TRANSLATING EDITOR COI VALUES TO ACTION: THE MISSING LINK

TRANSLATING EDITOR COI VALUES TO ACTION: THE MISSING LINK

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LAY ABSTRACT

Conflict of interest (COI) can play an important role in the stages of getting research published. However, COI of journal editors has not been studied. The aim of this study was to find whether COI policies for editors exist and to probe editors' perceptions about the policies. The study found that editors believe COI policies are important but for the most part, whether a journal has an editor policy or not, does not affect their perception of the journal's validity, quality, and transparency. This study also suggests there are few barriers to implementing an editor COI policy. Additional research is needed to demonstrate the role COI plays in the research enterprise with regard to research integrity, and journal credibility and trustworthiness.

ABSTRACT

Introduction: Conflict of interest (COI) exists when an individual in the publication process has a competing interest that could compromise their publication process responsibility. COI is commonly associated with authors and less so with editors. Many organizations (e.g. World Association of Medical Editors (WAME)) provide resources and recommendations for addressing COIs at medical journals. However, there are no data describing journals' utilization of these resources for editor COI policy development or adoption, and little data on the value of editor COI policies. This study aimed to understand current editor COI practices and editors' perceptions of COI policies, along with barriers to their implementation.

Methods: An online survey developed in LimeSurvey™ was distributed to editorial board members of oncology and health care sciences and services journals to measure respondents' attitudes about COI definitions and features and COI policy experience; barriers to implementing editor COI policies; and editors' perceptions of COI policies. Frequency analysis of survey data was conducted. Free-text responses were summarized.

Results: Response rate was 20.2% (66/327), and comprised complete and partial survey respondents. The majority of respondents were editors-in-chief. Overall, respondents agreed that defined WAME COI domains were important components of an editor COI policy. Nearly 50% of respondents belonged to

journals with existing editor COI policies, which they continued to use. Nearly 25% were unaware of the current editor COI policy status at their journal. Few implementation barriers were identified, the most common being challenges with verification of disclosures. Overall, respondents did not report strong attitudes in favour of or against editor COI policies, but respondents agreed that journals with an editor COI policy were more credible and trustworthy.

Conclusion: This study shows that editor COI policy development and utilization is not a universal standard of practice and suggests that recognition of the value of an editor COI policy may not be widespread among editorial board members.

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“Strength does not come from winning.
Your struggles develop your strengths.
When you go through hardships and decide not to surrender, that is strength.”
– Mahatma Gandhi

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LIST OF ALL ABBREVIATIONS AND SYMBOLS

A	5-point Likert Scale: Agree
COI	Conflict of Interest
COIs	Conflict of Interests
COPE	Committee on Publication Ethics
CSE	Council of Science Editors
D	5-point Likert Scale: Disagree
HCSS	Health Care Sciences and Services
ICMJE	International Committee of Medical Journal Editors
JIF	Journal Impact Factor
N	5-point Likert Scale: Neutral
N	Sample Size
ONC	Oncology
SA	5-point Likert Scale: Strongly Agree
SD	5-point Likert Scale: Strongly Disagree
UNK	Unknown Journal Index Category
WAME	World Association of Medical Editors

CHAPTER 1

Introduction

In the context of medical publishing, the World Association of Medical Editors (WAME) (2009) considers a conflict of interest (COI) to exist when a participant (e.g. author, peer reviewer, or editor) in the publication process (e.g. submission of manuscripts, peer review, editorial decisions, and communication between authors, reviewers and editors) has a competing interest that could unduly influence his or her responsibilities in this process, or be reasonably seen to do so. These responsibilities can include academic honesty, unbiased conduct and reporting of research, and integrity of decisions or judgments. WAME (2009) has identified 5 types, or domains, of competing interests: financial ties, academic commitments, personal relationships, political or religious beliefs, and institutional affiliations, and provides recommendations on how to declare and manage these COIs.

COI has commonly been associated with the authors of published work, but there is considerably less discussion of the COIs of editors (Steinbrook, 2012). Marušić (2009) suggests that editors may also have COIs which could affect what they publish in their journal, yet guidelines directed at managing editorial board COIs are not always made clear. In 1979 (with an update in 2010) the International Committee of Medical Journal Editors (ICMJE) published

"Uniform Requirements for Manuscripts Submitted to Biomedical Journals", which proposed recommendations for practices for addressing COIs at medical journals, including COIs related to editors. However, adherence to these recommendations is voluntary (Steinbrook, 2012). Several organizations including the WAME, Committee on Publication Ethics (COPE), and Council of Science Editors (CSE) provide resources for biomedical journal editors, including sample editor policies (Galipeau, 2016). While these resources exist, there are no data that describe the extent to which they are used by journals in developing their editor COI policies and for managing specific COIs that are revealed.

An editor's responsibility is to ensure the integrity of the review process and to contribute to an appropriate level of objectivity and impartiality in scientific publishing (Smith, 2012). A journal's high standard of integrity is essential, regarded by its readers as an assurance of the accuracy and reliability of the published findings, and removes doubts about the impartiality of the process of scientific research and publishing (Smith, 2012). Scholars (Relman, 1984) argue that public support for medical research is greatly dependent on trust in the integrity of investigators and that trust is considered a fundamental element in the research enterprise. Having policies in place that assess COI is crucial to conducting ethically sound research as it limits, if not prevents, jeopardizing the scientific integrity of the research as well as the protection offered to study participants. Similarly, for editors, disclosure and management of their COI is

important given their authoritative role with regard to manuscripts and the potential impact of editorial decisions on subsequent medical research, education of trainees, and clinical practice itself (Steinbrook, 2012).

While at face value these arguments are compelling, problems exist. Specifically, the discourse around editor COI to date has been framed primarily in editorials, commentaries and various other opinion pieces (Smith, 1994; Savage, 2002; Fava, 2003; Marusic, 2009; Young, 2009; Marcovitch, 2009; King, 2012; Marcovitch, 2012; Bauchner, 2013; Parrish, 2014; Senior, 2015; Kojima, 2016). Arguments are cogent and focus on the potential for problems, risk of bias and compromised credibility to the publication process. However, very little data have been collected to look at this particular issue in a rigorous or systematic fashion. For example, literature is lacking with regards to the prevalence of editor COI policies (Bosch, 2013; Khurana, 2012; Anraku, 2009; Gasparyan, 2013), few articles assess editors' awareness of policies and journals' management and disclosure procedures (Alfonso, 2012; Ancker, 2007; Haivas, 2004; Cooper, 2006), and little empirical research has investigated editors', authors' or readers' perception of a journal's credibility as a function of whether COI policies exist or not.

Where data do exist, a troubling pattern emerges. Bosch et al. (2013) assessed the prevalence of authors' financial and nonfinancial COI disclosure

policies as well as editors' COI disclosure policies among the most influential biomedical journals publishing original research. They found that while rates of author financial and non-financial COI disclosure were fairly robust (90% and 70%, respectively), rates of editor COI disclosure were considerably less so (40%). Haivas et al. (2004) found similar results when they surveyed journal editors to explore policies toward COIs (financial and nonfinancial) of editors and other staff involved in manuscript decisions. They found that only 30% of journals stated they had an explicit policy to deal with editors' financial COI. Prevalence of editor COI policy is noticeably lower in specific biomedical fields. For example, Khurana et al. (2012) found that 40% of nonpsychiatric journals had COI policies for editors, while only 15% of psychiatric journals had such policies. Similarly, Anraku et al. (2009) found that among ophthalmology journals, 33% had policies for editors; however, all journals had policies for authors, and 60% had policies for peer-reviewers. Likewise, Gasparyan et al. (2013) found that only 16.3% of rheumatology journals had adopted comprehensive policies on COI disclosure for authors, reviewers and editors.

Where editor COI policies do exist, public access to the policy documents (e.g. postings on journal websites) and transparent disclosure and documentation of editor COIs were very uncommon. Ancker et al. (2007) found that across 12 different scientific disciplines, 56% of the journals had policies for editors' COI; however, survey respondents confirmed that not all policies were

publicly available. Half of the journals with policies for editors' COI did not have publicly available policies; they were either unwritten, unpublished or were sent individually to editors. Overall, these data demonstrate the divide between authors and editors with respect to the transparency of COI disclosures and publicly accessible policies.

In addition, while problems clearly exist with the frequency with which editor COI policies exist and are transparently described by journals, there are also limitations even when editor COI policies are present. These issues pertain particularly to the scope of the COI policy, as well as how COIs are declared and managed. Few studies have looked at the content of editor COI policies to determine their various management and declaration techniques (Alfonso, 2012; Cooper, 2006). Alfonso et al. (2012) implemented a standardised questionnaire to understand current COI policies and practices among European Society of Cardiology national cardiovascular journals. They found that only 44%, 25% and 18% of journals had author-, reviewer-, and editor-specific policies, respectively. Surprisingly, very few journals had policies that included management strategies (e.g. delegating decisions to other editors or to invited guest editors) and only one-third of the editors stated familiarity with ICMJE's "Uniform Disclosure Form". Similarly, Cooper et al. (2006) surveyed editors of peer-reviewed biomedical journals that publish original research to characterize author, peer-reviewer and editor COI policies and to determine what information about COI disclosures is

publicly available. They found that only 40% of journals had a specific policy for editors, of which only 35% required editors to provide written attestation of COI and only 31% had specific policies of recusal. Indeed, where data exist, they demonstrate that editor COI policies tend to be narrow in scope and capture few of the COI domains proposed by the WAME (Ancker, 2007).

Most studies in this area focus on whether or not editor COI policies exist. There are little data to support the contention that editor COI matters. Specifically, none of the previous studies assessed whether perceptions of a journal's credibility were dependent on the presence or absence of an editor COI policy or whether this informed decisions on which manuscripts were published or how they were chosen. Moreover, while Alfonso et al. (2012) assessed the editors' awareness of COI policies and disclosure and management procedures as well as the barriers and enablers to implementing the ICMJE "Uniform Disclosure Form", they did not assess the barriers and enablers of introducing an editor COI policy nor did it assess editors' perception of credibility as a result of a journal having (or not having) an editor COI policy. Work by Haivas (2004) found that, overall, senior editors were likely to state that declaring editors' financial interests is "unnecessary"; "editors do not have conflicts of interest", "[COI] issue had never been considered"; and that few mechanisms exist to ensure that all declarations are updated, even when there is a policy for declaring these COIs. This calls into question the efficacy of these policies.

Together, these data demonstrate a divide between how author and editor COI is conceived and managed; and considerations of editor COI is not routine practice. These data also demonstrate that editor COI policies, where they do exist, tend to be limited in scope. There is no research to explain why prevalence is so low or why some COI domains are addressed and others are not, despite the existence of standards developed by editors for editors. There is virtually no data demonstrating that editor COI is normative or valued in the publication field or whether editor COI policies influence perceptions of a journal's credibility or quality.

In response to these gaps in knowledge, the objectives of this study were to: 1) investigate/evaluate the domains comprising the editor COI policies of the participants' journals; 2) perform a barrier analysis to understand why prevalence of editor COI policies may be low; and 3) assess the effect of a journal having or lacking an editor COI policy on the editors' perception of the journal's credibility.

It was hypothesized that having an editor COI policy may contribute to the editors' perception that the journal is more credible, less biased, and of greater quality, and that the policy improves the journal's transparency and protects the integrity of research.

The goal of this research is to better understand editors' perceptions of the importance of having an editor COI policy in place. Furthermore, it will provide insight on how having or not having an editor COI policy may influence editors' perceptions of the credibility of the research enterprise, i.e. validity, research integrity, readership confidence, and transparency. This will contribute to a currently understudied area by providing data that sheds light on how COIs are perceived and managed, and elaborating on the editors' perspectives of the importance of having COI policies.

