DSEN ABSTRACT

Associations between industry incentives received by healthcare professionals and impact on drug prescribing and patient outcomes

Summary

- **Provision of industry incentives to healthcare professionals is common**. Data suggest that the receipt of incentives of both small and large monetary value occurs with regularity amongst physicians and other health professionals.
- **Evidence suggests prescribing patterns are influenced by incentives**. Several studies suggested that incentives influence prescribing patterns. Increased prescribing of brand name medicines and rises in costs per case were observed.
- **No study data were identified that studied the relationship between health professionals' receipt of incentives and patient outcomes**. Research addressing this topic remains a current need.
- **There is limited evidence thus far regarding the effects of mandatory reporting**. As newly placed systems gain additional traction, research to evaluate their impact in this area will be needed.

Authors: Candyce Hamel, Andrew Beck, Reuben Douma, Alicia Grima, Bradley Austin, Micere Thuku, Kusala Pussagoda, Chantelle Garritty, Adrienne Stevens, David Moher, Brian Hutton.
Content expert: Dr. Joel Lexchin.

For more information, please contact Brian Hutton, bhutton@ohri.ca.

What is the issue?

- There has been an increase in the extent of relationships between health professionals and the pharmaceutical industry. There is interest in evaluating the frequency with which this population receives incentives from members of industry, the nature and value of such incentives, and what influence such incentives may have on clinical practice and patient outcomes.

What was the aim of the study?

The following research questions (RQ) were addressed:

1. What types of industry incentives to health professionals are most prevalent in Canada and similar countries? Are there certain types (e.g. specialists, family physicians, pharmacists, health organizations) that are more or less likely to receive payments, by frequency or value?
2. To what extent do industry payments influence health practitioners' prescribing, including prescription patterns (e.g. amount, frequency, costs)?
3. Is there evidence that suggests there are, or could be, negative health impacts as a result of changes in prescribing behaviour due to industry payments for pharmacologic therapies?
4. With respect to existing voluntary and mandatory systems for disclosing and/or prohibiting industry payments to health practitioners, have these systems had an effect on: (a) the volume of such payments; and (b) practitioners' prescribing behaviours?

How was the study conducted?

- A protocol was developed a priori for a rapid review. Ovid Medline® was searched from 1995-April 2018 to inform a review of the literature to identify English language publications relevant to the questions outlined above. Screening and data collection were performed by a team of experienced reviewers. Studies were selected according to a priori criteria for each research question; studies conducted in Canada, the US, the UK, France and Australia were sought. Data collection was performed by a single reviewer with verification by a second reviewer.

What did the study find?

- **RQ1 (n=125 studies):** Amongst 66 studies of physicians, prevalence of incentives was heterogeneous across types: meetings/education (median 41%; range 37%-52%), 'mixed' incentives (i.e. undescribed combinations of various forms) (52%; 5%-94%), research payments (55%; 10%-75%), meals (59%; 41%-96%), provision of samples (73%; 72%-75%), sales visits (83%; 55%-86%) and receipt of small items (86%; 42%-96%). Limited data for other populations showed high and heterogeneous prevalence of incentives. Regarding payment values, it was noted that: (a) physicians receiving the largest incentives often accounted for a majority of all funds paid; (b) there is evidence that size of incentive received varies by clinical specialty; and (c) payments related to ownership, investment interests and royalties were larger than all other types of payment.
- **RQ2 (n=36 studies):** Data related to the effects of industry payments (13 studies), sales representative visits (14 studies), provision of samples (6 studies), promotional drug spending (2 studies) and provision of meals (1 study) were identified. Outcomes assessed were heterogeneous, and narrative summaries of study findings were prepared. While not unanimous, many of the included studies in all categories identified important differences in prescribing patterns in association with the receipt of incentives. In several cases, increases in prescribing of brand name medicines and costs per case were associated with the receipt of incentives.
- **RQ3 (n=0 studies):** No studies relevant to this question were identified.
- **RQ4 (n=3 studies):** Three studies were identified, all of which involved comparisons between different American states wherein mandatory systems were versus were not in place. Two studies identified reductions in the frequency of prescribing of brand name drugs wherein reporting systems were in place. The remaining study observed minimal change.

This research was funded by CIHR – Drug Safety and Effectiveness Network and conducted by investigators affiliated with the following institutions:

CIHR IRSC Canadian Institutes of Health Research / Instituts de recherche en santé du Canada

Ottawa Hospital Research Institute / Institut de recherche de l'Hôpital d'Ottawa