BMJ Open

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Journal:	*BMJ Open*
Manuscript ID	bmjopen-2019-035633
Article Type:	Original research
Date Submitted by the Author:	08-Nov-2019
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Keywords:	EPIDEMIOLOGY, STATISTICS & RESEARCH METHODS, MEDICAL ETHICS

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Reporting of Drug Trial Funding Sources and Author Financial Conflicts of Interest in Cochrane and non-Cochrane Meta-analyses: A Cross-sectional Study

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Word count: 4,048

ABSTRACT

Objective: To (1) investigate the extent to which recently published meta-analyses report trial funding, author-industry financial ties, and author-industry employment from included RCTs, comparing Cochrane and non-Cochrane meta-analyses; (2) examine characteristics of meta-analyses independently associated with reporting funding sources of included RCTs; and (3) compare reporting among recently published Cochrane meta-analyses to Cochrane reviews published in 2010.

Design: Review of consecutive sample of recently published meta-analyses.

Data sources: MEDLINE database via PubMed searched on October 19, 2018.

Eligibility criteria for selecting articles: We selected the 250 most recent meta-analyses listed in PubMed that included a documented search of at least one database, statistically combined results from ≥ 2 RCTs, and evaluated the effects of a drug or class of drugs.

Results: 90 of 107 (84%) Cochrane meta-analyses reported funding sources for some or all included trials compared with 21 of 143 (15%) non-Cochrane meta-analyses, a difference of 69% (95% confidence interval [CI], 59% to 77%). Percent reporting was also higher for Cochrane meta-analyses compared with non-Cochrane meta-analyses for trial author-industry financial ties (44% versus 1%; 95% CI for difference, 33% to 52%) and employment (17% versus 1%; 95% CI for difference, 9% to 24%). In multivariable analysis, compared with Cochrane meta-analyses, the odds ratio for reporting trial funding was ≤ 0.11 for all other journal category and impact factor combinations. Compared with Cochrane reviews from 2010, reporting of funding sources of included RCTs among recently published Cochrane meta-analyses improved by 54% (95% CI, 42% to 63%), and reporting of trial author-industry financial ties and employment improved by 37% (95% CI, 26% to 47%) and 10% (95% CI, 2% to 19%).

Conclusions: Reporting of trial funding sources, trial author-industry financial ties, and trial author-industry employment in Cochrane meta-analyses has improved since 2010 and is higher than in non-Cochrane meta-analyses.

Strengths and limitations of this study

- We assessed reporting in 250 recently published meta-analyses, including 107 Cochrane meta-analyses.
- The meta-analyses selected for inclusion in our study were representative of the spectrum of meta-analyses of drug interventions and the journals where they were published in 2016-2018.
- We compared reporting practices among Cochrane and non-Cochrane meta-analyses and recent Cochrane meta-analyses with Cochrane systematic reviews from 2010.
- Most meta-analyses of drug trials are published as Cochrane reviews or in relatively low-impact specialty medicine journals. Thus, we were unable to examine whether meta-analyses published in different types of journals or journals with different impact factors are more or less likely to report on financial conflicts of interest from included trials.
- Our study examined only disclosed financial conflicts of interest and did not attempt to identify non-disclosed conflicts.

Financial conflicts of interest (FCOIs) can introduce bias in drug trials by influencing how a trial is designed, inclusion and exclusion criteria, choice of drug dosages and comparators, selection of trial outcomes, how analyses are conducted, interpretation of findings, which outcomes are reported, and whether trial results are published.[1-9] Drug trials funded by industry are approximately 30% more likely to report favourable efficacy findings than non-industry trials,[8] and drug trials with principal investigators with FCOIs have higher odds of reporting favourable outcomes than those led by principal investigators without FCOIs, even after controlling for trial funding sources.[7]

Previous studies that have examined meta-analyses of drug trials published in high-impact journals and Cochrane systematic reviews of drug trials have found that funding sources and author FCOIs of included randomized controlled trials (RCTs) were rarely reported.[10, 11] A 2011 study found that only 2 of a sample of 29 (7%) meta-analyses on the effects of drug interventions published in high-impact journals in 2009 reported the funding sources of included drug trials and that none reported trial author-industry financial ties or author-industry employment.[10] A second study, published in 2012, examined Cochrane systematic reviews of drug trials and found that only 46 of 151 (30%) eligible reviews published in 2010 reported information on the funding source of some or all included trials, 11 (7%) provided any information on author-industry financial ties, and 10 (7%) provided any information on author-industry employment from included trials.[11]

In 2012, the Cochrane Collaboration began to require that Cochrane reviews report trial funding sources and FCOIs of the primary researchers of all included trials in the characteristics of included studies table (Methodolgical Expectations of Cochrane Intervention Reviews (MECIR), standards R69 and R70) .[12-13] The Preferred Reporting Items for Systematic Reviews

and Meta-analyses (PRISMA) statement, however, has not been updated since its publication in 2009[14, 15] and does not address the reporting of trial funding or author FCOIs of trials included in systematic reviews and meta-analyses.

We do not know of any studies that have compared reporting among Cochrane meta-analyses with meta-analyses published in other journals or examined whether reporting in Cochrane reviews has improved since Cochrane implemented its reporting policy. The objectives of the present study were to (1) investigate the extent to which Cochrane and non-Cochrane meta-analyses of drug trials report trial funding sources, author-industry financial ties, and author-industry employment; (2) examine characteristics of meta-analyses that are independently associated with reporting funding sources of included RCTs; and (3) compare reporting among recently published Cochrane meta-analyses to reporting from Cochrane systematic reviews published in 2010,[11] prior to implementation of Cochrane's reporting policy.

METHODS

The methods for the present study were based on our previous study of reporting of funding sources, author-industry financial ties, and author-industry employment from trials included in Cochrane systematic reviews published in 2010; however in the present study, we included only Cochrane reviews that contained a meta-analysis, whereas in the previous study all Cochrane reviews that included results from at least one RCT were eligible.[11] Because of this difference, in our comparison, in addition to main analyses, we conducted sensitivity analyses that only included systematic reviews with meta-analyses from the previous study. A study protocol was developed prior to initiating the present study and was posted on the Open Science Framework (https://osf.io/njk5w/).

Selection of meta-analyses

Meta-analyses in any language were eligible if they (1) included a documented search for eligible RCTs using at least one database, (2) statistically combined results from ≥ 2 RCTs, and (3) evaluated the efficacy/effectiveness or harm of a drug or class of drugs against an alternative treatment (e.g., placebo, alternative drug, non-pharmacological treatment) or no treatment. Meta-analyses that only assessed different methods of administration, dosages, or dosage schedules of the same drug were excluded. Drugs were defined broadly to include biologics and vaccines, but not nutritional supplements or medical devices without a drug component. Meta-analyses that investigated a combination of pharmacological and non-pharmacological interventions or interventions which may or may not involve a drug (e.g., amnioinfusion) were included if a study group was exclusively given a drug intervention or if the meta-analysis assessed the addition of a drug to a treatment received by both intervention and control groups. Interventions were classified as having a drug component if any form of the active ingredient (e.g., dosage, route, strength, compound) was listed as an approved or discontinued brand name, generic drug or therapeutic biological product by the US Food and Drug Administration (FDA) as listed in the Drugs@FDA database at the time of review.[16] If an agent was not listed in the Drugs@FDA database and was classified by the FDA as a non-drug (e.g., food additive, supplement), then it was not considered a drug. If an agent was not regulated as a drug and was not listed as a non-drug by the FDA, drug status was determined based on consensus among investigators using publicly available sources that provided information on the agent.

We searched the MEDLINE database via PubMed on October 19, 2018 using a search developed by a medical librarian (see eMethods1 for strategy). Citations were uploaded into the systematic review software DistillerSR (Evidence Partners, Ottawa, Canada), which was used to code and track results. Two investigators independently evaluated titles and abstracts for

potential eligibility. Full texts of titles and abstracts deemed potentially eligible by either investigator were then reviewed by two investigators independently. Disagreements at the full-text level were resolved through consensus with a third investigator consulted as necessary. Because we sought to include the most recently published meta-analyses that met eligibility criteria, prior to reviewing, citations were organized by PubMed reference identification numbers with the most recent first. Title and abstract and full-text reviews were conducted sequentially until we obtained our desired number of included meta-analyses based on our power analysis.

Data extraction

For each eligible meta-analysis, one reviewer initially extracted all data into a pre-defined form in DistillerSR, and a second reviewer validated all extracted data using the DistillerSR Quality Control function. Discrepancies were resolved by consensus and consultation with a third investigator, if needed. For each included meta-analysis, reviewers extracted first author last name; year of publication; journal name; Clarivate Analytics 2017 journal impact factor; journal speciality area based on Clarivate Analytics classification; whether it was a Cochrane meta-analysis published in the Cochrane Database of Systematic Reviews or elsewhere; funding source for the meta-analysis and author-industry financial ties and employment; reporting in the meta-analysis of trial funding sources, trial author-industry financial ties, and trial author-industry employment; and whether the meta-analysis referenced a published protocol or contained a PROSPERO registration number. If a registration number was not provided, we searched the PROSPERO website (https://www.crd.york.ac.uk/PROSPERO/) using key terms from the published article, then attempted to match the principal investigator, funding source, intervention, non-intervention comparator group, and design from the article to registrations obtained in the search.

To extract information on meta-analysis funding source, meta-analysis author-industry financial ties, and meta-analysis author-industry employment and to determine whether or not trial funding sources, trial author-industry financial ties, and trial author-industry employment were reported in the meta-analysis, for each included meta-analysis, reviewers examined all text, tables, figures, appendices, disclosure statements, acknowledgements and any online supplemental material, published with the manuscript or linked to the manuscript. Funding sources for meta-analyses were classified as (1) non-industry (e.g., public granting agency, private not-for-profit granting agency), (2) pharmaceutical industry, (3) combined pharmaceutical industry and non-industry, (4) no funding or (5) not reported. Financial ties of meta-analysis authors to industry were defined per the International Committee of Medical Journal Editors Uniform Disclosure Form for Potential Conflicts of Interest[17] and included current or former board membership, current or former consultancy, current or former industry employment, expert testimony, industry grants (issued or pending), payment for lectures including service on speakers bureaus, payment for manuscript preparation, patents (planned, pending, or issued), royalties, payment for development of educational presentations, stock or stock options, travel reimbursement, or other relationships with industry, as disclosed in the review. Of these, we specifically coded if industry employees were part of the author group. If a meta-analysis did not contain a disclosure statement, meta-analysis author-industry financial ties were coded as not reported.

For reporting of (1) trial funding sources, (2) trial author-industry financial ties, and (3) trial author-industry employment, meta-analyses were coded as (1) reporting for all included trials; (2) reporting for some, but not all, included trials; or (3) not reporting. Meta-analyses that included data from a pharmaceutical industry database or noted that trial drugs were supplied by

the manufacturers for certain trials, but that did not make any explicit statement of trial funding sources, were coded as not reporting. For meta-analyses that reported information on funding sources or author FCOIs from included trials, either fully or partially, we recorded where in the meta-analysis the information was reported. Specifically, we recorded whether the information was reported in the abstract, lay summary, risk of bias material (text, figure or table, both), main text other than risk of bias, elsewhere in the main document (e.g., characteristics of included studies table, other table, footnote of a table), or in an online appendix. See eMethods2.

Power analysis

To determine the number of meta-analyses to target, we first calculated the number of included meta-analyses that would be needed for 80% power to find a statistically significant difference if there were a 20% difference in reporting trial funding sources based on meta-analysis characteristics, with $\alpha = 0.05$. We varied the rates of reporting from 10% versus 30% to 70% versus 90% and considered scenarios where the proportion of reporting meta-analyses with each characteristic (e.g., high-impact journals versus low-impact journals) was 50% versus 50% and 30% versus 70%. For a two-tailed binomial test with $\alpha = 0.05$, the maximum number of included meta-analyses needed in any scenario was 239. Because the consequence of overpowering the study was additional labour and not risk to human participants, we rounded this number up to 250 meta-analyses. See eMethods3.

Statistical analyses

We presented characteristics of included meta-analyses descriptively, including funding sources and FCOIs. We determined the proportion of meta-analyses that reported trial funding source, author-industry financial ties, and author-industry employment of included trials for (1) all included trials, (2) some, but not all, included trials, and (3) no included trials, along with

95% confidence intervals (CIs). We compared the difference between the proportion of recently published Cochrane meta-analyses that reported study funding, author-industry financial ties, and author-industry employment from included RCTs with recently published non-Cochrane meta-analyses and with Cochrane systematic reviews published in 2010. Because the present study included meta-analyses only, but the previous study of Cochrane reviews included systematic reviews with or without meta-analyses,[11] we conducted a sensitivity analysis in which we excluded Cochrane systematic reviews from 2010 that did not include a meta-analysis and would not have been eligible for inclusion in the present study. We calculated 95% CIs for all differences.[18]

To assess the relationship between meta-analysis characteristics and reporting of funding sources for some or all included trials, versus not reporting, we fit unadjusted (bivariate) and adjusted (multivariate) logistic regression models with all predictors using the glm function in R (R version 3.2.3; RStudio Version 1.0.136).[19,20] The predictor variables that were considered in bivariate and. adjusted analyses were: (1) combined category (Cochrane, specialty medicine, general medicine, multidisciplinary) and impact factor of the journal in which the meta-analysis was published; and (2) whether there was industry funding for the meta-analysis or any FCOI disclosed by meta-analysis authors. We combined journal category and impact factor because of the small number of journals in some categories and the small number of journals with impact factor greater than that of Cochrane. Thus, meta-analyses were categorized as (1) low-impact (≤ 3.0) specialty medicine journals, (2) low-impact (≤ 3.0) general medicine or multidisciplinary journals, (3) medium-impact (3.1 - 6.7) specialty medicine journals, (4) high-impact (> 6.8) specialty medicine or general medicine journals, and (5) Cochrane meta-analyses (impact factor = 6.8; reference category). Because 28 of 33 meta-analyses in general medicine journals were

from a single journal (*Medicine*) and not necessarily representative of general medicine as a category, and because 9 of the 10 meta-analyses published in multidisciplinary science journals were published in a single journal (*PLOS ONE*), we combined general medicine and multidisciplinary journals.

Our initial protocol indicated that, if possible, we would include in the logistic regression model the year of publication of the meta-analysis and whether there was meta-analysis funding by industry, meta-analysis author-industry financial ties, and meta-analysis author-industry employment, separately. However, 246 of 250 included meta-analyses were published in 2017-2018, and only 3 meta-analyses had industry funding; thus, we did not include year of publication, and we grouped meta-analysis funding source and author FCOIs into a single variable (No FCOIs including funding source versus any FCOI). Additionally, we only conducted a multivariable analysis for the reporting of funding sources of included RCTs and not for reporting of author-industry financial ties and author-industry employment, because there were not enough examples of meta-analyses that reported author-industry financial ties and author-industry employment.

Patient and Public Involvement

Patients and members of the public were not involved in the design, conduct, reporting, or plan for dissemination of our research.

RESULTS

Selection of eligible meta-analyses

Our initial search of PubMed without date restrictions retrieved 9,725 unique citations. To select 250 eligible meta-analyses, working backwards from the most recent, a total of 401

citations were screened for eligibility; 64 were excluded at the title and abstract level and 76 at the full-text level. See Figure1.

As shown in Table 1, of the 250 included meta-analyses, 107 (43%) were Cochrane reviews, all of which were published in the Cochrane Database of Systematic Reviews. Among the 143 non-Cochrane meta-analyses, 33 (23%) were published in general medicine journals (including 28 in the journal *Medicine*), 100 (70%) in specialty medicine journals, and 10 (7%) in multidisciplinary journals (including 9 in *PLOS ONE*). The mean number of included RCTs for both Cochrane and non-Cochrane meta-analyses was approximately 20. Among the 143 non-Cochrane meta-analyses, 25 (17%) referenced a published protocol or were registered in PROSPERO, and 106 (74%) were published in a journal with impact factor $\leq$ 3.

Of the 250 meta-analyses, 3 (1%) reported being funded by industry, 148 (59%) reported funding from non-industry sources, 56 (22%) reported no funding, and 43 (17%) did not report funding source; 3 (1%) had at least 1 author who reported current industry employment, 51 (20%) had at least 1 author that reported other financial ties with industry, 187 (75%) reported that there were no authors with FCOIs, and 12 (5%) did not report any information about author FCOIs. Characteristics of each of the 250 included meta-analyses are shown in eTable1.

Reporting in meta-analyses of funding sources and author FCOIs from included drug trials

As shown in Table 2, 111 of the 250 (44%) included meta-analyses reported the funding sources for some or all included trials, 49 (20%) reported author-industry financial ties for some or all included trials, and 19 (8%) reported author-industry employment for some or all included trials. Of the 107 Cochrane meta-analyses, 90 (84%) reported funding sources for some or all included trials compared with 21 of 143 (15%) non-Cochrane meta-analyses, a difference of 69% (95% CI, 59% to 77%); 47 (44%) Cochrane meta-analyses reported author-industry financial ties

for some or all included trials compared with 2 (1%) non-Cochrane meta-analyses, a difference of 43% (95% CI, 33% to 52%); 18 (17%) Cochrane meta-analyses reported, fully or partially, author-industry employment compared with 1 (1%) non-Cochrane meta-analysis, a difference of 16% (95% CI, 9% to 24%).

Among the 90 Cochrane meta-analyses that reported funding sources for some or all included trials, 77 (86%) provided this information in the characteristics of included studies table, including 23 (26%) that also included it in the assessment of risk of bias of included trials; 7 (8%) included it in the risk of bias assessment and at least one other place, but not the characteristics of included studies table, and 6 (7%) reported only as part of the risk of bias assessment. In total, 36 (40%) reported in the context of the risk of bias assessment. See eTable2 for reporting for all 250 included meta-analyses.

Factors associated with reporting FCOIs from included trials in multivariable analysis

As shown in Table 3, the odds ratio for reporting funding sources for some or all included RCTs among non-Cochrane meta-analyses was ≤ 0.11 compared with Cochrane meta-analyses for all journal category and impact factor combinations. Meta-analyses with any declared FCOI (OR 1.29, 95% CI 0.53 to 3.19) and meta-analyses for which the presence of FCOIs was not reported (OR 1.18, 95% CI 0.40 to 3.44) did not differ significantly in reporting compared with those with no declared FCOIs.

Comparison of recent Cochrane meta-analyses versus Cochrane reviews published in 2010

Reporting of funding sources for some or all included trials improved from 30% in Cochrane reviews of drug trials published in 2010 to 84% in recently published Cochrane meta-analyses, an improvement of 54% (95% CI, 42% to 63%). Reporting of author-industry financial ties for some or all included trials improved from 7% in 2010 to 44% in recent meta-analyses, a

37% change (95% CI, 26% to 47%). Reporting of author-industry employment for some or all included trials improved from 7% in 2010 to 17% in recent meta-analyses (10%; 95% CI, 2% to 19%). Results did not change when the comparison was restricted to Cochrane reviews published in 2010 that included a meta-analysis. See Table 2. Figure 2 summarizes reporting among recently published Cochrane and non-Cochrane meta-analyses and Cochrane reviews from 2010.

DISCUSSION

Principal findings

We reviewed the 250 most recent meta-analyses of drug treatments listed in PubMed at the time of our search. Of these, 107 (43%) were Cochrane reviews, 100 (40%) were published in specialty medicine journals, and 43 (17%) were published in general medicine or multidisciplinary journals, including 28 in *Medicine* and 9 in *PLOS ONE*. Of the 143 non-Cochrane meta-analyses, 106 (74%) were published in journals with impact factor ≤ 3.

Among Cochrane meta-analyses, 84% reported funding sources for some or all included RCTs compared with 15% of non-Cochrane meta-analyses. Cochrane meta-analyses were also more likely than non-Cochrane meta-analyses to report author-industry financial ties (44% versus 1%) and author-industry employment (17% versus 1%).

In 2010, only 30% of 151 Cochrane systematic reviews of drug treatments reported trial funding sources.[11] This improved to 84% among recent Cochrane meta-analyses. Cochrane reviews also improved reporting of author-industry financial ties and author-industry employment of included RCTs from 7% to 44% and from 7% to 17%. It is possible that the reason that few meta-analyses reported author-industry employment is because some may have assumed that author-industry employment would be considered a type of author-industry

financial tie and did not report employment separately, whereas we considered author-industry financial ties and employment separately.

Among the 90 Cochrane meta-analyses that reported funding sources of included trials in the present study, 86% included the information in the characteristics of included studies table, as required by Cochrane, and 40% included the information in the risk of bias assessment.

Findings in context

In 2012, soon after our previous results showed that few Cochrane systematic reviews of drug trials reported funding sources and author FCOIs of included trials,[11] the Cochrane Collaboration began to require that trial funding sources and FCOIs be reported for every included RCT in the characteristics of included studies table.[12-13] Reporting of trial funding sources among recent Cochrane meta-analyses has not reached 100%, and work is needed to improve the reporting of other types of author FCOIs, which was under 50% despite being required by Cochrane. Nonetheless, the improvements documented in the present study are substantial, both compared with previous Cochrane reviews and with contemporary non-Cochrane meta-analyses. Cochrane is a global organization consisting of a large number of different review and methods groups that span numerous fields of health research. This diversity suggests that changes that have occurred likely resulted from change in the mandatory reporting requirements for Cochrane reviews and widespread adoption by the organization. It also suggests the possibility that other journals could improve the transparency of reporting of trial funding and trial author FCOI in evidence syntheses by adopting similar reporting requirements. The current version of the PRISMA statement does not address reporting of trial funding sources and FCOIs of trial authors by investigators who publish systematic reviews and meta-analyses.[15,16] The forthcoming updated PRISMA statement, however, will require that

trial funding, although not trial author FCOIs, be reported (personal communication, David Moher, May 22, 2019).

Members of our research team have previously recommended that risk of bias from trial funding and trial author FCOIs be included in the Cochrane Risk of Bias Tool based on evidence that links trial sponsorship and trial author FCOIs to outcomes.[10] This recommendation was debated at a Cochrane Methods Symposium in 2013, but consensus was not reached for inclusion.[12,21] The present study found that 40% of Cochrane meta-analyses that reported on FCOIs from included trials included this as part of a risk of bias assessment, even though this has not been recommended by Cochrane. Currently, a new tool, the Tool for Addressing Conflicts of Interest in Trials (TACIT),[22] which specifically addresses risk of bias from industry sponsorship of trials and author-industry financial ties and employment, is being developed for inclusion in Cochrane reviews. Once the TACIT tool is completed, risk of bias from trial funding and trial author FCOIs will be explicitly considered in Cochrane reviews and, potentially, in non-Cochrane reviews, as well. Meanwhile, authors should, at a minimum, describe FCOIs and discuss the degree to which they may influence confidence in findings.

Strengths and limitations

A strength of the present study is that we assessed reporting in a large number of recently published meta-analyses, including 107 Cochrane meta-analyses, which allowed us to compare reporting practices among Cochrane and non-Cochrane meta-analyses and recent Cochrane meta-analyses with Cochrane systematic reviews from 2010. However, there are limitations that should be considered. First, since most meta-analyses of drug trials are published as Cochrane reviews or in relatively low-impact specialty medicine journals, we were not able to conduct

robust assessments of whether meta-analyses published in different types of journals or journals with different impact factors are more or less likely to report on trial funding and trial author FCOIs for included drug trials. The vast majority of meta-analyses published in general medicine journals were from a single journal (*Medicine*), which further limited our ability to examine this factor. On the other hand, the meta-analyses selected for inclusion in our study constituted a consecutive sample of the most recent meta-analyses listed in PubMed and, thus, were representative of the spectrum of meta-analyses of drug interventions and the journals where they were published in 2016-2018. Second, our study examined only disclosed FCOIs. A surprising finding was that a higher proportion of Cochrane meta-analysis authors indicated that they had FCOIs compared with non-Cochrane authors; it is not known if this reflects greater industry involvement among Cochrane authors or a higher propensity to report transparently and completely among this group of authors. Third, information about FCOIs from included RCTs was not extracted from the RCT publications. Finally, our previous study of Cochrane reviews from 2010 included all systematic reviews, whereas the present study was restricted to reviews with meta-analyses. However, a sensitivity analysis showed that results did not change when we compared recent results to those from 2010 that were restricted to reviews with a meta-analysis.

Conclusions and policy implications

In summary, the percentage of recent Cochrane meta-analyses on the effects of drug interventions that transparently reported funding sources and trial author-industry financial ties and employment for included trials far exceeds reporting in other journals. It also far exceeds reporting in Cochrane systematic reviews published in 2010, before the implementation by Cochrane of its policy

requiring the reporting of trial funding sources and author-industry FCOIs. These results suggest that it is possible to achieve more transparent reporting of FCOIs from trials included in meta-analyses. We encourage the uptake and enforcement of reporting requirements in the forthcoming updated PRISMA statement.[23] We also encourage the adoption of Cochrane's new TACIT tool[22] by journals and authors in order to assess trial funding sources and author FCOIs as risks of bias. Continued non-disclosure of FCOIs when evidence is synthesized in meta-analyses misleads readers of medical journals into believing that there is not risk of bias from FCOIs to be considered, even though an increasingly robust evidence base tells us that this is often not the case.[7,8]

Acknowledgement: The authors thank Drs. Ian Shrier and Jonathan Kimmelman for providing helpful comments on an earlier version of the manuscript. They were not compensated for their contribution.

Contributors: KAT, MR, JB, LAB, JL, EHT, AB, and BDT were responsible for the study conception and design. KAT, ACJ, CB, and KE were responsible for title and abstract and full-text review. KAT and ACJ were responsible for data extraction and validation. KAT, BL, AB, and BDT analysed and interpreted results. KAT and BDT drafted the manuscript. All authors provided a critical review and approved the final manuscript. BDT is the guarantor.

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Funding: Ms. Turner was supported by a Fonds de Recherche Québec - Santé (FRQ-S) masters training award, Ms. Levis was supported by a Canadian Institutes of Health Research doctoral research award, and Drs. Benedetti and Thombs were supported by FRQ-S researcher awards, all outside of the submitted work.

Declaration of Competing Interests: All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf. Dr. Bero disclosed that she is Senior Editor, Cochrane Public Health and Health Systems, for which the University of Sydney receives remuneration. Dr. Thombs disclosed that he is a content editor with the Cochrane Common Mental Disorders review group (no remuneration received). All other authors declared: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work

in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

Ethics Statement: As this study involved only the review of published articles, research ethics approval was not required.

Transparency Declaration: The manuscript's guarantor affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

Data Sharing: All extracted data are available in the main tables or in eTable1 and eTable2. No additional data were extracted.

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FIGURES

Figure 1. Flow diagram of selection of eligible meta-analyses.

Figure 2. Percentage of recently published Cochrane and non-Cochrane meta-analyses and 2010 Cochrane systematic reviews that reported included trial funding source, author-industry financial ties, and author-industry employment for some or all included trials.

