

Financial Conflicts of Interest Checklist for Clinical Research Studies

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**Abbreviated Title: The Financial Conflicts of Interest Checklist for
Investigators.**

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Abstract

Word count = 371

Background: To develop a simple, comprehensive tool to help investigators identify and report their potential financial conflicts of interest (fCOI) in relation to a specific clinical research study.

Methods: Between January 2007 and April 2009, we developed the *fCOI Checklist* using a three phase process (pre-meeting item generation, consensus meeting, and post-meeting consolidation). In the pre-meeting item generation phase, the initial *Checklist* items were drafted by our research team based on published literature of initiatives that targeted specific aspects of fCOI. The *Checklist* was revised using a modified Delphi process. We obtained ratings on *Checklist* items from our invited external experts (n=19), team members (n=12), and research staff (n=4) for two sequential *Checklist* iterations. All reviewers used a five point adjectival rating scale (1 least to 5 most important) and provided free text suggestions to improve items. In the consensus meeting phase, the revised *Checklist* was discussed at a day long meeting in Toronto where twenty-eight individuals participated. In the post meeting consolidation phase, the *Checklist* was piloted for usability; an Example document, Explanation document, and a fill-able [Portable Document Format](#) (PDF) version version were created. A day long meeting of team members was held to finalize the *Checklist*

Results: The modular *fCOI Checklist* contains four sections (i.e. administrative, study, personal financial, and authorship information) divided into six modules, containing 14 items and their related sub-items along with a glossary of terms. A fill-able PDF version contains skip functions with items linked directly to definitions and can be completed in less than 20 minutes. Different modules within the *fCOI Checklist* should be completed at different transition points over the course of the study and updated information can be appended to the originally completed *fCOI Checklist* for submission to stakeholder groups for their review.

Conclusions: We developed a simple comprehensive *fCOI Checklist* to help investigators identify and report information related to fCOI to stakeholder groups. We consider this *Checklist* to be a living document. We invite comments and suggestions for improvement. We ask stakeholder groups to endorse the use of this document. Increasing transparency through standardized reporting about fCOI in research will be an important step to reducing the influence of fCOI on research outcomes and ultimately improving public confidence in research.

A financial conflicts of interest (fCOI) in the research context is defined as a situation where “professional judgement concerning a primary interest (e.g. a patient’s welfare or the validity of research) tends to be unduly influenced by a secondary interest (e.g. financial gain)” (1) When investigators receive financial benefit related to their research , there is concern that this benefit may influence, or be perceived to influence, the investigators’ judgement and therefore their behaviour (2). Studies in which the investigators experienced fCOI have been linked to bias in research design (3), analysis (4-6) decision to publish (7), unsupported study conclusions (8) and serious adverse events for research participants (9, 10). In order to maintain public trust in research, it is important that potential fCOIs are disclosed so that this information can be reviewed and where indicated steps can be taken to manage its effects.

Our overall goal is to sensitize investigators to situations that may make their study susceptible to the effects of fCOI and to provide a report of the situation so that the appropriate groups (e.g. research ethics boards, conflicts of interest committees, funding agencies, journal editors) can in turn assist with developing management strategies to minimize the potential harm. There is little guidance available to investigators to help them report information relevant to potential conflicts of interest in their research. Information related to financial conflicts of interest needs to be reported to stakeholders for assessment and management as investigators do not necessarily see their own potential fCOI.(11, 12) While

specific strategies have been developed to disclose aspects of fCOI, few strategies have approached the problem in a comprehensive manner. We designed *the fCOI Checklist* for clinical research studies. While clinical trials may be an important study design, all studies have the potential to be influenced by fCOIs.

We developed a simple, comprehensive *Checklist* that investigators can use to describe their study and provide a structured report of the potential fCOI situations they may have related to their role in a particular study.