CHAPTER 2

Methods

Study Design

This research project was designed as an observational descriptive study to understand the current perceptions of editors about COI policies for editors and journal credibility through an online survey. Prior to developing the survey questions, members of the study team (MB & AJ) generated a list of the information and concepts anticipated to be collected using the survey along with rationale for how each question would contribute to answering the research objectives. Principles of designing a good survey were taken into consideration, i.e. clear instructions and well-phrased questions (Hulley, 2013). Instructions were outlined for each set of questions to clearly indicate how to respond to ensure accurate, informative and standardized responses (Hulley, 2013). Definitions of key terms were also included to assist the respondents; for example, definitions for WAME COI and its domains, definitions of minor and major barriers, and so on. Sample responses were also included to assist the respondent in choosing the best option applicable to them.

Unambiguous questions with no hidden assumptions were created in efforts to achieve accurate, precise and honest responses while not offending the respondents (Hulley, 2013). To minimize prompting (of desirable answers),

questions were neutrally worded (Hulley, 2013). Branching questions were also included to follow-up certain answers and to save time and avoid irrelevant or redundant questions (Hulley, 2013). The goal was to develop concise questions so as to not overburden respondents, which could decrease the accuracy and reproducibility of their responses.

Once the survey questions were developed, they were critically reviewed by the investigator (AJ) and experts in the fields of guideline development and knowledge translation (MB), biostatistics and statistical design (GP), and research synthesis methods and guidelines (NS) to ensure they were relevant and representative of the research objectives (content validity). A first draft of the survey was developed and piloted by a member of the study team (MB), and survey questions were refined as needed. The goal was to balance the survey length with optimal response rates, accuracy and reproducibility.

The survey was then developed in the LimeSurvey™ interface and underwent a pre-test phase by members of the study team (MB & AJ) to validate the conditions set on the branching questions; to make sure it was clear and flowed logically; to ensure the response options matched the question and would produce appropriate answers; and to ensure it could be completed in the specified time frame. The overall goal was to create a visually appealing and easy to use survey with minimal overcrowding or cluttering, with response scales

spaced widely enough to avoid any errors such as accidentally selecting the answer next to the desired one (Hulley, 2013). Colleagues with expertise in LimeSurvey™ reviewed the survey for usability, formatting, branching logic and conditions, and to ensure the survey was set up such that it would not be directed to recipients' trash, spam, or junk email folders.

Sampling & Recruitment

Prior to beginning recruitment, inclusion criteria were established to determine which journal areas or fields would be targeted and which editorial board titles would be approached. Journals indexed as "Oncology" or "Health Care Sciences & Services" as per the InCites Journal Citations Reports (Thomson Reuters, 2016) database, with an average JIF (Journal Impact Factor) percentile range of 50-100 (in 2015), and English only were selected. Establishing criteria for which editorial board titles would be invited to participate required some deliberation due to the varied terms and nomenclature used between journals. As a consequence, participants were asked to choose from an expanded list of formal titles including the option of "Not a Member of a Journal Editorial Board" (Appendix A), and they were also asked if their role was a most senior editorial role or a role other than the most senior.

Upon establishing criteria for which editorial board titles would be approached for participation, names of individuals for the various roles for each

journal were obtained. Uncertainties regarding inclusion or exclusion of editorial board members with atypical titles or roles were adjudicated by the investigator (MB). If the journal had more than one individual for a role they were randomized using the randomize function on Microsoft Excel. In instances where an individual was previously assigned, either to another journal or in another role, the next randomized individual would be approached.

Upon obtaining names of editorial board members for each journal, email addresses were obtained from journal websites, if available. If not, then addresses were obtained via affiliation websites or from corresponding author information found on PubMed. In situations where email addresses of a randomized individual were not found, we moved onto the next randomized editorial board member. If no email address was available and there was no other randomized editorial board member then the journal and that editorial board were eliminated from the pool (See Appendix B).

Survey invitations were distributed via a personalized email invitation using LimeSurvey™. Where possible, emails were also sent to the editorial board members' assistant. A random unique token code (invitation code) was generated for each editorial board member on the survey participant list. This token code was included in their invitation email. Only those with a unique, unused token code could access the survey. This ensured that each person

could only participate once and allowed for the respondents to remain anonymous. Only the research team had access to the master list linking email addresses with token codes.

The survey was opened on 27 June 2017 for six weeks with reminder emails sent at the 2-week and 4-week mark. Due to a lack of participation the survey was re-opened for four weeks at the start of the academic year (12 September 2017) with reminder emails sent at the 2-week mark. The survey closed on 10 October 2017. If the editorial board member did not complete the survey by this date, then the individual was deemed a non-respondent. Reminder emails were sent to limit a common problem of failure to make contact and consequently increase the response rate (Hulley, 2013). An opt-out option was also provided for those not interested in participating. Templates of survey invitation emails are available in Appendix C.

A convenience sampling technique was utilized and as a result, sample size was based on the number of available editors identified. However, it was desired to ensure that the expected sample size was sufficient to allow reasonable interpretation of results. The maximum width of a confidence interval occurs when the response rate is 50%, so, assuming a target sample size of 250 editors and a 50% response rate, the 95% confidence interval would range from 0.41 to 0.59 (equivalent to width of 0.18), which was deemed sufficiently precise

to make meaningful accurate estimates based on study results. Conservatively, with response rates of only 40% or 30%, the maximum width of the 95% confidence interval would be 0.203 and 0.236 respectively.

Materials

The survey was developed in LimeSurvey™ and housed on a secure server at McMaster University. The purpose of the study and an explanation of how the data will be used was presented at the start of the survey as part of the process of obtaining informed consent question. The survey was comprised of the 5 sections described below. See Appendix D for complete survey.

1) Demographics and Background: Participants were asked 13 questions about their editorial roles, editorial experience, graduate level training, and research experience. These items were answered using multiple choice and open-ended questions.
2) Attitudes about WAME COI Definitions and Domains: Participants were presented with the WAME definition of COI as well as a definition for each of the 5 WAME domains. For each domain, participants rated their agreement (5-point Likert scale; strongly disagree-strongly agree) on the domain being an important component of an editor COI policy.
3) Editors' COI Policy Experience: Participants were asked to indicate the current status of the editor COI policy at their journal, when it was

implemented, and the domains it included or would include in the future. These items were answered using multiple choice and open-ended formats.

4) Potential Barriers with Editor COI Policy Implementation: Participants were asked to indicate potential barriers to implement an editor COI policy. Barrier severity consisted of: Not a Barrier; Minor Barrier – one that causes some inconvenience(s) but that is easily manageable; and Major Barrier – one that causes more inconvenience(s) and requires more effort to manage. An open-ended free-text option was also provided.
5) Attitudes About Editor COI Policy: Participants were asked to rate their agreement (5-point Likert scale; strongly disagree-strongly agree) about attributes ascribed to journals with an editor COI policy compared to those without. Participants also rated their agreement on editor COI policies functioning as a marketing and business strategy.

Lastly, an “Any Other Comments” open-ended free-text option was provided for additional comments, feedback, and opinions. With the exception of “select all that apply”, and free text questions, response options were mutually exclusive to obtain a single response.

Data Analysis

Variables were calculated as frequencies. Comments provided as free-text responses and additional written feedback were summarized. Data was used from all participants who completed each particular question regardless if the participant completed all the survey questions (complete survey respondent) or some of the questions (partial survey respondent). Where appropriate, and for exploratory purposes, frequency analyses were calculated as a function of participants' journal index category (ONC, HCSS, HCSS & ONC, UNK). Journal index categories were determined based on the journal name respondents provided and its categorization or listing on the InCites Journal Citations Reports (Thomson Reuters, 2016). Participants that did not disclose their journal name or if their journal name was not categorized or listed on the InCites Journal Citations Reports (Thomson Reuters, 2016) database, then they were categorized as an unknown journal index category (UNK) during data analysis; i.e. if the participant was basing their responses on a journal other than the one for which they were approached for study participation.

Ethical Considerations

Efforts were made to ensure the welfare and rights of the participants were protected. In particular, the following ethical principles (National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research, 1978) were considered: respect for persons, the principle of beneficence, and the principle of justice. Respect for persons was maintained by obtaining informed

consent and ensuring this consent was voluntary, lacked coercion or undue influence, and provided the option to discontinue participation in the study at any time. Consent was implied when the respondent answered the consent question (at the start of the survey outlining purpose of the study and how data will be utilized), and completed and submitted the survey. The principle of beneficence was followed as the information gained from the study outweighed any inconvenience experienced by the respondents. Participants would not be enduring any additional risks by participating. The principle of justice was incorporated as the benefits and burdens of the study were distributed fairly among the population. All participants were treated equally and there was no form of discrimination. Furthermore, participant confidentiality was protected as all participants received a study token to allow responses to remain anonymous. A master copy of the participants' names and emails linked with their unique tokens was saved on a password protected computer. This study received Hamilton Integrated Research Ethics Board approval (REB #2688).

CHAPTER 3

Results

Participants

One hundred and seventy-seven journals were identified (Oncology only [ONC] n = 125 (70.6%); Health Care Sciences & Services only [HCSS] n = 50 (28.2%); Health Care Sciences & Services and Oncology [HCSS & ONC] n = 2 (1.1%)). Contact information (direct email address or email addresses of administrative personnel) was obtained for 327 journal editorial board members including: Editors-in-Chief, Associate Editors, Managing Editors, Assistant Editors, Editors, Associate Editors-in-Chief, and Scientific Editors. Contact information for four journal editorial board members could not be obtained (Appendix B). Administrative personnel notified the study team of incorrect email addresses for two journal editorial board members, who then proceeded to formally opt-out.

Of the 327 journal editorial members invited to participate (Figure 1), 66 (20.2%) consented to participate in the survey. Thirty-five participants completed the survey (ONC = 19; HCSS = 11; UNK = 5), two of which (5.7%) indicated they were not members of a journal editorial board, at which point the survey ended for them (complete). Thirty-one individuals consented to participate (ONC = 11; HCSS = 9; HCSS & ONC = 1; UNK = 10), who eventually left the survey at some

point without completing it in its entirety (partial). Forty-five participants opted out (ONC = 30; HCSS = 15); this includes opt-outs from the administrative contact of the journal (Appendix E). For the purpose of this project, complete survey responses as well as incomplete survey (partial) data were analyzed. Specific response rates will be noted for each analysis.