Table 1. Characteristics of included meta-analyses

	Cochrane Meta-Analyses (N = 107)	Non-Cochrane Meta-Analyses (N = 143)
Year of publication		
2016, *N (%)*	0	4 (3%)
2017, *N (%)*	22 (21%)	31 (22%)
2018, *N (%)*	85 (79%)	108 (76%)
Number of Included RCTs, *mean ± SD*	21.4 ± 24.4	19.6 ± 46.4
Registered in PROSPERO or Published Protocol, *N (%)*	107 (100%)	25 (17%)[a]
Impact Factor, *mean ± SD*	6.8 ± 0	3.6 ± 5.4
≤ 3	0	106 (74%)
3.1-6.7	0	27 (19%)
6.8	107 (100%)	0
> 6.8	0	10 (7.0%)
Meta-Analysis Funding Sources		
Not reported	4 (4%)[b]	39 (27%)
Industry	0	3 (2%)
Non-Industry	93 (87%)	55 (38%)
No funding	10 (9%)	46 (32%)
Meta-Analysis Author Financial Ties to Industry (Including Employment)[c]		
Not reported, *N (%)*	1 (1%)	11 (8%)
No authors with reported financial ties, *N (%)*	70 (65%)	117 (81%)

≥ 1 author with reported financial ties, *N (%)*	36 (34%)	15 (10%)
Proportion of authors with financial ties, *mean ± SD*[d]	11% ± 17%	4% ± 15%
Journal Category		
Cochrane review, *N (%)*	107 (100%)	0
Specialty medicine *N (%)*	0	100 (70%)
General medicine (non-Cochrane),[f] *N (%)*	0	33 (23%)
Multidisciplinary,[g] *N (%)*	0	10 (7%)

[a]One meta-analysis reported that they registered in PROSPERO but did not provide a registration number and one could not be found. We contacted the authors and they did not provide us with further information; thus this was coded as not registered. [b]Only 3 included meta-analyses reported author-industry employment and these were grouped with author-industry financial ties for this table [c]Cochrane reviews typically have a "Sources of Support" section with funding information. These reviews did not include that section. [d]Proportion of authors with financial ties or employment of those that reported. [e]Classifications for specialty medicine journals (note that some journals had more than one classification): Anesthesiology, N = 3; Biochemistry & Molecular Biology, N =1; Biotechnology & Applied Microbiology, N =2; Cardiac & Cardiovascular Systems, N = 7; Cell Biology, N = 1; Chemistry, Medicinal, N = 4; Chemistry, Multidisciplinary, N =2; Clinical Neurology, N = 6; Critical Care Medicine, N =2; Dermatology, N = 3; Emergency Medicine, N = 2; Endocrinology & Metabolism, N = 2; Gastroenterology & Hepatology, N = 6; Genetics & Heredity, N = 1; Hematology, N = 2; Immunology, N = 6; Infectious Diseases, N =3; Integrative & Complementary Medicine, N =1; Medicine, Research & Experimental, N = 3; Microbiology, N = 2; Neurosciences, N =3; No classification, N = 2; Obstetrics & Gynecology, N = 4; Oncology, N = 11; Ophthalmology, N = 3; Orthopedics, N = 6; Parasitology, N = 1; Peripheral Vascular Disease, N =5; Pharmacology & Pharmacy, N = 13; Physiology, N =1; Psychiatry, N = 4; Psychology, N = 1; Reproductive Biology, N = 1; Respiratory System, N = 6; Rheumatology, N = 3; Sport Sciences, N = 1; Surgery, N =11; Toxicology, N = 2; Tropical Medicine, N = 1; Urology & Nephrology, N =1. [f]Of the 33 included general medicine journals, 28 were published in the journal "Medicine". [g]Of the 10 journals classified as multidisciplinary, 9 were published in the journal "PLOS ONE".

Table 2. Summary of reporting patterns of disclosed funding source and author-industry FCOI from included RCTs

	Number of Meta-analyses Reporting Funding Sources of Included RCTs			Number of Meta-analyses Reporting Author Financial Ties of Included RCTs			Number of Meta-analyses Reporting Author-Industry Employment of Included RCTs		
	Full	Partial	Full or Partial	Full	Partial	Full or Partial	Full	Partial	Full or Partial
Recently Published Meta-analyses:									
Cochrane (N = 107), N (%)	70 (65%)	20 (19%)	90 (84%)	24 (22%)	23 (21%)	47 (44%)	1 (1%)	17 (16%)	18 (17%)
Non-Cochrane (N = 143), N (%)	14 (10%)	7 (5%)	21 (15%)	1 (1%)	1 (1%)	2 (1%)	0	1 (1%)	1 (1%)
Difference in Reporting Between Cochrane and Non-Cochrane Meta-analyses, % (95% CI)	56% (44% to 65%)	14% (6% to 23%)	69% (59% to 77%)	22% (14% to 31%)	21% (13% to 30%)	43% (33% to 52 %)	1% (-2% to 5%)	15% (9% to 23%)	16% (9% to 24%)
2010:									
All Cochrane Systematic Reviews (N = 151), N (%)[a]	30 (20%)	16 (11%)	46 (30%)	2 (1%)	9 (6%)	11 (7%)	0	10 (7%)	10 (7%)
Difference in Reporting Between Recently Published Cochrane Meta-analyses versus Cochrane Systematic Reviews Published in 2010, % (95% CI)	46% (34% to 56%)	8% (-1% to 18%)	54% (42% to 63%)	21% (13% to 30%)	16% (7% to 25%)	37% (26% to 47%)	1% (-2% to 5%)	9% (2% to 18%)	10% (2% to 19%)
2010:									
Cochrane Meta-analyses (N =119),	21 (19%)	15 (13%)	36 (30%)	0 (0%)	7 (6%)	7 (6%)	0 (0%)	7 (6%)	7 (6%)

N (%)

Difference in Reporting Between Recently Published Cochrane Meta-analyses versus Cochrane Meta-analyses Published in 2010, % (95% CI)	48% (36% to 58%)	6% (-3% to 16%)	54% (42% to 63%)	22% (15% to 31%)	16% (7% to 25%)	38% (27% to 48%)	1% (-2% to 5%0	10% (2% to 19%)	11% (3% to 20%)

[a] Results from Roseman et al., 2012.

Table 3. Factors associated with reporting funding sources of included RCTs

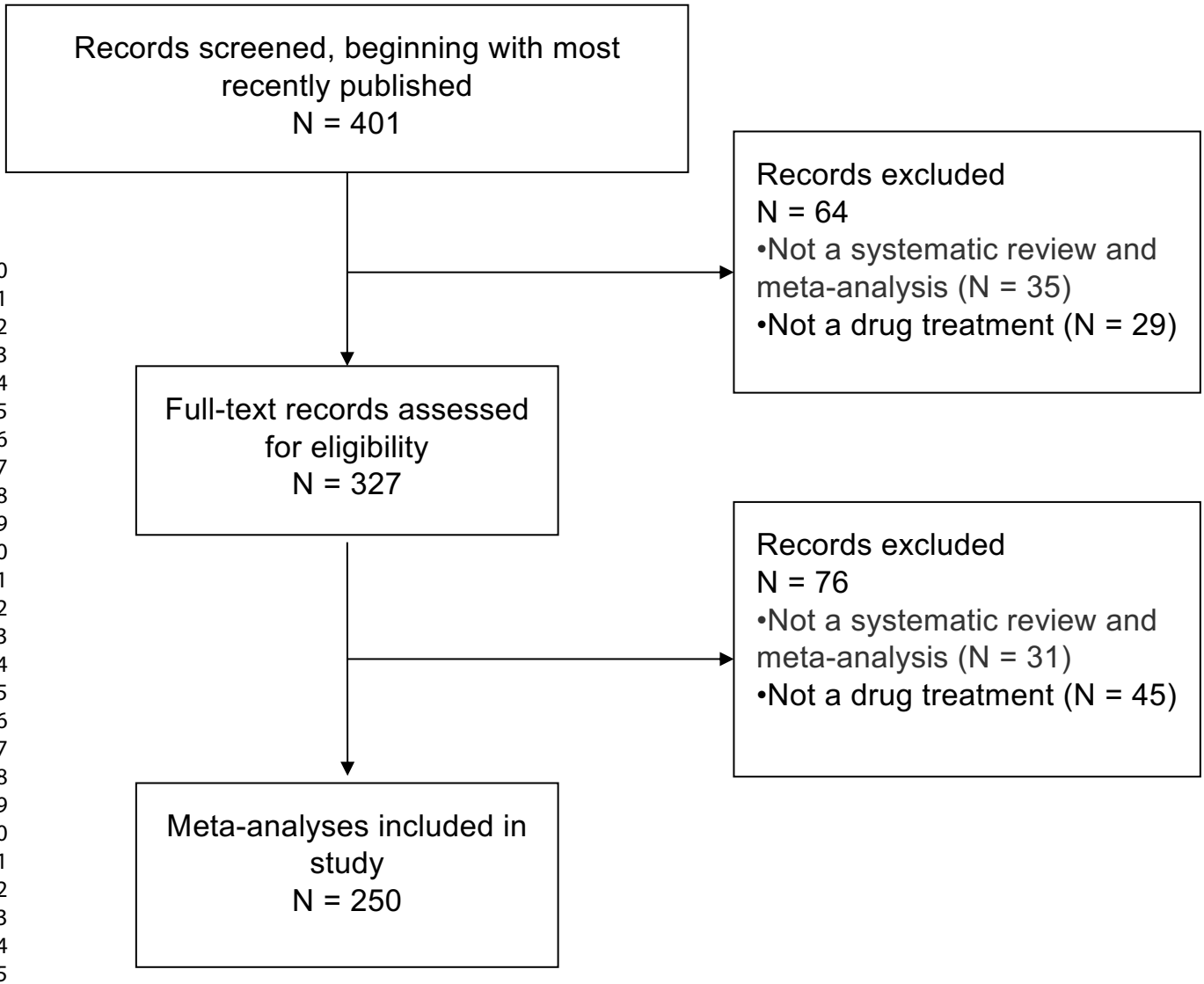
	Proportion that reported some or all declared funding sources from included RCTs	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)
FCOI of meta-analysis (including meta-analysis funding)			
reference = no FCOI	67/151 (44%)		
Any disclosed FCOI	35/51 (69%)	2.74 (1.42 to 5.49)	1.29 (0.53 to 3.19)
Not reported	9/48 (19%)	0.29 (0.12 to 0.62)	1.18 (0.40 to 3.44)
Impact Factor and Journal Type			
reference = Cochrane	90/107 (84%)		
Specialty impact factor ≤ 3[b]	4/65 (6%)	0.01 (< 0.01 to 0.03)	0.01 (< 0.01 to 0.04)
General (N=31) or Multidisciplinary (N=10) impact factor ≤ 3	4/41 (10%)	0.02 (< 0.01 to 0.06)	0.02 (< 0.01to 0.06)
Specialty impact factor 3.1 - 6.7[c]	10/27 (37%)	0.11 (0.04 to 0.28)	0.11 (0.04 to 0.28)
Specialty (N=8) or General (N=2) impact factor > 6.8	3/10 (30%)	0.08 (0.02 to 0.32)	0.08 (0.02 to 0.32)

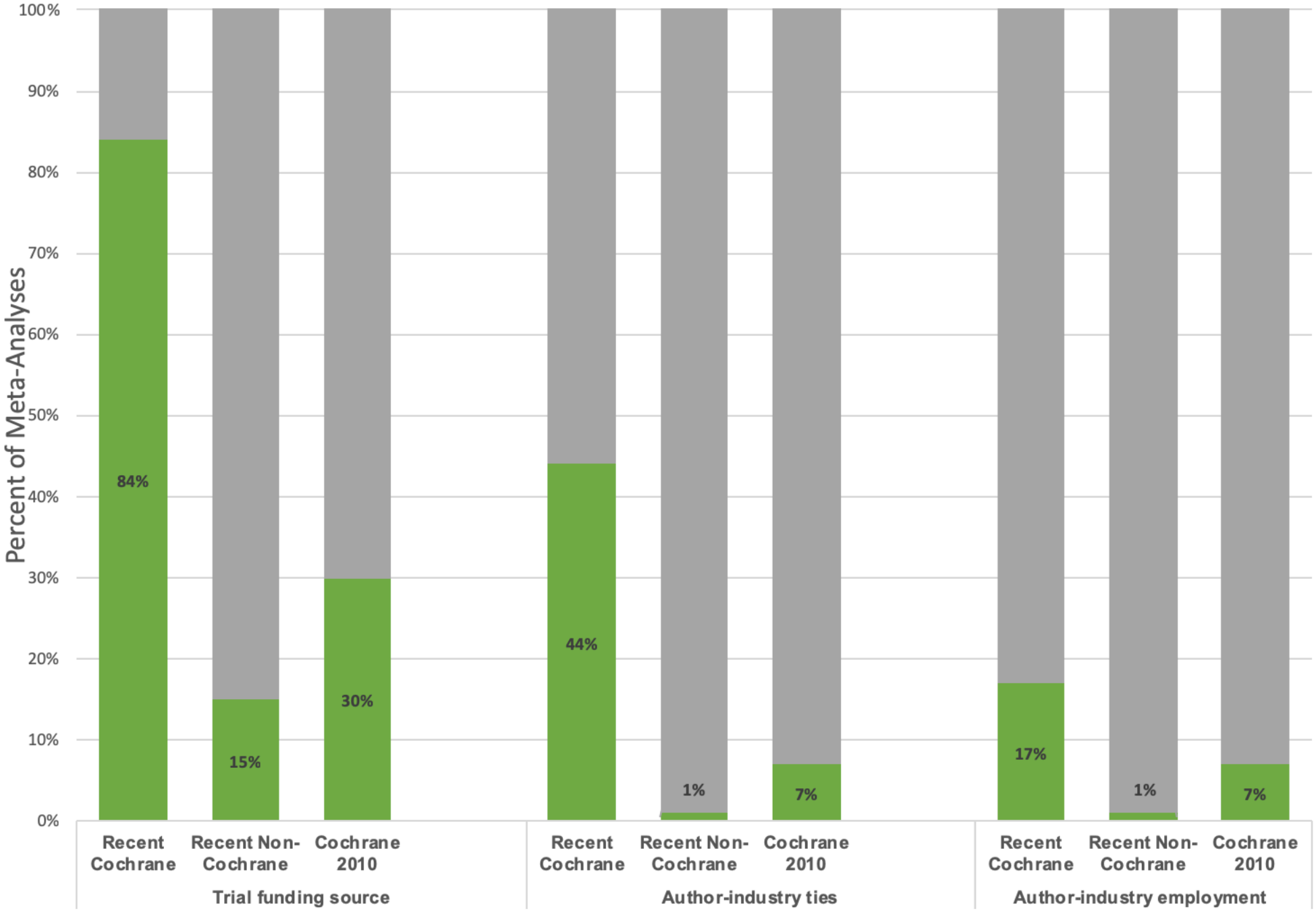
[a]Not reported included meta-analyses for which the presence of FCOI could not be determined because either meta-anlaysis funding, meta-analysis author FCOI, or both were not reported.

[b] Two meta-analyses were from journals that did not have an impact factor, and these were coded as having an impact factor of 0.5 for our analyses.

[c] There were no multidisciplinary or general medicine journals with an impact factor of 3.1-6.7.

FCOI = financial conflicts of interest


Records screened, beginning with most recently published
N = 401
Records excluded
N = 64
•Not a systematic review and meta-analysis (N = 35)
•Not a drug treatment (N = 29)
Full-text records assessed for eligibility
N = 327
Records excluded
N = 76
•Not a systematic review and meta-analysis (N = 31)
•Not a drug treatment (N = 45)
Meta-analyses included in study
N = 250


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent of Meta-Analyses
84%
15%
30%
44%
1%
7%
17%
1%
7%
Recent Cochrane
Recent Non-Cochrane
Cochrane 2010
Trial funding source
Recent Cochrane
Recent Non-Cochrane
Cochrane 2010
Author-industry ties
Recent Cochrane
Recent Non-Cochrane
Cochrane 2010
Author-industry employment

Supplementary Material

eMethods1. Search strategy

eMethods2. Data extraction form

eMethods3. Power analysis

eTable1. Detailed characteristics of included meta-analyses

eTable2. Detailed reporting of study funding source, author-industry financial ties, and author-industry employment from included RCTs

eMethods1. Search strategy

To obtain our sample, we searched the MEDLINE database via PubMed on October 19, 2018 using the following search strategy:

((((("Randomized Controlled Trials as Topic"[Mesh] or randomized control trial [tiab] or randomized controled trial [tiab] OR randomized controlled trial [tiab] or randomized control trials [tiab] OR randomized controled trials [tiab] OR Randomized controlled trials [tiab] or randomised control trial [tiab] or randomised controled trial [tiab] OR randomised controlled trial [tiab] or randomised control trials [tiab] OR randomised controled trials [tiab] OR Randomised controlled trials [tiab]) AND ("Therapeutic Uses"[Mesh] OR "Vaccines"[Mesh]) AND ("Meta-Analysis" [Publication Type] or meta analysis [tiab]) AND (systematic review [tiab] OR search [tiab] or searched [tiab] or MEDLINE [tiab] OR PubMed [tiab]))))

eMethods 2. Data extraction form

First Author, last name: Last name of first author of meta-analysis

Year of publication (or in press): Year of publication of meta-analysis

Journal: Name of journal in which meta-analysis was published

Journal Impact factor: Where meta-analysis published (low-high split or continuous based on data distribution)

Specialty area of Journal: Where meta-analysis published (per Thomson Reuters Journal Science Citation Index - Expanded categories)

Cochrane Review (Y/N): Is the meta-analysis a Cochrane Review? Select "Yes" even if the Cochrane Review is being published in another journal

Response from radio options:

- Y (Yes)
- N (No)

Journal policies for reporting COI of Included Trials: Presence or absence of instructions for reporting in the author instructions

- Y (Yes)
- N (No)

# of RCTs synthesized in Meta-Analysis (total RCTs in included meta-analysis related to drugs)

Date Range of Included Trials: Date range in years of publication of studies (RCTs) included related to drugs in the meta-analysis (XXXX - XXXX). Use "In press" for end date if there are in press trials. Use “Unpublished” if a trial is in progress or has never been published.

Study population: Characteristics of study population of included trials (e.g. condition/disorder, adult/child)

Pharmacological agent: Pharmacologic treatment evaluated in the meta-analysis

- Name(s) of treatment if specific drug(s) investigated
- Class of treatment if broader category of drugs investigated, and number of drugs evaluated (e.g. SSRIs – 5 included)

Control/comparison arms: Other treatment arms (control/comparison) included in the meta-analysis (e.g. placebo, name of comparison pharmacologic treatment, name of behavioral intervention)

Meta-Analysis Author Financial Ties / Funding Sources Reported: Does the meta-analysis report meta-analysis author financial ties (including former and current industry employment) and/or the funding source? Note that reporting “no funding” is different from not reporting.
Response from radio options:

- Meta-analysis author financial ties
- Meta-analysis funding sources
- Both financial ties and funding sources
- Neither reported

Funding Source of Meta-Analysis (if applicable – only shown if above item indicates meta-analysis funding sources reported or both financial ties and meta-analysis funding sources reported) Source of financial support for the meta-analysis:

Response from radio options:

- Industry
- Combined industry and non-industry

- Non-industry (e.g. public granting agency, private not-for-profit granting agency)
- No study funding

Type of Industry Funding (if applicable – only shown if above item indicates industry funding or combined industry and non-industry present): If the meta-analysis is industry funded, what is the type of support provided by industry? Response from radio options:

- Financial support
- Resources (e.g. statistical analyses)
- Both financial support and resources

# of Meta-Analysis Authors: Number of authors of the meta-analysis (count authors named in byline or in an author group)

# of Meta-Analysis Authors with Financial Ties to Industry (if applicable – only shown if meta-analysis author financial ties or both financial ties and meta-analysis funding sources are reported): Number of authors of the meta-analysis who have financial ties such as industry board member, consultant, investments, patents, research funding, royalties (including former, and excluding current industry employment):

- Numbers 0 - ≥10

 # Meta-Analysis Authors with Current Industry Employment (if applicable – only shown if meta-analysis author financial ties or both financial ties and meta-analysis funding sources are reported): Number of authors of the meta-analysis who are current industry employees.

Response from radio options:

Numbers 0 - ≥10

Quality or Risk Assessment of Included RCTs (Y/N): Was quality or risk assessment of included RCTs, by methods from Cochrane, Jadad, etc., reported in the meta-analysis.

Response from radio options:

- Y (Yes)
- N (No)

Quality or Risk Assessment Method of Included RCTs (if applicable – only shown if answer to previous item is yes- quality or risk assessment of included RCTs is reported): If the meta-analysis authors report a quality or risk assessment method of included RCTs, what is the reported method of quality assessment?

Meta-analysis Authors Report Funding Sources of Included Studies: Response from radio options:

- Reported for each included study
- Reported in summary statement or for some, but not all, trials
- Included study funding sources not reported

Placement in publication of Included RCTs' Funding Source (if applicable – only shown if the response to Meta-analysis Authors Report Funding Sources of Included Studies is (1) Reported for Each included Study or (2) Reported in summary statement or for some, but not all, trials):

- Abstract
- Main text, other than risk of bias or quality section
- In risk of bias or quality assessment
- Other in main document (e.g., a characteristics of studies table, other table, in a footnote of a table
- Online appendix
- Lay Summary

Placement in risk of bias or quality assessment of Included RCTs' Funding Source (if applicable – only shown if placement in publication of included RCT's Funding Source is risk of bias or quality assessment):

- Text
- Figure/table
- Both text and figure/table

Meta-analysis Authors Report Author Financial Ties of Included Studies: Response from radio options:

- Reported for each included study
- Reported in summary statement or for some, but not all, trials
- Included study author financial ties not reported

Placement in publication of Included RCTs' Author Financial Ties (if applicable – only shown if the response Meta-analysis Authors Report Author Financial Ties of Included Studies is (1) Reported for Each included Study or (2) Reported in summary statement or for some, but not all, trials):

- Abstract
- Main text, other than risk of bias or quality section
- In risk of bias or quality assessment
- Other in main document (e.g., a characteristics of studies table, other table, in a footnote of a table
- Online appendix
- Lay Summary

Placement in risk of bias or quality assessment of Included RCTs' Author Financial Ties (if applicable – only shown if placement in publication of included RCT's Author Financial ties is risk of bias or quality assessment):

- Text
- Figure/table
- Both text and figure/table

Meta-analysis Authors Report Author Industry Employment of Included Studies: Do the authors of the meta-analysis report current author industry affiliation (employment) for the included studies? Response from radio options:

- Reported for each included study
- Reported in summary statement or for some, but not all, trials
- Included study author industry employment not reported

Placement in publication of Included RCTs' Author Industry Employment (if applicable – only shown if the response to Meta-analysis Authors Report Author Industry Affiliation (Employment) of Included Studies is (1) Reported for Each included Study or (2) Reported in summary statement or for some, but not all, trials):

- Abstract
- Main text, other than risk of bias or quality section
- In risk of bias or quality assessment
- Other in main document (e.g., a characteristics of studies table, other table, in a footnote of a table)
- Online appendix
- Lay Summary

Placement in risk of bias or quality assessment of Included RCTs' Author Industry Employment (only shown if placement in publication of included RCT's Author Industry Affiliation is risk of bias or quality assessment):

- Text
- Figure/table
- Both text and figure/table

Do the authors report a PROSPERO registration number in the text?

- Yes
- No

What is the registration number (e.g., CRD42017062454)? (if applicable – only shown if the response to Do the authors report a PROSPERO registration number in the text? Is yes)

What stages were completed (ignore started) at the time of registration. Make sure to select the earliest registration version at the bottom of the page. Please check all stages that were completed. (if applicable – only shown if the response to Do the authors report a PROSPERO registration number in the text? Is yes)

- Preliminary searches

- Piloting of the study selection process
- Formal screening of search results against eligibility criteria
- Data extraction
- Risk of bias (quality) assessment
- Data analysis
- None completed

Was a registration found in PROSPERO? (if applicable – only shown if the response to Do the authors report a PROSPERO registration number in the text? Is no)

What is the registration number (e.g., CRD42017062454)? (if applicable – only shown if the response to Was a registration found in PROSPERO? Is yes)

What stages were completed (ignore started) at the time of registration. Make sure to select the earliest registration version at the bottom of the page. Please check all stages that were completed. (if applicable – only shown if the response to Was a registration found in PROSPERO? Is yes)

- Preliminary searches
- Piloting of the study selection process
- Formal screening of search results against eligibility criteria
- Data extraction
- Risk of bias (quality) assessment
- Data analysis
- None completed

eMethods3. Power analysis

Allocation ratio: 50% and 50% (1:1)

20% difference						
Proportion reporting COI		Sample size group 1	Sample size group 2	Sample size total	Actual power	Actual alpha
Low impact	High impact					
10%	30%	69	69	138	.807	.033
20%	40%	90	90	180	.802	.037
30%	50%	102	102	204	.806	.042
40%	60%	102	102	204	.801	.038
50%	70%	102	102	204	.806	.036
60%	80%	90	90	180	.802	.032
70%	90%	69	69	138	.807	.025

Allocation ratio: 30% and 70% (3:7)

20% difference						
Proportion reporting COI		Sample size group 1	Sample size group 2	Sample size total	Actual power	Actual alpha
Low impact	High impact					
10%	30%	105	44	149	.815	.038
20%	40%	141	59	200	.807	.040
30%	50%	165	69	234	.801	.045
40%	60%	168	71	239	.805	.043
50%	70%	166	70	236	.864	.042
60%	80%	148	62	210	.802	.040
70%	90%	133	47	160	.802	.035

eTable1. Detailed characteristics of included meta-analyses

eTable1. Detailed characteristics of included meta-analyses

First Author	Year	Journal	2017 Impact Factor	Specialty Area	Meta-analysis Funding source(s)	Number of Meta-analysis Authors with Industry Financial Ties / Number of Meta-analysis Authors[a]	Number of drug RCTs Included	Publication Dates of included drug RCTs	Population	Drug Intervention(s)	Comparison Arm(s)
Cochrane Reviews (n = 107)											
Abdel-Rahman[1]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	7	2004-2016	Adults (19 years and over) with advanced biliary tract carcinomas	Gemcitabine, vandetanib, S-1 (tegafur + gimeracil + oteracil), gemcitabine + oxaliplatin, 5-fluorouracil + folinic acid, capecitabine	Best supportive care, 5-fluorouracil + cisplatin + radiotherapy
Adams[2]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	36	1994-2012	Participants with or without evidence of cardiovascular disease	Fluvastatin	Placebo
Agabio[3]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	27	1969-2015	People with co-occurring depression and alcohol dependence	Antidepressants - 16 types, diazepam, memantine	Placebo, psychotherapy
Al-Shahi Salman[4]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Not reported	0/5	11[b]	1999-2015	Adults (16 years and over) with acute spontaneous intracerebral haemorrhage	Blood clotting factors, antifibrinolytic drugs	Placebo, open control, fresh frozen plasma
Alabed[5]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	11	1976-2008	Patients with antipsychotic-induced tardive dyskinesia (TD)	Gamma-aminobutyric acid agonists - 6 types	Placebo
Allegretti[6]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	3/8	8	1998-2016	Patients with hepatorenal syndrome	Terlipressin, terlipressin + albumin	Placebo, no intervention, albumin
Arechabala[7]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/7	37	1998-2017	Patients undergoing haemodialysis using a central venous catheter	Antibiotic antimicrobial lock solutions - 11 types, non-antibiotic antimicrobial lock	Heparin, saline

