USING BIBLIOMETRICS AND ALTMETRICS TO MEASURE THE IMPACT OF THE CANADIAN NETWORK FOR OBSERVATIONAL DRUG EFFECT STUDIES (CNODES)

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INTRODUCTION

- This case study measures the scientific and social impact of research performed by the Canadian Network for Observational Drug Effect Studies (CNODES) through the application of bibliometrics in combination with alternative metrics ("altmetrics").
- Bibliometrics uses statistical methods to analyze the research impact of scientific publications within academia.
- Altmetrics quantitatively measure the amount of attention a publication receives in news media, social media, policy documents, and other web artifacts.
- Together, these approaches are used to provide insight into the influence of the CNODES research network.

METHODS

- Bibliometric data from 95 CNODES-affiliated publications was collected to analyze the authorship network and to measure indicators like the number of citations a publication receives.
- Altmetrics, such as the number of mentions in blogs, news media, policy documents, and social media, were measured using Altmetric.com and ProQuest's Canadian Newsstream database.

RESULTS

CNODES publications are cited 2.75 times more than the field average. CNODES mean normalized citation score = 2.78, field average = 1.

CNODES work is cited in high-impact journals like BMJ, JAMA, and more. CNODES mean journal score = 2.47, field average = 1.

Average number of downloads per CNODES publication: 35,003. Interquartile range = 8,043 – 45,047. Average number of PDF downloads = 4,903.

24% of CNODES publications are among the top 5% most cited in their field and year. 40% are among the top 10%.

CNODES-affiliated authors were mentioned 2,799 times in Canadian news media since 2012.

CNODES publications mentioned an average of 26.4 times on Twitter. CNODES normalized altmetric score = 1.12, field average = 1.

CNODES is a Canadian network of researchers that uses healthcare databases to study drug safety and effectiveness post-marketing with links to US, UK, and EU networks. This giant component of the CNODES co-authorship network depicts this research network and the people that are part of it.

- There are 245 authors across all CNODES-affiliated publications. A larger node/label size on the graph below indicates a higher number of authorships and collaborations by that researcher.
- 141 (57.6%) authors are men (indicated by a purple node in the graph below); 104 (42.4%) are women (indicated by an orange node).
- Of 94 distinct first authors, 56 (59.6%) are men and 38 (40.4%) are women.

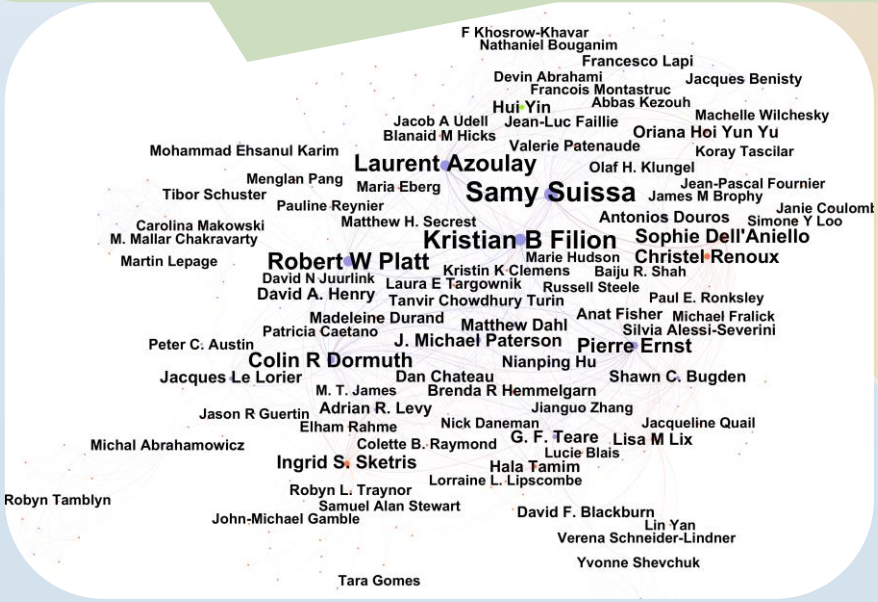

Figure: Giant component of the CNODES co-authorship network

CONCLUSION

- Bibliometrics and altmetrics were applied to CNODES research to better understand the impact and type of attention this research receives.
- Overall, the CNODES research network has an above average performance for all impact indicators that were analyzed.
- Researchers may use the tools from this project to further identify core audiences and measure the impact of key messages from their research.

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