Tax Exempt Status
  ➔ Failure to accurately complete and file the IRS Form 990

• Your Reputation
  ➔ Hospital conflicts of interest become big local news stories
COI: Evolution of Thought

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Don't Dare Suggest I am a Crook!</td>
<td>Money Can Affect Decisions</td>
<td>Even SMALL Gifts Can Influence Behavior</td>
<td>Transparency and Conflict Management May be the Best Solution</td>
</tr>
<tr>
<td>Conflicts of Interest were NOT taken seriously</td>
<td>NIH implements Rules saying “You need a process”</td>
<td>Elimination of mugs, pens, etc. Industry Codes</td>
<td>ProPublica, Sunshine Act COI Management Systems,</td>
</tr>
</tbody>
</table>

What is Big Data?

“Data of a very large size, typically to the extent that its manipulation and management present significant logistical challenges.”

-Oxford English Dictionary
What is Big Data?

“An all-encompassing term for any collection of data sets so large and complex that it becomes difficult to process using on-hand data management tools or traditional data processing applications.”

- Wikipedia

What is Big Data?

“The ability of society to harness information in novel ways to produce useful insights or goods and services of significant value”

- Viktor Mayer-Schönberger and Kenneth Cukier

“Big Data, A Revolution that will Transform How We Live, Work and Think”
Big Data Meets Conflicts of Interests
Implications of the “Sunshine” Database

- The CMS “Open Payments” Database was first published on September 30, 2014 and each June 30th since then.

- Any payment over $10.00 from the pharma or medical device industry to any Physician will become public information!

2015 Data from the “Sunshine” Database

The Facts About Open Payments Data

<table>
<thead>
<tr>
<th></th>
<th>2013 Totals</th>
<th>2014 Totals</th>
<th>2015 Totals</th>
<th>Totals All Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total US Dollar Value</td>
<td>$7.33 Billion</td>
<td></td>
<td>$11.91 Million</td>
<td></td>
</tr>
<tr>
<td>Total Records Published</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- SHOW MORE DETAILS -

<table>
<thead>
<tr>
<th></th>
<th>1,455</th>
<th>618,000</th>
<th>1,111</th>
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</thead>
<tbody>
<tr>
<td>Total Companies Making Payments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Physicians with Payment Records</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Teaching Hospitals with Payment Records</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Other Sources of Available Data

In addition to the CMS Open Payments Database:

• National Provider ID Database
• Medicare Part D Prescriber Database
• Social Media: e.g. Google Search and Twitter!

Cleaning and Matching the Data

• CMS was prohibited from including the NPI in the Open Payments database BUT...
  ....they included names and addresses

• The NPI database included names and addresses allowing a 93% match

• Numerous iterations with state and other licensing agencies brought us to 97% match
Use of the Data for Analysis

Pretty Maps!

General Payments by Zip Code

(Source: CMS Open Payments)

Use of the Data for Analysis

Food and Beverage

General Payment Category Counts
Use of the Data for Analysis

One Doctor’s Payments
Summary by Nature of Payment

<table>
<thead>
<tr>
<th>Nature of Payment</th>
<th>Total Payments</th>
<th>Total Amount</th>
<th>Total Amount (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation for services other than consulting, including serving as faculty or as a speaker at a venue other than a continuing education program</td>
<td>222</td>
<td>$463,755.23</td>
<td>66.8%</td>
</tr>
<tr>
<td>Travel and Lodging</td>
<td>484</td>
<td>$154,214.64</td>
<td>22.2%</td>
</tr>
<tr>
<td>Consulting Fee</td>
<td>15</td>
<td>$34,225.00</td>
<td>4.9%</td>
</tr>
<tr>
<td>Food and Beverage</td>
<td>369</td>
<td>$20,002.48</td>
<td>2.9%</td>
</tr>
<tr>
<td>Honoraria</td>
<td>7</td>
<td>$14,375.00</td>
<td>2.1%</td>
</tr>
<tr>
<td>Compensation for serving as faculty or as a speaker for a non-accredited and noncertified continuing education program</td>
<td>5</td>
<td>$7,700.00</td>
<td>1.1%</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
<td>$20.78</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Use of the Data for Analysis

Matching Industry Payments to Medicare Prescribing Patterns: An Analysis

Ryann Grochowski Jones and Charles Ornstein
ProPublica March 2016

Use of the Data for Analysis

Top five drugs prescribed, and the $ spent to promote them:

• Blood thinner Xarelto  ($28.4 million),
• Rheumatoid arthritis drug Humira  ($24.9 million)
• Diabetes drug Invokana  ($20.9 million),
• Hepatitis C drug Viekira  ($19.2 million),
• Blood thinner Eliquis  ($18.8 million),
Use of the Data for Analysis

Table 1: Rate of doctors who received payments, by specialty

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Total doctors with &gt;1,000 claim count</th>
<th>Subset who received an industry payment</th>
<th>Percent who received a payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Medicine</td>
<td>65,651</td>
<td>46,753</td>
<td>71.2%</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>51,607</td>
<td>36,329</td>
<td>70.4%</td>
</tr>
<tr>
<td>Cardiology</td>
<td>13,817</td>
<td>12,308</td>
<td>89.1%</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>11,052</td>
<td>8,650</td>
<td>78.3%</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>8,196</td>
<td>7,117</td>
<td>86.8%</td>
</tr>
</tbody>
</table>

Use of the Data for Analysis

Table 8: Mean brand-name prescribing rate, meals v. other payments only v. no payments

<table>
<thead>
<tr>
<th>Mean brand-name prescribing rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>No payments</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>Family Medicine</td>
</tr>
<tr>
<td>Internal Medicine</td>
</tr>
<tr>
<td>Cardiovascular Disease</td>
</tr>
<tr>
<td>Psychiatry</td>
</tr>
<tr>
<td>Ophthalmology</td>
</tr>
</tbody>
</table>
Use of the Data for Analysis

Top Medicare Prescribers Rake In Speaking Fees From Drugmakers

Charles Ornstein, Tracy Weber and Jennifer LaFleur
ProPublica June 2013

Use of the Data for Analysis

• Nine of the top 10 prescribers of the Alzheimer's drug Exelon received money from Novartis, the drug's maker
• Eight of the top 10 for Johnson & Johnson painkiller Nucynta were paid speakers...
• As were six of the top 10 for Pfizer's antidepressant Pristiq.

Charles Ornstein, Tracy Weber and Jennifer LaFleur
ProPublica
Use of the Data for Analysis

January 17, 2017

Financial Conflicts of Interest Among Hematologist-Oncologists on Twitter

Derrick L. Tao, BS; Aaron Boothby, BS; Joel McLouth, BS; Vinay Prasad, MD, MPH

Author Affiliations
JAMA Intern Med. Published online January 17, 2017.

Use of the Data for Analysis

A preliminary analysis of tweets by these doctors has shown that “a sizable percentage are tweeting about drugs that they have specific ties to”

- Vinay Prasad, assistant professor of medicine at Oregon Health & Science University
Once you match NPI data to Open Payments Data you can run Hospital Level Reports

### Use of the Data for Analysis: Closer to Home

![Report: 06 - Payment Summary](image)

- Users With NPIs: 5,708
- Users Who Could Have Incorrect NPIs: 1
- Matched To Open Payments: 2,911
- Physical Profile Count: 2,907

**Total Open Payments 2014 Amount:** $21,125,423.27

- General Payments Count: 2,717
- Total General Payments Amount: $9,714,274.24
- Owner Payments Count: 14
- Total Ownership Payments Amount: $1,312,301.31
- Total Ownership Value: $1,440,528.07
- Research Payments Count: 22
- Total Research Payments Amount: $769,330.81
- Associated Research Funding Count: 146
- Total Associated Research Funding Amount: $7,888,988.84

### Use of the Data for Analysis: Closer to Home

Allowing you to identify trends, such as significant increases in industry payments year over year

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</thead>
<tbody>
<tr>
<td>General</td>
<td>1,038</td>
<td>2,497</td>
<td>2,263</td>
<td>$503,782</td>
<td>$1,644,339</td>
<td>$3,528,804</td>
</tr>
<tr>
<td>Research</td>
<td>9</td>
<td>17</td>
<td>86</td>
<td>$21,418</td>
<td>$30,741</td>
<td>$178,178</td>
</tr>
<tr>
<td>Ownership</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$0.01</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Associated Research</td>
<td>306</td>
<td>1,186</td>
<td>1,040</td>
<td>$1,056,354</td>
<td>$2,863,578</td>
<td>$2,330,541</td>
</tr>
<tr>
<td>Totals</td>
<td>1,354</td>
<td>3,700</td>
<td>3,389</td>
<td>$1,881,555</td>
<td>$4,238,659</td>
<td>$6,037,624</td>
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</tbody>
</table>
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Conflicts of Interest and Big Data: What Can We Learn from Large Databases of Provider Disclosures?