Baandrup[8]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	1/6	33[c]	1981-2016	Adult (18 years and over) chronic benzodiazepine users	solutions - 10 types, antibiotic + non-antibiotic antimicrobial lock solutions - 3 types Valproate, carbamazepine, lithium, pregabalin, captodiame, paroxetine, tricyclic antidepressants - 4 types, alpidem, buspirone, flumazenil, propranolol, progesterone, magnesium aspartate, bromazepam, cyamemazine, zopiclone, flunitrazepam	Placebo, no intervention
Bala[9]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/6	9	1997-2016	Individuals with antiphospholipid antibodies and no history of thrombosis	Aspirin + anticoagulants, aspirin, aspirin + low molecular weight heparin	Placebo, immunoglobulin, unfractionated heparin
Barbato[10]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	4[d]	2000-2012	Heterosexual adult couples (18 years or more) with a partner having a clinical diagnosis of depressive disorder	Antidepressants - 9 types	Couples therapy
Bergman[11]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	4	1981-1997	Psychiatric patients with antipsychotic-induced tardive dyskinesia	Benzodiazepines - 3 types	Placebo, usual care
Bighelli[12]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/9	41	1989-2011	Adults (18 years and over) with panic disorder	Tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), monoamine oxidase inhibitors (MAOIs), serotonin–norepinephrine reuptake inhibitors (SNRIs), norepinephrine reuptake inhibitors (NRIs), nefazodone, ritanserin	Placebo
Birks[13]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/2	30	1996-2017	People with Alzheimer's disease	Donepezil	Placebo
Boyapati[14]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/8	6	1978-2017	Adults (18 years and over) with quiescent Crohn's disease	Azathioprine, infliximab	No treatment, usual care (azathioprine + infliximab)

Brown[15]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	5	1993-2017	Women of reproductive age with endometriosis	Combined oral contractive pill - 3 types	Placebo, leuprolide, goserelin
Bruins Slot[16]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/2[e]	13	2008-2014	Adults with atrial fibrillation	Factor Xa inhibitors - 7 types	Warfarin
Bryan[17]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/3	20	1968-2007	People with schizophrenia and schizophrenia-like disorders such as schizophreniform disorder, delusional disorder, or schizoaffective disorder	Zuclopenthixol dihydrochloride	Placebo, other drugs - 11 types
Bryant-Smith[18]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	1/4	13	1970-2016	Women of reproductive age with heavy menstrual bleeding	Antifibrinolytic agents - 2 types, non-steroidal anti-inflammatory drugs (NSAIDs), progestogens, ethamsylate	Placebo, herbal medicines, levonorgestrel intrauterine system
Burry[19]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/9	9	1996-2016	Adults (17 years and over) in non-ICU acute care settings diagnosed with delirium	Antipsychotics - 5 types	Nonantipsychotics, placebo
Campschroer[20]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	67	2002-2017	Adult patients (18 years and older) with ureteral stone disease	Alpha-blockers - 6 types	Placebo, usual care
Candy[21]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	8	1996-2017	Adults with cancer and adults receiving palliative care with opioid-induced bowel dysfunction	Mu-opioid antagonists - 3 types	Placebo
Chiew[22]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	9[f]	1976-2014	Patients with paracetamol (acetaminophen) overdose	Methionine, cysteamine, dimercaprol, acetylcysteine	Placebo, no treatment
Das[23]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Not reported	0/3	7	2010-2017	Children aged up to five years with a clinical diagnosis of community-acquired pneumonia (CAP)	Vitamin D	Placebo, antibiotics alone
Demicheli[24]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/5	71[g]	1969-2014	Healthy individuals (16 to 65 years) and pregnant women and their newborns	Inactivated parenteral influenza vaccine	Placebo, no treatment

Demicheli[25]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/7	8	1969-2004	Elderly participants (65 years and over)	Influenza vaccines	Placebo
Di Nisio[26]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/3	32	1970-2017	Patients with superficial thrombophlebitis of the leg or diagnosis of a thrombus in a superficial vein	Fondaparinux, rivaroxaban, low molecular weight heparin, non-steroidal anti-inflammatory drugs, vasotonin, sulodexide, heparansulphate, vitamin K antagonists, enzyme therapy, unfractionated heparin, heparin calcium, defibrotide	Placebo, elastic stockings
El-Sayeh[27]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	10	1973-2010	Patients with antipsychotic-induced tardive dyskinesia	Noradrenergic drugs - 2 types, dopaminergic drugs - 7 types	Placebo
Engelen[28]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	3	1989-2015	People of all ages on continuous vitamin K antagonist (VKA) or direct oral anticoagulant (DOAC) treatment undergoing an oral or dental procedure	Antifibrinolytic agents - 2 types	Usual care (surgical treatment), usual care (surgical treatment) + placebo
Eshun-Wilson[29]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/6	10	1994-2014	Adults (18 years and over) living with HIV and depression	Selective serotonin reuptake inhibitors (SSRIs) - 4 types, tricyclic antidepressants (TCAs) - 2 types	Placebo, mirtazapine
Essali[30]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	3	1992-1997	People with antipsychotic-induced tardive dyskinesia	Calcium channel blockers - 3 types	Placebo
Everitt[31]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/8	23	1978-2013	Adults (18 years and over) with insomnia	Selective serotonin reuptake inhibitors - 4 types; tricyclic antidepressants - 3 types; other antidepressants - 6 types	Placebo, insomnia medication - 2 types
Fanshawe[32]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	4	2004-2014	Regular tobacco smokers (20 years and under)	Nicotine replacement therapy, bupropion	Placebo
Franik[33]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	42	2004-2017	Subfertile women of reproductive age with polycystic ovary syndrome	Letrozole	Placebo, selective estrogen receptor modulators, clomiphene citrate

González[34]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	6	1994-2014	Pregnant women living in malaria-endemic areas	Mefloquine	followed by intrauterine insemination, laparoscopic ovarian drilling, follicle-stimulating hormone, anastrozole Sulfadoxine-pyrimethamine, cotrimoxazole, placebo
Grabosch[35]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	3	2006-2017	Adult women with moderate or severe cervical intraepithelial neoplasia (CIN)	Non-steroidal anti-inflammatory agents (NSAIDs) - 2 types	Placebo
Graves[36]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	24[h]	1981-2017	Adults and children being treated for falciparum malaria	Primaquine	Usual treatment, bulaquine
Haas[37]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	11	1997-2017	Pregnant women who were about to receive a cesarean delivery	Antiseptic solutions - 3 types	Placebo, no treatment
Hakoum[38]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/10	15	1991-2009	People with cancer and venous thromboembolism	Low molecular weight heparin, unfractioned heparin	Fondaparinux
Heras-Mosteiro[39]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/10	89	1990-2015	Immunocompetent patients with localised Old World cutaneous leishmaniasis	Antimonials – 2 types, non-antimonials – 22 types	Placebo, no treatment, alternative therapies - 7 types, other drug comparators - 6 types, other non-drug comparators - 4 types
Janmaat[40]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/8	41	1980-2015	People with esophageal or gastroesophageal junction cancer	Chemotherapy, targeted therapy, EGFR-targeting agents, cetuximab, ramucirumab	Best supportive care, unspecified control
Jefferson[41]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/4	41	1971-2016	Healthy children (15 years and under)	Influenza vaccine - 2 types	Placebo, no intervention
Jung[42]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	19	2006-Unpublished	Middle-aged and older men (40 or over) with lower urinary tract symptoms as a result of benign prostatic hyperplasia	Silodosin, tamsulosin, naftopidil, and alfuzosin	Placebo

Kaempfen[43]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	3	2013-2017	Preterm infants	Propranolol	Placebo, no treatment
Kahale[44]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/10	7	1979-2012	Ambulatory people with cancer	Warfarin, apixaban	Placebo, no treatment
Kahale[45]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/10	13	1990-2013	People with cancer and central venous catheters	Anticoagulant - 6 types	Placebo, no treatment
Kahale[46]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/11	16	2001-2018	People with cancer and venous thromboembolism	Vitamin K antagonist - 2 types, direct oral anticoagulant - 4 types; low molecular weight heparin - 4 types	Anticoagulants
Kapur[47]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/5	7	1992-2012	Children and adults with bronchiectasis	Corticosteroids - 3 types	Placebo, no treatment
Kelly[48]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/8	15	1997-2014	Adults and children with bronchiectasis	Macrolide antibiotics - 4 types	Placebo, no intervention
Knightly[49]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/7	25	1996-2017	Adults and children with acute exacerbation of asthma	Magnesium sulfate	β2 -agonist, β2 -agonist + ipratropium, placebo
Kopsaftis[50]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	11	1961-2004	People with chronic obstructive pulmonary disease	Inactivated influenza vaccine	Placebo
Lawrie[51]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/9	38	1978-2016	Adults (18 years and over) undergoing radiotherapy for pelvic cancers	Aminosalicylates - 4 types, corticosteroids, superoxide dismutase, amifostine, bile acid sequestrants, magnesium oxide, misoprostol, octreotide, selenium, sodium butyrate, sucralfate, ibuprofen, famotidine, smectite, simethicone, tropisetron	Placebo, no treatment
Leathersich[52]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	8	1987-2007	Women with signs of fetal distress	Tocolytic agents – 7 types	Usual care, emergency delivery, cessation of oxytocic infusion
Lethaby[53]	2017	Cochrane Database of	6.8	Medicine, General & Internal	Non-industry	1/3	38	1989-2012	Women with uterine fibroids	Gonadotropin-hormone releasing analogue,	Placebo, no treatment

		Systematic Reviews							selective progesterone-receptor modulators		
López-Briz[54]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	11	2002-2015	Adults with central venous catheters	Heparin	0.9% sodium chloride (normal saline solution)
Marchant[55]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/4	3	1993-2012	Children (18 years and under) with prolonged wet cough (longer than 10 days)	Antibiotics - 2 types	Placebo, no treatment
Matar[56]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	7	1963-1999	Patients with schizophrenia	Fluphenazine	Placebo
Matar[57]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/11	20	1986-2018	People with solid or hematologic cancer undergoing surgery	Low-molecular weight heparin (LMWH) - 10 types	Unfractionated heparin (UFH), fondaparinux
McNicol[58]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/3	13	1992-2016	Postoperative paediatric patients (17 years and under)	Ketorolac	Placebo, opioid
McTague[59]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	18	1995-2014	Children (16 years and under) presenting to a hospital or emergency department in an acute tonic-clonic convulsion	Lorazepam	Diazepam + phenytoin, diazepam, paraldehyde, midazolam
Mhaskar[60]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	24	1982-2015	Patients with multiple myeloma (MM)	Bisphosphonates - 5 types	Placebo, no treatment - Network meta-analysis
Milligan[61]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	18	1980-2016	Adults and children	Typhoid fever vaccines - 4 types	No treatment, placebo, typhoid-inactive agents
Monk[62]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	32	1993-2016	People undergoing orthodontic treatment	Tramadol, non-steroidal anti-inflammatory drugs, paracetamol, local anaesthetic	Placebo, no treatment
Montero[63]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding[i]	1/7	10	1991-2012	Patients with hepatitis C virus-associated mixed cryoglobulinaemia	Rituximab, interferon, immunosuppressive drug therapy	Usual care, immunoadsorption apheresis
Mücke[64]	2018	Cochrane Database of	6.8	Medicine, General & Internal	Non-industry	2/5	16	2004-2017	Adults (18 years and over) with chronic neuropathic pain	Cannabis-based medicines - 5 types	Placebo, dihydrocodeine

Narula[65]	2018	Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/7	10[j]	1990-2014	Adults and children with Crohn's disease	Corticosteroids - 5 types	Enteral nutrition
Nevitt[66]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/5	76	1981-2015	Adults or children with partial onset seizures or generalised onset tonic-clonic seizures	Antiepileptic drugs - 10 types	Network meta-analysis
Nevitt[67]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/4	14	1995-2015	Adults and children with focal onset or generalised onset seizures	Lamotrigine	Carbamazepine
Norman[68]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/6	78	1985-2016	Adults (18 years and over) with venous leg ulcers	Topical agents - 10 types	Dressings - 12 types; Network meta-analysis
Normansell[69]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	6	1974-2016	Children and adults with acute asthma exacerbation	Antibiotics - 4 types	Placebo
Novoa[70]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/7	24	1977-2016	Children (17 years and under) with single or multiple haemangiomas located on the skin	Propranolol, timolol maleate, bleomycin, atenolol, prednisolone, captopril, ibuprofen + paracetamol, methylene blue, triamcinolone, methylprednisolone	Placebo, radiation, lasers
Ohlsson[71]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/2	34	1991-2017	Preterm (< 37 weeks' gestation) and low birth weight (< 2500 grams) infants less than eight days of age	Erythropoiesis-stimulating agents (ESAs) - 2 types	Placebo, no treatment
Ostinelli[72]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	1/5	3	2005-2016	Adults exhibiting aggression or agitation (or both) due to psychosis	Aripiprazole	Placebo, other anti-psychotic medications - 2 types
Ostinelli[73]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	9	2010-2014	Patients with psychosis-induced aggression or agitation	Risperidone	Haloperidol, olanzapine, quetiapine, oxcarbazepine, valproic acid
Ostuzzi[74]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/5	7	1985-Unpublished	Adults (18 years and over) with cancer and depression	Antidepressants - 6 types	Placebo

Parker[75]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/5	2	2011-2013	Children and adults with active Crohn's disease	Naltrexone	Placebo
Pasquali[76]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	122	1972-2015	Patients with unresectable lymph node metastasis and distant metastatic cutaneous melanoma	Single agent chemotherapy, polychemotherapy, temozolomide, dacarbazine, anti-CTLA4 monoclonal antibodies, other immunostimulating agents, MEK inhibitors	Tamoxifen, interferon-alpha, interleukin-2, interferon-alpha + interleukin-2, Bacille Calmette-Guérin (BCG), corynebacterium parvum, anti-PD1 monoclonal antibodies, sorafenib, elesclomo, anti-angiogenic drugs
Pike[77]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	4	2007-2017	Children (18 years and under) with asthma	Omalizumab, leukotriene receptor antagonists - 2 types, corticosteroids	Placebo
Rirash[78]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Not reported	Not reported/8	38	1982-2000	Patients with Raynaud's phenomenon	Calcium channel blockers	Placebo
Robertson[79]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	6	1995-2016	Adults (18 years and over) with unprovoked venous thromboembolism	Warfarin, aspirin, rivaroxaban	Placebo
Romero[80]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	7	1983-1999	Sexually active adults (16 years and over) with genital ulcers compatible with chancroid	Macrolide antibiotics - 3 types	Other antibiotics - 4 types
Rosumeck[81]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	15	1996-2016	People with scabies of all ages and either sex	Ivermectin	Permethrin
Rüschen[82]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	7	1995-2012	Adults (18 years and over) undergoing intraocular surgery	Hyaluronidase	Local anaesthetic mixture (standard treatment)
Ruthirakuhan[83]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/5	21	1998-2017	People with Alzheimer's Disease	Methylphenidate, modafinil, cholinesterase inhibitors (ChEIs), atypical antipsychotics, antidepressants, mibampator, valproate, semagacestat	Placebo

Sankar[84]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/3	6	2011-2016	Preterm infants with retinopathy	Anti-vascular endothelial growth factor agents - 2 types	Cryo/laser therapy
Schumann[85]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/9	13	1990-2013	Adults (18 years and over) with cardiogenic shock or acute low cardiac output syndrome	Levosimendan, dobutamine, enoximone, epinephrine, norepinephrine-dobutamine, amrinone, dopexamine, dopamine, nitric oxid	Placebo, no treatment
Simancas-Racines[86]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	13[k]	1992-1994	People suffering from high altitude illness	Acetazolamide, ibuprofen, dexamethasone, oxygen, nitric oxide, gabapentin, magnesium sulphate, sumatriptan	Placebo, normal air, unspecified control, paracetamol
Smith[87]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/2	4	1998-2015	Adults and children with cystic fibrosis	Salmeterol, tiotropium	No treatment, placebo
Smith[88]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	70	1958-2017	Women in labour	Intramuscular or intravenous opioids - 16 types	Placebo, no treatment, intramuscular or intravenous opioids - 16 types
Soares-Weiser[89]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5[l]	24[m]	1971-2014	Adults with chronic psychiatric disorders	Alkaloids - 3 types, antidepressants - 3 types, levetiracetam, cyproheptadin, promethazine, buspiron, cognitive enhancers - 2 types, VMAT2 inhibitors, ethyleicosapentaenoic acid (ethyl-EPA), hormones - 3 types, lithium, ceruletide	Placebo
Squizzato[90]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/5	15	2001-2017	People with coronary disease, ischaemic cerebrovascular disease, peripheral arterial disease, or at high risk of atherothrombotic disease	Clopidrogel	Placebo, usual care (aspirin)
St George[91]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/7	123	1954-2017	Individuals undergoing dental procedures and volunteers who took part in simulated scenario studies	Articaine, articaine + epinephrine, lidocaine + epinephrine, bupivacaine + epinephrine, mepivacaine + epinephrine, mepivacaine + levonordefrin,	Local anaesthetics

										mepivacaine, prilocaine, prilocaine + felypressin, prilocaine + epinephrine	
Stern[92]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	17	1972-2015	Adults and children with pneumonia	Corticosteroids - 7 types	Placebo, usual care
Sturman[93]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/3	4	1995-2013	Children and adolescents (18 years or under) with autism spectrum disorder (ASD) or pervasive developmental disorder (PDD)	Methylphenidate	Placebo
Tammenmaa-Aho[94]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	14	1976-2014	Psychiatric patients with antipsychotic-induced tardive dyskinesia	Cholinergic drugs - 6 types	Placebo
Temmingh[95]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/4	8	2006-2014	Adults (17 years and over) with severe mental illness and co-occurring substance use disorder	Risperidone	Other antipsychotics - 5 types
Tenforde[96]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/7	13	1997-2018	Adults with HIV-associated cryptococcal meningitis	Antifungal induction therapies - 6 types	Network meta-analysis
Toews[97]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/7	103[n]	1977-2016	People admitted to intensive care units	H2 receptor antagonists, proton pump inhibitors, prostaglandin analogues, anticholinergics, antacids, sucralfate, teprenone, naloxone, bioflavonoids	H2 receptor antagonists, proton pump inhibitors, prostaglandin analogues, anticholinergics, antacids, sucralfate, teprenone, naloxone, bioflavonoids, placebo, no treatment, other medication (not defined)
Venekamp[98]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/4	3[o]	1992-1996	Children (16 years and under) with recurrent acute otitis media	Antibiotics - 3 types	Grommets
Vermeij[99]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	8	1998-2016	Individuals who had an ischemic or hemorrhagic stroke	Preventive antibiotics	Placebo, standard care

Vietto[100]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	33	1983-Unpublished	Patients with critical limb ischaemia unsuitable for rescue or reconstructive intervention	Prostanoids - 7 types	Placebo, other active drugs - 4 types
Wall[101]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	5	1995-2014	Patients with acute bacterial meningitis	Glycerol	Treatment as usual
Weibel[102]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/10	68	1985-2017	Adult patients (over 18 years) undergoing any elective or urgent surgical procedure under general anaesthesia	Lidocaine	Placebo, no treatment, thoracic epidural analgesia - 3 types
Wright[103]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	24	1966-2008	Adult patients with primary hypertension	Thiazides, beta-blockers, angiotensin-converting-enzyme inhibitors, calcium channel blockers	Placebo
Xiao[104]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	2	2001-2003	Patients with focal epilepsy that failed to respond to one or more antiepileptic drugs	Losigamone	Placebo
Zhang[105]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/5	3	2009-2015	Adult and elder patients with solid tumours	Thrombopoietin receptor agonists (TPO-RAs)	Placebo
Zhou[106]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	5	2004-2014	Adults (18 years and over) with neuropathic pain	Oxcarbazepine	Placebo
Zonneveld[107]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Not reported	0/7	11	1970-2017	Adult patients with an ischaemic stroke, haemorrhagic stroke or transient ischaemic attack	Blood pressure-lowering drugs (BPLDs) - 5 types	Placebo, no treatment
General Medicine (n = 33)											
López-López[108]	2017	BMJ	23.6	Medicine, General & Internal	Non-industry	018	23	1989-2014	Adults with non-valvular atrial fibrillation	Direct acting oral anticoagulants - 5 types, vitamin K antagonists, antiplatelet agents	Network Meta-analysis
Wang[109]	2018	BMJ Open	2.4	Medicine, General & Internal	Non-industry	0/8	14	1977-2017	Children and adults with uncomplicated skin abscesses	Antibiotics - 10 types	No treatment, other antibiotics - Network meta-analysis
Cipriani[110]	2018	Lancet	53.3	Medicine, General & Internal	Non-industry	4/18	522	1979-Unpublished	Adults (18 years and over) with major depressive disorder	Antidepressants - 21 types	Placebo - Network meta-analysis

Chen[111]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/3	9	2009-2017	Patients with sepsis	Statins - 3 types	Placebo
Ding[112]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/6	6	2014-2017	Patients with hormone receptor-positive or human epidermal growth factor receptor 2 negative advanced breast cancer	Cyclin-dependent kinases 4/6 inhibitors - 3 types	Placebo
Guo[113]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/8	5	2004-2017	Adults undergoing total knee arthroplasty (TKA)	Tranexamic acid (TXA)	Placebo, no treatment
Han[114]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/7	18	2007-2016	Patients with myocardial infarction	Statins - 3 types	Placebo
Hu[115]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/5	4	2010-2016	Patients with acute coronary syndrome, percutaneous coronary intervention, or coronary stents given combination therapy with aspirin and clopidogrel	Proton pump inhibitors	Placebo
Huang[116]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/5	18	2010-2015	Patients with pterygium or glaucoma	Antivascular endothelial growth factor agents - 3 included	Placebo, sham
Jiang[117]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/5	13	2010-2017	Patients with diabetic peripheral neuropathy	Fasudil + methylcobalamin or lipoic acid	Methylcobalamin or lipoic acid alone
Jiang[118]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/4	15	2011-2016	Adult women with pathologically confirmed epithelial ovarian cancer	Antiangiogenic therapy (7 included) alone or combined with chemotherapy	Placebo or chemotherapy alone
Khan[119]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/8	7	2015-2017	Patients with advanced non-small cell lung cancer	Immune checkpoint inhibitors: anti-PD1/PD-L1 therapies - 3 types	Chemotherapy - 6 regimens
Liang[120]	2017	Medicine	2.0	Medicine, General & Internal	No funding	0/4	3	2016-2017	Patients undergoing total knee or hip arthroplasty	Acetaminophen	Normal saline or placebo
Liu[121]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/7	5	1999-2007	Adults with social anxiety disorder	Fluvoxamine	Placebo
Lor[122]	2017	Medicine	2.0	Medicine, General & Internal	No funding	0/8	10	1999-2015	Children and adults requiring nasogastric intubation	Lidocaine	Normal saline, K-Y lubricant gel, or no treatment
Wang[123]	2017	Medicine	2.0	Medicine, General & Internal	No funding	0/2	4	2015-2017	Adults with intertrochanteric fractures preparing for internal fixation	Tranexamic acid	Placebo, no treatment

									(dynamic hip screws, proximal femoral nail antirotations)	
Wang[124]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/5	18	2001-2016	Patients with hepatorenal syndrome	Terlipressin	Placebo, octreotide, norepinephrine, dopamine + furosemide, octreotide + midodrine
Wang[125]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/3	4	1993-2011	Patients undergoing bronchoscopy	Propofol	Midazolam
Wei[126]	2017	Medicine	2.0	Medicine, General & Internal	Not reported	0/2	14	2015-2017	Cancer patients	PD-1 inhibitors - 2 types	Chemotherapy, everolimus, ipilimumab
Woo[127]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/7	34[p]	1998-2017	Women of reproductive age with primary dysmenorrhea	Non-steroidal anti-inflammatory drugs, analgesics, oral contraceptives	Acupuncture
Xia[128]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/6	13	2004-2012	Patients who were administered xenon versus propofol as a general anesthetic	Xenon	Propofol
Yang[129]	2017	Medicine	2.0	Medicine, General & Internal	Not reported	0/4	7	2008-2016	Patients prepared for primary total hip arthroplasty (THA)	Glucocorticoids - 3 types	Placebo, no treatment
Ye[130]	2017	Medicine	2.0	Medicine, General & Internal	Not reported	0/3	5	2004-2016	Patients undergoing laparoscopic cholecystectomy	Ketamine	Placebo
Yu[131]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/6	8	2009-2017	Adults with acute heart failure	Serelaxin	Placebo
Yuan[132]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/9	31	1995-2016	Patients with locoregionally advanced nasopharyngeal carcinoma	Neoadjuvant chemotherapy regimens - 16 included	Network meta-analysis
Zhang[133]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/2	13	2001-2014	Adults with cerebral infarction	Aspirin, aspirin + dipyridamole, aspirin + clopidogrel, aspirin + warfarin, cilostazol, warfarin, and ticlopidine	Network meta-analysis
Zhang[134]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/8	10	1989-2006	Healthy volunteers and people with congestive heart failure	Histamine H2 antagonists - 5 types	Placebo, other conventional therapy medicines - 3 types
Zhao[135]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/7	5	2008-2017	Adult patients prepared to undergo laparoscopic cholecystectomy	Lidocaine	Placebo, saline
Zhao[136]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/3	4	2013-2017	Patients with a diagnosis of	Nefopam	Saline or usual care

									symptomatic cholelithiasis and acute cholecystitis who prepared for laparoscopic cholecystectomy		
Zhou[137]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/4	6	2013-2017	Adults with end-staged knee osteoarthritis undergoing total knee arthroplasty	Dexamethasone	Placebo, no treatment
Zhu[138]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/3	8	2002-2016	Patients who underwent total hip arthroplasty	Selective non-steroidal anti-inflammatory drugs (selective COX-2 inhibitors) - 4 types	Non-selective non-steroidal anti-inflammatory drugs (non-selective COX-2 inhibitors) - 4 types
Zhou[139]	2018	Postgraduate Medicine	2.1	Medicine, General & Internal	No funding	0/5	10	2007-2017	Patients with dyslipidemia	Anacetrapib	Placebo, placebo + usual care
Zhang[140]	2018	Revista da Associação Médica Brasileira	0.7	Medicine, General & Internal	Non-industry	Not reported/6	6	2012-2016	Patients with complicated intra-abdominal infections and complicated urinary tract infections	Ceftazidime-avibactam	Other antibiotics - 3 types, usual care
Specialty medicine (n = 100)											
Li[141]	2018	Acta Ophthalmologica	3.3	Ophthalmology	Non-industry	Not reported/3	72	1995-2015	Patients with primary open-angle glaucoma or ocular hypertension	Prostaglandin analogues, alpha-2 adrenergic agonists, beta-blockers, carbonic anhydrase inhibitors, miotics	Placebo - Network meta-analysis
Tarantini[142]	2018	American Heart Journal	4.2	Cardiac & Cardiovascular Systems	No funding	0/7	5	2007-2016	Patients with acute coronary syndrome	P2Y12 receptor inhibitors - 2 types	Clopidogrel
Wang[143]	2018	American Journal of Cardiovascular Drugs	2.7	Cardiac & Cardiovascular Systems; Pharmacology & Pharmacy	Non-industry	0/3	5	2014-2017	Adults aged 18–65 years with hyperlipidemia	Inclisiran	Placebo, other lipid-lowering agents - Network meta-analysis
Aman[144]	2018	Anaesthesia and Intensive Care	1.7	Anesthesiology; Critical Care Medicine	Non-industry	Not reported/5	10	1995-2015	Patients undergoing caesarean section under general anaesthesia	Opioid analgesics - 3 types, non-opioid analgesics - 5 types	Placebo
Li[145]	2018	Autoimmunity Reviews	8.7	Immunology	Non-industry	0/7	15	2004-2017	Patients with rheumatoid arthritis	Statins - 2 types	Conventional treatment, placebo + conventional treatment
Wang[146]	2018	Biomed Research International	2.6	Biotechnology & Applied Microbiology; Medicine, Research & Experimental	Non-industry	0/4	15	2006-2017	Patients with left ventricular dysfunction undergoing cardiac surgery	Levosimendan	Placebo, milrinone, dopamine, intra-aortic balloon pump (IABP), and standard inotropic agents

