

Reporting of Financial Conflicts of Interest in Clinical Practice Guidelines: A Case-Study Analysis of Guidelines from the Canadian Medical Association Infobase*

Adrienne Shnier, PhD Candidate

Joel Lexchin, MD

Mirna Romero, PhD Candidate

Sam Aria, MA Candidate

Kevin Brown, PhD

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Ethics approval

- This study received ethics approval from the Human Participants Review Committee at York University in Toronto, Canada.

Context

- Clinical practice guidelines (CPGs) are widely endorsed and made available by medical societies and associations (i.e. Canadian Medical Association)
- Physicians often rely upon CPGs for the best available clinical evidence
- CPGs should be based on critical analysis of the best available scientific evidence
- Authors' recommendations in some guidelines have been based on lower levels of evidence or expert opinion
- Recommendations may be vulnerable to biases and prejudices
- Of particular concern in the context of financial conflicts of interest (FCOI)

Sitges-Serra A. J Epidemiol Community Health. 2014;0:1–3.; Canadian Medical Association (CMA). 2015.; Tricoci P et al. J Am Med Assoc. 2009;301(8):831–41.; Bindslev JBB et al. BMC Med Ethics. 2013;14(19):1–7.

Context

- FCOI → common among guideline authors, committee members, and drug companies that manufacture medications considered for recommendations in their guidelines
- Common finding in international literature:
 - Presence of FCOI between physicians and drug companies may have the potential to influence their drug recommendations
 - Concern over authors' consistency of their FCOI disclosures in guidelines
- No such Canadian study

Bindslev JBB et al. BMC Med Ethics. 2013;14(19):1–7.; Abramson J & Starfield B. J Am Board Fam Med. 2005;18(5):414–8.; Sismondo S. Contemp Clin Trials. 2008;29(2):109–13.; Cosgrove L et al. Psychother Psychosom. 2009;78:228–32.; Perlis CS et al. J Am Acad Dermatol. 2005;52(6):967–71.; Bero L et al. PLoS Med. 2007;4(6):1001–10. Kelly RE et al. Psychol Med. 2006;36(11):1647–56.; Lundh A et al. Cochrane Database Syst Rev. 2012;12(MR000033).; Bekelman JE et al. J Am Med Assoc. 2003;289(4):454–65.; Rochon PA et al. Arch Intern Med. 1994;154(2):157–63.