Method

We developed the *fCOI Checklist* using a three phase process (pre-meeting item generation, consensus meeting, and post-meeting consolidation). Contributors to the development of this *Checklist* are listed in Appendix 1.

Pre-meeting Item Generation

The process used to develop the *fCOI Checklist* was adapted from a recent report on developing health research reporting guideline (13) and is outlined in Figure 1. The *fCOI Checklist* items were generated initially by our *research team* (expertise in research, ethics boards, law and policy, trial registration, research administration, clinical research, and research guideline development (Consolidated Standards of Reporting Trials (CONSORT) and Enhancing QUALity

and Transparency Of health Research (EQUATOR)-Network) and were based primarily on the published literature. We identified the *fCOI Checklist* items directly from international initiatives that targeted specific aspects of fCOI. For example, items related to the module on trial registration were consistent with the *World Health Organization* trial registration initiative (14) and items in the Study Team and Funder Relationship Profile module and the Authorship Information section were consistent with the *International Committee of Medical Journal Editors (ICMJE)* guidelines. (15, 16)

To refine this list, we used a modified Delphi process. Three groups of reviewers (i.e., research team (n=12), external experts (n=19) (expertise in trial registration, research guideline development (CONSORT, EQUATOR), ethics review, government administration policy, health law, medical journals, media) and our research support staff (n=4)) provided ratings. The research support staff was included to provide a perspective from non-experts with experience in the research process.

We created a five point adjectival rating scale (1 least to 5 most important) Reviewers were sent two sequential electronic versions of the *fCOI Checklist* (Version One and Version Two). They ranked each item and entered free text suggestions for improving the item. Not all reviewers were available for both rating sessions (29 participated in version one, 24 participated in version 2).

Consensus Meeting

Twenty-eight people participated in a day long consensus meeting that took place in October 2007 in Toronto, Ontario Canada. There were 11 team members and 4 research support staff that attended the meeting. Thirteen external experts participated using web-teleconference connection from four countries. *fCOI Checklist Version 3* was presented at the consensus meeting for item discussion and to identify areas for revision. The meeting was organized into four thematic sessions reflecting major stakeholder groups (clinical trial registry users, journal editors, funders/policy makers, and legal/ethics). Each external expert participated in one of these sessions based on their expertise. Each session began with an overview of the *Checklist* project. The chair for the session provided a description of the specific thematic area to be discussed and led the discussion for that session. The discussion focused on items where there was disagreement about their value based on the pre-meeting item ratings.

Post Meeting Consolidation

The post meeting consolidation phase involved three steps. First, the research team incorporated the suggested changes made at the consensus meeting into the *fCOI Checklist Version 4*. We piloted this version of the *Checklist* for initial usability using a small group of investigators. We created an Example document with examples of good reporting, a *Checklist* Explanation document, and a fill-able PDF version of *Checklist*.

Second, the research team met in Toronto for a one day consolidation meeting. At this meeting the research team reviewed the *Checklist* by module and item. Where required, rewording and reorganization of items was done to promote clarity. A decision was made to include a glossary of terms. Suggestions were made for refining the PDF option of the *Checklist*. In addition, we further discussed the process envisioned to implement the *fCOI Checklist* in practice.

The suggestions made for the *Checklist* were incorporated into the *fCOI Checklist* Version 5. The fill-able PDF version of the *Checklist* was revised and items were linked directly to definitions to facilitate understanding and common usage of the items. The corresponding Example *Checklist* and the Explanation document were revised. This *Checklist* was again evaluated in a final usability survey and after minor revisions, the final *fCOI Checklist* was created along with the corresponding fill-able PDF version.

Ethical review and approval was obtained from the Baycrest Centre Research Ethics Board and Women's College Research Institute Ethics Board, where the principal investigator was located. Financial support was provided by the Canadian Institute of Health Research operating grant number EIC-77338.