Veettil[147]	2017	BMC Cancer	3.3	Oncology	No funding	0/6	8	2003-2014	Adults with history of colorectal cancer or adenoma	Aspirin, non-aspirin nonsteroidal anti-inflammatory drugs (NSAIDs)	Placebo, no treatment
Bredemeier[148]	2018	BMC Cardiovascular Disorders	1.8	Cardiac & Cardiovascular Systems	No funding	0/9	91	1973-2017	Adults under treatment for any clinical condition	Purine-like xanthine oxidase inhibitors - 2 types, non-purine-like xanthine oxidase inhibitors - 2 types	Placebo, no treatment
Lyu[149]	2018	BMC Gastroenterology	2.7	Gastroenterology & Hepatology	Non-industry	0/5	22	2003-2017	Patients with post-endoscopic retrograde cholangiopancreatography pancreatitis (PEP)	Nonsteroidal anti-inflammatory drugs (NSAIDs) - 6 types	Placebo
Xing[150]	2017	BMC Infectious Diseases	2.6	Infectious Diseases	Non-industry	0/6	16	2001-2016	Patients with invasive fungal infections	Voriconazole	Other antifungal agents - 7 types
Kuo[151]	2018	BMC Musculoskeletal Disorders	2.0	Orthopedics; Rheumatology	No funding	0/4	3	2015-2017	Patients undergoing total shoulder arthroplasty or reverse shoulder arthroplasty	Tranexamic acid	Placebo
Beez[152]	2017	BMC Neurology	2.2	Clinical Neurology	No funding	0/3	110[q]	1983-2015	Patients with ischemic or hemorrhagic stroke, traumatic brain injury, or bacterial meningitis	Pharmacological agents for traumatic brain injury – 14 types, pharmacological agents for stroke – 23 types, pharmacological agents for bacterial meningitis – 1 type, pharmacological agents for intracerebral haemorrhage – 6 types, pharmacological agents for aneurysmal subarachnoid hemorrhage – 19 types	Unspecified control
Zeng[153]	2017	BMC Ophthalmology	1.8	Ophtamology	No funding	0/7	32	1990-2016	Patients with primary or recurrent pterygium undergoing surgical removal combined with toxic agents	Anti-fibrotic and anti-VEGF (vascular endothelial growth factor) medications - 3 types	Placebo - Network meta-analysis
Bundhun[154]	2017	BMC Pharmacology & Toxicology	1.9	Pharmacology & Pharmacy; Toxicology	Non-industry	0/3	4	2013-2016	Patients with acute coronary syndrome and patients who underwent percutaneous coronary intervention	Prasugrel	Ticagrelor

Zhang[155]	2017	BMC Psychiatry	2.4	Psychiatry	No funding	0/11	47	2003-2015	People with schizophrenia or related disorders that had a duration of treatment that was no more than 1 year	Antipsychotic drugs - 12 types	Placebo - Network meta-analysis
Zhang[156]	2017	BMC Pulmonary Medicine	2.7	Respiratory System	No funding	0/5	19	1996-2016	Patients with acute exacerbations of chronic obstructive pulmonary disease (COPD)	Antibiotics - 17 types	Placebo - Network meta-analysis
Zhang[157]	2017b	BMC Pulmonary Medicine	2.7	Respiratory System	Non-industry	0/4	25	1993-2016	Preterm infants	Corticosteroids	Placebo
Ramos-Esquivel[158]	2018	Breast Cancer	1.8	Oncology; Obstetrics & Gynecology	No funding	0/4	3	2016-2017	Post-menopausal women with metastatic HR-positive, HER2-negative breast cancer	Cyclin-dependent kinase 4/6 inhibitors - 3 types + aromatase inhibitor - 2 types	Aromatase inhibitors - 2 types
Zeng[159]	2018	British Journal of Sports Medicine	7.9	Sport Sciences	Non-industry	0/12	36	1979-2016	Patients with osteoarthritis in any joint	Non-steroidal anti-inflammatory drugs - 9 types	Network meta-analysis
Shui[160]	2018	Cellular Physiology and Biochemistry	5.5	Cell Biology; Physiology	Not reported	0/6	4	2015-2017	Patients with metastatic colorectal cancer	FOLFOXIRI (leucovorin + fluorouracil + oxaliplatin + irinotecan) + bevacizumab	FOLFOX (leucovorin + fluorouracil + oxaliplatin) + bevacizumab, FOLFIRI (leucovorin + fluorouracil + irinotecan) + bevacizumab
Rodrigo[161]	2018	Clinical Microbiology and Infection	5.4	Infectious Diseases; Microbiology	No funding	0/4	28	1996-2017	Patients with visceral leishmaniasis	Amphotericin B	Miltefosine, paromomycin, antimonial compounds - 2 types, pentamidine, sitamaquine
Wang[162]	2018	Clinical Rheumatology	2.1	Rheumatology	Non-industry	0/3	25	2002-2014	Patients with ankylosing spondylitis and non-radiographic axial spondyloarthritis	Tumor necrosis factor (TNF) inhibitors - 5 types, non-tumor necrosis factor (TNF) inhibitors - 2 types	Placebo, nonsteroidal anti-inflammatory drugs (NSAIDs), disease modifying antirheumatic drugs (DMARDs)
Hong[163]	2018	Critical Reviews in Oncology / Hematology	4.5	Oncology; Hematology	No funding	1/5	13	1996-2015	Adults with acute venous thromboembolism	Low molecular-weight heparin (LMWH) – 5 types, enoxaparin + vitamin K antagonists (VKA)	Rivaroxaban, unfractionated heparin (UFH)
de Carvalho[164]	2018	Diabetes Care	13.4	Endocrinology & Metabolism	Not reported[r]	0/3	20	2012-2017	Patients with familial or nonfamilial	Proprotein convertase subtilisin/kexin type 9 gene inhibitors (PCSK9i)	Placebo, placebo + other lipid-lowering therapy

									hypercholesterolemia		
Jaafar[165]	2018	Digestive Diseases and Sciences	2.8	Gastroenterology & Hepatology	Not reported	0/5	17	2000-2016	Adults (18 and over) with organic or functional dyspepsia	Rebamipide	Placebo, standard treatment, no treatment
Liu[166]	2018	Drug Delivery	3.1	Pharmacology & Pharmacy	Not reported	0/2	9	2002-2015	Patients with neurodegenerative movement disorders	Riluzole	Placebo
Liu[167]	2018	Drug Design, Development and Therapy	2.9	Chemistry, Medicinal; Pharmacology & Pharmacy	Not reported	0/5	9	2010-2016	Patients undergoing coronary angiography (CAG) or percutaneous coronary intervention (PCI)	Atorvastatin	Placebo
Sun[168]	2017	Drug Design, Development and Therapy	2.9	Chemistry, Medicinal; Pharmocology & Pharmacy	Not reported	0/5	9	2009-2016	Adults (≥ 18 years) undergoing spinal anesthesia	Dexmedetomidine	Fentanyl
Paraschakis[169]	2017	East Asian Archives of Psychiatry	None	Not applicable	Not reported	0/2	4	2005-2010	Adults with traumatic brain injuries and depressive disorders	Antidepressants - 2 types	Placebo
D'Souza[170]	2018	Emergency Medicine Journal	2.0	Emergency Medicine	No funding	0/8	4	2001-2016	Patients taking acute antiemetic drugs	Diphenhydramine	Placebo
Mei[171]	2016	European Journal of Gynecological Oncology	0.6	Oncology; Obstetrics & Gynecology	Not reported	Not reported/4	4	2004-2013	Adult women with epithelial ovarian cancer, fallopian tube cancer, or primary peritoneal cancer who have achieved complete clinical remission after debulking surgery and first-line chemotherapy	CA125-targeted antibody – 2 types	Placebo
Verberkt[172]	2017	European Respiratory Journal	12.2	Respiratory System	Non-industry	3/9[s]	35	1982-2015	Patients with chronic breathlessness	Opioids - 8 types	Placebo
Sridharan[173]	2018	Expert Opinion on Pharmacotherapy	3.5	Pharmacology & Pharmacy	No funding	0/3	51	1980-2016	Critically ill patients receiving stress ulcer prophylaxis (SUP)	Antacids, proton pump inhibitors (PPI), histamine-2 receptor antagonists (H2RA), and sucralfate	Placebo - Network meta-analysis
Habibi[174]	2018	Expert Review of Clinical Pharmacology	2.8	Pharmacology & Pharmacy	No funding	0/4	5	1999-2012	Patients undergoing coronary artery bypass surgery	Lidocaine	Placebo
Li[175]	2018	Expert Review of Clinical Pharmacology	2.8	Pharmacology & Pharmacy	Non-industry	0/4	14	2002-2017	Patients with stable angina pectoris requiring elective percutaneous	Nicorandil	Placebo (saline, isosorbide dinitrate), no treatment

									coronary intervention (PCI)		
Sangroongruangsri[176]	2018	Expert Review of Clinical Pharmacology	2.8	Pharmacology & Pharmacy	Non-industry	0/5	11	2010-2017	Patients diagnosed with retinal vein occlusion	Anti-vascular endothelial growth factor (VEGF) drugs - 3 types	Sham injection - Network meta-analysis
Hickey[177]	2018	Foot and Ankle Surgery	1.5	Orthopedics	Not reported	0/7	7	1993-2015	Adult patients with foot or ankle trauma treated with below knee cast or splint immobilization	Low molecular weight heparin - 5 types	Placebo, no treatment
Zhao[178]	2018	Gastric Cancer	5.0	Oncology; Gastroenterology & Hepatology	Non-industry	0/9	16	2002-2017	Patients with advanced gastric cancer	Targeted agents - 11 types, targeted agents + chemotherapy	Placebo - Network meta-analysis
Khera[179]	2018	Gastroenterology	20.8	Gastroenterology & Hepatology	No funding	0/9	29	1998-2015	Obese and overweight adults (18 years and over)	Orlistat, loracaserin, naltrexone-bupropion, phentermine-topiramate, liraglutide	Placebo - Network meta-analysis
Li[180]	2018	Gynecologic Oncology	4.5	Oncology; Obstetrics & Gynecology	Non-industry	0/6	7	2005-2016	Patients with low-risk gestational trophoblastic neoplasia (LRGTN)	Methotrexate (MEX) based chemotherapy regimens, actinomycin-d (Act-D) based chemotherapy regimens	Network meta-analysis
Zhuge[181]	2018	Helicobacter	4.1	Gastroenterology & Hepatology; Microbiology	Non-industry	0/6	18	1999-2016	Patients with helicobacter pylori infection	Furazolidone	Other antibiotics - 7 types
Kim[182]	2017	Indian Journal of Cancer	0.7	Oncology	No funding	0/4	21	1993-2011	Adults at risk of developing cancer	Statins - 7 types	Placebo
Garg[183]	2018	Indian Journal of Gastroenterology	None	Not applicable	Not reported	0/4	6	2007-2016	Patients undergoing endoscopic retrograde cholangiopancreatography	Indomethacin	Placebo
Rosanova[184]	2017	Infectious Diseases	1.9	Infectious Diseases	Not reported	0/5	7	2002-2011	Immunosuppressed haematology-oncology patients	Voriconazole	Other antifungal agents or placebo
Yu[185]	2018	Inflammopharmacology	3.3	Immunology; Toxicology	Non-industry	0/6	3	2007-2016	Adults (17 years and over) diagnosed with acute gout	Prednisolone	Non-steroidal anti-infammatory drugs (NSAIDs) - 2 types
Kakkos[186]	2018	International Angiology	1.2	Peripheral Vascular Disease	Not reported	2/2	7	1982-2015	Patients with chronic venous disorders (CVD) or venous edema	Micronized purified flavonoid faction (Daflon)	Placebo
Ou[187]	2018	International Immunopharmacology	3.1	Immunology; Pharmacology & Pharmacy	No funding	Not reported/5	8	2014-2017	Adults with moderate-to-severe atopic dermatitis	Dupilumab	Placebo
Yin[188]	2018	International Immunopharmacology	3.1	Immunology; Pharmacology & Pharmacy	No funding	0/4	53	1984-2017	Children diagnosed with recurrent respiratory tract infections (RRTIs)	Broncho-Vaxom	Placebo, routine therapies

Zhu[189]	2018	International Journal of Clinical Oncology	2.6	Oncology	Non-industry	0/7	35	2005-2016	Cancer patients	Anti-EGFR monoclonal antibodies (EGFR-MoAbs)	Placebo, usual care
Liu[190]	2018	International Journal of Neuroscience	1.8	Neurosciences	Not reported	0/2	4	2007-2016	Patients with seizures	Lacosamide	Placebo
Coccolini[191]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/12	15	1993-2014	Patients with advanced gastric and esophago-gastric cancer	Neoadjuvant chemotherapy (with surgery)	No neoadjuvant chemotherapy (only surgery)
Fan[192]	2018	International Journal of Surgery	2.7	Surgery	Non-industry	0/8	7	2005-2016	Patients with scheduled total knee arthroplasty	Dexamethasone	Placebo, no treatment ("nothing controlled multimodal analgesia method")
Li[193]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/5	6	2008-2017	Patients with a diagnosis of symptomatic cholelithiasis and acute cholecystitis who prepared for laparoscopic cholecystectomy	Lidocaine	Placebo, saline
Li[194]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/4	17	1998-2017	Patients undergoing anaesthesia as part of endoscopic retrograde cholangiopancreatography	Anaesthetic medications - 12 types	No drug - Network meta-analysis
Liu[195]	2018	International Journal of Surgery	2.7	Surgery	Non-industry	0/5	3[t]	2005-2017	Patients undergoing total knee arthroplasty or total hip arthroplasty	Tranexamic acid	Aminocaproic acid
Ran[196]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/5	5	2002-2016	Patients with symptomatic knee osteoarthritis	Hyaluronic acid	Methylprednisolone
Zhao[197]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/3	4[u]	2010-2017	Patients with hepatocellular carcinoma	Anthracyclines	Platinum
Zhu[198]	2018	International Journal of Surgery	2.7	Surgery	Non-industry	0/5	6	2004-2017	Adult patients prepared for laparoscopic cholecystectomy	Ketamine	Saline
Wagner[199]	2018	Journal of Affective Disorders	3.8	Clinical Neurology; Psychiatry	Non-industry	Not reported/6	119	1990-Unpublished	Adults with major depressive disorder	Second generation antidepressants - 16 types	Placebo - Network meta-analysis
Hickman[200]	2018	Journal of Assisted Reproduction and Genetics	2.8	Genetics & Heredity; Obstetrics & Gynecology;	Not reported	0/5	10	2007-2016	Women with lymphoma, ovarian cancer, or breast	Gonadotropin-releasing hormone agonists (GnRHa) - 7 types	Standard treatment (chemotherapy only)

				Reproductive Biology					cancer undergoing chemotherapy		
Luo[201]	2018	Journal of Cancer Research and Clinical Oncology	3.3	Oncology	Non-industry	0/4	8	2015-2017	Patients with non-small-cell lung carcinoma	Programmed death 1 (PD-1)/programmed death ligand 1 (PD-L1) inhibitors - 3 types	Chemotherapy - 2 types
Wang[202]	2018	Journal of Cancer Research and Clinical Oncology	3.3	Oncology	Non-industry	0/5	26	2010-2017	Patients with metastatic castration-resistant prostate cancer	Targeted agents - 16 types	Placebo - Network meta-analysis
Wang[203]	2018	Journal of Cancer Research and Therapeutics	0.8	Oncology	No funding	0/4	35	1997-2011	Cancer patients with moderate to severe pain	Fentanyl	Morphine
Aboul-Hassan[204]	2017	Journal of Cardiac Surgery	1.2	Cardiac & Cardiovascular Systems; Surgery	No funding	0/8	12	1985-2016	Adults (18 years and over) undergoing any type of cardiac surgery	Aspirin	Placebo, discontinuation of aspirin greater than 7 days before surgery
Wang[205]	2018	Journal of Cardiovascular Surgery	1.2	Cardiac & Cardiovascular Systems; Surgery; Peripheral Vascular Disease	Not reported	0/6	5	1999-2010	Patients undergoing isolated coronary artery bypass graft (CABG) surgery	Statins - 3 types	No preoperative statin
Barrionuevo[206]	2018	Journal of Clinical Endocrinology and Metabolism	5.8	Endocrinology & Metabolism	Non-industry	0/8	32	1989-2016	Women with hirsutism	Antiandrogens, insulin sensitizers, estrogen-progestin oral contraceptives pills (OCPs), OCPs + antiandrogen, OCPs + insulin sensitizer, antiandrogen + insulin sensitizer	Placebo - Network meta-analysis
Cui[207]	2018	Journal of Clinical Pharmacy and Therapeutics	1.7	Pharmacology & Pharmacy	Not reported	0/6	23	1993-2014	Patients with type 2 diabetes	Statins - 6 types	Placebo - Network meta-analysis
Sawyer[208]	2018	Journal of Dermatological Treatment	2.1	Dermatology	Industry	6/6[v]	54	2001-2016	Adults with moderate-to-severe chronic plaque-type psoriasis	Apremilast, biological therapies - 7 types	Placebo - Network meta-analysis
Markey[209]	2018	Journal of Emergency Medicine	1.2	Emergency Medicine	Not reported	Not reported/3	11	1989-2004	Patients with onset of atrial fibrillation (AF) within 48 h, who were hemodynamically stable and without evidence of acute coronary syndrome,	Flecainide	Placebo, verapamil, and other active anti-dysrhythmics

									congestive heart failure, or structural heart disease		
Szabó[210]	2017	Journal of Gastrointestinal and Liver Diseases	2.0	Gastroenterology & Hepatology	Not reported	0/15	10[w]	2009-2016	Adult patients (18 years and over) taking low-dose aspirin for a minimum of 2 weeks	Proton-pump inhibitors (PPIs) - 5 types	Histamine-2 receptor antagonists (H2RAs) - 2 types
Su[211]	2018	Journal of Immunology Research	3.3	Immunology	Non-industry	0/6	15	2011-2017	Patients with histologically confirmed solid cancer	Immune checkpoint inhibitors (ICIs) - 5 types	Placebo or chemotherapy
Chen[212]	2018	Journal of Interventional Cardiac Electrophysiology	1.5	Cardiac & Cardiovascular Systems	Non-industry	0/9	8	2006-2017	Patients with persistent atrial fibrillation	Antiarrhythmic drugs	Catheter ablation
Chen[213]	2017	Journal of Orthopaedic Surgery and Research	1.6	Orthopedics	No funding	0/4	6	2008-2014	Patients undergoing knee arthroscopy	Midazolam	Placebo
Li[214]	2018	Journal of Orthopaedic Surgery and Research	1.6	Orthopedics	Not reported	0/5	3[x]	2002-2017	Patients undergoing a primary total hip or knee arthroplasty	Aminocaproic acid	Placebo or no treatment
Luo[215]	2018	Journal of Orthopaedic Surgery and Research	1.6	Orthopedics	Not reported	0/4	3[y]	2002-2017	Patients treated with spine surgery	Tranexamic acid	Control (not specified)
Ma[216]	2018	Journal of Orthopaedic Surgery and Research	1.6	Orthopedics	No funding	0/4	4	1991-2015	Patients who underwent hip surgery	Naproxen	Placebo
He[217]	2018	Journal of Psychiatric Research	4.0	Psychiatry	Non-industry	0/8	22	2009-2015	Patients with a primary diagnosis of major depressive disorder (MDD)	Vortioxetine, levomilnacipran, vilazodone	Placebo
Wang[218]	2018	Journal of Stroke & Cerebrovascular Diseases	1.6	Neurosciences; Peripheral Vascular Disease	Non-industry	4/8	6	2003-2013	Asian patients with non-valvular atrial fibrillation (AF)	Warfarin, direct oral anticoagulants (DOACs) - 5 types	Network meta-analysis
Dhana[219]	2018	Journal of the American Academy of Dermatology	6.9	Dermatology	No funding	0/6	15	2000-2016	People with scabies	Permethrin	Ivermectin
Karatasakis[220]	2017	Journal of the American Heart Association	4.5	Cardiac & Cardiovascular Systems	Not reported	3/12[z]	35	2012-2017	Adults with hypercholesterolemia	Proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitors - 2 types	Placebo, ezetimibe, standard therapy

Kuo[221]	2018	Journal of the European Academy of Dermatology and Venereology	4.3	Dermatology	Non-industry	2/4	4	2012-2016	Adult patients (≥ 18) with moderate-to-severe plaque psoriasis	Tofacitinib	Placebo
Liu[222]	2016	Journal of Traditional Chinese Medicine	0.9	Integrative & Complementary Medicine	Non-industry	Not reported/6	16	2005-2015	Patients with rheumatoid arthritis	Methotrexate	Sinomenine
Zheng[223]	2017	Journal of Zhejiang University-SCIENCE B	1.8	Biochemistry & Molecular Biology; Biotechnology & Applied Microbiology; Medicine, Research & Experimental	Not reported	0/7	8	1990-2014	Adult patients undergoing cardiac surgery requiring aortic cross-clamp	Amiodarone, lidocaine	Placebo
Fregonese[224]	2018	Lancet Respiratory Medicine	21.5	Critical Care Medicine; Respiratory System	Non-industry	0/57	2	2010-2014	Patients with isoniazid-resistant, rifampicin-susceptible tuberculosis	Fluoroquinolone, streptomycin	Usual care (REZ = rifampicin, ethambutol, pyrazinamide)
Bornstein[225]	2018	Neurological Sciences	2.3	Clinical Neurology; Neurosciences	Not reported	Not reported/10	9	2010-Unpublished	Patients during early post-stroke period	Cerebrolysin	Placebo
Chen[226]	2018	Ophthalmic Research	1.8	Ophthalmology		0/4	3	2013-2015	Patients arranged for primary trabeculectomy	Bevacizumab, bevacizumab + antimetabolite - 2 types	Placebo, antimetabolite - 2 types
Han[227]	2017	Pain Physician	2.6	Anesthesiology; Clinical Neurology	No funding	0/4	10	2004-2016	Patients undergoing spinal surgery	Gabapentin	Placebo
Peng[228]	2017	Pain Physician	2.6	Anesthesiology; Clinical Neurology	No funding	0/5	18	2004-2016	Adult patients undergoing surgical procedures	Dexmedetomidine + opioids	Opioids
Feng[229]	2016	Pharmazie	1.0	Chemistry, Medicinal; Chemistry, Multidisciplinary; Pharmacology & Pharmacy	Not reported	0/7	2[aa]	2011-2012	Patients with tuberculosis	V-5 immunitor	Usual care (chemotherapy), usual care + placebo
Xu[230]	2016	Pharmazie	1.0	Chemistry, Medicinal; Chemistry, Multidisciplinary; Pharmacology & Pharmacy	Not reported	Not reported/8	12	1999-2014	Patients with non-cystic fibrosis bronchiectasis	Antibiotics - 7 types	Placebo, symptomatic treatment only
Palmeirim[231]	2018	PLOS Neglected Tropical Diseases	4.4	Parasitology; Tropical Medicine	Non-industry	0/9	14[bb]	1997-2015	Patients infected with soil transmitted helminths	Albendazole + ivermectin	Albendazole, ivermectin

Furukawa[232]	2018	Psychotherapy and Psychosomatics	13.1	Psychiatry; Psychology	Non-industry	2/11	3	2000-2015	Adults with persistent depressive disorder (DSM-5), chronic major depression, recurrent major depression with incomplete interepisode recovery or dysthymia (DSM-IV), or any corresponding conditions	Antidepressants - 6 types, cognitive-behavioral analysis system of psychotherapy, combination of antidepressants and cognitive-behavioral analysis system of psychotherapy	Network meta-analysis
Liu[233]	2018	Renal Failure	1.4	Urology & Nephrology	Not reported	0/6	12	2006-2015	Adult patients with chronic kidney disease	Uric acid-lowering therapy - 2 types	Placebo, usual therapy, no treatment
Miravitlles[234]	2017	Respiratory Research	3.8	Respiratory System	Industry	3/4	10	2014-2016	Adults with a history of chronic obstructive pulmonary disease (COPD)	Tiotropium + olodaterol	Tiotropium or olodaterol as monotherapy, salmeterol + fluticasone
Wang[235]	2017	Respiratory Research	3.8	Respiratory System	Non-industry	1/7	6	2006-2016	Patients with intermittent or mild persistent asthma	Corticosteroids, fast-onset-acting β2-agonists	Corticosteroid + fast-onset-acting β2-agonist
Kawalec[236]	2018	Rheumatology International	2.0	Rheumatology	No funding	0/4	8	2011-2016	Adults (18 years and over) with moderate to severe psoriatic arthritis (PsA)	Tumor necrosis factor (antiTNF)-α inhibitors - 4 types	Placebo - Network meta-analysis
Malhotra[237]	2018	Stroke	6.2	Clinical Neurology; Peripheral Vascular Disease	Not reported	0/6	12	2009-2016	Adult patients (18 years and over) treated for the secondary prevention of cardiovascular, peripheral vascular, and cerebrovascular disease	Proton pump inhibitors (PPI) + thienopyridines	Thienopyridines - 2 types
Zhang[238]	2018	Surgical Laparoscopy Endoscopy & Percutaneous Techniques	1.0	Surgery	Not reported	0/3	5	1995-2018	Adults (18 and over) undergoing gastrointestinal endoscopy	Midazolam	Propofol
Yamashita[239]	2018	Thrombosis Research	2.8	Hematology; Peripheral Vascular Disease	No funding	3/7	6	2009-2014	Asian and non-Asian adults (18 years and older) with acute venous thromboembolism	Direct oral anticoagulants (DOACs) - 4 types	Vitamin K antagonists (VKAs), heparin
Zhang[240]	2018	Vaccine	3.3	Immunology; Medicine, Research & Experimental	No funding	1/6	13	1999-2014	HIV-positive people	Influenza vaccine, Placebo	Network meta-analysis

Multidisciplinary sciences (n = 10)											
Chen[241]	2018	Medical Science Monitor	1.9	Medicine, Research & Experimental	Non-industry	0/5	20[cc]	2000-2016	Patients with essential hypertension	Anti-hypertensive drugs - 8 types	Acupuncture
Arteagoitia[242]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	No funding	0/3	8	1989-2015	Adult patients (over 18 years old) that underwent the extraction of any tooth	Chlorhexidine	Placebo, standard treatment
Feng[243]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	No funding	0/4	9	2002-2009	Adults with osteoarthritis or rheumatoid arthritis of the knee or hip	Etoricoxib	Placebo, other non-steroidal anti-inflammatory drugs (NSAIDs) - 2 included
Kawakami[244]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	0/5	6	2007-2017	Pediatric surgical patients	Magnesium	Placebo, no treatment
Li[245]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	0/7	8	2007-2014	Adults (18 years and over) diagnosed with generalized anxiety disorder (GAD)	Duloxetine	Placebo
Lin[246]	2017	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	0/6	21	1992-2012	Patients with hypertension and chronic kidney disease stage 3 to 5 and dialysis	Calcium channel blockers	Angiotensin-converting enzyme inhibitors, angiotensin receptor blockers
Ling[247]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	Not reported/6	9	2003-2017	Adults (19 years and over) undergoing cardiac surgery	Dexmedetomidine	Propofol, morphine, placebo
Rohner[248]	2017	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	2/7	94	1993-2014	Cancer patients	Erythropoiesis-stimulating agents	Usual care
Sethi[249]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	No funding	0/6	28	1986-2017	Patients with atrial fibrillation or atrial flutter	Digoxin	Placebo, no intervention, beta blockers, calcium antagonists, amiodarone
Wolf[250]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	Industry	1/9	13	2002-2016	Post renal transplant patients	mTOR-inhibitors - 2 types	Calcineurin-inhibitors