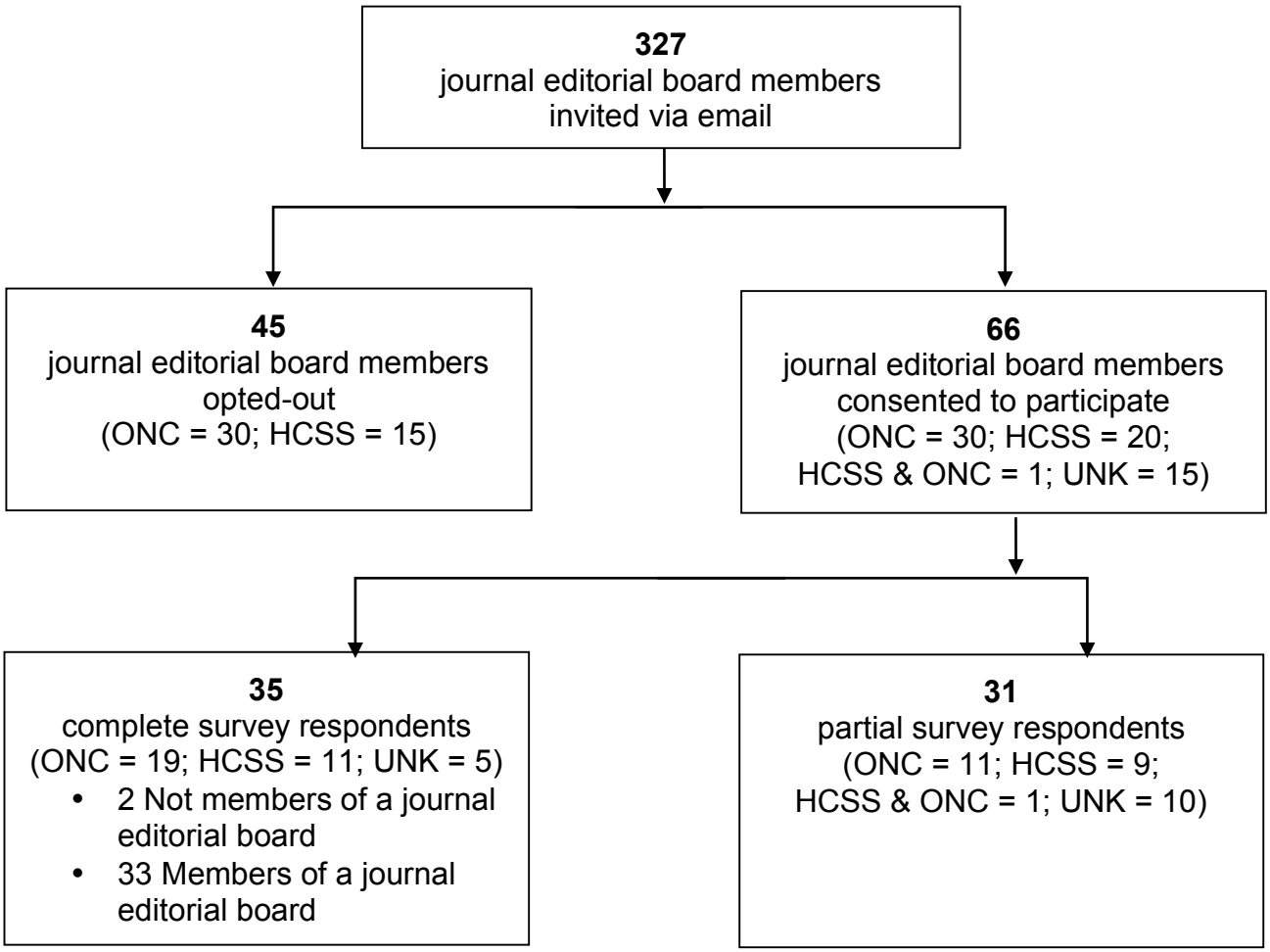

Figure 1 - Participant Flow Diagram

Demographics

Demographic information for survey respondents who completed the survey in its entirety or partially are presented in Table 1. Patterns are generally similar between the two respondent groups. In terms of editorial role, more editors-in-chief (48.4%; 31/64) participated compared to editors and associate and assistant editors (32.8%; 21/64). Two-thirds of respondents identified their editorial board title as 'most senior role(s) in the editorial governance'. A majority of respondents reported having held previous editorial roles (79.6%; 43/54). Compared to those who partially completed the survey, more respondents who completed the survey in its entirety had clinical training (42.4%; 14/33). A majority of respondents from both groups specified having non-clinical graduate level training in the science discipline. Similarly, a majority of respondents reported having more than 20 years of research experience, and belonging to the 50-69 age range.

Table 1: Demographics

		Respondents – Complete Survey N = 35	**Respondents – Partial Survey N = 31**
Editorial Role		**N = 35**	**N = 29**
	Editor-in-Chief	16 (45.7%)	15 (51.7%)
	Editor	4 (11.4%)	1 (3.4%)
	Associate Editor	6 (17.1%)	7 (24.1%)
	Assistant Editor	1 (2.9%)	2 (6.9%)
	Editor for a Specific Section	2 (5.7%)	1 (3.4%)
	Other	4 (11.4%)	3 (10.3)%
	Not a Member of	2 (5.7%)	0

	a Journal Editorial Board		
Editorial Role Category		**N = 33**	**N = 28**
	Most senior role(s) in editorial governance	22 (66.7%)	18 (64.3%)
	Other than most senior role(s) in editorial governance	11 (33.3%)	10 (35.7%)
Year Role Assumed		**N = 33**	**N = 21**
	< 2000	2 (6.1%)	2 (9.5%)
	2000 – 2010	14 (42.4%)	2 (9.5%)
	> 2010	17 (51.5%)	17 (81.0%)
Previous Editorial Roles	Yes	27 (81.8%)	16 (76.2%)
	No	6 (18.2%)	5 (23.8%)
Years of Editorial Experience	< 10	13 (39.4%)	10 (47.6%)
	10 – 20	14 (42.4%)	9 (42.9%)
	> 20	6 (18.2%)	2 (9.5%)
Clinical Training	Yes	14 (42.4%)	5 (23.8%)
	No	19 (57.6%)	16 (76.2%)
Non-Clinical Graduate Level Training	Science	19 (57.6%)	14 (66.7%)
	Social Sciences	2 (6.1%)	1 (4.8%)
	Other	6 (18.2%)	4 (19.0%)
Years of Research Experience	< 10	3 (9.1%)	4 (19.0%)
	10 – 20	10 (30.3%)	2 (9.5%)
	> 20	20 (60.6%)	15 (71.4%)
Age	< 50	5 (15.2%)	5 (23.8%)
	50 – 69	25 (75.8%)	15 (71.4%)
	> 69	3 (9.1%)	1 (4.8%)
Gender	Male	20 (60.6%)	11 (52.4%)
	Female	13 (39.4%)	10 (47.6%)

Survey responses (complete and partial) were received from editorial board members representing 30/125 (24%) ONC journals, 20/50 (40%) HCSS

journals, 1/2 (50%) HCSS & ONC journals, and 15/177 (8.5%) UNK journals. There were fewer ONC journal respondents than approached (125/177), and more HCSS journal respondents than approached (50/177).

Attitudes About WAME COI Definition and Domains

Overall (Table 2), respondents (complete and partial) moderately or completely agreed that the WAME COI domains were important components of an editor COI policy: financial ties (90.2%; 46/51); academic commitments (72.5%; 37/51); personal relationships (82.4%; 42/51); political or religious beliefs (51%; 26/51); and institutional affiliations (70.6%; 36/51). The greatest variation in level of agreement across respondents was noted for the political or religious beliefs domain. This held true for individuals who completed the whole survey or part of the survey, regardless of the journal index category (Appendix F & G). While UNK, and HCSS & ONC respondents had a tendency to have stronger agreement scores than ONC and HCSS respondents, it is important to note that there were only four respondents in the former categories, which may contribute to skewed results (Appendix G).

In their written feedback, participants identified additional COI domains they believed to be important components of an editor COI policy; these included intellectual perspectives or preferences (i.e. similar or different ways of thinking or schools of thought), holding dual roles with a competing journal (i.e. *"if authors*

are also editors of another journal that directly competes with the journal the manuscript is submitted to"), disclosure of the professor-student relationship (which could be interpreted as a COI associated with authors), as well as COI domains that could expose fake reviewers, multiple submissions, the buying and selling of authorship, as well as misconduct aimed at improving impact factor and scientific significance.

Table 2: Level of agreement for WAME COI domains being an important component of an Editor COI Policy

WAME COI Domains	All Respondents **N = 51**; N (%)				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Financial Ties	1 (2.0)	1 (2.0)	3 (5.9)	11 (21.6)	35 (68.6)
Academic Commitments	2 (3.9)	4 (7.8)	8 (15.7)	20 (39.2)	17 (33.3)
Personal Relationships	2 (3.9)	2 (3.9)	5 (9.8)	20 (39.2)	22 (43.1)
Political or Religious Beliefs	6 (11.8)	9 (17.6)	10 (19.6)	11 (21.6)	15 (29.4)
Institutional Affiliations	4 (7.8)	2 (3.9)	9 (17.6)	18 (35.3)	18 (35.3)

Editor COI Policy Experience

Table 3a presents the current editor COI policy status as reported by the 50 respondents who completed this question. Of those that responded, 48% indicated that their journal had an editor COI policy, which was present when they started, and that they continued to implement. On the other hand, 8% reported their journal had an editor COI policy that they no longer implemented; 8% reported introducing the editor COI policy at their journal after joining the journal; and 22% (ONC – 7; HCSS – 3; UNK – 1; Appendix H) of participants indicated that they did not know the current status of the editor COI policy at their

journal. Variations in the current status of the editor COI policy as a function of journal index category were also noted (Appendix H). For example, it was only within ONC journals where the use of editor COI policies was discontinued, and that no editor COI policies were initiated by the participant after taking on the role.

Table 3a: Editor COI Policy – Current Status

Current Status	**All Respondents** **N = 50**; N (%)
Journal has no Editor COI Policy and I do not plan on introducing one	4 (8%)
Journal has no Editor COI Policy but I plan to introduce one	3 (6%)
Journal has an Editor COI Policy, which was there when I started, but I do not implement it	4 (8%)
Journal has an Editor COI Policy, which was there when I started, and I continue to implement it	24 (48%)
Journal has an Editor COI Policy that I introduced after I started	4 (8%)
I do not know	11 (22%)

Table 3b presents the WAME COI domains included in the editor COI policy as reported by the 39 respondents who completed this question. Responses as a function of journal index category are reported in Appendix I. A majority of respondents indicated their journal's editor COI policy comprised of the following domains: Institutional Affiliations, Financial Ties, Personal Relationships, and Academic Commitments. Few policies included the Political or

Religious Beliefs domain, with one-third of respondents reporting this domain as not being a future priority for inclusion. From Table 3a: four of the respondents that indicated their journal did not have a COI policy and that they did not plan to introduce one; and three of the 11 respondents who did not know if they had a COI policy, subsequently reported they did not have a policy and did not want one (Table 3b).

Table 3b: Editor COI Policy – Domains Included

WAME COI Domains	**All Respondents** **N = 39**; N (%)
Financial Ties	23 (60.0%)
Academic Commitments	18 (46.2%)
Personal Relationships	20 (51.3%)
Political or Religious Beliefs*	9 (23.7%)**
Institutional Affiliations	24 (61.5%)
Not Applicable: we do not have an Editor COI policy and we don't want it	7 (17.9%)

**1 participant [Onc] left this domain blank;* **N = 38

In their responses to the open-ended question with respect to other COI domain(s) that currently exist in respondents' editor COI policy or that they plan to include, one respondent indicated that editors also have a policy on personal relationships however, this is not publicly stated on the journal's website. Another respondent expressed:

"There are no formal rules for COI but [we] are constantly discussing them. There are unwritten rules".

The respondent did not provide additional information describing the unwritten rule or how these issues were discussed and managed.

Potential Barriers with Editor COI Policy Implementation

Table 4a presents 37 respondents' assessments of barriers with implementing an editor COI policy. Overall, there were few barriers identified. The most common barriers were verification of disclosures (69.4%: 44.4% minor barrier and 25% major barrier), and time added to the publication process (40.5%: 32.4% minor barrier and 8.1% major barrier). Interestingly, more respondents indicated challenges in the recruitment of editorial team members as a major barrier (16.2%) than as a minor barrier (8.1%), yet here as well, 75% of the respondents indicated it was not a barrier. Potential barriers with implementing an editor COI policy as a function of journal index category are reported in Appendix J.