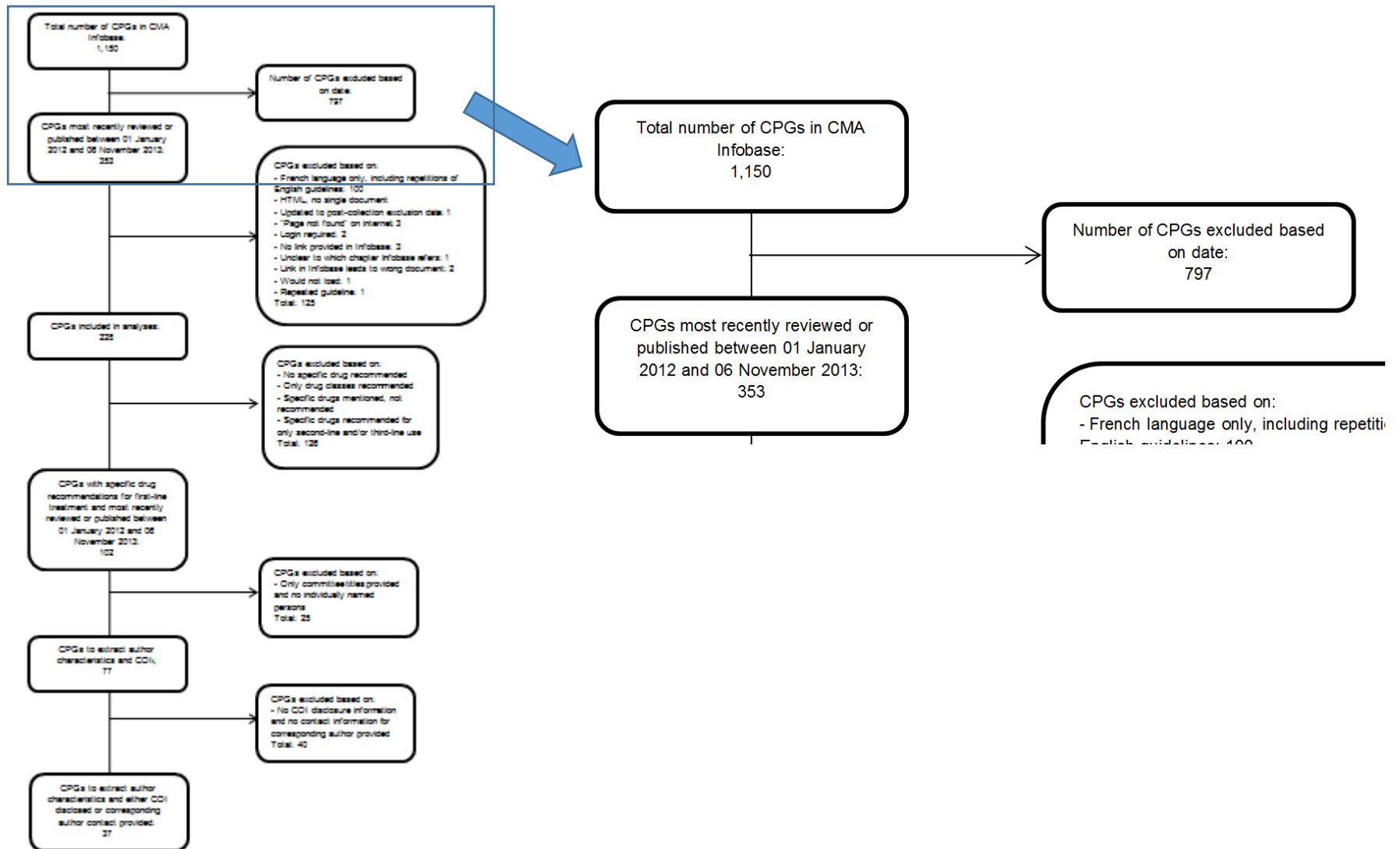
Study goals

- Case-study of authors' FCOI disclosure statements from a sample of guidelines from the Canadian Medical Association (CMA) Infobase
- Determine:
 - Prevalence of authors' disclosed FCOI
 - Frequency with which authors disclose FCOI with the manufacturers of the on-patent drugs recommended for first-line treatment in those guidelines
 - Frequency with which organizations affiliated with each guideline have corporate sponsors or partners that are also manufacturers of the drugs recommended in those guidelines