[a]Only 3 studies reported that authors were employed by industry and therefore we included them as ties for the purposes of this table; [b]11/12 included RCTs had a drug arm; [c]33/38 included RCTs had a drug arm; [d]4/14 included RCTs had a drug arm; [e]One author reported pharmaceutical company employment; [f]9/11 included RCTs had a drug arm; [g]71/120 included studies were RCTs; [h]24/25 included studies were RCTs; [i]Meta-analysis funding sources reported as 'None, Other" we coded as no study funding; [j]10/27 included RCTs had a drug arm; [k]Flow chart indicates that 0 RCTs were included in the quantitative synthesis, but 2 RCTs were quantitatively synthesized and 13 were included; [l]Declarations of interest were provided for only 3 out of 5 meta-analysis authors; [m]24/31 included RCTs had a drug arm; [n]103/106 included RCTs had a drug arm; [o]3/5 included RCTs had a drug arm; [p]34/60 included RCTs had a drug arm; [q]110/123 included RCTs had an eligible drug arm; [r]Salary was reported under 'funding' but they did not specify whether there was any funding for the study itself; [s]ICMJE forms only provided for 5/9 authors; [t]3/4 included studies were RCTs; [u]4/11 included studies were RCTs; [v]Four authors reported financial ties with a pharmaceutical company and employment by Symmetron, a company that provides health economic research services to pharmaceutical companies, and two authors reported employment by a pharmaceutical company; [w]10/12 included studies were RCTs; [x]3/7 included studies were RCTs; [y]3/4 included studies were RCTs; [z] Of the 3 authors that reported financial ties, one also reported industry employment; [aa]2/4 included studies were RCTs; [bb]14/30 included studies were RCTs; [cc]20/30 included studies were RCTs with a drug arm

eTable2. – Detailed reporting of study funding sources (F), author-industry financial ties (T), and author-industry employment (E) form included RCTs

First Author	Year	Journal	Funding Sources of Included Trials Reported in Meta-analysis?	Author-Industry Financial Ties of Included Trials Reported in Meta-analysis?	Author-Industry Employment of Included Trials Reported in Meta-analysis?	Location Reported						
						Risk of Bias Text	Risk of Bias Figure or Table	Main Text, Other than Risk of Bias	Other in Main Document (Characteristics of Included Studies Table, other table, footnote)	Abstract	Lay summary	Online appendix
Cochrane Reviews (n = 107)												
Abdel-Rahman[1]	2018	Cochrane Database of Systematic Reviews	Full	No	No	F	F		F	F	F	
Adams[2]	2018	Cochrane Database of Systematic Reviews	Full	No	No	F		F	F			
Agabio[3]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No			F, T	F, T		F	
Al-Shahi Salman[4]	2018	Cochrane Database of Systematic Reviews	Partial	No	No			F	F			
Alabed[5]	2018	Cochrane Database of Systematic Reviews	Partial	No	Partial				F, E			
Allegretti[6]	2017	Cochrane Database of Systematic Reviews	Full	No	No	F	F			F	F	
Arechabala[7]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial	F	F, E	F, T	F, T, E		F	
Baandrup[8]	2018	Cochrane Database of Systematic Reviews	Full	Full	Partial	F	F	F	F, T, E		F	
Bala[9]	2018	Cochrane Database of Systematic Reviews	Full	No	No	F			F			
Barbato[10]	2018	Cochrane Database of Systematic Reviews	No	No	No							
Bergman[11]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No				F, T			
Bighelli[12]	2018	Cochrane Database of Systematic Reviews	Full	Full	Partial	F	F, T, E	F	F, T, E	F	F	
Birks[13]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No			F	F, T	F		
Boyapati[14]	2018	Cochrane Database of Systematic Reviews	No	No	No							
Brown[15]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F	F	F	F, T	F	F	
Bruins Slot[16]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F			
Bryan[17]	2017	Cochrane Database of Systematic Reviews	Partial	No	No				F			

Bryant-Smith[18]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Burry[19]	2018	Cochrane Database of Systematic Reviews	Full	No	No		F	F	F	
Campschroer[20]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T	
Candy[21]	2018	Cochrane Database of Systematic Reviews	Full	No	No			F	F	
Chiew[22]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Das[23]	2018	Cochrane Database of Systematic Reviews	Full	No	No			F	F	F
Demicheli[24]	2018	Cochrane Database of Systematic Reviews	Full[a]	Partial	Partial				F, T, E	
Demicheli[25]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Di Nisio[26]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No				F, T	
El-Sayeh[27]	2018	Cochrane Database of Systematic Reviews	Full	No	No	F			F	
Engelen[28]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Eshun-Wilson[29]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T	
Essali[30]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Everitt[31]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F, T	F, T	F	F, T	
Fanshawe[32]	2017	Cochrane Database of Systematic Reviews	No	No	No					
Franik[33]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No				F, T	
González[34]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Grabosch[35]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Graves[36]	2018	Cochrane Database of Systematic Reviews	Partial[b]	No	No				F	
Haas[37]	2018	Cochrane Database of Systematic Reviews	Full	Full	No			F, T	F, T	
Hakoum[38]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T	
Heras-Mosteiro[39]	2017	Cochrane Database of Systematic Reviews	Partial[c]	Partial[d]	Partial				F, T, E	
Janmaat[40]	2017	Cochrane Database of Systematic Reviews	No	No	No					
Jefferson[41]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Jung[42]	2017	Cochrane Database of Systematic Reviews	Full	Full	Partial			F, T	F, T, E	

Kaempfen[43]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Kahale[44]	2017	Cochrane Database of Systematic Reviews	Full	Full	Partial[e]				F, T, E	
Kahale[45]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No				F, T	
Kahale[46]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No				F, T	
Kapur[47]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Kelly[48]	2018	Cochrane Database of Systematic Reviews	Partial[f]	Partial	No		F		F, T	
Knightly[49]	2017	Cochrane Database of Systematic Reviews	Full	No	No				F	
Kopsaftis[50]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Lawrie[51]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial				F, T, E	
Leathersich[52]	2018	Cochrane Database of Systematic Reviews	Full	Full	No	F, T	F, T	F, T	F, T	
Lethaby[53]	2017	Cochrane Database of Systematic Reviews	Full	No	No			F	F	F
López-Briz[54]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Marchant[55]	2018	Cochrane Database of Systematic Reviews	Partial	No	No				F	
Matar[56]	2018	Cochrane Database of Systematic Reviews	Full	No	No		F			
Matar[57]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T	
McNicol[58]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
McTague[59]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Mhaskar[60]	2017	Cochrane Database of Systematic Reviews	Full	Full	Partial				F, T, E	
Milligan[61]	2018	Cochrane Database of Systematic Reviews	Partial[g]	No	No	F	F			
Monk[62]	2017	Cochrane Database of Systematic Reviews	Full	Full	No			F, T	F, T	
Montero[63]	2018	Cochrane Database of Systematic Reviews	Partial	No	No		F			
Mücke[64]	2018	Cochrane Database of Systematic Reviews	Full	Full	Partial			F, T	F, T, E	
Narula[65]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Nevitt[66]	2017	Cochrane Database of Systematic Reviews	Partial	No	No			F	F	
Nevitt[67]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	

Norman[68]	2018	Cochrane Database of Systematic Reviews	Full	No	Partial			F	F, E		
Normansell[69]	2018	Cochrane Database of Systematic Reviews	Full	No[h]	No			F	F		
Novoa[70]	2018	Cochrane Database of Systematic Reviews	Full	Partial[h]	No	F	F		F, T	F	F
Ohlsson[71]	2017	Cochrane Database of Systematic Reviews	Partial	No	No		F		F		
Ostinelli[72]	2018	Cochrane Database of Systematic Reviews	Full	No	No		F	F			
Ostinelli[73]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F	F, T	F			
Ostuzzi[74]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No	F	F, T	F			
Parker[75]	2018	Cochrane Database of Systematic Reviews	No	No	No						
Pasquali[76]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F, T	F, T	F		F	F
Pike[77]	2018	Cochrane Database of Systematic Reviews	Full	No	No			F	F		
Rirash[78]	2017	Cochrane Database of Systematic Reviews	No	No	No						
Robertson[79]	2017	Cochrane Database of Systematic Reviews	No	No	No						
Romero[80]	2017	Cochrane Database of Systematic Reviews	Full	No	No	F	F	F	F	F	F
Rosumeck[81]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T		
Rüschen[82]	2018	Cochrane Database of Systematic Reviews	Full	Full	No			F, T	F, T		
Ruthirakuhan[83]	2018	Cochrane Database of Systematic Reviews	Full	No	Partial			F	F, E		
Sankar[84]	2018	Cochrane Database of Systematic Reviews	No	No	No						
Schumann[85]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial	F, T		F	F, T, E	F, T	F
Simancas-Racines[86]	2018	Cochrane Database of Systematic Reviews	Full	Full	No	F	F	F	F, T		
Smith[87]	2017	Cochrane Database of Systematic Reviews	Full	Full	Full	F, T, E	F, T, E				
Smith[88]	2018	Cochrane Database of Systematic Reviews	Full	Full	No			F, T	F, T		
Soares-Weiser[89]	2018	Cochrane Database of Systematic Reviews	Partial	No	No				F		
Squizzato[90]	2017	Cochrane Database of Systematic Reviews	Full	Partial[i]	No	F	F, T	F		F	
St George[91]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial	F, T	F, T, E	F	F, T, E		
Stern[92]	2017	Cochrane Database of Systematic Reviews	Full	No	No			F	F		F

Sturman[93]	2017	Cochrane Database of Systematic Reviews	Full	Full	No	F, T	F, T	F, T			
Tammenmaa-Aho[94]	2018	Cochrane Database of Systematic Reviews	Partial	No	No				F		
Temmingh[95]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial	F, T	F, T, E	F, T, E	F, T		
Tenforde[96]	2018	Cochrane Database of Systematic Reviews	Full	Full	No	F, T	F, T		F, T		
Toews[97]	2018	Cochrane Database of Systematic Reviews	Full	Full	Partial		F, E	F	F, T		
Venekamp[98]	2018	Cochrane Database of Systematic Reviews	Full	Full	No			F	F, T		
Vermeij[99]	2018	Cochrane Database of Systematic Reviews	No	No	No						
Vietto[100]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	F	
Wall[101]	2018	Cochrane Database of Systematic Reviews	Full	Full	No	F, T	F	F	F		
Weibel[102]	2018	Cochrane Database of Systematic Reviews	Full	No	No			F	F		
Wright[103]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F	F, T				
Xiao[104]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F		
Zhang[105]	2017	Cochrane Database of Systematic Reviews	Full	No	No	F	F	F	F	F	
Zhou[106]	2017	Cochrane Database of Systematic Reviews	Full	Full	No			F	F, T	F	
Zonneveld[107]	2018	Cochrane Database of Systematic Reviews	Partial[j]	No	No		F				
General Medicine (n = 33)											
López-López[108]	2017	BMJ	Full	No	No			F			F
Wang[109]	2018	BMJ Open	No	No	No						
Cipriani[110]	2018	Lancet	Full[k]	No	No			F			F
Chen[111]	2018	Medicine	No	No	No						
Ding[112]	2018	Medicine	No	No	No						
Guo[113]	2018	Medicine	No	No	No						
Han[114]	2018	Medicine	No	No	No						
Hu[115]	2018	Medicine	No	No	No						
Huang[116]	2018	Medicine	Full	Partial	No	F, T					
Jiang[117]	2018	Medicine	No	No	No						
Jiang[118]	2018	Medicine	No	No	No						
Khan[119]	2018	Medicine	No	No	No						
Liang[120]	2017	Medicine	No	No	No						
Liu[121]	2018	Medicine	Partial[l]	No	No			F			
Lor[122]	2017	Medicine	No	No	No						
Wang[123]	2017	Medicine	No	No	No						
Wang[124]	2018	Medicine	No	No	No						
Wang[125]	2018	Medicine	No	No	No						
Wei[126]	2017	Medicine	No	No	No						

Woo[127]	2018	Medicine	No	No	No		
Xia[128]	2018	Medicine	No	No	No		
Yang[129]	2017	Medicine	No	No	No		
Ye[130]	2017	Medicine	No	No	No		
Yu[131]	2018	Medicine	No	No	No		
Yuan[132]	2018	Medicine	No	No	No		
Zhang[133]	2018	Medicine	No	No	No		
Zhang[134]	2018	Medicine	No	No	No		
Zhao[135]	2018	Medicine	No	No	No		
Zhao[136]	2018	Medicine	No	No	No		
Zhou[137]	2018	Medicine	No	No	No		
Zhu[138]	2018	Medicine	No	No	No		
Zhou[139]	2018	Postgraduate Medicine	No	No	No		
Zhang[140]	2018	Revista da Associação Médica Brasileira	Full	Full[m]	No	F, T	
Specialty medicine (n = 100)							
Li[141]	2018	Acta Ophthalmologica	Full[n]	No	No	F	F
Tarantini[142]	2018	American Heart Journal	No	No	No		
Wang[143]	2018	American Journal of Cardiovascular Drugs	No	No	No		
Aman[144]	2018	Anaesthesia and Intensive Care	No	No	No		
Li[145]	2018	Autoimmunity Reviews	No	No	No		
Wang[146]	2018	Biomed Research International	No	No	No		
Veettil[147]	2017	BMC Cancer	No	No	No		
Bredemeier[148]	2018	BMC Cardiovascular Disorders	Full	No	No		F
Lyu[149]	2018	BMC Gastroenterology	No	No	No		
Xing[150]	2017	BMC Infectious Diseases	No	No	No		
Kuo[151]	2018	BMC Musculoskeletal Disorders	No	No	No		
Beez[152]	2017	BMC Neurology	No	No	No		
Zeng[153]	2017	BMC Ophthalmology	No	No	No		
Bundhun[154]	2017	BMC Pharmacology & Toxicology	No	No	No		
Zhang[155]	2017	BMC Psychiatry	No	No	No		
Zhang[156]	2017	BMC Pulmonary Medicine	No	No	No		
Zhang[157]	2017	BMC Pulmonary Medicine	Full	No	No		
Ramos-Esquivel[158]	2018	Breast Cancer	No	No	No		
Zeng[159]	2018	British Journal of Sports Medicine	Partial[o]	No	No	F	F

Shui[160]	2018	Cellular Physiology and Biochemistry	No	No	No			
Rodrigo[161]	2018	Clinical Microbiology and Infection	Partial	No	No			F
Wang[162]	2018	Clinical Rheumatology	No	No	No			
Hong[163]	2018	Critical Reviews in Oncology / Hematology	No	No	No			
de Carvalho[164]	2018	Diabetes Care	No	No	No			
Jaafar[165]	2018	Digestive Diseases and Sciences	No	No	No			
Liu[166]	2018	Drug Delivery	No	No	No			
Liu[167]	2018	Drug Design, Development and Therapy	No	No	No			
Sun[168]	2017	Drug Design, Development and Therapy	No	No	No			
Paraschakis[169]	2017	East Asian Archives of Psychiatry	No	No	No			
D'Souza[170]	2018	Emergency Medicine Journal	No	No	No			
Mei[171]	2016	European Journal of Gynecological Oncology	No	No	No			
Verberkt[172]	2017	European Respiratory Journal	No	No	No			
Sridharan[173]	2018	Expert Opinion on Pharmacotherapy	No	No	No			
Habibi[174]	2018	Expert Review of Clinical Pharmacology	No	No	No			
Li[175]	2018	Expert Review of Clinical Pharmacology	No	No	No			
Sangroongruangsri[176]	2018	Expert Review of Clinical Pharmacology	Full	No	No		F	
Hickey[177]	2018	Foot and Ankle Surgery	No	No	No			
Zhao[178]	2018	Gastric Cancer	Partial[p]	No	No	F	F	F
Khera[179]	2018	Gastroenterology	No	No	No			
Li[180]	2018	Gynecologic Oncology	No	No	No			
Zhuge[181]	2018	Helicobacter	No	No	No			
Kim[182]	2017	Indian Journal of Cancer	No	No	No			
Garg[183]	2018	Indian Journal of Gastroenterology	No	No	No			
Rosanova[184]	2017	Infectious Diseases	No	No	No			
Yu[185]	2018	Inflammopharmacology	No	No	No			

Kakkos[186]	2018	International Angiology	No	No	No			
Ou[187]	2018	International Immunopharmacology	Full	No	No		F	
Yin[188]	2018	International Immunopharmacology	No	No	No			
Zhu[189]	2018	International Journal of Clinical Oncology	No	No	No			
Liu[190]	2018	International Journal of Neuroscience	No	No	No			
Coccolini[191]	2018	International Journal of Surgery	No	No	No			
Fan[192]	2018	International Journal of Surgery	No	No	No			
Li[193]	2018	International Journal of Surgery	No	No	No			
Li[194]	2018	International Journal of Surgery	No	No	No			
Liu[195]	2018	International Journal of Surgery	No	No	No			
Ran[196]	2018	International Journal of Surgery	No[q]	No	No			
Zhao[197]	2018	International Journal of Surgery	No	No	No			
Zhu[198]	2018	International Journal of Surgery	No	No	No			
Wagner[199]	2018	Journal of Affective Disorders	Partial	No	No		F	
Hickman[200]	2018	Journal of Assisted Reproduction and Genetics	No	No	No			
Luo[201]	2018	Journal of Cancer Research and Clinical Oncology	No	No	No			
Wang[202]	2018	Journal of Cancer Research and Clinical Oncology	Partial[r]	No	No	F	F	
Wang[203]	2018	Journal of Cancer Research and Therapeutics	No	No	No			
Aboul-Hassan[204]	2017	Journal of Cardiac Surgery	No	No	No			
Wang[205]	2018	Journal of Cardiovascular Surgery	No	No	No			
Barrionuevo[206]	2018	Journal of Clinical Endocrinology and Metabolism	Full	No	No	F		F

Cui[207]	2018	Journal of Clinical Pharmacy and Therapeutics	Full[s]	No	No	F	
Sawyer[208]	2018	Journal of Dermatological Treatment	No	No	No		
Markey[209]	2018	Journal of Emergency Medicine	No	No	No		
Szabó[210]	2017	Journal of Gastrointestinal and Liver Diseases	No	No	No		
Su[211]	2018	Journal of Immunology Research	No	No	No		
Chen[212]	2018	Journal of Interventional Cardiac Electrophysiology	No	No	No		
Chen[213]	2017	Journal of Orthopaedic Surgery and Research	No	No	No		
Li[214]	2018	Journal of Orthopaedic Surgery and Research	No	No	No		
Luo[215]	2018	Journal of Orthopaedic Surgery and Research	No	No	No		
Ma[216]	2018	Journal of Orthopaedic Surgery and Research	No	No	No		
He[217]	2018	Journal of Psychiatric Research	Full	No	No		F
Wang[218]	2018	Journal of Stroke & Cerebrovascular Diseases	No	No	No		
Dhana[219]	2018	Journal of the American Academy of Dermatology	No	No	No		
Karatasakis[220]	2017	Journal of the American Heart Association	No	No	No		
Kuo[221]	2018	Journal of the European Academy of Dermatology and Venereology	Full	No	No		
Liu[222]	2016	Journal of Traditional Chinese Medicine	No	No	No		
Zheng[223]	2017	Journal of Zhejiang University-SCIENCE B	No	No	No		
Fregonese[224]	2018	Lancet Respiratory Medicine	No	No	No		
Bornstein[225]	2018	Neurological Sciences	No	No	No		
Chen[226]	2018	Ophthalmic Research	No	No	No		
Han[227]	2017	Pain Physician	No	No	No		
Peng[228]	2017	Pain Physician	No	No	No		

Feng[229]	2016	Pharmazie	No	No	No		
Xu[230]	2016	Pharmazie	No	No	No		
Palmeirim[231]	2018	PLOS Neglected Tropical Diseases	No	No	No		
Furukawa[232]	2018	Psychotherapy and Psychosomatics	No	No	No		
Liu[233]	2018	Renal Failure	No	No	No		
Miravitlles[234]	2017	Respiratory Research	Full	No	No		F
Wang[235]	2017	Respiratory Research	No	No	No		
Kawalec[236]	2018	Rheumatology International	No	No	No		
Malhotra[237]	2018	Stroke	No	No	No		
Zhang[238]	2018	Surgical Laparoscopy Endoscopy & Percutaneous Techniques	No	No	No		
Yamashita[239]	2018	Thrombosis Research	No	No	Partial	E	
Zhang[240]	2018	Vaccine	No	No	No		
Other (n = 10)							
Chen[241]	2018	Medical Science Monitor	No	No	No		
Arteagoitia[242]	2018	PLOS ONE	No	No	No		
Feng[243]	2018	PLOS ONE	No	No	No		
Kawakami[244]	2018	PLOS ONE	No	No	No		
Li[245]	2018	PLOS ONE	No	No	No		
Lin[246]	2017	PLOS ONE	No	No	No		
Ling[247]	2018	PLOS ONE	No	No	No		
Rohner[248]	2017	PLOS ONE	No	No	No		
Sethi[249]	2018	PLOS ONE	Partial	No	No	F	
Wolf[250]	2018	PLOS ONE	No	No	No		

[a]Funding sources categorized as government funded, industry funded, or mixed for most trials. Specific details about funding were reported for 2 trials and details on author ties and employment were reported for a single trial; [b]Authors reported extracting funding sources from included RCTs but funding sources are only reported for a single study; [c]Reported funding sources for all included studies except for one; [d]Reported author financial ties for all included studies except for 2; [e]Non-industry author employment reported for some included RCTs; [f]Funding sources and author ties reported for all included RCTs except one that was a conference abstract; [g]Funding sources only reported for a single RCT; [h]Authors reported whether or not included RCTs had decaled COI (yes, no) and, if yes, indicated the page of the original study the declaration could be found on. This was coded as partially reporting because the nature of these COI was not reported within the meta-analysis publication itself and it was unclear whether these were financial ties and whether they were with industry; [i]Non-industry author financial ties reported for some included RCTs; [j]A single RCT was reported as 'industry sponsored' with no specifics about the sponsor; [k]Authors coded studies as sponsored by industry or not, and any of author industry affiliation, industry funding, or data obtained from pharmaceutical company qualified an RCT as 'sponsored'; [l]Authors report that 'some trials had a high risk of reporting bias because they were sponsored by pharmaceutical companies' but do not specify which or even how many trials; [m]Authors reported that all included RCTs had authors with financial ties to industry but provided no further information; [n]Reported whether each included RCT was industry funded (yes or no) but provided no further information; [o]For some analyses the authors reported how many included RCTs were non-commercially funded and present results including only non-commercially funded trials, but do not provide further information on which trials were commercially funded; [p]Authors state 14 trials were industry-sponsored and reference figure 1 in the supplementary material where 14 studies were marked as high risk for other bias, but it is not explicitly specified what was considered as 'other bias'; [q]Authors considered RCT funding sources within 'other bias'. In their risk of bias assessment but did not report any specific information; [r]Authors report that most studies were funded by the pharmaceutical industry and refer readers to figure 2 (risk of bias figure), but the figure does not give any information about which RCTs; [s]Included RCTs were coded as having company funding (Yes/No).

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	N/A
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	3,4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5,6
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	6
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	6
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	6,7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	eMethods1
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	6-8
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	8-10
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	8-12
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	N/A
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	3, 10,11
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	10,11

PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	N/A
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	11
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	12, Figure 1
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	12, 13, 26, 27 (Table 1)
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	N/A
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	N/A
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	N/A
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	28 (Table 2)
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	15-17
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	17
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	15-17
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	19

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

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Reporting of Drug Trial Funding Sources and Author Financial Conflicts of Interest in Cochrane and non-Cochrane Meta-analyses: A Cross-sectional Study

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2019-035633.R1
Article Type:	Original research
Date Submitted by the Author:	07-Feb-2020
Complete List of Authors:	Turner, Kimberly; Jewish General Hospital and McGill University Carboni-Jiménez, Andrea; McGill University Benea, Carla; Jewish General Hospital Elder, Katharine; Jewish General Hospital Levis, Brooke; McGill University, Epidemiology, Biostatistics and Occupational Health Boruff, Jill; McGill University, Schulich Library of Physical Sciences, Life Sciences, and Engineering Roseman, Michelle; McGill University Bero, Lisa; University of Sydney, Charles Perkins Centre / Pharmacy Lexchin, Joel; York University, School of Health Policy and Management Turner, Erick; Portland VA Medical Center, ; Oregon Health & Science University, Psychiatry Benedetti, Andrea; McGill University Thombs, Brett; Jewish General Hospital and McGill University
Primary Subject Heading:	Research methods
Secondary Subject Heading:	Epidemiology
Keywords:	EPIDEMIOLOGY, STATISTICS & RESEARCH METHODS, MEDICAL ETHICS

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Reporting of Drug Trial Funding Sources and Author Financial Conflicts of Interest in Cochrane and non-Cochrane Meta-analyses: A Cross-sectional Study

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Word count: 4,277

ABSTRACT

Objective: To (1) investigate the extent to which recently published meta-analyses report trial funding, author-industry financial ties, and author-industry employment from included RCTs, comparing Cochrane and non-Cochrane meta-analyses; (2) examine characteristics of meta-analyses independently associated with reporting funding sources of included RCTs; and (3) compare reporting among recently published Cochrane meta-analyses to Cochrane reviews published in 2010.

Design: Review of consecutive sample of recently published meta-analyses.

Data sources: MEDLINE database via PubMed searched on October 19, 2018.

Eligibility criteria for selecting articles: We selected the 250 most recent meta-analyses listed in PubMed that included a documented search of at least one database, statistically combined results from ≥ 2 RCTs, and evaluated the effects of a drug or class of drugs.

Results: 90 of 107 (84%) Cochrane meta-analyses reported funding sources for some or all included trials compared with 21 of 143 (15%) non-Cochrane meta-analyses, a difference of 69% (95% confidence interval [CI], 59% to 77%). Percent reporting was also higher for Cochrane meta-analyses compared with non-Cochrane meta-analyses for trial author-industry financial ties (44% versus 1%; 95% CI for difference, 33% to 52%) and employment (17% versus 1%; 95% CI for difference, 9% to 24%). In multivariable analysis, compared with Cochrane meta-analyses, the odds ratio for reporting trial funding was ≤ 0.11 for all other journal category and impact factor combinations. Compared with Cochrane reviews from 2010, reporting of funding sources of included RCTs among recently published Cochrane meta-analyses improved by 54% (95% CI, 42% to 63%), and reporting of trial author-industry financial ties and employment improved by 37% (95% CI, 26% to 47%) and 10% (95% CI, 2% to 19%).