Table 4a: Potential Barriers with implementing an Editor COI Policy

Barrier Severity / Potential Barrier	All Respondents N = 37; N (%)		
	Not a Barrier	**Minor Barrier**	**Major Barrier**
Publication process is more complex	23 (62.2%)	11 (29.7%)	3 (8.1%)
Publication process is more expensive	28 (75.7%)	7 (18.9%)	2 (5.4%)
Publication process is more time consuming	22 (59.5%)	12 (32.4%)	3 (8.1%)
Verification of disclosures not always possible*	11 (30.6%)	16 (44.4%)	9 (25%)
Recruitment of editorial team members is more difficult	28 (75.7%)	3 (8.1%)	6 (16.2%)
Editor COI policy not perceived as important to members of editorial team*	28 (77.8%)	8 (22.2%)	0 (0%)
Editorial COI policy not perceived as important by journal publishers*	29 (80.6%)	7 (19.4%)	0 (0%)

Minor barrier: one that causes some inconvenience(s) but that is easily manageable
Major barrier: one that causes more inconvenience(s) and requires more effort to manage
**1 participant left this barrier blank;* N = 36

Table 4b presents assessments of barriers as a function of experience implementing a new editor COI policy at their journal. It is interesting to note that those without implementation experience were more apt to anticipate barriers that were not actually experienced or were less burdensome. For example, more complex, expensive, and time consuming publication process. Although the numbers are small, these data do suggest that the implementation process is not difficult as one might imagine. Potential barriers (experienced and anticipated) as a function of current editor COI policy status (as per Table 3a) are reported in Appendix K.

Table 4b: Potential Barriers with implementing an Editor COI Policy (as a function of experience)

		Experienced Barriers N = 3; N (%)	**Anticipated (or perceived) Barriers N = 34**; N (%)
Publication process is more complex	Not Barrier	2 (66.7%)	21 (61.8%)
	Minor Barrier	1 (33.3%)	10 (29.4%)
	Major Barrier	0 (0%)	3 (8.8%)
Publication process is more expensive	Not Barrier	3 (100%)	25 (73.5%)
	Minor Barrier	0 (0%)	7 (20.6%)
	Major Barrier	0 (0%)	2 (5.9%)
Publication process is more time consuming	Not Barrier	1 (33.3%)	21 (61.8%)
	Minor Barrier	2 (66.7%)	10 (29.4%)
	Major Barrier	0 (0%)	3 (8.8%)
Verification of disclosures not always possible	Not Barrier	0 (0%)	11 (33.3%)*
	Minor Barrier	3 (100%)	13 (39.4%)*
	Major Barrier	0 (0%)	9 (27.3%)*
Recruitment of editorial team members is more difficult	Not Barrier	3 (100%)	25 (73.5%)
	Minor Barrier	0 (0%)	3 (8.8%)
	Major Barrier	0 (0%)	6 (17.6%)
Editor COI policy not perceived as important to members of editorial team	Not Barrier	3 (100%)	25 (75.8%)*
	Minor Barrier	0 (0%)	6 (18.2%)*
	Major Barrier	0 (0%)	2 (6.1%)*
Editorial COI policy not perceived as important by journal publishers	Not Barrier	3 (100%)	26 (78.8%)*
	Minor Barrier	0 (0%)	7 (21.2%)*
	Major Barrier	0 (0%)	0 (0%)*

Minor barrier: one that causes some inconvenience(s) but that is easily manageable
Major barrier: one that causes more inconvenience(s) and requires more effort to manage
**1 anticipated (or perceived) participant left this barrier blank;* N = 33

In their responses to the open-ended question, participants described their experience, or anticipated future experience, of implementing an editor COI policy as requiring some constructive discussions, and awareness of issues affecting scientific integrity. One respondent elaborated that the discussion should include what other journals are doing and how that could be incorporated at their journal.

"I think it is worth discussing some of the topic areas that others use with the editorial board."

Another common experience was the involvement of an outsider in the implementation process, i.e. someone outside of the editorial board, such as the publisher or sponsors.

"The COI policy was and is established and enforced by our publisher. We have never had any issue with it, and work with the publisher to maintain and strengthen it when needed."

It was further noted that the external involvement may be creating COIs for editors and putting them in a compromising situation, professionally, with no procedure in place to handle such a situation.

"The conflicts for editors often are related to the sponsor of the journal that may have a policy interest adverse to articles that are submitted. The editor may be faced with loss of the position if the article is published. This does not fit neatly into the current model."

Lastly, select respondents expressed that implementing an editor COI policy is not on the journal's priority list compared to other concerns. For example, of the respondents that indicated no plans to implement an editor COI policy, one went on to describe:

> *"Although I think Editor COI policies are important, they may not be a priority for us. We have enough to do with author COI policies, which are already tricky. This more like an issue to keep eye on. As soon as our these policies develop, we might adopt one."*

Editors' Attitudes About Editor COI Policy

Table 5a presents editors' attitudes toward journals with versus without an editor COI policy. Editors' attitudes as a function of journal index category are reported in Appendix L.

Most commonly, respondents did not believe the presence of an editor COI policy made the journal more favourable than a journal without such a policy. Specifically, more respondents (42.4% – 60.6%) held neutral views (3, the mid-range of the 5-point Likert scale) across seven of the nine attributes considered (Table 5a). In contrast, respondents were apt to report that they moderately or completely agreed that journals with an editor COI policy were more credible (48.5%) and more trustworthy (51.6%) than journals without an editor COI policy.

Table 5a: Editors' Attitudes about Journals with versus without an Editor COI Policy

Editors' Attitudes	All Respondents N = 33; N (%)				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
More credible	2 (6.1)	5 (15.2)	10 (30.3)	13 (39.4)	3 (9.1)
More trustworthy	2 (6.1)	5 (15.2)	9 (27.3)	15 (45.5)	2 (6.1)
Use less biased methods in selecting papers to publish	2 (6.1)	4 (12.1)	14 (42.4)	9 (27.3)	4 (12.1)
Publish papers that are more interesting	4 (12.1)	9 (27.3)	18 (54.5)	1 (3.0)	1 (3.0)
Publish papers of superior methodological quality	4 (12.1)	7 (21.2)	20 (60.6)	1 (3.0)	1 (3.0)
Publish papers that are more impactful to the scientific enterprise	4 (12.1)	7 (21.2)	17 (51.5)	4 (12.1)	1 (3.0)
Publish papers that are more relevant to journal's mission statement	4 (12.1)	8 (24.2)	18 (54.5)	2 (6.1)	1 (3.0)
More likely to receive submissions by authors	5 (15.2)	9 (27.3)	17 (51.5)	1 (3.0)	1 (3.0)
More likely to attract readers to the journal	6 (18.2)	7 (21.2)	17 (51.5)	2 (6.1)	1 (3.0)

Table 5b presents editors' attitudes with respect to the operational components of a journal. More than half of the respondents held a neutral opinion about editor COI policies being a way to market a journal to readers and authors. Overall, there was a tendency toward moderately agreeing that editors declaring financial COIs is more important than declaring non-financial COIs. However, editors' perspectives with respect to editors' efforts to be free of COI not always aligning with the business aspects of the journal (e.g. impact factor, subscription or advertising goals, etc.) ranged from moderately disagree to moderately agree. One respondent further expressed:

"I think it (COI) is important…I am not sure that many authors have considered it one way or another. I think they are looking more at issues like Impact Factor and time to publication rather than editor COI."

Editors' attitudes with respect to operational components as a function of journal index category are reported in Appendix M.

Table 5b: Editors' Attitudes about the Operational Components of a Journal

Editors' Attitudes	**All Respondents N = 33**; N (%)				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Editor COI policies are a way to market a journal to readers and authors	4 (12.1)	8 (24.2)	17 (51.5)	3 (9.1)	1 (3.0)
Editors declaring financial COIs is more important than editors declaring non-financial COIs	1 (3.0)	7 (21.2)	10 (30.3)	11 (33.3)	4 (12.1)
The business aspects* of journal publication do not always align with editors' efforts to be free of COI	2 (6.1)	9 (27.3)	11 (33.3)	10 (30.3)	1 (3.0)

**Which include: striving for a high impact factor, subscription goals, advertising goals, managing publishers' expectations*

Lastly, based on the various open-ended responses, the following was brought to light. The current COI policies (and management models) may not be entirely effective. Which, could be attributed to who constitutes the editorial board. For example,

"I refer to the difference between openness and objectivity. If a very capable person is employed by a company, s/he isn't allowed to be part of an editorial board, where s/he may be more objective than some academics. Some of the most competent people work in industry. I believe that the current COI is not working optimally. I would allow expert persons to be part of an editorial board, but be open about the COI and to evaluate the performance (why rejecting or accepting papers as an example)."

It could be interpreted that who makes up the editorial board, the preconceived notions of who might be appropriate in the role, and who is perceived to be objective for the role, affects the publication process.

However, it is also important that when taking on the role, the editorial board member is aware of his or her responsibility and is objective.

"I think it is important to mention that while it is important to have an editor COI policy, it is also important to understand that your role as an editor is different than your role in any other facet of your life. If you can't do that, you should not do this job. Perhaps this is idealistic and it is probably all the reason in the world for the necessity of the Editor COI policy but you have to separate the role of the editor from everything else. You can't put yourself and your own personal "anything" into the role of the editor – that role is to advance the science, whatever it may be, not your personal agenda, either science related, personal related, political or religious unless the journal is of that nature."

Certain respondents provided additional written feedback based on which this key concept emerged: COI disclosure and management is based on the journal's culture which, may not necessarily require written rules and regulations. There is more contributing to the integrity of a journal than the mere presence of

policies. Ongoing conversation and awareness among the editorial board members also plays a role. Examples include,

"You are too focused on written rules and regulations. The culture of an environment is as important. We discuss the COI matter regularly. No editor could for instance not have economic interests in anything related to what is covered in the paper".

"COI has to be seen as part of a whole ecosystem of governance and oversight of a journal. Statements and policies alone don't make a good/bad journal – it is part of a whole system that looks at Editors suitability for the role, training, choosing suitable referees"

"While we have no COI policy, we also are very unlikely to publish papers that show that some invention or other "works" – the standard study that leads to COI. We are much more theory oriented. SO we accomplish the same goal more directly and actively."

CHAPTER 4

Conclusion

While author COIs and disclosure are commonly discussed, there is less discussion around editor COIs (Steinbrook, 2012). Previous studies have provided data on prevalence of editors' COI policies and some information about its coverage (Bosch, 2013; Khurana, 2012; Anraku, 2009; Gasparyan, 2013; Alfonso, 2012; Ancker, 2007; Havias, 2004; Cooper, 2006). However, data to explain why prevalence is so low, or why some COI domains are addressed and others are not is sparse; despite existing ICJME and WAME guidelines for policies specific to editors. This study contributed to this understudied area.

From the 327 journal editorial board members invited, there was a 20% response rate. Two-thirds of respondents categorized themselves as belonging to the most senior role in the editorial governance at their journal. Nearly half of the participants represented editorial boards of ONC journals. Overall, participants moderately or completely agreed that WAME COI domains, with the exception of Political or Religious Beliefs, are important components of an editor COI policy. Nearly half of the respondents pointed out that their journal had a pre-existing editor COI policy which they continued to implement during the publication process. Those who implemented an editor COI policy indicated few barriers with their experience.

It was hypothesized that having an editor COI policy may lead to the perception that a journal is more credible, less biased, of greater quality, improves journal's transparency and protects the integrity of research. In contrast to expectations, the research findings suggest that overall, respondents have neutral views - neither agreeing nor disagreeing - on attributes (e.g. research integrity, readership confidence) differing between journals with and without a policy. However, greatest variability in level of agreement was noted with respect to attitudes about operational attributes (e.g. marketing tactics) of a journal. The heterogeneity in level of agreement creates speculation around whether the multiple roles and responsibilities of the editor itself are the foundation of COIs for editors. This is something that needs to be further investigated as editors are also responsible for the journal's success and are answerable to the publishers.