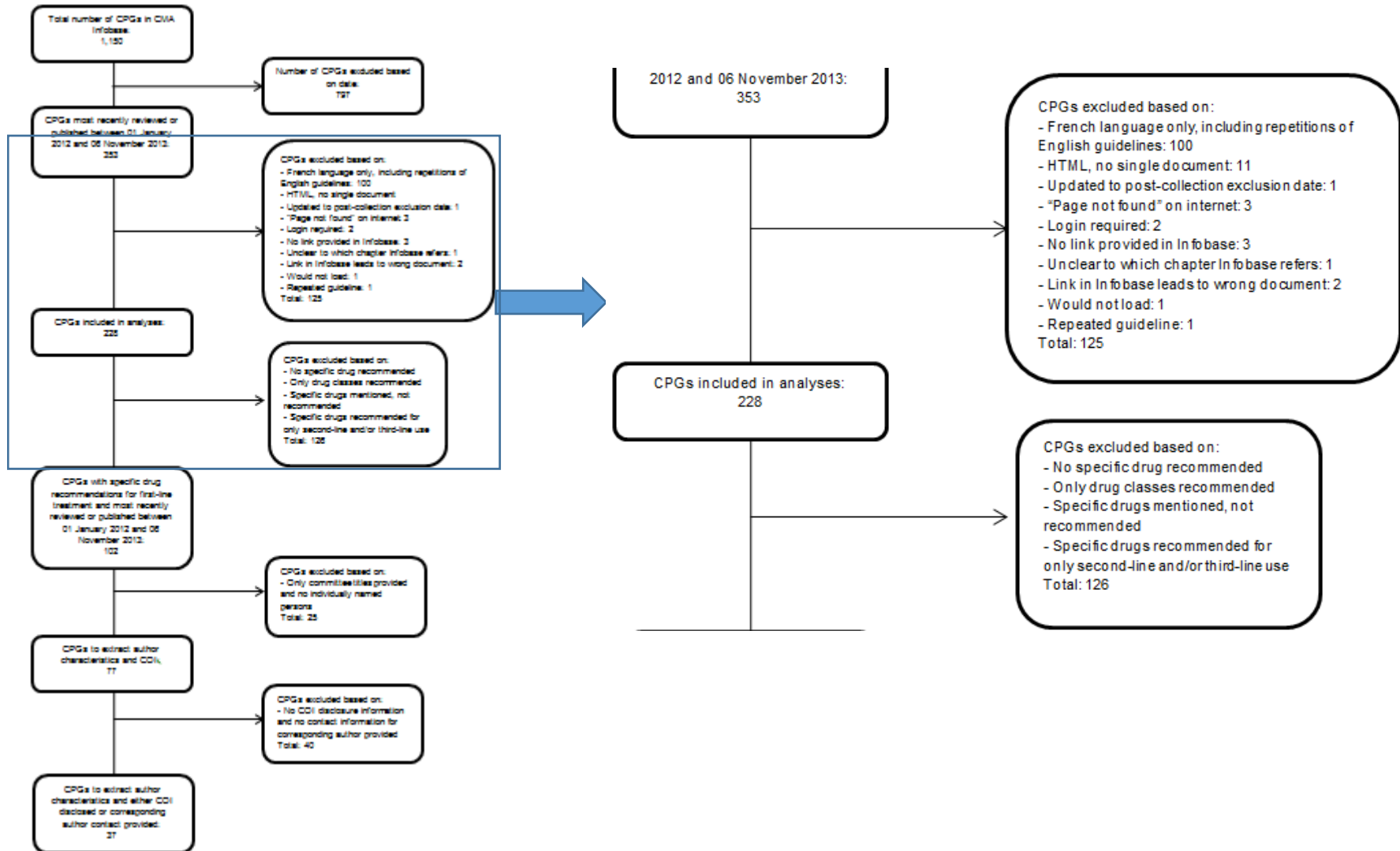
Methods

- Sample of guidelines from the CMA Infobase
- CMA Infobase provides guidelines that meet the following criteria:
 1. Include information to help patients and physicians make decisions about appropriate health care for specific clinical circumstances
 2. Be produced by an authoritative Canadian organization or, if produced outside of Canada, be officially endorsed by such an organization
 3. Have been developed or reviewed in the last 5 years
 4. Have evidence that a literature search was performed during guideline development