Conclusions: Reporting of trial funding sources, trial author-industry financial ties, and trial author-industry employment in Cochrane meta-analyses has improved since 2010 and is higher than in non-Cochrane meta-analyses.

Strengths and limitations of this study

- The meta-analyses selected for inclusion in our study was a consecutive sample of meta-analyses of drug interventions published in 2016-2018.
- We compared reporting of funding and financial conflicts of interest among trials included in recent Cochrane and non-Cochrane meta-analyses.
- We compared reporting of funding and financial conflicts of interest among trials included in recent Cochrane meta-analyses with Cochrane systematic reviews from 2010.
- We were unable to examine whether meta-analyses published in different types of journals or journals with different impact factors are more or less likely to report on financial conflicts of interest from included trials because most meta-analyses of drug trials are published as Cochrane reviews or in relatively low-impact specialty medicine journals.
- Our study examined only disclosed financial conflicts of interest and did not attempt to identify non-disclosed conflicts.

INTRODUCTION

Financial conflicts of interest (FCOIs) can introduce bias in drug trials by influencing how a trial is designed, inclusion and exclusion criteria, choice of drug dosages and comparators, selection of trial outcomes, how analyses are conducted, interpretation of findings, which outcomes are reported, and whether trial results are published.[1-10] Drug trials funded by industry are approximately 30% more likely to report favourable efficacy findings than non-industry trials,[8] and drug trials with principal investigators with FCOIs have higher odds of reporting favourable outcomes than those led by principal investigators without FCOIs, even after controlling for trial funding sources.[7]

Previous studies that have examined meta-analyses of drug trials published in high-impact journals and Cochrane systematic reviews of drug trials have found that funding sources and author FCOIs of included randomized controlled trials (RCTs) were rarely reported.[11, 12] A 2011 study found that only 2 of a sample of 29 (7%) meta-analyses on the effects of drug interventions published in high-impact journals in 2009 reported the funding sources of included drug trials and that none reported trial author-industry financial ties or author-industry employment.[11] A second study, published in 2012, examined Cochrane systematic reviews of drug trials and found that only 46 of 151 (30%) eligible reviews published in 2010 reported information on the funding source of some or all included trials, 11 (7%) provided any information on author-industry financial ties, and 10 (7%) provided any information on author-industry employment from included trials.[12]

In 2012, the Cochrane Collaboration began to require that Cochrane reviews report trial funding sources and FCOIs of the primary researchers of all included trials in the characteristics of included studies table (Methodolgical Expectations of Cochrane Intervention Reviews

(MECIR), standards R69 and R70) .[13, 14] The Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement, however, has not been updated since its publication in 2009[15, 16] and does not address the reporting of trial funding or author FCOIs of trials included in systematic reviews and meta-analyses.

We do not know of any studies that have compared reporting among Cochrane meta-analyses with meta-analyses published in other journals or examined whether reporting in Cochrane reviews has improved since Cochrane implemented its reporting policy. The objectives of the present study were to (1) investigate the extent to which Cochrane and non-Cochrane meta-analyses of drug trials report trial funding sources, author-industry financial ties, and author-industry employment; (2) examine characteristics of meta-analyses that are independently associated with reporting funding sources of included RCTs; and (3) compare reporting among recently published Cochrane meta-analyses to reporting from Cochrane systematic reviews published in 2010,[11] prior to implementation of Cochrane's reporting policy.

METHODS

The methods for the present study were based on our previous study of reporting of funding sources, author-industry financial ties, and author-industry employment from trials included in Cochrane systematic reviews published in 2010; however in the present study, we included only Cochrane reviews that contained a meta-analysis, whereas in the previous study all Cochrane reviews that included results from at least one RCT were eligible.[12] Because of this difference, in our comparison, in addition to main analyses, we conducted sensitivity analyses that only included systematic reviews with meta-analyses from the previous study. A study protocol was developed prior to initiating the present study and was posted on the Open Science Framework (https://osf.io/njk5w/).

Selection of meta-analyses

Meta-analyses in any language were eligible if they (1) included a documented search for eligible RCTs using at least one database, (2) statistically combined results from ≥ 2 RCTs, and (3) evaluated the efficacy/effectiveness or harm of a drug or class of drugs against an alternative treatment (e.g., placebo, alternative drug, non-pharmacological treatment) or no treatment. Meta-analyses that only assessed different methods of administration, dosages, or dosage schedules of the same drug were excluded. Drugs were defined broadly to include biologics and vaccines, but not nutritional supplements or medical devices without a drug component. Meta-analyses that investigated a combination of pharmacological and non-pharmacological interventions or interventions which may or may not involve a drug (e.g., amnioinfusion) were included if a study group was exclusively given a drug intervention or if the meta-analysis assessed the addition of a drug to a treatment received by both intervention and control groups. Interventions were classified as having a drug component if any form of the active ingredient (e.g., dosage, route, strength, compound) was listed as an approved or discontinued brand name, generic drug or therapeutic biological product by the US Food and Drug Administration (FDA) as listed in the Drugs@FDA database at the time of review.[17] If an agent was not listed in the Drugs@FDA database and was classified by the FDA as a non-drug (e.g., food additive, supplement), then it was not considered a drug. If an agent was not regulated as a drug and was not listed as a non-drug by the FDA, drug status was determined based on consensus among investigators using publicly available sources that provided information on the agent.

We searched the MEDLINE database via PubMed on October 19, 2018 using a search developed by a medical librarian (see eMethods1 for strategy). Citations were uploaded into the systematic review software DistillerSR (Evidence Partners, Ottawa, Canada), which was used to

code and track results. Two investigators independently evaluated titles and abstracts for potential eligibility. Full texts of titles and abstracts deemed potentially eligible by either investigator were then reviewed by two investigators independently. Disagreements at the full-text level were resolved through consensus with a third investigator consulted as necessary. Because we sought to include the most recently published meta-analyses that met eligibility criteria, prior to reviewing, citations were organized by PubMed reference identification numbers with the most recent first. Title and abstract and full-text reviews were conducted sequentially until we obtained our desired number of included meta-analyses based on our power analysis.

Data extraction

For each eligible meta-analysis, one reviewer initially extracted all data into a pre-defined form in DistillerSR, and a second reviewer validated all extracted data using the DistillerSR Quality Control function. Discrepancies were resolved by consensus and consultation with a third investigator, if needed. For each included meta-analysis, reviewers extracted first author last name; year of publication; journal name; Clarivate Analytics 2017 journal impact factor; journal speciality area based on Clarivate Analytics classification; whether it was a Cochrane meta-analysis published in the Cochrane Database of Systematic Reviews or elsewhere; funding source for the meta-analysis and author-industry financial ties and employment; reporting in the meta-analysis of trial funding sources, trial author-industry financial ties, and trial author-industry employment; and whether the meta-analysis referenced a published protocol or contained a PROSPERO registration number. If a registration number was not provided, we searched the PROSPERO website (https://www.crd.york.ac.uk/PROSPERO/) using key terms from the published article, then attempted to match the principal investigator, funding source,

intervention, non-intervention comparator group, and design from the article to registrations obtained in the search.

To extract information on meta-analysis funding source, meta-analysis author-industry financial ties, and meta-analysis author-industry employment and to determine whether or not trial funding sources, trial author-industry financial ties, and trial author-industry employment were reported in the meta-analysis, for each included meta-analysis, reviewers examined all text, tables, figures, appendices, disclosure statements, acknowledgements and any online supplemental material, published with the manuscript or linked to the manuscript. Funding sources for meta-analyses were classified as (1) non-industry (e.g., public granting agency, private not-for-profit granting agency), (2) pharmaceutical industry, (3) combined pharmaceutical industry and non-industry, (4) no funding or (5) not reported. Financial ties of meta-analysis authors to industry were defined per the International Committee of Medical Journal Editors Uniform Disclosure Form for Potential Conflicts of Interest[18] and included current or former board membership, current or former consultancy, current or former industry employment, expert testimony, industry grants (issued or pending), payment for lectures including service on speakers bureaus, payment for manuscript preparation, patents (planned, pending, or issued), royalties, payment for development of educational presentations, stock or stock options, travel reimbursement, or other relationships with industry, as disclosed in the review. Of these, we specifically coded if industry employees were part of the author group. If a meta-analysis did not contain a disclosure statement, meta-analysis author-industry financial ties were coded as not reported.

For reporting of (1) trial funding sources, (2) trial author-industry financial ties, and (3) trial author-industry employment, meta-analyses were coded as (1) reporting for all included

trials; (2) reporting for some, but not all, included trials (partial reporting); or (3) not reporting. Meta-analyses that included data from a pharmaceutical industry database or noted that trial drugs were supplied by the manufacturers for certain trials, but that did not make any explicit statement of trial funding sources, were coded as not reporting. For meta-analyses that reported information on funding sources or author FCOIs from included trials, either fully or partially, we recorded where in the meta-analysis the information was reported. Specifically, we recorded whether the information was reported in the abstract, lay summary, risk of bias material (text, figure or table, both), main text other than risk of bias, elsewhere in the main document (e.g., characteristics of included studies table, other table, footnote of a table), or in an online appendix. See eMethods2.

Power analysis

To determine the number of meta-analyses to target, we first calculated the number of included meta-analyses that would be needed for 80% power to find a statistically significant difference if there were a 20% difference in reporting trial funding sources based on meta-analysis characteristics, with $\alpha = 0.05$. We varied the rates of reporting from 10% versus 30% to 70% versus 90% and considered scenarios where the proportion of reporting meta-analyses with each characteristic (e.g., high-impact journals versus low-impact journals) was 50% versus 50% and 30% versus 70%. For a two-tailed binomial test with $\alpha = 0.05$, the maximum number of included meta-analyses needed in any scenario was 239. Because the consequence of overpowering the study was additional labour and not risk to human participants, we rounded this number up to 250 meta-analyses. See eMethods3.

Statistical analyses

We presented characteristics of included meta-analyses descriptively, including funding sources and FCOIs. We determined the proportion of meta-analyses that reported trial funding source, author-industry financial ties, and author-industry employment of included trials for (1) all included trials, (2) some, but not all, included trials, and (3) no included trials, along with 95% confidence intervals (CIs). We compared the difference between the proportion of recently published Cochrane meta-analyses that reported study funding, author-industry financial ties, and author-industry employment from included RCTs with recently published non-Cochrane meta-analyses and with Cochrane systematic reviews published in 2010. Because the present study included meta-analyses only, but the previous study of Cochrane reviews included systematic reviews with or without meta-analyses,[12] we conducted a sensitivity analysis in which we excluded Cochrane systematic reviews from 2010 that did not include a meta-analysis and would not have been eligible for inclusion in the present study. We calculated 95% CIs for all differences.[19]

To assess the relationship between meta-analysis characteristics and reporting of funding sources for some or all included trials, versus not reporting, we fit unadjusted (bivariate) and adjusted (multivariate) logistic regression models with all predictors using the glm function in R (R version 3.2.3; RStudio Version 1.0.136).[20, 21] The predictor variables that were considered in bivariate and. adjusted analyses were: (1) combined category (Cochrane, specialty medicine, general medicine, multidisciplinary) and impact factor of the journal in which the meta-analysis was published; and (2) whether there was industry funding for the meta-analysis or any FCOI disclosed by meta-analysis authors. We combined journal category and impact factor because of the small number of journals in some categories and the small number of journals with impact factor greater than that of Cochrane. Thus, meta-analyses were categorized as (1) low-impact (≤

3.0) specialty medicine journals, (2) low-impact (≤ 3.0) general medicine or multidisciplinary journals, (3) medium-impact (3.1 - 6.7) specialty medicine journals, (4) high-impact (> 6.8) specialty medicine or general medicine journals, and (5) Cochrane meta-analyses (impact factor = 6.8; reference category). Because 28 of 33 meta-analyses in general medicine journals were from a single journal (*Medicine*) and not necessarily representative of general medicine as a category, and because 9 of the 10 meta-analyses published in multidisciplinary science journals were published in a single journal (*PLOS ONE*), we combined general medicine and multidisciplinary journals.

Our initial protocol indicated that, if possible, we would include in the logistic regression model the year of publication of the meta-analysis and whether there was meta-analysis funding by industry, meta-analysis author-industry financial ties, and meta-analysis author-industry employment, separately. However, 246 of 250 included meta-analyses were published in 2017-2018, and only 3 meta-analyses had industry funding; thus, we did not include year of publication, and we grouped meta-analysis funding source and author FCOIs into a single variable (No FCOIs including funding source versus any FCOI). Additionally, we only conducted a multivariable analysis for the reporting of funding sources of included RCTs and not for reporting of author-industry financial ties and author-industry employment, because there were not enough examples of meta-analyses that reported author-industry financial ties and author-industry employment.

Patient and Public Involvement

Patients and members of the public were not involved in the design, conduct, reporting, or plan for dissemination of our research.

RESULTS

Selection of eligible meta-analyses

Our initial search of PubMed without date restrictions retrieved 9,725 unique citations. To select 250 eligible meta-analyses, working backwards from the most recent, a total of 401 citations were screened for eligibility; 64 were excluded at the title and abstract level and 76 at the full-text level. See Figure1.

As shown in Table 1, of the 250 included meta-analyses, 107 (43%) were Cochrane reviews, all of which were published in the Cochrane Database of Systematic Reviews. Among the 143 non-Cochrane meta-analyses, 33 (23%) were published in general medicine journals (including 28 in the journal *Medicine*), 100 (70%) in specialty medicine journals, and 10 (7%) in multidisciplinary journals (including 9 in *PLOS ONE*). The mean number of included RCTs for both Cochrane and non-Cochrane meta-analyses was approximately 20. Among the 143 non-Cochrane meta-analyses, 25 (17%) referenced a published protocol or were registered in PROSPERO, and 106 (74%) were published in a journal with impact factor $\leq$ 3.

Of the 250 meta-analyses, 3 (1%) reported being funded by industry, 148 (59%) reported funding from non-industry sources, 56 (22%) reported no funding, and 43 (17%) did not report funding source; 3 (1%) had at least 1 author who reported current industry employment, 51 (20%) had at least 1 author that reported other financial ties with industry, 187 (75%) reported that there were no authors with FCOIs, and 12 (5%) did not report any information about author FCOIs. Characteristics of each of the 250 included meta-analyses are shown in eTable1.

Reporting in meta-analyses of funding sources and author FCOIs from included drug trials

As shown in Table 2, 111 of the 250 (44%) included meta-analyses reported the funding sources for some or all included trials, 49 (20%) reported author-industry financial ties for some or all included trials, and 19 (8%) reported author-industry employment for some or all included

trials. Of the 107 Cochrane meta-analyses, 90 (84%) reported funding sources for some or all included trials compared with 21 of 143 (15%) non-Cochrane meta-analyses, a difference of 69% (95% CI, 59% to 77%); 47 (44%) Cochrane meta-analyses reported author-industry financial ties for some or all included trials compared with 2 (1%) non-Cochrane meta-analyses, a difference of 43% (95% CI, 33% to 52%); 18 (17%) Cochrane meta-analyses reported, fully or partially (for some but not all trials), author-industry employment compared with 1 (1%) non-Cochrane meta-analysis, a difference of 16% (95% CI, 9% to 24%).

Among the 90 Cochrane meta-analyses that reported funding sources for some or all included trials, 77 (86%) provided this information in the characteristics of included studies table, including 23 (26%) that also included it in the assessment of risk of bias of included trials; 7 (8%) included it in the risk of bias assessment and at least one other place, but not the characteristics of included studies table, and 6 (7%) reported only as part of the risk of bias assessment. In total, 36 (40%) reported in the context of the risk of bias assessment. See eTable2 for reporting for all 250 included meta-analyses.

Factors associated with reporting FCOIs from included trials in multivariable analysis

As shown in Table 3, the odds ratio for reporting funding sources for some or all included RCTs among non-Cochrane meta-analyses was ≤ 0.11 compared with Cochrane meta-analyses for all journal category and impact factor combinations. Meta-analyses with any declared FCOI (OR 1.29, 95% CI 0.53 to 3.19) and meta-analyses for which the presence of FCOIs was not reported (OR 1.18, 95% CI 0.40 to 3.44) did not differ significantly in reporting compared with those with no declared FCOIs.

Comparison of recent Cochrane meta-analyses versus Cochrane reviews published in 2010

Reporting of funding sources for some or all included trials improved from 30% in Cochrane reviews of drug trials published in 2010 to 84% in recently published Cochrane meta-analyses, an improvement of 54% (95% CI, 42% to 63%). Reporting of author-industry financial ties for some or all included trials improved from 7% in 2010 to 44% in recent meta-analyses, a 37% change (95% CI, 26% to 47%). Reporting of author-industry employment for some or all included trials improved from 7% in 2010 to 17% in recent meta-analyses (10%; 95% CI, 2% to 19%). Results did not change when the comparison was restricted to Cochrane reviews published in 2010 that included a meta-analysis. See Table 2. Figure 2 summarizes reporting among recently published Cochrane and non-Cochrane meta-analyses and Cochrane reviews from 2010.

DISCUSSION

Principal findings

We reviewed the 250 most recent meta-analyses of drug treatments listed in PubMed at the time of our search. Of these, 107 (43%) were Cochrane reviews, 100 (40%) were published in specialty medicine journals, and 43 (17%) were published in general medicine or multidisciplinary journals, including 28 in *Medicine* and 9 in *PLOS ONE*. Of the 143 non-Cochrane meta-analyses, 106 (74%) were published in journals with impact factor ≤ 3.

Among Cochrane meta-analyses, 84% reported funding sources for some or all included RCTs compared with 15% of non-Cochrane meta-analyses. Cochrane meta-analyses were also more likely than non-Cochrane meta-analyses to report author-industry financial ties (44% versus 1%) and author-industry employment (17% versus 1%).

In 2010, only 30% of 151 Cochrane systematic reviews of drug treatments reported trial funding sources. [12] This improved to 84% among recent Cochrane meta-analyses. Cochrane reviews also improved reporting of author-industry financial ties and author-industry

employment of included RCTs from 7% to 44% and from 7% to 17%. It is possible that the reason that few meta-analyses reported author-industry employment is because some may have assumed that author-industry employment would be considered a type of author-industry financial tie and did not report employment separately, whereas we considered author-industry financial ties and employment separately.

Among the 90 Cochrane meta-analyses that reported funding sources of included trials in the present study, 86% included the information in the characteristics of included studies table, as required by Cochrane, and 40% included the information in the risk of bias assessment.

Findings in context

In 2012, soon after our previous results showed that few Cochrane systematic reviews of drug trials reported funding sources and author FCOIs of included trials,[12] the Cochrane Collaboration began to require that trial funding sources and FCOIs be reported for every included RCT in the characteristics of included studies table.[13, 14] Reporting of trial funding sources among recent Cochrane meta-analyses has not reached 100%, and work is needed to improve the reporting of other types of author FCOIs, which was under 50% despite being required by Cochrane. Nonetheless, the improvements documented in the present study are substantial, both compared with previous Cochrane reviews and with contemporary non-Cochrane meta-analyses. Cochrane is a global organization consisting of a large number of different review and methods groups that span numerous fields of health research. This diversity suggests that changes that have occurred likely resulted from change in the mandatory reporting requirements for Cochrane reviews and widespread adoption by the organization. We did not examine whether performance differed by review groups or whether updated reviews based on initial protocols that pre-dated Cochrane's reporting policy may have been less likely to fully

report. It is possible that reporting in Cochrane reviews could be improved even further by ensuring that all review groups are fully compliant and that even reviews with older initial protocols report per Cochrane's current MECIR standards, as required by Cochrane.[14]

The improved performance in reporting in Cochrane reviews suggests the possibility that other journals could improve the transparency of reporting of trial funding and trial author FCOI in evidence syntheses by adopting similar reporting requirements. Most journals that specify reporting requirements stipulate that authors follow reporting standards for meta-analyses articulated in the PRISMA statement. The current version of the PRISMA statement does not address reporting of trial funding sources and FCOIs of trial authors by investigators who publish systematic reviews and meta-analyses.[16, 17] The forthcoming updated PRISMA statement, however, will require that trial funding, although not trial author FCOIs, be reported (personal communication, David Moher, May 22, 2019). Adoption and enforcement of the updated PRISMA reporting standards by journals could result in authors being better informed about the need for reporting funding sources and FCOI and in peer reviewers and journals being more likely to require transparent reporting.

Members of our research team have previously recommended that risk of bias from trial funding and trial author FCOIs be included in the Cochrane Risk of Bias Tool based on evidence that links trial sponsorship and trial author FCOIs to outcomes.[11] This recommendation was debated at a Cochrane Methods Symposium in 2013, but consensus was not reached for inclusion.[13, 22] The present study found that 40% of Cochrane meta-analyses that reported on FCOIs from included trials included this as part of a risk of bias assessment, even though this has not been recommended by Cochrane. Currently, a new tool, the

Tool for Addressing Conflicts of Interest in Trials (TACIT),[23] which specifically addresses risk of bias from industry sponsorship of trials and author-industry financial ties and employment, is being developed for inclusion in Cochrane reviews. Once the TACIT tool is completed, risk of bias from trial funding and trial author FCOIs will be explicitly considered in Cochrane reviews and, potentially, in non-Cochrane reviews, as well. Meanwhile, authors should, at a minimum, describe FCOIs and discuss the degree to which they may influence confidence in findings.

Strengths and limitations

A strength of the present study is that we assessed reporting in a large number of recently published meta-analyses, including 107 Cochrane meta-analyses, which allowed us to compare reporting practices among Cochrane and non-Cochrane meta-analyses and recent Cochrane meta-analyses with Cochrane systematic reviews from 2010. However, there are limitations that should be considered. First, we used impact factor as a rough proxy of the quality of the meta-analyses included, but journal impact factor is very much an imperfect proxy; it does not necessarily reflect the quality of the methods of the included meta-analyses. Rating meta-analysis quality in all included meta-analyses was beyond the scope of our study, given the resources that would have been required. Second, since most meta-analyses of drug trials are published as Cochrane reviews or in relatively low-impact specialty medicine journals, we were not able to conduct robust assessments of whether meta-analyses published in different types of journals or journals with different impact factors are more or less likely to report on trial funding and trial author FCOIs for included drug trials. The vast majority of meta-analyses published in general medicine journals were from a single journal (*Medicine*), which further limited our ability to examine this factor. However, the meta-analyses included in our study constituted a consecutive sample of the most recent meta-analyses listed in PubMed and, thus, represented all

meta-analyses of drug interventions listed in PubMed during the study period. Third, our study examined only disclosed FCOIs. A surprising finding was that a higher proportion of Cochrane meta-analysis authors indicated that they had FCOIs compared with non-Cochrane authors; it is not known if this reflects greater industry involvement among Cochrane authors or a higher propensity to report transparently and completely among this group of authors. Fourth, information about FCOIs from included RCTs was not extracted from the RCT publications. Fifth, our previous study of Cochrane reviews from 2010 included all systematic reviews, whereas the present study was restricted to reviews with meta-analyses. However, a sensitivity analysis showed that results did not change when we compared recent results to those from 2010 that were restricted to reviews with a meta-analysis.

Conclusions and policy implications

In summary, the percentage of recent Cochrane meta-analyses on the effects of drug interventions that transparently reported funding sources and trial author-industry financial ties and employment for included trials far exceeds reporting in other journals. It also far exceeds reporting in Cochrane systematic reviews published in 2010, before the implementation by Cochrane of its policy requiring the reporting of trial funding sources and author-industry FCOIs. These results suggest that it is possible to achieve more transparent reporting of FCOIs from trials included in meta-analyses. We encourage the uptake and enforcement of reporting requirements in the forthcoming updated PRISMA statement.[24] We also encourage the adoption of Cochrane's new TACIT tool[23] by journals and authors in order to assess trial funding sources and author FCOIs as risks of bias. Continued non-disclosure of FCOIs when evidence is synthesized in meta-analyses misleads readers of medical journals into

believing that there is not risk of bias from FCOIs to be considered, even though an increasingly robust evidence base tells us that this is often not the case.[7, 8]

Acknowledgement: The authors thank Drs. Ian Shrier and Jonathan Kimmelman for providing helpful comments on an earlier version of the manuscript. They were not compensated for their contribution. Ms. Turner was supported by a Fonds de Recherche Québec - Santé (FRQ-S) masters training award, Ms. Levis was supported by a Canadian Institutes of Health Research doctoral research award, and Drs. Benedetti and Thombs were supported by FRQ-S researcher awards, all outside of the submitted work.

Contributors: KAT, MR, JB, LAB, JL, EHT, AB, and BDT were responsible for the study conception and design. KAT, ACJ, CB, and KE were responsible for title and abstract and full-text review. KAT and ACJ were responsible for data extraction and validation. KAT, BL, AB, and BDT analysed and interpreted results. KAT and BDT drafted the manuscript. All authors provided a critical review and approved the final manuscript. BDT is the guarantor.

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Funding: There was no funding for the study.

Declaration of Competing Interests: All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf. Dr. Bero disclosed that she is Senior Editor, Cochrane Public Health and Health Systems, for which the University of Sydney receives remuneration. Dr. Thombs disclosed that he is a content editor with the Cochrane Common Mental Disorders review group (no remuneration received). All other authors declared: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

Ethics Statement: As this study involved only the review of published articles, research ethics approval was not required.

Transparency Declaration: The manuscript's guarantor affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

Data Sharing: All extracted data are available in the main tables or in online supplementary material. No additional data were extracted.

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FIGURES

Figure 1. Flow diagram of selection of eligible meta-analyses.

Figure 2. Percentage of recently published Cochrane and non-Cochrane meta-analyses and 2010 Cochrane systematic reviews that reported included trial funding source, author-industry financial ties, and author-industry employment for some or all included trials.