Part II – Evaluating COI at Your Institution

March 27, 2017

Topics

- Background
- Reviewing Conflict of Interest Disclosures
- Using Data to Identify Highest Risk Disclosures
- Open Payments Analysis
- Results & Future Actions
About Carolinas HealthCare System

• One of Most Comprehensive Public, Not-for-Profit Systems in Nation
• More than 7,600 Licensed Beds at 900 Care Locations
  ➔ Includes Physician Practices, Outpatient Surgical Centers, Hospitals, Freestanding Emergency Departments, Urgent Care, Behavioral Health, Rehabilitation Centers, Nursing Homes, Home Health Agencies, Hospice and Palliative Care
• Almost 12 million Patient Interactions Annually
• Employs Nearly 60,000 People

Who Needs to Disclose

• Any Position with Responsibilities for a Material Segment of the Operation, Management or Oversight of Carolinas HealthCare System
  ➔ Physicians
  ➔ Mid-Level Providers
  ➔ Director Level and Above
• More than 5300 Teammates Received Questionnaire
  ➔ 2500 Physicians
My Background

• 25 Years in Health Care
  o 6+ Years with Carolinas HealthCare System
  o 18 Years with Revenue Cycle Consulting Company

• Application Development
  o Hospital & Physician Contract Management
  o Budgeting & Cost Accounting
  o Work Plan Management

Analytical Tools

• Microsoft SQL Server
• Microsoft Access
Create COI Database

- Created SQL Server Database to Store and Track 5000+ Respondents
- Automated Weekly Process to Upload Files

Key Performance Indicators

- Response Rates
- Disclosures
Review Process

- Establish Guidelines for Identification of Potential Conflicts
- Initial Reviews by Corporate Compliance
- Escalate Potential Conflicts to Conflict Of Interest Oversight Council
- Create Management Plans (if applicable)
- Administrative Follow-Up

Analysis to Create Review Guidelines

- North & South Carolina Regional Analysis
- Consulting Services & Speaker Engagements

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>CHS</th>
<th>CHS Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providers</td>
<td>2655</td>
<td>124</td>
<td>4.6%</td>
</tr>
<tr>
<td>Payments</td>
<td>$44.7 MM</td>
<td>$3.2 MM</td>
<td>5.9%</td>
</tr>
<tr>
<td>Mean</td>
<td>$10,218</td>
<td>$13,433</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>$6,000</td>
<td>$9,056</td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>$736,950</td>
<td>$221,571</td>
<td></td>
</tr>
<tr>
<td>Greater Than $200K</td>
<td>24</td>
<td>2</td>
<td>8.3%</td>
</tr>
<tr>
<td>Greater Than $100K</td>
<td>124</td>
<td>9</td>
<td>7.3%</td>
</tr>
<tr>
<td>Greater Than $50K</td>
<td>269</td>
<td>18</td>
<td>6.7%</td>
</tr>
</tbody>
</table>
Analysis to Create Review Guidelines

- Understanding Compensation for Consulting Services & Speaking Engagements

- Commitments of Time for Consulting Services & Speaking Engagements
Open Payments Analysis

• Integrate Open Payments Data
  o Use NPI to Match Carolinas HealthCare System’s Physicians with Open Payments Data
  o Match and Compare Self-Disclosures using Drug and Medical Device Manufacturers
  o Non-Disclosures & Under-Reported Differentials Greater than $5,000

• E-Mails to Physicians
  o Link to Open Payments Site

Data Transformation for Oversight Council Review

• Convert Answers for Each Question (Multiple Rows) in Report to Single Row for Ease of Review
Results & Future Actions

• Questionnaire Revisions
  ➜ Open Payment Data Manufacturers Listed in Questionnaire to Improve Exact Matches
  ➜ Coordinate Responses to Open Payments Categories
    Consulting Fees, Speaking Engagements, Royalty or License, Education, Honoraria, Charitable Contribution, Travel & Lodging, Food & Beverage

• Policy Revisions

• Standard Operating Procedures

Question and Answer

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