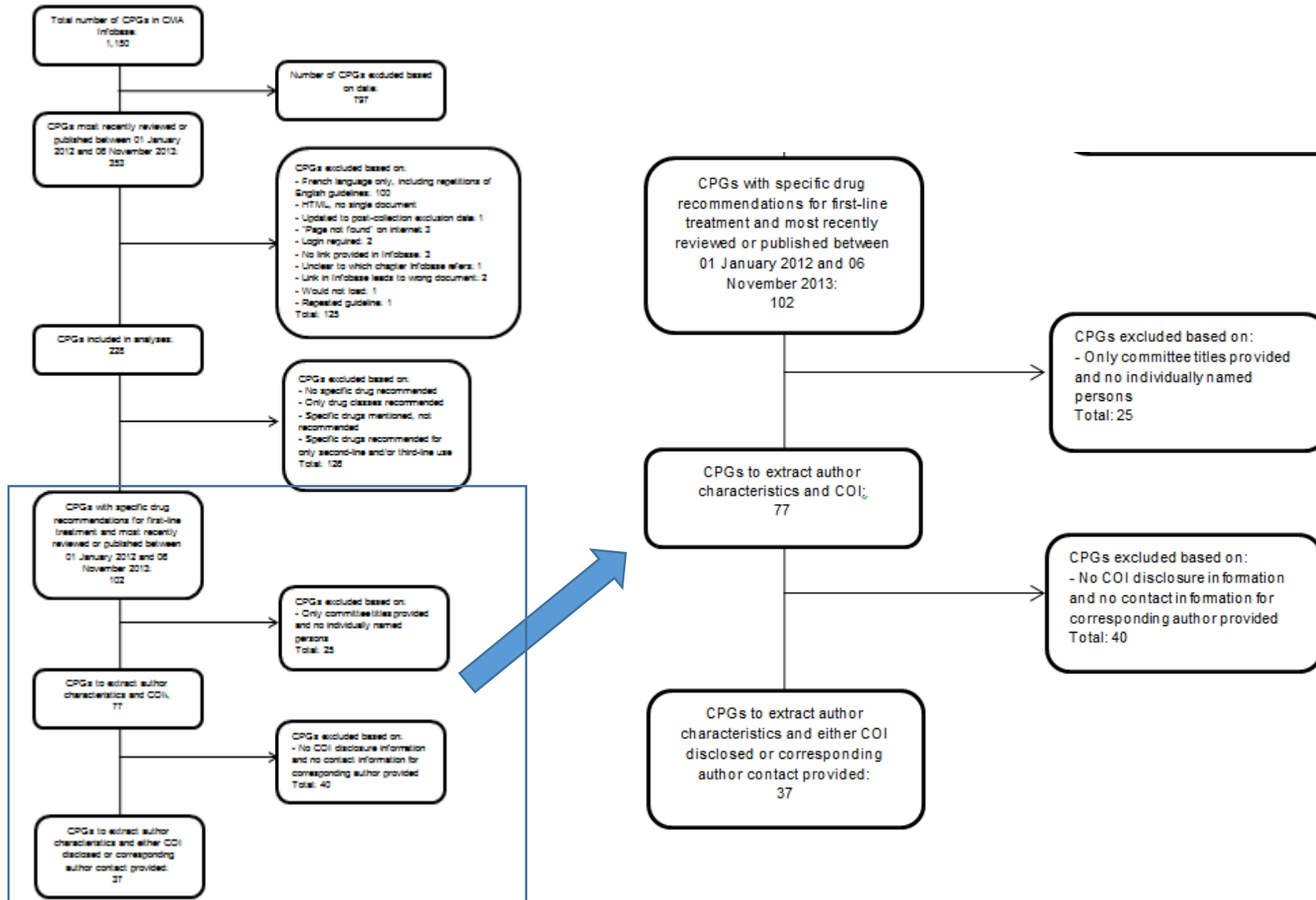
Methods – guideline sample selection



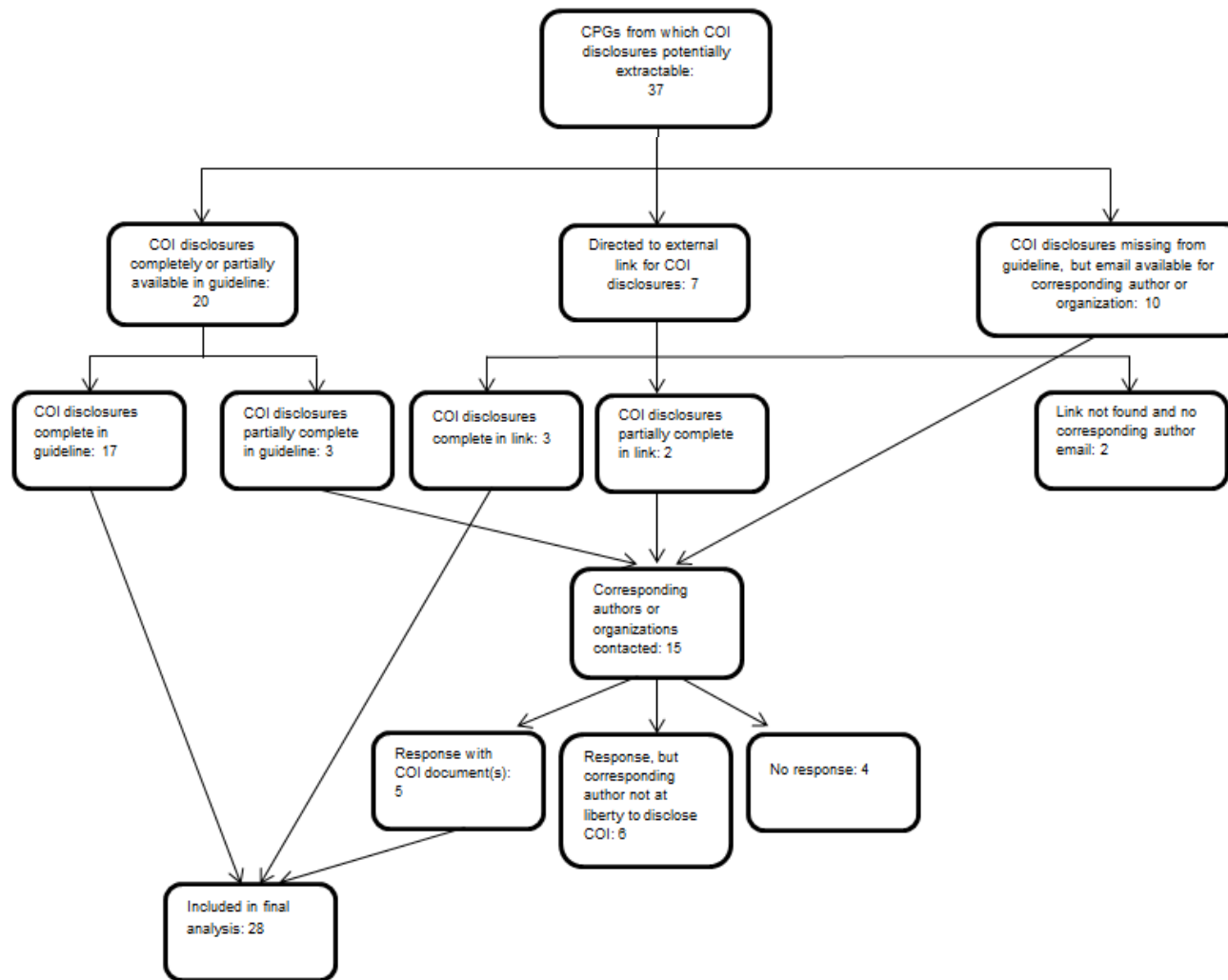
Methods – guideline sample selection



Methods- guideline sample selection



Methods – guideline sample selection



Methods – author roles

- Decided *a priori* to extract FCOI disclosures for a maximum of 25 authors per guideline
- Two pairs of study authors (AS and MR, JL and SA) each extracted:
 - FCOI disclosure statements
 - Author characteristics:
 - Name
 - Academic and medical degrees
 - Hospital and academic affiliations
- One author (AS) contacted corresponding authors on 15 guidelines because:
 1. Guideline had no FCOI disclosure section + no indication that all authors were either free of FCOI or had any conflicts to report (10 guidelines)
 2. Disclosures were ambiguous/vague for all or some authors or missing for some authors with no indication that these authors were free of FCOI (5 guidelines)
 - "X received funding" or "No significant conflicts of interest were noted, that would impact these recommendations."

Methods – relevant vs. non-relevant

- Relevant FCOI:
 - Author has FCOI with manufacturer of one or more drugs recommended in that guideline
- Non-relevant FCOI:
 - Author has FCOI with manufacturer of drugs *other* than those which are recommended in that guideline

Methods – organizations' corporate sponsors

- Identified organizations or associations that were affiliated with each of the 28 included guidelines
- Visited each of their respective websites to identify publicly-disclosed corporate sponsors or partners
- Did not examine whether conferences held by these organizations had corporate sponsorship