Table 1. Characteristics of included meta-analyses

	Cochrane Meta-Analyses (N = 107)	Non-Cochrane Meta-Analyses (N = 143)
Year of publication		
2016, *N (%)*	0	4 (3%)
2017, *N (%)*	22 (21%)	31 (22%)
2018, *N (%)*	85 (79%)	108 (76%)
Number of Included RCTs, *mean ± SD*	21.4 ± 24.4	19.6 ± 46.4
Registered in PROSPERO or Published Protocol, *N (%)*	107 (100%)	25 (17%)[a]
Impact Factor, *mean ± SD*	6.8 ± 0	3.6 ± 5.4
≤ 3	0	106 (74%)
3.1-6.7	0	27 (19%)
6.8	107 (100%)	0
> 6.8	0	10 (7.0%)
Meta-Analysis Funding Sources		
Not reported	4 (4%)[b]	39 (27%)
Industry	0	3 (2%)
Non-Industry	93 (87%)	55 (38%)
No funding	10 (9%)	46 (32%)
Meta-Analysis Author Financial Ties to Industry (Including Employment)[c]		
Not reported, *N (%)*	1 (1%)	11 (8%)
No authors with reported financial ties, *N (%)*	70 (65%)	117 (81%)

≥ 1 author with reported financial ties, *N (%)*	36 (34%)	15 (10%)
Proportion of authors with financial ties, *mean ± SD*[d]	11% ± 17%	4% ± 15%
Journal Category		
Cochrane review, *N (%)*	107 (100%)	0
Specialty medicine *N (%)*	0	100 (70%)
General medicine (non-Cochrane),[f] *N (%)*	0	33 (23%)
Multidisciplinary,[g] *N (%)*	0	10 (7%)

[a]One meta-analysis reported that they registered in PROSPERO but did not provide a registration number and one could not be found. We contacted the authors and they did not provide us with further information; thus this was coded as not registered. [b]Only 3 included meta-analyses reported author-industry employment and these were grouped with author-industry financial ties for this table [c]Cochrane reviews typically have a "Sources of Support" section with funding information. These reviews did not include that section. [d]Proportion of authors with financial ties or employment of those that reported. [e]Classifications for specialty medicine journals (note that some journals had more than one classification): Anesthesiology, N = 3; Biochemistry & Molecular Biology, N =1; Biotechnology & Applied Microbiology, N =2; Cardiac & Cardiovascular Systems, N = 7; Cell Biology, N = 1; Chemistry, Medicinal, N = 4; Chemistry, Multidisciplinary, N =2; Clinical Neurology, N = 6; Critical Care Medicine, N =2; Dermatology, N = 3; Emergency Medicine, N = 2; Endocrinology & Metabolism, N = 2; Gastroenterology & Hepatology, N = 6; Genetics & Heredity, N = 1; Hematology, N = 2; Immunology, N = 6; Infectious Diseases, N =3; Integrative & Complementary Medicine, N =1; Medicine, Research & Experimental, N = 3; Microbiology, N = 2; Neurosciences, N =3; No classification, N = 2; Obstetrics & Gynecology, N = 4; Oncology, N = 11; Ophthalmology, N = 3; Orthopedics, N = 6; Parasitology, N = 1; Peripheral Vascular Disease, N =5; Pharmacology & Pharmacy, N = 13; Physiology, N =1; Psychiatry, N = 4; Psychology, N = 1; Reproductive Biology, N = 1; Respiratory System, N = 6; Rheumatology, N = 3; Sport Sciences, N = 1; Surgery, N =11; Toxicology, N = 2; Tropical Medicine, N = 1; Urology & Nephrology, N =1. [f]Of the 33 included general medicine journals, 28 were published in the journal "Medicine". [g]Of the 10 journals classified as multidisciplinary, 9 were published in the journal "PLOS ONE".

Table 2. Summary of reporting patterns of disclosed funding source and author-industry FCOI from included RCTs

	Number of Meta-analyses Reporting Funding Sources of Included RCTs			Number of Meta-analyses Reporting Author Financial Ties of Included RCTs			Number of Meta-analyses Reporting Author-Industry Employment of Included RCTs		
	Full	Partial	Full or Partial	Full	Partial	Full or Partial	Full	Partial	Full or Partial
Recently Published Meta-analyses:									
Cochrane (N = 107), N (%)	70 (65%)	20 (19%)	90 (84%)	24 (22%)	23 (21%)	47 (44%)	1 (1%)	17 (16%)	18 (17%)
Non-Cochrane (N = 143), N (%)	14 (10%)	7 (5%)	21 (15%)	1 (1%)	1 (1%)	2 (1%)	0	1 (1%)	1 (1%)
Difference in Reporting Between Cochrane and Non-Cochrane Meta-analyses, % (95% CI)	56% (44% to 65%)	14% (6% to 23%)	69% (59% to 77%)	22% (14% to 31%)	21% (13% to 30%)	43% (33% to 52 %)	1% (-2% to 5%)	15% (9% to 23%)	16% (9% to 24%)
2010:									
All Cochrane Systematic Reviews (N = 151), N (%)[a]	30 (20%)	16 (11%)	46 (30%)	2 (1%)	9 (6%)	11 (7%)	0	10 (7%)	10 (7%)
Difference in Reporting Between Recently Published Cochrane Meta-analyses versus Cochrane Systematic Reviews Published in 2010, % (95% CI)	46% (34% to 56%)	8% (-1% to 18%)	54% (42% to 63%)	21% (13% to 30%)	16% (7% to 25%)	37% (26% to 47%)	1% (-2% to 5%)	9% (2% to 18%)	10% (2% to 19%)
2010:									
Cochrane Meta-analyses (N =119),	21 (19%)	15 (13%)	36 (30%)	0 (0%)	7 (6%)	7 (6%)	0 (0%)	7 (6%)	7 (6%)

N (%)

Difference in Reporting Between Recently Published Cochrane Meta-analyses versus Cochrane Meta-analyses Published in 2010, % (95% CI)	48% (36% to 58%)	6% (-3% to 16%)	54% (42% to 63%)	22% (15% to 31%)	16% (7% to 25%)	38% (27% to 48%)	1% (-2% to 5%0	10% (2% to 19%)	11% (3% to 20%)

562 [a] Results from Roseman et al., 2012.

Table 3. Factors associated with reporting funding sources of included RCTs

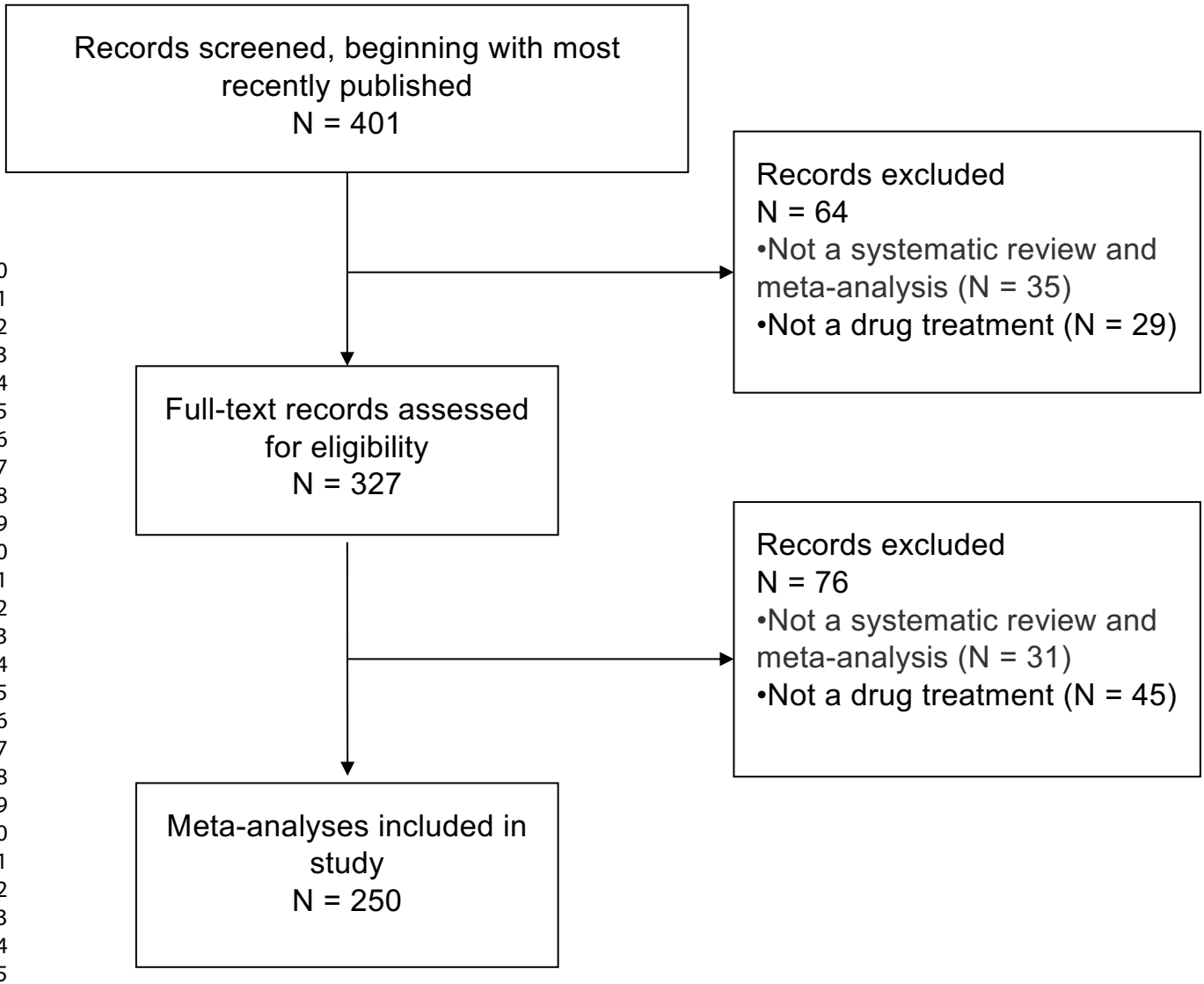
	Proportion that reported some or all declared funding sources from included RCTs	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)
FCOI of meta-analysis (including meta-analysis funding)			
reference = no FCOI	67/151 (44%)		
Any disclosed FCOI	35/51 (69%)	2.74 (1.42 to 5.49)	1.29 (0.53 to 3.19)
Not reported	9/48 (19%)	0.29 (0.12 to 0.62)	1.18 (0.40 to 3.44)
Impact Factor and Journal Type			
reference = Cochrane	90/107 (84%)		
Specialty impact factor ≤ 3[b]	4/65 (6%)	0.01 (< 0.01 to 0.03)	0.01 (< 0.01 to 0.04)
General (N=31) or Multidisciplinary (N=10) impact factor ≤ 3	4/41 (10%)	0.02 (< 0.01 to 0.06)	0.02 (< 0.01to 0.06)
Specialty impact factor 3.1 - 6.7[c]	10/27 (37%)	0.11 (0.04 to 0.28)	0.11 (0.04 to 0.28)
Specialty (N=8) or General (N=2) impact factor > 6.8	3/10 (30%)	0.08 (0.02 to 0.32)	0.08 (0.02 to 0.32)

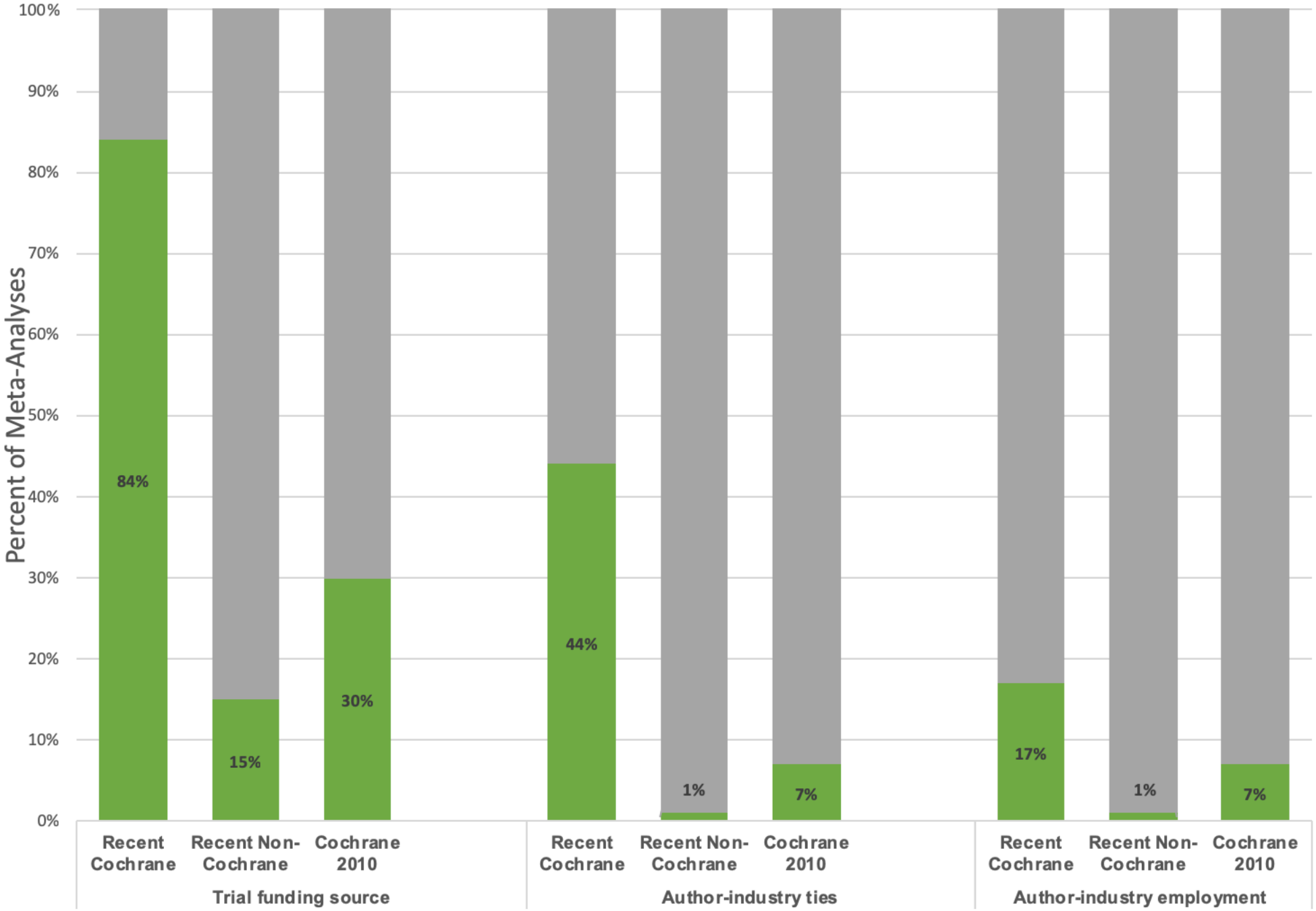
[a]Not reported included meta-analyses for which the presence of FCOI could not be determined because either meta-anlaysis funding, meta-analysis author FCOI, or both were not reported.

[b] Two meta-analyses were from journals that did not have an impact factor, and these were coded as having an impact factor of 0.5 for our analyses.

[c] There were no multidisciplinary or general medicine journals with an impact factor of 3.1-6.7.

FCOI = financial conflicts of interest


Records screened, beginning with most recently published
N = 401
Records excluded
N = 64
•Not a systematic review and meta-analysis (N = 35)
•Not a drug treatment (N = 29)
Full-text records assessed for eligibility
N = 327
Records excluded
N = 76
•Not a systematic review and meta-analysis (N = 31)
•Not a drug treatment (N = 45)
Meta-analyses included in study
N = 250


100%
90%
80%
70%
60%
50%
40%
30%
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10%
0%
Percent of Meta-Analyses
84%
15%
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44%
1%
7%
17%
1%
7%
Recent Cochrane
Recent Non-Cochrane
Cochrane 2010
Trial funding source
Recent Cochrane
Recent Non-Cochrane
Cochrane 2010
Author-industry ties
Recent Cochrane
Recent Non-Cochrane
Cochrane 2010
Author-industry employment

Supplementary Material

eMethods1. Search strategy

eMethods2. Data extraction form

eMethods3. Power analysis

eTable1. Detailed characteristics of included meta-analyses

eTable2. Detailed reporting of study funding source, author-industry financial ties, and author-industry employment from included RCTs

eMethods1. Search strategy

To obtain our sample, we searched the MEDLINE database via PubMed on October 19, 2018 using the following search strategy:

((((("Randomized Controlled Trials as Topic"[Mesh] or randomized control trial [tiab] or randomized controled trial [tiab] OR randomized controlled trial [tiab] or randomized control trials [tiab] OR randomized controled trials [tiab] OR Randomized controlled trials [tiab] or randomised control trial [tiab] or randomised controled trial [tiab] OR randomised controlled trial [tiab] or randomised control trials [tiab] OR randomised controled trials [tiab] OR Randomised controlled trials [tiab]) AND ("Therapeutic Uses"[Mesh] OR "Vaccines"[Mesh]) AND ("Meta-Analysis" [Publication Type] or meta analysis [tiab]) AND (systematic review [tiab] OR search [tiab] or searched [tiab] or MEDLINE [tiab] OR PubMed [tiab]))))

eMethods 2. Data extraction form

First Author, last name: Last name of first author of meta-analysis

Year of publication (or in press): Year of publication of meta-analysis

Journal: Name of journal in which meta-analysis was published

Journal Impact factor: Where meta-analysis published (low-high split or continuous based on data distribution)

Specialty area of Journal: Where meta-analysis published (per Thomson Reuters Journal Science Citation Index - Expanded categories)

Cochrane Review (Y/N): Is the meta-analysis a Cochrane Review? Select "Yes" even if the Cochrane Review is being published in another journal

Response from radio options:

- Y (Yes)
- N (No)

Journal policies for reporting COI of Included Trials: Presence or absence of instructions for reporting in the author instructions

- Y (Yes)
- N (No)

# of RCTs synthesized in Meta-Analysis (total RCTs in included meta-analysis related to drugs)

Date Range of Included Trials: Date range in years of publication of studies (RCTs) included related to drugs in the meta-analysis (XXXX - XXXX). Use "In press" for end date if there are in press trials. Use “Unpublished” if a trial is in progress or has never been published.

Study population: Characteristics of study population of included trials (e.g. condition/disorder, adult/child)

Pharmacological agent: Pharmacologic treatment evaluated in the meta-analysis

- Name(s) of treatment if specific drug(s) investigated
- Class of treatment if broader category of drugs investigated, and number of drugs evaluated (e.g. SSRIs – 5 included)

Control/comparison arms: Other treatment arms (control/comparison) included in the meta-analysis (e.g. placebo, name of comparison pharmacologic treatment, name of behavioral intervention)

Meta-Analysis Author Financial Ties / Funding Sources Reported: Does the meta-analysis report meta-analysis author financial ties (including former and current industry employment) and/or the funding source? Note that reporting “no funding” is different from not reporting.
Response from radio options:

- Meta-analysis author financial ties
- Meta-analysis funding sources
- Both financial ties and funding sources
- Neither reported

Funding Source of Meta-Analysis (if applicable – only shown if above item indicates meta-analysis funding sources reported or both financial ties and meta-analysis funding sources reported) Source of financial support for the meta-analysis:

Response from radio options:

- Industry
- Combined industry and non-industry

- Non-industry (e.g. public granting agency, private not-for-profit granting agency)
- No study funding

Type of Industry Funding (if applicable – only shown if above item indicates industry funding or combined industry and non-industry present): If the meta-analysis is industry funded, what is the type of support provided by industry? Response from radio options:

- Financial support
- Resources (e.g. statistical analyses)
- Both financial support and resources

# of Meta-Analysis Authors: Number of authors of the meta-analysis (count authors named in byline or in an author group)

# of Meta-Analysis Authors with Financial Ties to Industry (if applicable – only shown if meta-analysis author financial ties or both financial ties and meta-analysis funding sources are reported): Number of authors of the meta-analysis who have financial ties such as industry board member, consultant, investments, patents, research funding, royalties (including former, and excluding current industry employment):

- Numbers 0 - ≥10

 # Meta-Analysis Authors with Current Industry Employment (if applicable – only shown if meta-analysis author financial ties or both financial ties and meta-analysis funding sources are reported): Number of authors of the meta-analysis who are current industry employees.

Response from radio options:

Numbers 0 - ≥10

Quality or Risk Assessment of Included RCTs (Y/N): Was quality or risk assessment of included RCTs, by methods from Cochrane, Jadad, etc., reported in the meta-analysis.

Response from radio options:

- Y (Yes)
- N (No)

Quality or Risk Assessment Method of Included RCTs (if applicable – only shown if answer to previous item is yes- quality or risk assessment of included RCTs is reported): If the meta-analysis authors report a quality or risk assessment method of included RCTs, what is the reported method of quality assessment?

Meta-analysis Authors Report Funding Sources of Included Studies: Response from radio options:

- Reported for each included study
- Reported in summary statement or for some, but not all, trials
- Included study funding sources not reported

Placement in publication of Included RCTs' Funding Source (if applicable – only shown if the response to Meta-analysis Authors Report Funding Sources of Included Studies is (1) Reported for Each included Study or (2) Reported in summary statement or for some, but not all, trials):

- Abstract
- Main text, other than risk of bias or quality section
- In risk of bias or quality assessment
- Other in main document (e.g., a characteristics of studies table, other table, in a footnote of a table
- Online appendix
- Lay Summary

Placement in risk of bias or quality assessment of Included RCTs' Funding Source (if applicable – only shown if placement in publication of included RCT's Funding Source is risk of bias or quality assessment):

- Text
- Figure/table
- Both text and figure/table

Meta-analysis Authors Report Author Financial Ties of Included Studies: Response from radio options:

- Reported for each included study
- Reported in summary statement or for some, but not all, trials
- Included study author financial ties not reported

Placement in publication of Included RCTs' Author Financial Ties (if applicable – only shown if the response Meta-analysis Authors Report Author Financial Ties of Included Studies is (1) Reported for Each included Study or (2) Reported in summary statement or for some, but not all, trials):

- Abstract
- Main text, other than risk of bias or quality section
- In risk of bias or quality assessment
- Other in main document (e.g., a characteristics of studies table, other table, in a footnote of a table
- Online appendix
- Lay Summary

Placement in risk of bias or quality assessment of Included RCTs' Author Financial Ties (if applicable – only shown if placement in publication of included RCT's Author Financial ties is risk of bias or quality assessment):

- Text
- Figure/table
- Both text and figure/table

Meta-analysis Authors Report Author Industry Employment of Included Studies: Do the authors of the meta-analysis report current author industry affiliation (employment) for the included studies? Response from radio options:

- Reported for each included study
- Reported in summary statement or for some, but not all, trials
- Included study author industry employment not reported

Placement in publication of Included RCTs' Author Industry Employment (if applicable – only shown if the response to Meta-analysis Authors Report Author Industry Affiliation (Employment) of Included Studies is (1) Reported for Each included Study or (2) Reported in summary statement or for some, but not all, trials):

- Abstract
- Main text, other than risk of bias or quality section
- In risk of bias or quality assessment
- Other in main document (e.g., a characteristics of studies table, other table, in a footnote of a table)
- Online appendix
- Lay Summary

Placement in risk of bias or quality assessment of Included RCTs' Author Industry Employment (only shown if placement in publication of included RCT's Author Industry Affiliation is risk of bias or quality assessment):

- Text
- Figure/table
- Both text and figure/table

Do the authors report a PROSPERO registration number in the text?

- Yes
- No

What is the registration number (e.g., CRD42017062454)? (if applicable – only shown if the response to Do the authors report a PROSPERO registration number in the text? Is yes)

What stages were completed (ignore started) at the time of registration. Make sure to select the earliest registration version at the bottom of the page. Please check all stages that were completed. (if applicable – only shown if the response to Do the authors report a PROSPERO registration number in the text? Is yes)

- Preliminary searches

- Piloting of the study selection process
- Formal screening of search results against eligibility criteria
- Data extraction
- Risk of bias (quality) assessment
- Data analysis
- None completed

Was a registration found in PROSPERO? (if applicable – only shown if the response to Do the authors report a PROSPERO registration number in the text? Is no)

What is the registration number (e.g., CRD42017062454)? (if applicable – only shown if the response to Was a registration found in PROSPERO? Is yes)

What stages were completed (ignore started) at the time of registration. Make sure to select the earliest registration version at the bottom of the page. Please check all stages that were completed. (if applicable – only shown if the response to Was a registration found in PROSPERO? Is yes)

- Preliminary searches
- Piloting of the study selection process
- Formal screening of search results against eligibility criteria
- Data extraction
- Risk of bias (quality) assessment
- Data analysis
- None completed

eMethods3. Power analysis

Allocation ratio: 50% and 50% (1:1)

20% difference						
Proportion reporting COI		Sample size group 1	Sample size group 2	Sample size total	Actual power	Actual alpha
Low impact	High impact					
10%	30%	69	69	138	.807	.033
20%	40%	90	90	180	.802	.037
30%	50%	102	102	204	.806	.042
40%	60%	102	102	204	.801	.038
50%	70%	102	102	204	.806	.036
60%	80%	90	90	180	.802	.032
70%	90%	69	69	138	.807	.025

Allocation ratio: 30% and 70% (3:7)

20% difference						
Proportion reporting COI		Sample size group 1	Sample size group 2	Sample size total	Actual power	Actual alpha
Low impact	High impact					
10%	30%	105	44	149	.815	.038
20%	40%	141	59	200	.807	.040
30%	50%	165	69	234	.801	.045
40%	60%	168	71	239	.805	.043
50%	70%	166	70	236	.864	.042
60%	80%	148	62	210	.802	.040
70%	90%	133	47	160	.802	.035

eTable1. Detailed characteristics of included meta-analyses

eTable1. Detailed characteristics of included meta-analyses

First Author	Year	Journal	2017 Impact Factor	Specialty Area	Meta-analysis Funding source(s)	Number of Meta-analysis Authors with Industry Financial Ties / Number of Meta-analysis Authors[a]	Number of drug RCTs Included	Publication Dates of included drug RCTs	Population	Drug Intervention(s)	Comparison Arm(s)
Cochrane Reviews (n = 107)											
Abdel-Rahman[1]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	7	2004-2016	Adults (19 years and over) with advanced biliary tract carcinomas	Gemcitabine, vandetanib, S-1 (tegafur + gimeracil + oteracil), gemcitabine + oxaliplatin, 5-fluorouracil + folinic acid, capecitabine	Best supportive care, 5-fluorouracil + cisplatin + radiotherapy
Adams[2]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	36	1994-2012	Participants with or without evidence of cardiovascular disease	Fluvastatin	Placebo
Agabio[3]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	27	1969-2015	People with co-occurring depression and alcohol dependence	Antidepressants - 16 types, diazepam, memantine	Placebo, psychotherapy
Al-Shahi Salman[4]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Not reported	0/5	11[b]	1999-2015	Adults (16 years and over) with acute spontaneous intracerebral haemorrhage	Blood clotting factors, antifibrinolytic drugs	Placebo, open control, fresh frozen plasma
Alabed[5]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	11	1976-2008	Patients with antipsychotic-induced tardive dyskinesia (TD)	Gamma-aminobutyric acid agonists - 6 types	Placebo
Allegretti[6]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	3/8	8	1998-2016	Patients with hepatorenal syndrome	Terlipressin, terlipressin + albumin	Placebo, no intervention, albumin
Arechabala[7]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/7	37	1998-2017	Patients undergoing haemodialysis using a central venous catheter	Antibiotic antimicrobial lock solutions - 11 types, non-antibiotic antimicrobial lock	Heparin, saline

Baandrup[8]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	1/6	33[c]	1981-2016	Adult (18 years and over) chronic benzodiazepine users	solutions - 10 types, antibiotic + non-antibiotic antimicrobial lock solutions - 3 types Valproate, carbamazepine, lithium, pregabalin, captodiame, paroxetine, tricyclic antidepressants - 4 types, alpidem, buspirone, flumazenil, propranolol, progesterone, magnesium aspartate, bromazepam, cyamemazine, zopiclone, flunitrazepam	Placebo, no intervention
Bala[9]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/6	9	1997-2016	Individuals with antiphospholipid antibodies and no history of thrombosis	Aspirin + anticoagulants, aspirin, aspirin + low molecular weight heparin	Placebo, immunoglobulin, unfractionated heparin
Barbato[10]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	4[d]	2000-2012	Heterosexual adult couples (18 years or more) with a partner having a clinical diagnosis of depressive disorder	Antidepressants - 9 types	Couples therapy
Bergman[11]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	4	1981-1997	Psychiatric patients with antipsychotic-induced tardive dyskinesia	Benzodiazepines - 3 types	Placebo, usual care
Bighelli[12]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/9	41	1989-2011	Adults (18 years and over) with panic disorder	Tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), monoamine oxidase inhibitors (MAOIs), serotonin–norepinephrine reuptake inhibitors (SNRIs), norepinephrine reuptake inhibitors (NRIs), nefazodone, ritanserin	Placebo
Birks[13]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/2	30	1996-2017	People with Alzheimer's disease	Donepezil	Placebo
Boyapati[14]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/8	6	1978-2017	Adults (18 years and over) with quiescent Crohn's disease	Azathioprine, infliximab	No treatment, usual care (azathioprine + infliximab)

