Reviewer’s report

Title: Impact of US Industry Payment Disclosure Laws on Payments to Surgeons A Natural Experiment

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Reviewer: Patrick McDonald

Reviewer's report:

The authors present the results of their study looking at the impact of industry payment disclosure laws on payments to surgeons. They specifically compare orthopaedic surgeons who are likely to use hip and knee implants with surgeons who are unlikely to use hip and knee implants and determine the scope of industry payment to both groups using data available through the Open Payments Database (OPD).

This is a timely topic given recent media attention to medical devices and the relationship between industry and surgeons that has resulted from the International Consortium of Investigative Journalist's International Medical Devices Database.

There are a number of minor and major issues that should be clarified to strengthen the paper:

1. Although the author's go into more detail regarding their hypothesis in the Discussion section, a clear statement of their hypothesis in the Introduction section would be helpful.

2. The author's hypothesis is that a 2007 Justice Department decision requiring disclosure of payments from hip and knee implant manufacturers to orthopaedic surgeons would have an impact on those same surgeons relative to non-orthopaedic surgeons since they would have been previously exposed to this public transparency- a so called natural experiment.

   - please define what you mean by a natural experiment

   - I don't believe there is a way within the OPD to tell how long a surgeon has been in practice, thus it is unclear whether those surgeons who may have been impacted by the 2007 decision are the same ones examined in the OPD- please clarify or state as a limitation of the paper/hypothesis

3. Although it seems logical that orthopaedic surgeons specializing in adult reconstruction would be very likely to implant hips and knees, is there data to support that the other groups, especially general orthopaedic surgeons have hip and knee implants as a significant portion of their practice. It would be interesting to see if the adult reconstruction group is different in terms of industry relationships, with the other groups.
4. The classification of surgeons into two groups- Orthopaedic surgeons vs. non-orthopaedic surgeons is confusing since the non-orthopaedic surgeon group actually includes some orthopaedic surgeons such as orthopaedic spine surgeons and pediatric orthopaedic surgeons. It may be better to sub classify orthopaedic surgeons into two groups- those likely to implant hip and knee devices and those unlikely to, or some variation of that.

5. Payments are expressed as a median. It would be helpful to also know the mean as well as the range of total monetary amounts.

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