Results

- 28 guidelines housed in CMA Infobase
 - Most recently published/reviewed between 01 January 2012 and 06 November 2013
 - 12 guidelines = most recently published/reviewed in 2013
 - 16 guidelines = most recently published/reviewed in 2012
 - 24 guidelines (85.7%) = recommended at least one on-patent drug
 - 4 guidelines (14.3%) = recommended off-patent drugs only

cpgid	Most recent review or publish date	Recommendation (1=on-patent only or on-patent + off-patent, 0=off-patent only)	No. manufacturers with patented drugs recommended (#)	No. of authors total (#)	No. of authors assessed (max. 25) (#)	Sample Size, authors with FCOI disclosures present (max. 25) (#)	No. of authors with FCOI with drug companies disclosed (#)	Number of authors in each guideline with relevant COI	Number of authors in each guideline with non-relevant COI	Mean number of COI per author in each guideline
5	2013	1	1	3	3	2	0 (0)	0 (0)	0 (0)	0
7	2013	1	2	19	19	19	18 (95)	15 (79)	3 (16)	8.79
18	2013	0	0	22	22	22	0 (0)	0 (0)	0 (0)	0
27	2013	1	4	21	21	21	19 (90)	18 (86)	1 (5)	6.86
29	2013	1	4	32	25	25	18 (72)	6 (24)	12 (48)	2.64
35	2013	1	3	32	25	5	2 (40)	2 (40)	0 (0)	1
40	2013	1	3	13	13	13	0 (0)	0 (0)	0 (0)	0
44	2013	1	6	13	13	13	0 (0)	0 (0)	0 (0)	0
46	2013	1	6	68	25	9	9 (100)	4 (44)	0 (0)	1.11
93	2013	1	1	19	19	19	19 (100)	0 (0)	0 (0)	0
94	2013	1	3	22	22	22	15 (68)	10 (45)	5 (23)	3.14
103	2013	0	0	17	17	17	12 (71)	0 (0)	12 (35)	0.47
112	2012	1	2	4	4	4	4 (100)	3 (75)	1 (25)	1.75
242	2012	1	6	9	9	9	8 (89)	7 (78)	1 (11)	3.44
244	2012	0	0	19	19	19	8 (42)	0 (0)	8 (42)	1.47
258	2012	1	1	9	9	9	8 (89)	6 (67)	2 (22)	2.44
260	2012	1	1	6	6	3	3 (100)	3 (100)	0 (0)	10.33
267	2012	1	3	2	2	2	2 (100)	0 (0)	0 (0)	0
269	2012	1	4	24	24	24	6 (25)	6 (25)	0 (0)	0.50
273	2012	1	1	23	23	23	2 (9)	2 (9)	0 (0)	0.17
274	2012	0	0	64	25	24	18 (75)	0 (0)	18 (75)	3.42
283	2012	1	2	13	13	13	0 (0)	0 (0)	0 (0)	0
289	2012	1	2	23	23	23	1 (4)	1 (4)	0 (0)	0.09
295	2012	1	4	25	25	25	1 (4)	0 (0)	1 (4)	0.04
299	2012	1	13	18	18	16	12 (75)	12 (75)	0 (0)	5.13
345	2012	1	3	8	8	8	0 (0)	0 (0)	0 (0)	0
349	2012	1	7	3	3	3	3 (100)	2 (67)	1 (33)	3
352	2012	1	1	8	8	8	0 (0)	0 (0)	0 (0)	0

Author-level results

- 400 FCOI disclosure statements for 350 unique authors
- 155/400 (38.8%) clearly declared FCOI with drug companies
 - 97/155 declared relevant FCOI
 - 58/155 declared non-relevant FCOI
- 219/400 (54.8%) declared free of FCOI or conflicts with only non-commercial organizations
- 26/400 (6.5%) declared ambiguous/vague FCOI
- Individual authors disclosed FCOI with up to 19 drug companies

Author-level results

- 350 unique authors on 28 guideline
- Non-repeated authors:
 - 302 authors on one guidelines
- Repeated authors:
 - 46 authors on two guidelines
 - 2 authors on three guidelines
- 20/46 (42.0%) authors on two or three guidelines declared different FCOI in their disclosures – may be due to:
 - Different disclosure policies by journals or professional associations
 - Authors may have engaged in new FCOI between publishing guidelines
 - FCOI declarations may have been missing/incomplete
 - Potential for underreporting when reliance on voluntary reporting