Results

Table 1 contains the *fCOI Checklist*. This *Checklist* is to be completed by an individual in the context of a specific study. Included in the *fCOI Checklist* is a

glossary of terms using definitions mainly obtained from the WHO (17) (18) and ICMJE (16). The *fCOI Checklist* is also available as a fill-able PDF option (see supplement 1). An advantage of the PDF format is that it provides a skip function that allows investigators to complete only sections that are relevant to them at the time of *Checklist* completion. The PDF version also contains a glossary that is easily available by clicking on individual items to further promote clarity.

The *Checklist* contains four sections (i.e., administrative information, study information, personal financial information, and authorship information). These sections are divided into a total of six modules that contain 14 items and their related sub-items. The Administrative Information section contains study and investigator administrative information and a record of the date(s) when the *fCOI Checklist* was initiated or updated. The Study Information section contains three modules (i.e., funder profile, contract profile, study team and funder relationship profile) and the Personal Financial Information section contains one module (financial profile). The Authorship section contains one module (authorship profile). Table 2 shows the *fCOI Checklist* along with examples of good reporting where free text responses are required. Table 3 provides explanations for each of the six modules of the *fCOI Checklist*.

The *fCOI Checklist* was designed as a 'living' document. Different modules within the *fCOI Checklist* should be completed at different transition points over

the course of the study. In general, the *fCOI Checklist* would be completed in two stages: prior to study inception (Modules A to E) and after study completion (Modules F). For example, investigators would complete the Administrative Information section of the *fCOI Checklist* when they initiated the study. The Authorship Information section should be completed when manuscripts were in preparation for publication. Some sections of the *fCOI Checklist* (e.g., personal financial information section) would require updating if the investigator's financial profile changed. We anticipate that updated information would be appended to the originally completed *fCOI Checklist*. This is done to maintain a permanent record of information related to fCOI throughout the course of the study.

We recognize that clinical research and in particular clinical trials are generally conducted by a team of investigators. We anticipate that each investigator should independently complete the *fCOI Checklist*. When multiple investigators are involved in the research we expect that information from the *Checklist* will need to be collated. The overall study official (in the case of clinical trials) or the study guarantor (in the case of a manuscript submission) will likely be the most knowledgeable person to provide administrative information about the study and should be responsible for collating these sections of the *Checklist* (i.e., Module A- Administrative Profile, Module B- Funder Profile, and Module C- Contract Profile).

We conducted two small usability studies to assess the *fCOI Checklist* for investigators conducting clinical studies. Of the seventeen investigators surveyed, most (76%) had served as an investigator in a randomized trial. Most (65%) respondents reported no difficulty in answering the questions and 94% required less than 20 minutes to complete the entire *Checklist*.

Discussion

We created a simple *fCOI Checklist* that is non-judgmental. Our *fCOI Checklist* provides a structured report that can be directly reviewed by stakeholders who review an investigator's fCOI information as part of the research process. This completed *fCOI Checklist* could be used by Research Ethics Boards (REBs)/ Institutional Review Boards (IRBs), who require information on fCOI to assess the potential ethical implications of fCOI and to identify situations where an investigator may have fCOI that may require management. Funding agencies may request this information to disclose information about fCOI as part of their review process. Academic institutions may use this information to assess potential fCOI situations and to help with management strategies. Journal editors can use the *fCOI Checklist* to help identify studies where an investigator's fCOI has the potential to contribute to biased reporting of information published in scientific journals. Further, this *Checklist* can facilitate sharing of information related to conflicts of interest among the involved stakeholders. When an initial report suggests possible conflicts of interest, the situation can be referred to a conflicts of interest committee for further review. The Institute of Medicine report

outlines a model of steps that can be used to identify and respond to such a conflict (10)