The research findings shed light on experienced and perceived barriers to implementing editor COI policies. It was hypothesized that identifying the barriers would contribute to the explanation for why editor COI policy prevalence is low. However, the majority of respondents did not consider increased complexities with the publication process, and with recruitment to the editorial board, nor the publishers' expectations as barriers (experienced or anticipated). In contrast, challenges with verifying disclosures were more common, although most typically labeled as a minor (versus major) barrier. Together, these data are interesting:

while most respondents agreed that there are few barriers to implementing an editor COI policy, the apparent value and importance of an editor COI policy seems to be missing. As the data suggests, there was variability in editors' attitudes for various attributes of a journal in relation to the presence (or lack thereof) of an editor COI policy. Furthermore, not all respondents use an editor COI policy; with nearly a quarter of the respondents not knowing the current status of the editor COI policy at their journal.

Respondents indicated few barriers to implementation of an editor COI policy yet editor COI policies are not a standard of practice across journals. Having editor COI policies could simply be a formality with optional adherence. It could be that the value and role of a COI policy among editors is not the same as is attributed to authors and their COIs; an overall different culture may exist compared to authors' COIs, policies, management and disclosure. On the other hand, it could be that stakeholders have more trust in editors and their decisions. Conversely, stakeholders may not be aware of editors' potential COIs and its implication on their decisions in the publication process and subsequently the research enterprise. Literature has shown author COI disclosures can have an effect on readers' perceptions of the scientific credibility of published medical research (Chaudhry, 2002), sponsored trials tend to have more favourable outcomes (Probst, 2015), however little is known of the implications of editor COIs. Accusations exist that scientists who are also members of an editorial

board preferentially publish their work in their own journals (Mani, 2013). Literature shows that there is significant heterogeneity among urologic (Mani, 2013) and oral health journals (Rosing, 2014) for researchers preferentially publishing in the journal in which they serve as editor. Literature also shows that there is heterogeneity in the rules for editors, with COI policies being common for all involved and not unique for editors (Hussain, 2001) as well as policy implementation being inconsistent (Kojima, 2015). Editor COIs, disclosure and policies are important due to its potential implications on medical research, education, and practice (Steinbrook, 2012). Disclosure and management of authors' COIs is known to be routine practice. To date, there is no literature explaining the historical perspective of introducing author COI policies. Understanding how author COI policies came to be will allow journal editorial boards to learn from their (authors' COI policy) implementation process and can help inform the implementation of editor COI policies and make it a standard of practice as well.

A key viewpoint that emerged from respondents' written feedback was: COI disclosure is based on the journal's culture, which may not necessarily require written rules and regulations; ongoing conversation and awareness among the editorial board members contributes to the integrity of a journal. However, the downfall of unwritten rules is that they tend to be collective assumptions, and/or a reflection of preferences of the individual in charge which,

may or may not be accurately passed along to the editorial board members (Battah, 2015). Furthermore, since these rules are unwritten, there's a higher chance for members, especially new individuals, to make a mistake (Battah, 2015). Most importantly, the unwritten rules may not align with the intended written protocol (Battah, 2015). Additionally, the problem with identifying as a "culture" is that the term in itself has no clear definition (Traphagan, 2015). The culture of a group is constantly changing in relation to the people that make up the group and the values, beliefs, and opinions they bring with them (Traphagan, 2015). With no written editor COI policy, there's more room for error, and adherence to the intended editor COI policy rules is not guaranteed. Especially with the constantly changing values and beliefs of the "culture". In turn, emphasizing the need and importance of a written editor COI policy.

This study had many strengths and a few limitations. First, an online survey was utilized. Which is an efficient, inexpensive and standardized avenue to administer questions (Hulley, 2013). Furthermore, the survey link was sent via personalized email. Responses were directly entered into the LimeSurvey™ database, which produced very clean data as answers were automatically checked for missing values (i.e. mandatory fields left incomplete) which were pointed out to the respondent as they completed the survey. Responses were only saved once errors were corrected.

Second, mandatory questions were primarily closed-ended, which made questions quick and easy to answer, and having provided response options helped clarify the meaning of the question(s), if necessary (Hulley, 2013). Furthermore, it facilitated tabulation and analysis of responses, and was an appropriate format for multi-item scales (Hulley, 2013). However, a limitation of closed-ended questions was that it may have lead respondents in a certain direction not allowing them to express their own opinions, as the list of answer options may not have been exhaustive (Hulley, 2013). Therefore, as a solution, options such as “Other (please specify)”, and “None of the above” were included. In addition, there is the possibility for respondents to have given socially acceptable answers, as well as the possibility of errors due to memory and recall (Hulley, 2013).

Third, using the Likert scale, an existing and universally known method, allowed for results to be easily understood (LaMarca, 201) as well as compared across studies (Hulley, 2013). Furthermore, it did not restrict the participant to commit to a strong ‘Yes’ or ‘No’ but rather allowed the respondent to express their degree of agreement, which also includes neutral or undecided options (LaMarca, 2011).

The primary limitation of the study was the low response rate and the risk of non-response bias, which could be attributed to: the nature of the topic (i.e. not

a priority for editorial board members), the time-period during which the survey first opened (i.e summer) (Hulley, 2013; Cunningham, 2015), as well as the inability to contact editorial board member(s) due to a possibly incorrect email address. The small sample size prevented the effects of cluster (i.e. journal editorial board members clustered in journal; journals clustered in index category) to be analyzed. Furthermore, a minimum of 10 events per factor are required (Peduzzi, 1996) to mitigate bias and wide confidence intervals, which would prevent reliable conclusions to be drawn. As a result of the small sample size, statistical correlations or comparisons were not done as a function of journal index categories (i.e. ONC, HCSS, UNK) nor between complete survey respondents and incomplete survey respondents.

A secondary limitation was the representativeness of the sample. The distribution proportion of the actual respondents as a function of journal index category was not equal to proportions of those invited to participated. As a result, HCSS journals were overrepresented. Therefore, the validity of inferring that the respondents represent the entire population of editorial board members is affected (Hulley, 2013) and generalizability of the study is compromised.

Another limitation was the double use of “not”. Select participants expressed difficulty in understanding certain questions due to “not” in the question as well as in the answer option. The difficulty in understanding was

noted in particular for questions about potential barriers with implementing an editor COI policy (i.e. editor COI policy not perceived as important to members of editorial team, and not perceived as important by journal publishers). As this was noted by a handful of respondents, the overall objective to measure the idea of importance was achieved, nonetheless. The survey had face validity and was critically reviewed by experts for content validity. Pre-testing of the survey was done by members of the study team. To eliminate the lack of clarity in the future, the survey would be piloted by individuals outside of the study team.

Next steps for this research project will consist of obtaining additional data. The first step will be to improve the response rate by recruiting journal editorial board members who are known to the members of the study team (Hulley, 2013); reaching out for the support of senior journal editorial board members (e.g. editors-in-chief, chief editors) (Hulley, 2013) to facilitate the survey distribution process; and distribute the survey at journal editorial board members' meetings and conferences. It would also be beneficial to invite a journal editorial board member as a co-investigator or as a member of the study team. In addition, it will be beneficial to better understand the population by acquiring information from a sample of non-respondents to understand the reason(s) associated with not participating (Hulley, 2013). Secondly, data would be gathered through various qualitative avenues such as, focused groups and interviews, and formal thematic analyses would be performed to identify emerging themes. For further

exploratory research on this phenomenon, a qualitative descriptive design, such as key informant interviews with journal editorial board members would be optimal.

Future research would include investigating differences between senior and other members of the editorial board to determine if guidelines and COI-specific information, as well as editor COI policies are relayed and standardized throughout the editorial board. A majority of the respondents identified themselves as belonging to the most senior role(s) in editorial governance. It will be insightful to understand the situation from those who belong to the 'other than most senior role(s) in editorial governance' category as well. A more comprehensive understanding of editor COI policy implementation and utilization from the perspective of all levels of the editorial governance will provide a deeper understanding of the problem, if any. This will also provide an opportunity to develop appropriate next steps for mitigating the issue(s) at hand. The second focus for future research would include further investigating who is responsible for implementing the editor COI policy. Very few major barriers to implementing editor COI policies were reported. Therefore, further investigations will explore factors contributing to the low prevalence of editor COI policies. Additionally, select respondents highlighted that the publication process was coordinated by individuals outside of the editorial board. Further insight on the processes and the decisions made by external members will add to the understanding of the

value and importance accredited to editor COI policies. Another important focus for future research includes understanding the role of editor COIs. This can be achieved through a multi-arm randomized trial elucidating the impact of editor COIs (and disclosure) on readers' perceptions of the validity and trustworthiness of the data published and the journal overall, as well as its influence on the decision making process for medical practices, for instance. Readers would be given an article with either no editor COI disclosed, or with an editor's financial or non-financial COI disclosed and will be given a survey, which will assess readers' perceptions of the article as a function of the presence (or lack there of) of an editor COI and consequently the impact that editor COIs have on whether or not the readers trust or use the findings presented in the article and its respective journal. Readers may be more inclined to trust articles with no editor COI. A survey administered to subscribed journal readers to measure their perspective of articles' and journals' credibility, validity, and transparency in relation to the presence of an editor COI policy will speak to the influence of editor COIs and the importance of editor COI policies. This study could also be extended to authors of various journals to understand how editor COIs are perceived by authors and how they influence authors' perceptions.

Editors hold a powerful and important position as gatekeepers to knowledge (Marcovitch, 2012). Scientific literature is the primary avenue for communicating research results (Van Kolfschooten, 2002). Physicians and

patients put their trust in medical journals as a reliable source of medical information (Steinbrook, 2012), for example, when weighing evidence for prescribing a new drug (Silverman, 2009). The public as well, obtains information from the media that carry stories based on findings of research published in medical journals (Pickar, 2007). It is possible the editors' roles and responsibilities influence their editorial judgment and impact what is or is not published. Trust in the published research, especially maintaining the public's trust, is an important component of the publication process (Friedman, 2002).

This study provided initial data on editor COI policies, editors' perceptions of journal credibility as well as editors' attitudes about editor COI policies. While editors acknowledge the importance of WAME COI domains, only half of the respondents use their journal's editor COI policy. With editorial board members indifferent to the presence of an editor COI policy, an essential next step would be research demonstrating how editor COIs may hinder the publication process and subsequently affect evidence-based practices, health policy and guideline development, and the research enterprise.

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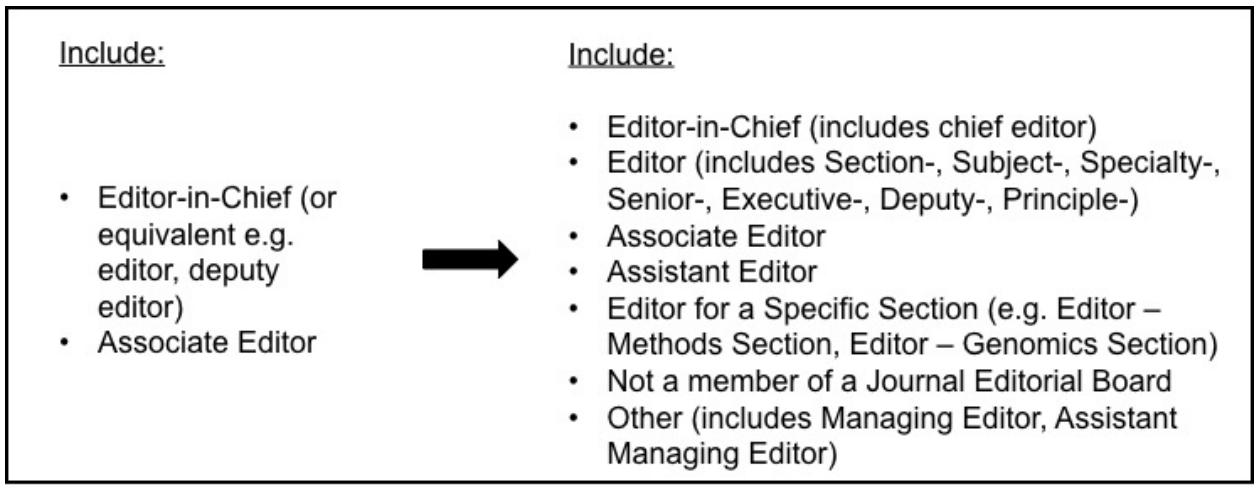
APPENDIX A: Expansion of Editorial Board Members Inclusion Criteria



APPENDIX B: Survey Invitation Email Breakdown

Editorial Role/Title	# emailed	# with NO e-mail addresses
Editor-in-Chief	140	1
Associate Editor	97	0
Managing Editor	16	2
Assistant Editor	5	1
Editor	66	0
Associate Editor-in-Chief	2	0
Scientific Editor	1	0
TOTAL	**327**	**4**

APPENDIX C: Survey Invitation Emails

Invitation Email (27 June 2017)

Invitation email subject: Journal Editorial Team Survey - Request from Dr. Melissa Brouwers at McMaster University

Invitation email:

RE: Journal Editorial Team Survey

A letter of invitation to participate in a research survey

Dear {FIRST NAME} {LAST NAME},

We invite you to participate in the Journal Editorial Team Project. We welcome your contributions to make this project a success through your participation in a 10-minute password protected survey.