Guideline-level results

- Over half of the authors on 15/28 (53.6%) guidelines declared FCOI with drug companies
- All authors on 6 guidelines declared FCOI with drug companies
- Authors on 15 guidelines declared relevant FCOI
- Over half of the authors in 8 guidelines declared relevant FCOI
- On average, 29.2% of authors per guideline declared relevant FCOI
- On average, 13.0% of authors per guideline declared non-relevant FCOI

Organizations' corporate sponsors results

- 26/28 (92.9%) guidelines identified affiliations with 37 professional organizations
- 14/37 (37.8%) organizations identified pharmaceutical industry corporate sponsors on their respective websites
- 5/28 (17.9%) guidelines: at least one drug recommended for first-line treatment was manufactured by drug companies that were also listed as corporate sponsors on the affiliated organizations' websites

Limitations

- Scope of analysis limited by exclusion criteria that eliminated guidelines if authors or committee members were not explicitly named
- Accounted for only first-line drugs, did not account for second- and third-line drugs in this analysis
- Did not account for strength of evidence used to make the first-line recommendations
- Did not differentiate between types of FCOI

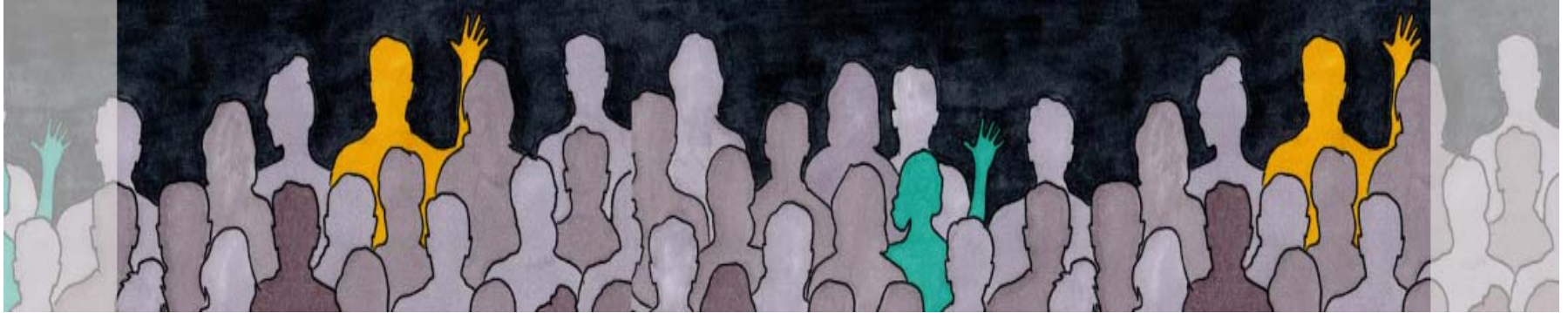
Conclusion

- To our knowledge, this is the first study to systematically describe:
 - FCOI disclosures in Canadian guidelines
 - Relationship between guidelines' affiliated organizations' corporate sponsors
- International studies on FCOI disclosures across medical specialties have produced results similar to our findings
- Our findings support the need for future research to measure both prevalence and normative underreporting of FCOI in guidelines and whether FCOI are associated with authors' guideline recommendations
- Our findings suggest the need for accurate and consistent disclosures

Recommendations

- German before-and-after comparison study:
 - After the Association for Scientific Medical Societies in Germany instituted new disclosure rules in 2010, disclosures in guidelines increased from 8% to 95% in 2011
- Reform requires cooperation from guideline-creating groups to ensure that FCOI declarations and procedures used to declare, document, and the disclosures themselves are publicly-available
- Physicians tend to have confidence in and attribute value to guidelines issued by official professional organizations
- We encourage the CMA to develop an equivalent policy on financial and non-financial disclosures held by authors

The Politics of Prescribing



Thank you

✉ Email: adrienne.shnier@gmail.com

🌐 Website: www.adrienneshnier.com

📘 Facebook: **The Politics of Prescribing** –
<http://www.facebook.com/adrienne.shnier.pharma.coi>

🐦 Twitter: @AdrienneShnier