An important feature of our *fCOI Checklist* is that it is a prospective record completed by investigators as the clinical research moves through its various stages. This offers advantages over the current approach used by separate, disjointed disclosures to funding agencies, ethics review boards, research administration and journal editors. Using a *fCOI Checklist* initiated at the start of the study and updated (at study transitions points and when information changed) and appending the completed *fCOI Checklist* to the manuscript submission package provides a more comprehensive picture about an investigator's potential fCOI. Second, by completing the *fCOI Checklist* in a prospective manner, potential fCOI situations may be identified at an earlier stage so that appropriate management strategies can be put in place to help minimize potential harms. This opportunity to intervene is lost when fCOI information is collected only upon study completion. Also investigators may have unintentionally allowed fCOI situation to affect their judgement during the conduct of a study, but divest themselves of the situation before publication; the fCOI would not be apparent to the journal editors using the current reporting mechanism. Finally, the type of fCOI information required by journals varies substantially. Our *fCOI Checklist* would help standardize the information submitted to journals.

Our *Checklist* may have an educational role. The *Checklist* is designed to be completed individually by each investigator. We recognize that clinical research is generally conducted by a team of investigators and that not all investigators will have access to the same information as the overall study official. By providing all investigators with the same set of questions, irrespective of their role in the study, our goal is to sensitize investigators to information that they should know about their clinical research study. This is a first step in an educational process. Academic policies do not always provide investigators with clear guidance to assist them in identifying and reporting situations that may be related to fCOI. Further, national surveys of fCOI policies in academic settings suggest that these policies are often incomplete,(19-21) fragmented (19) and difficult for investigators to understand (19, 22) all of which limit their practical usability by investigators. While the *Checklist* will likely initially be completed by investigators on the study, we have created the *Checklist* so that it can be completed by other team members. As awareness of the fCOI issues grows, the *Checklist* could be completed by other study team members, such as study co-ordinators, research assistants and study nurses whose judgement can also be affected by fCOI, so that all team members may become more aware of conflicts of interest situations.

This *fCOI Checklist* has been designed as an attachment to the Consolidated Standards of Reporting Trials (CONSORT) statement (23) as it can be appended to the existing CONSORT statement and its extensions. We recognize that this *fCOI Checklist* can have much broader application than our original intent. We

anticipate that this *Checklist* will be adapted for use for other types of studies such as basic science studies. The *Checklist* can also be adapted for use outside of the research setting. A modified version of this *Checklist* could be completed by grant review panel members who are making funding decisions; guideline panel members who are making decisions about best therapies; board members who are making decisions about the direction of an academic organization; and by expert witnesses who are providing expert opinions in court proceedings or tribunals. Accordingly, we designed the *fCOI Checklist* with sections, modules, and items so that it can be tailored for use in a range of different purposes including those that we may not yet have anticipated.

This *Checklist* has potential limitations. First, our *Checklist* focuses on financial conflicts of interest. We recognize that there are nonfinancial conflicts of interest. Financial conflicts of interest are the most quantifiable. Second, we recognize that while there are only fourteen items, there are more in-depth sub items that may take longer to complete. Our user surveys suggest that the *Checklist* can be completed in under 20 minutes. Importantly, the entire *Checklist* need not – and likely should not – be completed at one time. As we have recommended, different modules should be completed as different stages of the research. Further, the web version of the *Checklist* includes the ability to skip sections that are not relevant at a given time, facilitating completion. Finally, while the *fCOI Checklist* is based on a simple concept, using the *fCOI Checklist* in practice is more

complex and will likely require the development of local processes depending on specific stakeholder needs.

Conclusion

We developed a simple comprehensive *fCOI Checklist* to help investigators identify and report information related to FCOI to stakeholder groups. We consider this *Checklist* to be a living document. We invite comments and suggestions for improvement of this *Checklist* and suggestions for adaptations. We ask Stakeholder groups such as REBs, funding agencies, academic institutions, those responsible for clinical trial registries, and journal editors to endorse the use of this document. Increasing transparency through standardized reporting about fCOI in research will be an important step to reducing the influence of fCOI on research outcomes and ultimately improving public confidence in research.

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