The objective of this study is to explore the perspectives of journal editorial board members regarding conflict of interest and publication of research studies. By completing the on-line survey, you also indicate your consent to participate. You may decline to answer any question and you are free to withdraw at any time during the course of this study. We will provide you with a unique identifier code to ensure the confidentiality of your responses. This project has received Hamilton Integrated Research Ethics Board (HIREB) approval (REB #2688).

To begin this study, please go to: {SURVEYURL}

If you have any questions regarding this project, please contact me (mbrouwer@mcmaster.ca). If you have any questions about your rights as a research participant, please call the Office of the Chair, HiREB, at (905) 521-2100 x42013.

Thank you, {FIRST NAME} {LAST NAME}, for your consideration.

Yours sincerely,

Melissa Brouwers, PhD

Professor
Department of Oncology and Department of Health Research Methods, Evidence, and Impact (formerly "Clinical Epidemiology and Biostatistics")
McMaster University

Reminder Email (11 July 2017)

Reminder email subject: Reminder: Journal Editorial Team Survey - Request from Dr. Melissa Brouwers at McMaster University

Reminder email:

RE: Journal Editorial Team Survey

A letter of invitation to participate in a research survey

Dear {FIRST NAME} {LAST NAME},

Recently we invited you to participate in a survey.

We note that you have not yet completed the survey, and wish to remind you that the survey is still available should you wish to take part.

The survey is titled:
"{SURVEYNAME}"

The objective of this study is to explore the perspective of journal editorial board members regarding conflict of interest and publication of research studies. This study consists of a short survey that should take no longer than 10 minutes.

To participate, please click on the following link: {SURVEYURL}

Yours sincerely,

Melissa Brouwers, PhD

Professor
Department of Oncology and Department of Health Research Methods, Evidence, and Impact (formerly "Clinical Epidemiology and Biostatistics")
McMaster University

({ADMINEMAIL})

If you do not want to participate in this survey and don't want to receive any more invitations please click the following link:
{OPTOUTURL}

Reminder Email (20 July 2017)

Reminder email subject: Reminder & Opt-Out Option: Journal Editorial Team Survey - Request from Dr. Melissa Brouwers at McMaster University

McMaster University
Inspiring Innovation and Discovery

RE: Journal Editorial Team Survey

A letter of invitation to participate in a research survey

Dear {FIRST NAME} {LAST NAME},

Recently we invited you to participate in a survey and we note that you have not yet completed the survey.

If you do not wish to participate in this survey and don't want to receive any more invitations please click the following link: {OPTOUTURL}

If you wish to take part we would like to remind you that the survey is still available.

The survey is titled:
"{SURVEYNAME}"

The objective of this study is to explore the perspective of journal editorial board members regarding conflict of interest and publication of research studies. This study consists of a short survey that should take no longer than 10 minutes.

To participate, please click on the following link: {SURVEYURL}

Yours sincerely,

Melissa Brouwers, PhD

Professor
Department of Oncology and Department of Health Research Methods, Evidence, and Impact (formerly "Clinical Epidemiology and Biostatistics")
McMaster University

({ADMINEMAIL})

Opt-out of survey:

{OPTOUTURL}

Reminder Email (12 September 2017)

Reminder email subject: Reminder & Opt-Out Option: Journal Editorial Team Survey - Request from Dr. Melissa Brouwers at McMaster University

McMaster University
Inspiring Innovation and Discovery

RE: Journal Editorial Team Survey

A letter of invitation to participate in a research survey

Dear {FIRST NAME} {LAST NAME},

Over the summer you were approached to participate in the Journal Editorial Team Survey. We know the summer months can be really busy. If you were unable to participate then, but are willing to contribute now, we would be very grateful.

The survey is titled:
"{SURVEYNAME}"

The objective of this study is to explore the perspective of journal editorial board members regarding conflict of interest and publication of research studies. This study consists of a short survey that should take no longer than 10 minutes.

To participate, please click on the following link: {SURVEYURL}

If you do not wish to participate in this survey and no longer want to receive invitations please click the following link: {OPTOUTURL}

Thank you for your time.

Yours sincerely,

Melissa Brouwers, PhD

Professor
Department of Oncology and Department of Health Research Methods, Evidence, and Impact (formerly "Clinical Epidemiology and Biostatistics")
McMaster University

({ADMINEMAIL})

Opt-out of survey:

{OPTOUTURL}

Reminder Email (27 September 2017)

Reminder email subject: Reminder & Opt-Out Option: Journal Editorial Team Survey - Request from Dr. Melissa Brouwers at McMaster University

RE: Journal Editorial Team Survey

A letter of invitation to participate in a research survey

Dear {FIRST NAME} {LAST NAME},

Over the summer you were approached to participate in the Journal Editorial Team Survey. We know the summer months can be really busy. If you were unable to participate then, but are willing to contribute now, we would be very grateful.

The survey is titled:
"{SURVEYNAME}"

The objective of this study is to explore the perspective of journal editorial board members regarding conflict of interest and publication of research studies. This study consists of a short survey that should take no longer than 10 minutes.

To participate, please click on the following link: {SURVEYURL}

If you do not wish to participate in this survey and no longer want to receive invitations please click the following link: {OPTOUTURL}

Thank you for your time.

Yours sincerely,

Melissa Brouwers, PhD

Professor
Department of Oncology and Department of Health Research Methods, Evidence, and Impact (formerly "Clinical Epidemiology and Biostatistics")
McMaster University

({ADMINEMAIL})

Opt-out of survey:

{OPTOUTURL}

APPENDIX D: LimeSurvey™ Journal Editorial Team Project Survey

Journal Editorial Team Project

Welcome to the **Journal Editorial Team Project**

The objective of this study is to explore the perspectives of journal editorial board members regarding conflict of interest and publication of research studies. If you consent (next page), you will be asked to complete a short survey that should take no longer than 10 minutes. You may decline to answer any or all questions and are free to withdraw at any time during the course of this study.

If you have any questions regarding this project, please contact Dr. Melissa Brouwers (mbrouwer@mcmaster.ca) or Ms. Anushka Jaffer (jaffea6@mcmaster.ca). If you have any question about your rights as a research participant, please call the Office of the Chair, HiREB, at (905) 521-2100 x42013.

Thank you, Dr. Melissa Brouwers & Ms. Anushka Jaffer

There are 33 questions in this survey

Consent

1 [S1-1] By completing this survey, you will be consenting to participate in the *Journal Editorial Team Project*. You may discontinue this survey at any time by exiting out of the survey platform. If you wish to withdraw your data after completion, please contact:

Ms. Anushka Jaffer at: jaffea6@mcmaster.ca OR Dr. Melissa Brouwers at: mbrouwer@mcmaster.ca

Are you interested in participating in this survey? *

Please choose **only one** of the following:

Yes

No

Demographics/Background I

2 [S2-1] Please indicate the *formal title* used to describe your editorial role with the journal. *

Please choose **only one** of the following:

Editor-in-Chief

Editor

Associate Editor

Assistant Editor

Editor for a Specific Section (e.g. Editor - Methods Section, Editor - Genomics Section)

Not a Member of a Journal Editorial Board

Other

Demographics/Background II

3 [S2-1-1] Editorial roles vary according to overall level responsibility. The specific titles, categories and labels used to represent these levels of responsibility, and the number of levels, differ greatly across journals.

Please indicate which *editorial role category* best represents your current role with the journal. *

Please choose **only one** of the following:

The most senior role(s) in the editorial governance. Common labels: Editor-in-Chief, Editor, Senior Editor, Co- Editor-in-Chief

Editorial role(s) other than the most senior role. Common labels: Associate Editor, Assistant Editor, Editor for a Specific Section

Demographics/Background III

4 [S2-2] Name of Journal: *

Please write your answer here:

5 [S2-3] What year did you assume this role? *

Please choose **only one** of the following:

2017

2016

2015

2014

2013

2012

2011

2010

2009

2008

2007

2006

2005

2004

2003

2002

2001

2000

1999

1998

1997

1996

1995

1994

1993

1992

1991

1990

Before 1990

6 [S2-4] Previous editorial roles: *

Please choose **all** that apply:

Editor-in-Chief for other journal

Editor-in-Chief for this journal

Associate Editor for other journal

Associate Editor for this journal

Other:

7 [S2-5] Total number of years of editorial experience (Editor, Associate Editor, both) *

Please choose **only one** of the following:

<1 year

1 year

2 years

3 years

4 years

5 years

6 years

7 years

8 years

9 years

10 years

11 years

12 years

13 years

14 years

15 years

16 years

17 years

18 years

19 years

20 years

20+ years

8 [S2-6] Are you a clinician? *

Please choose **only one** of the following:

Yes

No

9 [S2-6-1] If yes, please specify discipline.

Please write your answer here:

10 [S2-7] Have you completed non-clinical graduate level training? *

Please choose **only one** of the following:

Yes No

11 [S2-7-1] If yes, please specify field.

Please write your answer here:

12 [S2-8] Years of experience as a researcher: *

Please choose **only one** of the following:

<1 year

1 - 4 years

5 - 9 years

10 - 14 years

15 - 20 years

20+ years

13 [S2-9] Age *

Please choose **only one** of the following:

<30

30 - 39

40 - 49

50 - 59

60 - 69

>69

Prefer not to answer

14 [S2-10] Gender *

Please choose **only one** of the following:

Male

Female

Other

Prefer not to answer

Defining Conflict of Interest

15 [S3-1] There are many types of conflict of interest (COI) related to publishing in the medical and research fields. For our study, we have adopted the World Association of Medical Editors (WAME) (2009) definition of COI. In the context of medical publishing, the WAME (2009) states:

A COI to exist when a participant (author, peer reviewer, or editor) in the publication process (submission of manuscripts, peer review, editorial decisions, and communication between authors, reviewers and editors) has a competing interest that could unduly influence (or be reasonably seen to do so) his or her responsibilities in the publication process. These responsibilities can include academic honesty, unbiased conduct and reporting of research, and integrity of decisions or judgments.

WAME (2009) suggest the following as possible types of competing interests:

Financial ties: when a participant in the publication process has received or expects to receive money (or other financial benefits such as patents or stocks), gifts, or services that may influence work related to a specific publication. Academic commitments: when participants in the publication process may have strong beliefs ("intellectual passion") that commit them to a particular explanation, method, or idea therefore, may be biased in conducting research that tests the commitment or in reviewing the work of others that is in favour or at odds with their beliefs. Personal relationships: when personal relationships with family, friends, enemies, competitors, or colleagues can pose COIs. Political or religious beliefs: when a strong commitment to a particular political view (e.g. political position, agenda, or party) or having a strong religious conviction may pose a COI for a given publication if those political or religious issues are affirmed or challenged

in the publication. Institutional affiliations: when a participant in the publication process is directly affiliated with an institution that on the face of it may have a position or an interest in a publication (e.g. being affiliate with or employed by a company that manufactures the drug or device - or a competing one - described in the publication).

In this study, we are interested in COI for the participant groups, Editors and Associate Editors, who are involved in the publication process. While we appreciate you may also fall into the category of author and peer reviewer, we ask that you consider the remainder of the survey questions from your perspective as an Editor or Associate Editor and the policies and procedures at your journal related to these positions.

Attitudes About WAME COI Definition and Domains

16 [S4-1] For each of the WAME COI domains (see below to review), please rate your agreement that it is an important component of an Editor COI policy. *

Please choose the appropriate response for each item:

	Strongly disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly agree
Financial ties	○	○	○	○	○
Academic commitments	○	○	○	○	○
Personal relationships	○	○	○	○	○
Political or religious beliefs	○	○	○	○	○
Institutional affiliations	○	○	○	○	○

Financial ties: when a participant in the publication process has received or expects to receive money (or other financial benefits such as patents or stocks), gifts, or services that may influence work related to a specific publication.

Academic commitments: when participants in the publication process may have

strong beliefs ("intellectual passion") that commit them to a particular explanation, method, or idea therefore, may be biased in conducting research that tests the commitment or in reviewing the work of others that is in favour or at odds with their beliefs.

Personal relationships: when personal relationships with family, friends, enemies, competitors, or colleagues can pose COIs.

Political or religious beliefs: when a strong commitment to a particular political view (e.g. political position, agenda, or party) or having a strong religious conviction may pose a COI for a given publication if those political or religious issues are affirmed or challenged in the publication.

Institutional affiliations: when a participant in the publication process is directly affiliated with an institution that on the face of it may have a position or an interest in a publication (e.g. being affiliate with or employed by a company that manufactures the drug or device - or a competing one - described in the publication).

17 [S4-1-1] If applicable, please list any other COI domain(s) that you believe are important components of an Editor COI policy.

Please write your answer here:

Editor COI Policy Experience I

18 [S5-1] What is the current status of Editor COI policy at your journal? *

Please choose **only one** of the following:

My journal has no Editor COI policy and I do not plan on introducing one.

My journal has no Editor COI policy but I plan to introduce one.

My journal has an Editor COI policy, which was there when I started, but I do not implement it.

My journal has an Editor COI policy, which was there when I started, and I

continue to implement it.

My journal has an Editor COI policy that I introduced after I started.

I do not know.

Editor COI Policy Experience II

19 [S5-2-1] With respect to your current status: "My journal has an Editor COI policy, which was there when I started, and I continue to implement it", please indicate if:

Please choose **only one** of the following:

The COI policy statement at my journal is unique for editors and distinct from other COI policies for other participants in the publication process.

We have a common COI policy at my journal that applies to all participants in the publication process, including editors.

Editor COI Policy Experience II

20 [S5-2] With respect to your current status: "My journal has an Editor COI policy that I introduced after I started", please indicate if:

Please choose **only one** of the following:

The COI policy statement at my journal is unique for editors and distinct from other COI policies for other participants in the publication process.

We have a common COI policy at my journal that applies to all participants in the publication process, including editors.

Editor COI Policy Experience III

21 [S6-1] Using the WAME's (2009) definition of COI and the different types of competing interests described previously (see below to review), please indicate the domains that currently exist in your Editor COI policy or that you plan to include. *

Please choose the appropriate response for each item:

	Not Applicable: We do not have an Editor COI policy and we don't want it	Currently part of the Editor COI Policy	Currently not part of the Editor COI Policy, but a future priority	Currently not part of the Editor COI Policy, and NOT a future priority
Financial ties	○	○	○	○
Academic commitments	○	○	○	○
Personal relationships	○	○	○	○
Political or religious beliefs	○	○	○	○
Institutional affiliations	○	○	○	○

Financial ties: when a participant in the publication process has received or expects to receive money (or other financial benefits such as patents or stocks), gifts, or services that may influence work related to a specific publication.

Academic commitments: when participants in the publication process may have strong beliefs ("intellectual passion") that commit them to a particular explanation, method, or idea therefore, may be biased in conducting research that tests the commitment or in reviewing the work of others that is in favour or at odds with their beliefs.

Personal relationships: when personal relationships with family, friends, enemies, competitors, or colleagues can pose COIs.

Political or religious beliefs: when a strong commitment to a particular political view (e.g. political position, agenda, or party) or having a strong religious conviction may pose a COI for a given publication if those political or religious

issues are affirmed or challenged in the publication.

Institutional affiliations: when a participant in the publication process is directly affiliated with an institution that on the face of it may have a position or an interest in a publication (e.g. being affiliate with or employed by a company that manufactures the drug or device - or a competing one - described in the publication).

22 [S6-1-1] If applicable, please list any other COI domain(s) that currently exist in your Editor COI policy or that you plan to include:

Please write your answer here:

Potential Barriers with Editor COI Policy

23 [S7-1] Below is a list of potential barriers associated with implementing a COI policy. For each item, please choose the best option that reflects your experience, or anticipated future experience, with implementing an Editor COI policy with your journal. *

Please choose the appropriate response for each item:

	Not a Barrier	Minor Barrier (one that causes some inconvenience(s) but that is easily manageable)	Major Barrier (one that causes more inconvenience(s) and requires more effort to manage)
Publication process is more complex	○	○	○
Publication process is more expensive	○	○	○
Publication process is more time consuming	○	○	○
Verification of disclosures not always possible	○	○	○
Recruitment of editorial team members is more difficult	○	○	○
Editor COI policy not perceived as important to members of editorial team	○	○	○
Editorial COI policy not perceived as important by journal publishers	○	○	○

24 [S7-1-1] If applicable, "Other" potential barrier(s) that reflects your experiences, or anticipated future experience with implementing an Editor COI policy with your journal:

Please write your answer here:

Potential Barriers with Editor COI Policy II

25 [S7-2] Describe your experience, or anticipated future experience, of implementing an Editor COI policy, if desired.

Please write your answer here:

26 [S7-3] Do you have a copy of your Editor COI Policy publicly available on your website?

Please choose **only one** of the following:

Yes

No

Other

27 [S7-4] If available, please provide a description of, link to, contact from whom we can get your journal's editor COI policy below.

Please write your answer here:

Attitudes About Editor COI Policy

28 [S8] Please rate your agreement with the following statements.

29 [S8-1] Compared to journals without an editor COI policy, journals with an editor COI policy are: *

Please choose the appropriate response for each item:

	Strongly disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly agree
More credible	○	○	○	○	○
More trustworthy	○	○	○	○	○
Use less biased methods in selecting papers to publish	○	○	○	○	○
Publish papers that are more interesting	○	○	○	○	○
Publish papers of superior methodological quality	○	○	○	○	○
Publish papers that are more impactful to the scientific enterprise	○	○	○	○	○
Publish papers that are more relevant to journal's mission statement	○	○	○	○	○
More likely to receive submissions by authors	○	○	○	○	○
More likely to attract readers to the journal	○	○	○	○	○

30 [S8-3] Editor COI policies are a way to market a journal to readers and authors. *

Please choose **only one** of the following:

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

31 [S8-4] Editors declaring financial COIs is more important than editors declaring non-financial COIs. *

Please choose **only one** of the following:

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

32 [S8-5] The business aspects of journal publication (e.g. striving for a high impact factor, subscription goals, or advertising goals; managing publishers' expectations, etc.) do not always align with editors' efforts to be free of COI. *

Please choose **only one** of the following:

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

33 [S8-2] Any other comments:

Please write your answer here:

Thank you for your time.

If you have any further questions or if you wish to withdraw your data after completion, please contact: Ms. Anushka Jaffer at: jaffea6@mcmaster.ca OR Dr. Melissa Brouwers at: mbrouwer@mcmaster.ca.

APPENDIX E: Opt-Out Demographics (as a function of journal index category)

Editorial Board Member Role (as a function of Journal Index Category)		N = 45
Oncology Journals	Editor-in-Chief	11
	Associate Editor	11
	Editor	6
	Managing Editor	1
	Assistant Editor	1
Health Care Sciences & Services Journals	Editor-in-Chief	2
	Associate Editor	5
	Editor	5
	Managing Editor	3

APPENDIX F: Level of agreement for WAME COI domains being an important component of an Editor COI Policy (response frequencies at each level of response scale)

	Financial Ties N (%)	Academic Commitments N (%)	Personal Relationships N (%)	Political or Religious Beliefs N (%)	Institutional Affiliations N (%)
Respondents – Complete Survey N = 33					
SD	0 (0)	0 (0)	1 (3.0)	3 (9.1)	2 (6.1)
D	1 (3.0)	4 (12.1)	1 (3.0)	7 (21.2)	2 (6.1)
N	2 (6.1)	5 (15.2)	1 (3.0)	5 (15.2)	6 (18.2)
A	8 (24.2)	14 (42.4)	16 (48.5)	8 (24.2)	15 (45.5)
SA	22 (66.7)	10 (30.3)	14 (42.4)	10 (30.3)	8 (24.2)
Respondents – Partial Survey N = 18					
SD	1 (5.6)	2 (11.1)	1 (5.6)	3 (16.7)	2 (11.1)
D	0 (0)	0 (0)	1 (5.6)	2 (11.1)	0 (0)
N	1 (5.6)	3 (16.7)	4 (22.2)	5 (27.8)	3 (16.7)
A	3 (16.7)	6 (33.3)	4 (22.2)	3 (16.7)	3 (16.7)
SA	13 (72.2)	7 (38.9)	8 (44.4)	5 (27.8)	10 (55.6)

SD – strongly disagree; D – disagree; N – neither disagree nor agree; A – agree; SA – strongly agree

APPENDIX G: Level of agreement for WAME COI domains being an important component of an Editor COI Policy (as a function of journal index category)

	Financial Ties N (%)	Academic Commitments N (%)	Personal Relationships N (%)	Political or Religious Beliefs N (%)	Institutional Affiliations N (%)
ONC N = 29					
SD	0 (0)	0 (0)	0 (0)	3 (10.3)	2 (6.9)
D	1 (3.4)	2 (6.9)	2 (6.9)	5 (17.2)	2 (6.9)
N	1 (3.4)	4 (13.8)	1 (3.4)	8 (27.6)	5 (17.2)
A	6 (20.7)	14 (48.3)	14 (48.3)	7 (24.1)	11 (37.9)
SA	21 (72.4)	9 (31.0)	12 (41.4)	6 (20.7)	9 (31.0)
HCSS N = 18					
SD	1 (5.6)	2 (11.1)	2 (11.1)	3 (16.7)	2 (11.1)
D	0 (0)	1 (5.6)	0 (0)	4 (22.2)	0 (0)
N	2 (11.1)	4 (22.2)	4 (22.2)	2 (11.1)	4 (22.2)
A	5 (27.8)	6 (33.3)	6 (33.3)	4 (22.2)	6 (33.3)
SA	10 (55.6)	5 (27.8)	6 (33.3)	5 (27.8)	6 (33.3)
UNK N = 3					
SD	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
D	0 (0)	1 (33.3)	0 (0)	0 (0)	0 (0)
N	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
A	0 (0)	0 (0)	0 (0)	0 (0)	1 (33.3)
SA	3 (100)	2 (66.7)	3 (100)	3 (100)	2 (66.7)
ONC & HCSS N = 1					
SD	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
D	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
N	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
A	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
SA	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)

SD – strongly disagree; D – disagree; N – neither disagree nor agree; A – agree; SA – strongly agree

APPENDIX H: Editor COI Policy – Current Status (as a function of journal index category)

Current Status	ONC Respondents N = 29	HCSS Respondents N = 18	UNK Respondents N = 3
Journal has no Editor COI Policy and I do not plan on introducing one	1 (3.4%)	3 (16.7%)	0 (0%)
Journal has no Editor COI Policy but I plan to introduce one	2 (6.9%)	1 (5.6%)	0 (0%)
Journal has an Editor COI Policy, which was there when I started, but I do not implement it	4 (13.8%)	0 (0%)	0 (0%)
Journal has an Editor COI Policy, which was there when I started, and I continue to implement it	15 (51.7%)	8 (44.4%)	1 (33.3%)
Journal has an Editor COI Policy that I introduced after I started	0 (0%)	3 (16.7%)	1 (33.3%)
I do not know	7 (24.1%)	3 (16.7%)	1 (33.3%)

APPENDIX I: Editor COI Policy – Domains Included (as a function of journal index category)

COI Domain	ONC Respondents N = 23	HCSS Respondents N = 13	UNK Respondents N = 3
Financial Ties	17 (73.9%)	5 (38.5%)	1 (33.3%)
Academic Commitments	11 (47.8%)	5 (38.5%)	2 (66.7%)
Personal Relationships	12 (52.2%)	6 (46.2%)	2 (66.7%)
Political or Religious Beliefs*	6 (27.3%)**	3 (23.1%)	0 (0%)
Institutional Affiliations	14 (60.9%)	8 (61.5%)	2 (66.7%)
Not Applicable: we do not have an Editor COI policy and we don't want it	3 (13%)	4 (30.8%)	0 (0%)

**1 participant [Onc] left this domain blank;* **N = 22

APPENDIX J: Potential Barriers with implementing an Editor COI Policy (as a function of journal index category)

Barrier Type N = 37	Barrier Severity	ONC Respondents N = 21	HCSS Respondents N = 13	UNK Respondents N = 3
Publication process is more complex	Not	14 (37.8%)	8 (21.6%)	1 (2.7%)
	Minor	5 (13.5%)	4 (10.8%)	2 (5.4%)
	Major	2 (5.4%)	1 (2.7%)	0 (0%)
Publication process is more expensive	Not	15 (40.5%)	11 (29.7%)	2 (5.4%)
	Minor	5 (13.5%)	1 (2.7%)	1 (2.7%)
	Major	1(2.7%)	1 (2.7%)	0 (0%)
Publication process is more time consuming	Not	13 (35.1%)	7 (18.9%)	2 (5.4%)
	Minor	7 (18.9%)	5 (13.5%)	0 (0%)
	Major	1 (2.7%)	1 (2.7%)	1 (2.7%)
Verification of disclosures not always possible*	Not	7 (19.4%)	4 (11.1%)	0 (0%)
	Minor	7 (19.4%)	8 (22.2%)	1 (2.8%)
	Major	6 (16.7%)	1 (2.8%)	2 (5.6%)
Recruitment of editorial team members is more difficult	Not	16 (43.2%)	11 (29.7%)	1 (2.7%)
	Minor	2 (5.4%)	1 (2.7%)	0 (0%)
	Major	3 (8.1%)	1 (2.7%)	2 (5.4%)
Editor COI policy not perceived as important to members of editorial team*	Not	16 (44.4%)	10 (27.8%)	2 (5.6%)
	Minor	4 (11.1%)	3 (8.3%)	1 (2.8%)
	Major	0 (0%)	0 (0%)	0 (0%)
Editorial COI policy not perceived as important by journal publishers*	Not	17 (47.2%)	11 (30.6%)	1 (2.8%)
	Minor	3 (8.3%)	2 (5.6%)	2 (5.6%)
	Major	0 (0%)	0 (0%)	0 (0%)

**1 participant [Onc] left this barrier blank; N = 36*

APPENDIX K: Experienced and Anticipated Barriers with implementing an Editor COI Policy (as a function of current editor COI policy status)

		Experienced Barriers	Anticipated Barriers				
		Journal has an Editor COI Policy that I introduced after I started N = 3	Journal has no Editor COI Policy and I do not plan on introducing one N = 4	Journal has no Editor COI Policy but I plan to introduce one N = 2	Journal has an Editor COI Policy, which was there when I started, but I do not implement it N = 4	Journal has an Editor COI Policy, which was there when I started, and I continue to implement it N = 18	I do not know N = 6
Publication process is more complex	Not Barrier	2 (66.7%)	1 (25%)	0 (0%)	3 (75%)	13 (72.2%)	4 (66.7%)
	Minor Barrier	1 (33.3%)	2 (50%)	1 (50%)	1 (25%)	4 (22.2%)	2 (33.3%)
	Major Barrier	0 (0%)	1 (25%)	1 (50%)	0 (0%)	1 (5.6%)	0 (0%)
Publication process is more expensive	Not Barrier	3 (100%)	2 (50%)	0 (0%)	4 (100%)	16 (88.9%)	3 (50%)
	Minor Barrier	0 (0%)	2 (50%)	1 (50%)	0 (0%)	2 (11.1%)	2 (33.3%)
	Major Barrier	0 (0%)	0 (0%)	1 (50%)	0 (0%)	0 (0%)	1 (16.7%)
Publication process is more time consuming	Not Barrier	1 (33.3%)	1 (25%)	0 (0%)	2 (50%)	14 (77.8%)	4 (66.7%)
	Minor Barrier	2 (66.7%)	2 (50%)	1 (50%)	2 (50%)	3 (16.7%)	2 (33.3%)

	Major Barrier	0 (0%)	1 (25%)	1 (50%)	0 (0%)	1 (5.6%)	0 (0%)
Verification of disclosures not always possible	Not Barrier	0 (0%)	1 (25%)	0 (0%)	1 (25%)	6 (35.3%)*	3 (50%)
	Minor Barrier	3 (100%)	2 (50%)	1 (50%)	1 (25%)	7 (41.2%)*	2 (33.3%)
	Major Barrier	0 (0%)	1 (25%)	1 (50%)	2 (50%)	4 (23.5%)*	1 (16.7%)
Recruitment of editorial team members is more difficult	Not Barrier	3 (3%)	3 (75%)	1 (50%)	4 (100%)	13 (72.2%)	4 (66.7%)
	Minor Barrier	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (11.1%)	1 (16.7%)
	Major Barrier	0 (0%)	1 (25%)	1 (50%)	0 (0%)	3 (16.7%)	1 (16.7%)
Editor COI policy not perceived as important to members of editorial team	Not Barrier	3 (100%)	2 (50%)	0 (0%)	4 (100%)	13 (76.5%)*	6 (100%)
	Minor Barrier	0 (0%)	2 (50%)	0 (0%)	0 (0%)	4 (23.5%)*	0 (0%)
	Major Barrier	0 (0%)	0 (0%)	2 (100%)	0 (0%)	0 (0%)*	0 (0%)
Editorial COI policy not perceived as important by journal publishers	Not Barrier	3 (100%)	3 (75%)	1 (50%)	4 (100%)	13 (76.5%)*	5 (83.3%)
	Minor Barrier	0 (0%)	1 (25%)	1 (50%)	0 (0%)	4 (23.5%)*	1 (16.7%)
	Major Barrier	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)*	0 (0%)

Minor barrier: one that causes some inconvenience(s) but that is easily manageable
Major barrier: one that causes more inconvenience(s) and requires more effort to manage
**1 participant left this barrier blank;* N = 17

APPENDIX L: Editors' Attitudes about Journals with versus without an Editor COI Policy (as a function of journal index category)

		More Credible	More Trustworthy	Use less Biased methods in selecting papers to publish	Publish papers that are more interesting	Publish papers of superior methodological quality	Publish papers that are more impactful to the scientific enterprise	Publish papers that are more relevant to journal's mission statement	More likely to receive submissions by authors	More likely to attract readers to the journal
ONC N =19 N (%)	SD	1 (5.3)	1 (5.3)	1 (5.3)	1 (5.3)	1 (5.3)	1 (5.3)	1 (5.3)	1 (5.3)	2 (10.5)
	D	3 (15.8)	3 (15.8)	3 (15.8)	6 (31.6)	4 (21.1)	4 (21.1)	5 (26.3)	6 (31.6)	5 (26.3)
	N	7 (36.8)	7 (36.8)	10 (52.6)	11 (57.9)	12 (63.2)	11 (57.9)	11 (57.9)	11 (57.9)	11 (57.9)
	A	7 (36.8)	7 (36.8)	3 (15.8)	0 (0)	1 (5.3)	2 (10.5)	1 (5.3)	1 (5.3)	0 (0)
	SA	1 (5.3)	1 (5.3)	2 (10.5)	1 (5.3)	1 (5.3)	1 (5.3)	1 (5.3)	0 (0)	1 (5.3)
HCSS N =11 N (%)	SD	1 (9.1)	1 (9.1)	1 (9.1)	3 (27.3)	3 (27.3)	3 (27.3)	3 (27.3)	3 (27.3)	3 (27.3)
	D	2 (18.2)	2 (18.2)	1 (9.1)	2 (18.2)	2 (18.2)	2 (18.2)	2 (18.2)	3 (27.3)	2 (18.2)
	N	3 (27.3)	2 (18.2)	4 (36.4)	6 (54.5)	6 (54.5)	5 (45.5)	6 (54.5)	5 (45.5)	5 (45.5)
	A	4 (36.4)	5 (45.5)	3 (27.3)	0 (0)	0 (0)	1 (9.1)	0 (0)	0 (0)	1 (9.1)
	SA	1 (9.1)	1 (9.1)	2 (18.2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
UNK N =3 N (%)	SD	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33.3)	1 (33.3)
	D	0 (0)	0 (0)	0 (0)	1 (33.3)	1 (33.3)	1 (33.3)	1 (33.3)	0 (0)	0 (0)
	N	0 (0)	0 (0)	0 (0)	1 (33.3)	2 (66.7)	1 (33.3)	1 (33.3)	1 (33.3)	1 (33.3)
	A	2 (66.7)	3 (100)	3 (100)	1 (33.3)	0 (0)	1 (33.3)	1 (33.3)	0 (0)	1 (33.3)
	SA	1 (33.3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33.3)	0 (0)

SD – strongly disagree; D – disagree; N – neither disagree nor agree; A – agree; SA – strongly agree

APPENDIX M: Editors' Attitudes about Journals with versus without an Editor COI Policy – Operational Components (as a function of journal index category)

		Editor COI policies are a way to market a journal to readers and authors N (%)	Editors declaring financial COIs is more important than editors declaring non-financial COIs N (%)	The business aspects* of journal publication do not always align with editors' efforts to be free of COI N (%)
ONC N = 19	SD	2 (10.5%)	1 (5.3%)	1 (5.3%)
	D	5 (26.3%)	4 (21.1%)	6 (31.6%)
	N	10 (52.6%)	3 (15.8%)	5 (26.3%)
	A	2 (10.5%)	7 (36.8%)	6 (31.6%)
	SA	0 (0%)	4 (21.1%)	1 (5.3%)
HCSS N = 11	SD	1 (9.1%)	0 (0%)	1 (9.1%)
	D	3 (27.3%)	3 (27.3%)	3 (27.3%)
	N	6 (54.5%)	5 (45.5%)	4 (36.4%)
	A	1 (9.1%)	3 (27.3%)	3 (27.3%)
	SA	0 (0%)	0 (0%)	0 (0%)
UNK N = 3	SD	1 (33.3%)	0 (0%)	0 (0%)
	D	0 (0%)	0 (0%)	0 (0%)
	N	1 (33.3%)	2 (66.7%)	2 (66.7%)
	A	0 (0%)	1 (33.3%)	1 (33.3%)
	SA	1 (33.3%)	0 (0%)	0 (0%)

SD – strongly disagree; D – disagree; N – neither disagree nor agree; A – agree; SA – strongly agree

**Which include: striving for a high impact factor, subscription goals, advertising goals, managing publishers' expectations*