Brown[15]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	5	1993-2017	Women of reproductive age with endometriosis	Combined oral contractive pill - 3 types	Placebo, leuprolide, goserelin
Bruins Slot[16]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/2[e]	13	2008-2014	Adults with atrial fibrillation	Factor Xa inhibitors - 7 types	Warfarin
Bryan[17]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/3	20	1968-2007	People with schizophrenia and schizophrenia-like disorders such as schizophreniform disorder, delusional disorder, or schizoaffective disorder	Zuclopenthixol dihydrochloride	Placebo, other drugs - 11 types
Bryant-Smith[18]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	1/4	13	1970-2016	Women of reproductive age with heavy menstrual bleeding	Antifibrinolytic agents - 2 types, non-steroidal anti-inflammatory drugs (NSAIDs), progestogens, ethamsylate	Placebo, herbal medicines, levonorgestrel intrauterine system
Burry[19]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/9	9	1996-2016	Adults (17 years and over) in non-ICU acute care settings diagnosed with delirium	Antipsychotics - 5 types	Nonantipsychotics, placebo
Campschroer[20]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	67	2002-2017	Adult patients (18 years and older) with ureteral stone disease	Alpha-blockers - 6 types	Placebo, usual care
Candy[21]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	8	1996-2017	Adults with cancer and adults receiving palliative care with opioid-induced bowel dysfunction	Mu-opioid antagonists - 3 types	Placebo
Chiew[22]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	9[f]	1976-2014	Patients with paracetamol (acetaminophen) overdose	Methionine, cysteamine, dimercaprol, acetylcysteine	Placebo, no treatment
Das[23]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Not reported	0/3	7	2010-2017	Children aged up to five years with a clinical diagnosis of community-acquired pneumonia (CAP)	Vitamin D	Placebo, antibiotics alone
Demicheli[24]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/5	71[g]	1969-2014	Healthy individuals (16 to 65 years) and pregnant women and their newborns	Inactivated parenteral influenza vaccine	Placebo, no treatment

Demicheli[25]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/7	8	1969-2004	Elderly participants (65 years and over)	Influenza vaccines	Placebo
Di Nisio[26]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/3	32	1970-2017	Patients with superficial thrombophlebitis of the leg or diagnosis of a thrombus in a superficial vein	Fondaparinux, rivaroxaban, low molecular weight heparin, non-steroidal anti-inflammatory drugs, vasotonin, sulodexide, heparansulphate, vitamin K antagonists, enzyme therapy, unfractionated heparin, heparin calcium, defibrotide	Placebo, elastic stockings
El-Sayeh[27]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	10	1973-2010	Patients with antipsychotic-induced tardive dyskinesia	Noradrenergic drugs - 2 types, dopaminergic drugs - 7 types	Placebo
Engelen[28]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	3	1989-2015	People of all ages on continuous vitamin K antagonist (VKA) or direct oral anticoagulant (DOAC) treatment undergoing an oral or dental procedure	Antifibrinolytic agents - 2 types	Usual care (surgical treatment), usual care (surgical treatment) + placebo
Eshun-Wilson[29]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/6	10	1994-2014	Adults (18 years and over) living with HIV and depression	Selective serotonin reuptake inhibitors (SSRIs) - 4 types, tricyclic antidepressants (TCAs) - 2 types	Placebo, mirtazapine
Essali[30]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	3	1992-1997	People with antipsychotic-induced tardive dyskinesia	Calcium channel blockers - 3 types	Placebo
Everitt[31]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/8	23	1978-2013	Adults (18 years and over) with insomnia	Selective serotonin reuptake inhibitors - 4 types; tricyclic antidepressants - 3 types; other antidepressants - 6 types	Placebo, insomnia medication - 2 types
Fanshawe[32]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	4	2004-2014	Regular tobacco smokers (20 years and under)	Nicotine replacement therapy, bupropion	Placebo
Franik[33]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	42	2004-2017	Subfertile women of reproductive age with polycystic ovary syndrome	Letrozole	Placebo, selective estrogen receptor modulators, clomiphene citrate

González[34]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	6	1994-2014	Pregnant women living in malaria-endemic areas	Mefloquine	followed by intrauterine insemination, laparoscopic ovarian drilling, follicle-stimulating hormone, anastrozole Sulfadoxine-pyrimethamine, cotrimoxazole, placebo
Grabosch[35]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	3	2006-2017	Adult women with moderate or severe cervical intraepithelial neoplasia (CIN)	Non-steroidal anti-inflammatory agents (NSAIDs) - 2 types	Placebo
Graves[36]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	24[h]	1981-2017	Adults and children being treated for falciparum malaria	Primaquine	Usual treatment, bulaquine
Haas[37]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	11	1997-2017	Pregnant women who were about to receive a cesarean delivery	Antiseptic solutions - 3 types	Placebo, no treatment
Hakoum[38]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/10	15	1991-2009	People with cancer and venous thromboembolism	Low molecular weight heparin, unfractioned heparin	Fondaparinux
Heras-Mosteiro[39]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/10	89	1990-2015	Immunocompetent patients with localised Old World cutaneous leishmaniasis	Antimonials – 2 types, non-antimonials – 22 types	Placebo, no treatment, alternative therapies - 7 types, other drug comparators - 6 types, other non-drug comparators - 4 types
Janmaat[40]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/8	41	1980-2015	People with esophageal or gastroesophageal junction cancer	Chemotherapy, targeted therapy, EGFR-targeting agents, cetuximab, ramucirumab	Best supportive care, unspecified control
Jefferson[41]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/4	41	1971-2016	Healthy children (15 years and under)	Influenza vaccine - 2 types	Placebo, no intervention
Jung[42]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	19	2006-Unpublished	Middle-aged and older men (40 or over) with lower urinary tract symptoms as a result of benign prostatic hyperplasia	Silodosin, tamsulosin, naftopidil, and alfuzosin	Placebo

Kaempfen[43]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	3	2013-2017	Preterm infants	Propranolol	Placebo, no treatment
Kahale[44]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/10	7	1979-2012	Ambulatory people with cancer	Warfarin, apixaban	Placebo, no treatment
Kahale[45]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/10	13	1990-2013	People with cancer and central venous catheters	Anticoagulant - 6 types	Placebo, no treatment
Kahale[46]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/11	16	2001-2018	People with cancer and venous thromboembolism	Vitamin K antagonist - 2 types, direct oral anticoagulant - 4 types; low molecular weight heparin - 4 types	Anticoagulants
Kapur[47]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/5	7	1992-2012	Children and adults with bronchiectasis	Corticosteroids - 3 types	Placebo, no treatment
Kelly[48]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/8	15	1997-2014	Adults and children with bronchiectasis	Macrolide antibiotics - 4 types	Placebo, no intervention
Knightly[49]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/7	25	1996-2017	Adults and children with acute exacerbation of asthma	Magnesium sulfate	β2 -agonist, β2 -agonist + ipratropium, placebo
Kopsaftis[50]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	11	1961-2004	People with chronic obstructive pulmonary disease	Inactivated influenza vaccine	Placebo
Lawrie[51]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/9	38	1978-2016	Adults (18 years and over) undergoing radiotherapy for pelvic cancers	Aminosalicylates - 4 types, corticosteroids, superoxide dismutase, amifostine, bile acid sequestrants, magnesium oxide, misoprostol, octreotide, selenium, sodium butyrate, sucralfate, ibuprofen, famotidine, smectite, simethicone, tropisetron	Placebo, no treatment
Leathersich[52]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	8	1987-2007	Women with signs of fetal distress	Tocolytic agents – 7 types	Usual care, emergency delivery, cessation of oxytocic infusion
Lethaby[53]	2017	Cochrane Database of	6.8	Medicine, General & Internal	Non-industry	1/3	38	1989-2012	Women with uterine fibroids	Gonadotropin-hormone releasing analogue,	Placebo, no treatment

		Systematic Reviews								selective progesterone-receptor modulators	
López-Briz[54]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	11	2002-2015	Adults with central venous catheters	Heparin	0.9% sodium chloride (normal saline solution)
Marchant[55]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/4	3	1993-2012	Children (18 years and under) with prolonged wet cough (longer than 10 days)	Antibiotics - 2 types	Placebo, no treatment
Matar[56]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	7	1963-1999	Patients with schizophrenia	Fluphenazine	Placebo
Matar[57]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/11	20	1986-2018	People with solid or hematologic cancer undergoing surgery	Low-molecular weight heparin (LMWH) - 10 types	Unfractionated heparin (UFH), fondaparinux
McNicol[58]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/3	13	1992-2016	Postoperative paediatric patients (17 years and under)	Ketorolac	Placebo, opioid
McTague[59]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	18	1995-2014	Children (16 years and under) presenting to a hospital or emergency department in an acute tonic-clonic convulsion	Lorazepam	Diazepam + phenytoin, diazepam, paraldehyde, midazolam
Mhaskar[60]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	24	1982-2015	Patients with multiple myeloma (MM)	Bisphosphonates - 5 types	Placebo, no treatment - Network meta-analysis
Milligan[61]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	18	1980-2016	Adults and children	Typhoid fever vaccines - 4 types	No treatment, placebo, typhoid-inactive agents
Monk[62]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	32	1993-2016	People undergoing orthodontic treatment	Tramadol, non-steroidal anti-inflammatory drugs, paracetamol, local anaesthetic	Placebo, no treatment
Montero[63]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding[i]	1/7	10	1991-2012	Patients with hepatitis C virus-associated mixed cryoglobulinaemia	Rituximab, interferon, immunosuppressive drug therapy	Usual care, immunoadsorption apheresis
Mücke[64]	2018	Cochrane Database of	6.8	Medicine, General & Internal	Non-industry	2/5	16	2004-2017	Adults (18 years and over) with chronic neuropathic pain	Cannabis-based medicines - 5 types	Placebo, dihydrocodeine

Narula[65]	2018	Systematic Reviews Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/7	10[j]	1990-2014	Adults and children with Crohn's disease	Corticosteroids - 5 types	Enteral nutrition
Nevitt[66]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/5	76	1981-2015	Adults or children with partial onset seizures or generalised onset tonic-clonic seizures	Antiepileptic drugs - 10 types	Network meta-analysis
Nevitt[67]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/4	14	1995-2015	Adults and children with focal onset or generalised onset seizures	Lamotrigine	Carbamazepine
Norman[68]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/6	78	1985-2016	Adults (18 years and over) with venous leg ulcers	Topical agents - 10 types	Dressings - 12 types; Network meta-analysis
Normansell[69]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	6	1974-2016	Children and adults with acute asthma exacerbation	Antibiotics - 4 types	Placebo
Novoa[70]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/7	24	1977-2016	Children (17 years and under) with single or multiple haemangiomas located on the skin	Propranolol, timolol maleate, bleomycin, atenolol, prednisolone, captopril, ibuprofen + paracetamol, methylene blue, triamcinolone, methylprednisolone	Placebo, radiation, lasers
Ohlsson[71]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/2	34	1991-2017	Preterm (< 37 weeks' gestation) and low birth weight (< 2500 grams) infants less than eight days of age	Erythropoiesis-stimulating agents (ESAs) - 2 types	Placebo, no treatment
Ostinelli[72]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	1/5	3	2005-2016	Adults exhibiting aggression or agitation (or both) due to psychosis	Aripiprazole	Placebo, other anti-psychotic medications - 2 types
Ostinelli[73]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	9	2010-2014	Patients with psychosis-induced aggression or agitation	Risperidone	Haloperidol, olanzapine, quetiapine, oxcarbazepine, valproic acid
Ostuzzi[74]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/5	7	1985-Unpublished	Adults (18 years and over) with cancer and depression	Antidepressants - 6 types	Placebo

Parker[75]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/5	2	2011-2013	Children and adults with active Crohn's disease	Naltrexone	Placebo
Pasquali[76]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	122	1972-2015	Patients with unresectable lymph node metastasis and distant metastatic cutaneous melanoma	Single agent chemotherapy, polychemotherapy, temozolomide, dacarbazine, anti-CTLA4 monoclonal antibodies, other immunostimulating agents, MEK inhibitors	Tamoxifen, interferon-alpha, interleukin-2, interferon-alpha + interleukin-2, Bacille Calmette-Guérin (BCG), corynebacterium parvum, anti-PD1 monoclonal antibodies, sorafenib, elesclomo, anti-angiogenic drugs
Pike[77]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	4	2007-2017	Children (18 years and under) with asthma	Omalizumab, leukotriene receptor antagonists - 2 types, corticosteroids	Placebo
Rirash[78]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Not reported	Not reported/8	38	1982-2000	Patients with Raynaud's phenomenon	Calcium channel blockers	Placebo
Robertson[79]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	6	1995-2016	Adults (18 years and over) with unprovoked venous thromboembolism	Warfarin, aspirin, rivaroxaban	Placebo
Romero[80]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	7	1983-1999	Sexually active adults (16 years and over) with genital ulcers compatible with chancroid	Macrolide antibiotics - 3 types	Other antibiotics - 4 types
Rosumeck[81]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	15	1996-2016	People with scabies of all ages and either sex	Ivermectin	Permethrin
Rüschen[82]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	7	1995-2012	Adults (18 years and over) undergoing intraocular surgery	Hyaluronidase	Local anaesthetic mixture (standard treatment)
Ruthirakuhan[83]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/5	21	1998-2017	People with Alzheimer's Disease	Methylphenidate, modafinil, cholinesterase inhibitors (ChEIs), atypical antipsychotics, antidepressants, mibampator, valproate, semagacestat	Placebo

Sankar[84]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/3	6	2011-2016	Preterm infants with retinopathy	Anti-vascular endothelial growth factor agents - 2 types	Cryo/laser therapy
Schumann[85]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/9	13	1990-2013	Adults (18 years and over) with cardiogenic shock or acute low cardiac output syndrome	Levosimendan, dobutamine, enoximone, epinephrine, norepinephrine-dobutamine, amrinone, dopexamine, dopamine, nitric oxid	Placebo, no treatment
Simancas-Racines[86]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	13[k]	1992-1994	People suffering from high altitude illness	Acetazolamide, ibuprofen, dexamethasone, oxygen, nitric oxide, gabapentin, magnesium sulphate, sumatriptan	Placebo, normal air, unspecified control, paracetamol
Smith[87]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/2	4	1998-2015	Adults and children with cystic fibrosis	Salmeterol, tiotropium	No treatment, placebo
Smith[88]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	70	1958-2017	Women in labour	Intramuscular or intravenous opioids - 16 types	Placebo, no treatment, intramuscular or intravenous opioids - 16 types
Soares-Weiser[89]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5[l]	24[m]	1971-2014	Adults with chronic psychiatric disorders	Alkaloids - 3 types, antidepressants - 3 types, levetiracetam, cyproheptadin, promethazine, buspiron, cognitive enhancers - 2 types, VMAT2 inhibitors, ethyleicosapentaenoic acid (ethyl-EPA), hormones - 3 types, lithium, ceruletide	Placebo
Squizzato[90]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/5	15	2001-2017	People with coronary disease, ischaemic cerebrovascular disease, peripheral arterial disease, or at high risk of atherothrombotic disease	Clopidrogel	Placebo, usual care (aspirin)
St George[91]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/7	123	1954-2017	Individuals undergoing dental procedures and volunteers who took part in simulated scenario studies	Articaine, articaine + epinephrine, lidocaine + epinephrine, bupivacaine + epinephrine, mepivacaine + epinephrine, mepivacaine + levonordefrin,	Local anaesthetics

										mepivacaine, prilocaine, prilocaine + felypressin, prilocaine + epinephrine	
Stern[92]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	17	1972-2015	Adults and children with pneumonia	Corticosteroids - 7 types	Placebo, usual care
Sturman[93]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/3	4	1995-2013	Children and adolescents (18 years or under) with autism spectrum disorder (ASD) or pervasive developmental disorder (PDD)	Methylphenidate	Placebo
Tammenmaa-Aho[94]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	14	1976-2014	Psychiatric patients with antipsychotic-induced tardive dyskinesia	Cholinergic drugs - 6 types	Placebo
Temmingh[95]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	2/4	8	2006-2014	Adults (17 years and over) with severe mental illness and co-occurring substance use disorder	Risperidone	Other antipsychotics - 5 types
Tenforde[96]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/7	13	1997-2018	Adults with HIV-associated cryptococcal meningitis	Antifungal induction therapies - 6 types	Network meta-analysis
Toews[97]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/7	103[n]	1977-2016	People admitted to intensive care units	H2 receptor antagonists, proton pump inhibitors, prostaglandin analogues, anticholinergics, antacids, sucralfate, teprenone, naloxone, bioflavonoids	H2 receptor antagonists, proton pump inhibitors, prostaglandin analogues, anticholinergics, antacids, sucralfate, teprenone, naloxone, bioflavonoids, placebo, no treatment, other medication (not defined)
Venekamp[98]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	1/4	3[o]	1992-1996	Children (16 years and under) with recurrent acute otitis media	Antibiotics - 3 types	Grommets
Vermeij[99]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	8	1998-2016	Individuals who had an ischemic or hemorrhagic stroke	Preventive antibiotics	Placebo, standard care

Vietto[100]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	33	1983-Unpublished	Patients with critical limb ischaemia unsuitable for rescue or reconstructive intervention	Prostanoids - 7 types	Placebo, other active drugs - 4 types
Wall[101]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/5	5	1995-2014	Patients with acute bacterial meningitis	Glycerol	Treatment as usual
Weibel[102]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	3/10	68	1985-2017	Adult patients (over 18 years) undergoing any elective or urgent surgical procedure under general anaesthesia	Lidocaine	Placebo, no treatment, thoracic epidural analgesia - 3 types
Wright[103]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/3	24	1966-2008	Adult patients with primary hypertension	Thiazides, beta-blockers, angiotensin-converting-enzyme inhibitors, calcium channel blockers	Placebo
Xiao[104]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/4	2	2001-2003	Patients with focal epilepsy that failed to respond to one or more antiepileptic drugs	Losigamone	Placebo
Zhang[105]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	No funding	0/5	3	2009-2015	Adult and elder patients with solid tumours	Thrombopoietin receptor agonists (TPO-RAs)	Placebo
Zhou[106]	2017	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Non-industry	0/6	5	2004-2014	Adults (18 years and over) with neuropathic pain	Oxcarbazepine	Placebo
Zonneveld[107]	2018	Cochrane Database of Systematic Reviews	6.8	Medicine, General & Internal	Not reported	0/7	11	1970-2017	Adult patients with an ischaemic stroke, haemorrhagic stroke or transient ischaemic attack	Blood pressure-lowering drugs (BPLDs) - 5 types	Placebo, no treatment
General Medicine (n = 33)											
López-López[108]	2017	BMJ	23.6	Medicine, General & Internal	Non-industry	018	23	1989-2014	Adults with non-valvular atrial fibrillation	Direct acting oral anticoagulants - 5 types, vitamin K antagonists, antiplatelet agents	Network Meta-analysis
Wang[109]	2018	BMJ Open	2.4	Medicine, General & Internal	Non-industry	0/8	14	1977-2017	Children and adults with uncomplicated skin abscesses	Antibiotics - 10 types	No treatment, other antibiotics - Network meta-analysis
Cipriani[110]	2018	Lancet	53.3	Medicine, General & Internal	Non-industry	4/18	522	1979-Unpublished	Adults (18 years and over) with major depressive disorder	Antidepressants - 21 types	Placebo - Network meta-analysis

Chen[111]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/3	9	2009-2017	Patients with sepsis	Statins - 3 types	Placebo
Ding[112]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/6	6	2014-2017	Patients with hormone receptor-positive or human epidermal growth factor receptor 2 negative advanced breast cancer	Cyclin-dependent kinases 4/6 inhibitors - 3 types	Placebo
Guo[113]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/8	5	2004-2017	Adults undergoing total knee arthroplasty (TKA)	Tranexamic acid (TXA)	Placebo, no treatment
Han[114]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/7	18	2007-2016	Patients with myocardial infarction	Statins - 3 types	Placebo
Hu[115]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/5	4	2010-2016	Patients with acute coronary syndrome, percutaneous coronary intervention, or coronary stents given combination therapy with aspirin and clopidogrel	Proton pump inhibitors	Placebo
Huang[116]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/5	18	2010-2015	Patients with pterygium or glaucoma	Antivascular endothelial growth factor agents - 3 included	Placebo, sham
Jiang[117]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/5	13	2010-2017	Patients with diabetic peripheral neuropathy	Fasudil + methylcobalamin or lipoic acid	Methylcobalamin or lipoic acid alone
Jiang[118]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/4	15	2011-2016	Adult women with pathologically confirmed epithelial ovarian cancer	Antiangiogenic therapy (7 included) alone or combined with chemotherapy	Placebo or chemotherapy alone
Khan[119]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/8	7	2015-2017	Patients with advanced non-small cell lung cancer	Immune checkpoint inhibitors: anti-PD1/PD-L1 therapies - 3 types	Chemotherapy - 6 regimens
Liang[120]	2017	Medicine	2.0	Medicine, General & Internal	No funding	0/4	3	2016-2017	Patients undergoing total knee or hip arthroplasty	Acetaminophen	Normal saline or placebo
Liu[121]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/7	5	1999-2007	Adults with social anxiety disorder	Fluvoxamine	Placebo
Lor[122]	2017	Medicine	2.0	Medicine, General & Internal	No funding	0/8	10	1999-2015	Children and adults requiring nasogastric intubation	Lidocaine	Normal saline, K-Y lubricant gel, or no treatment
Wang[123]	2017	Medicine	2.0	Medicine, General & Internal	No funding	0/2	4	2015-2017	Adults with intertrochanteric fractures preparing for internal fixation	Tranexamic acid	Placebo, no treatment

									(dynamic hip screws, proximal femoral nail antirotations)	
Wang[124]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/5	18	2001-2016	Patients with hepatorenal syndrome	Terlipressin	Placebo, octreotide, norepinephrine, dopamine + furosemide, octreotide + midodrine
Wang[125]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/3	4	1993-2011	Patients undergoing bronchoscopy	Propofol	Midazolam
Wei[126]	2017	Medicine	2.0	Medicine, General & Internal	Not reported	0/2	14	2015-2017	Cancer patients	PD-1 inhibitors - 2 types	Chemotherapy, everolimus, ipilimumab
Woo[127]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/7	34[p]	1998-2017	Women of reproductive age with primary dysmenorrhea	Non-steroidal anti-inflammatory drugs, analgesics, oral contraceptives	Acupuncture
Xia[128]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/6	13	2004-2012	Patients who were administered xenon versus propofol as a general anesthetic	Xenon	Propofol
Yang[129]	2017	Medicine	2.0	Medicine, General & Internal	Not reported	0/4	7	2008-2016	Patients prepared for primary total hip arthroplasty (THA)	Glucocorticoids - 3 types	Placebo, no treatment
Ye[130]	2017	Medicine	2.0	Medicine, General & Internal	Not reported	0/3	5	2004-2016	Patients undergoing laparoscopic cholecystectomy	Ketamine	Placebo
Yu[131]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/6	8	2009-2017	Adults with acute heart failure	Serelaxin	Placebo
Yuan[132]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/9	31	1995-2016	Patients with locoregionally advanced nasopharyngeal carcinoma	Neoadjuvant chemotherapy regimens - 16 included	Network meta-analysis
Zhang[133]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/2	13	2001-2014	Adults with cerebral infarction	Aspirin, aspirin + dipyridamole, aspirin + clopidogrel, aspirin + warfarin, cilostazol, warfarin, and ticlopidine	Network meta-analysis
Zhang[134]	2018	Medicine	2.0	Medicine, General & Internal	Non-industry	0/8	10	1989-2006	Healthy volunteers and people with congestive heart failure	Histamine H2 antagonists - 5 types	Placebo, other conventional therapy medicines - 3 types
Zhao[135]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/7	5	2008-2017	Adult patients prepared to undergo laparoscopic cholecystectomy	Lidocaine	Placebo, saline
Zhao[136]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/3	4	2013-2017	Patients with a diagnosis of	Nefopam	Saline or usual care

Zhou[137]	2018	Medicine	2.0	Medicine, General & Internal	No funding	0/4	6	2013-2017	symptomatic cholelithiasis and acute cholecystitis who prepared for laparoscopic cholecystectomy Adults with end-staged knee osteoarthritis undergoing total knee arthroplasty	Dexamethasone	Placebo, no treatment
Zhu[138]	2018	Medicine	2.0	Medicine, General & Internal	Not reported	0/3	8	2002-2016	Patients who underwent total hip arthroplasty	Selective non-steroidal anti-inflammatory drugs (selective COX-2 inhibitors) - 4 types	Non-selective non-steroidal anti-inflammatory drugs (non-selective COX-2 inhibitors) - 4 types
Zhou[139]	2018	Postgraduate Medicine	2.1	Medicine, General & Internal	No funding	0/5	10	2007-2017	Patients with dyslipidemia	Anacetrapib	Placebo, placebo + usual care
Zhang[140]	2018	Revista da Associação Médica Brasileira	0.7	Medicine, General & Internal	Non-industry	Not reported/6	6	2012-2016	Patients with complicated intra-abdominal infections and complicated urinary tract infections	Ceftazidime-avibactam	Other antibiotics - 3 types, usual care
Specialty medicine (n = 100)											
Li[141]	2018	Acta Ophthalmologica	3.3	Ophthalmology	Non-industry	Not reported/3	72	1995-2015	Patients with primary open-angle glaucoma or ocular hypertension	Prostaglandin analogues, alpha-2 adrenergic agonists, beta-blockers, carbonic anhydrase inhibitors, miotics	Placebo - Network meta-analysis
Tarantini[142]	2018	American Heart Journal	4.2	Cardiac & Cardiovascular Systems	No funding	0/7	5	2007-2016	Patients with acute coronary syndrome	P2Y12 receptor inhibitors - 2 types	Clopidogrel
Wang[143]	2018	American Journal of Cardiovascular Drugs	2.7	Cardiac & Cardiovascular Systems; Pharmacology & Pharmacy	Non-industry	0/3	5	2014-2017	Adults aged 18–65 years with hyperlipidemia	Inclisiran	Placebo, other lipid-lowering agents - Network meta-analysis
Aman[144]	2018	Anaesthesia and Intensive Care	1.7	Anesthesiology; Critical Care Medicine	Non-industry	Not reported/5	10	1995-2015	Patients undergoing caesarean section under general anaesthesia	Opioid analgesics - 3 types, non-opioid analgesics - 5 types	Placebo
Li[145]	2018	Autoimmunity Reviews	8.7	Immunology	Non-industry	0/7	15	2004-2017	Patients with rheumatoid arthritis	Statins - 2 types	Conventional treatment, placebo + conventional treatment
Wang[146]	2018	Biomed Research International	2.6	Biotechnology & Applied Microbiology; Medicine, Research & Experimental	Non-industry	0/4	15	2006-2017	Patients with left ventricular dysfunction undergoing cardiac surgery	Levosimendan	Placebo, milrinone, dopamine, intra-aortic balloon pump (IABP), and standard inotropic agents

Veettil[147]	2017	BMC Cancer	3.3	Oncology	No funding	0/6	8	2003-2014	Adults with history of colorectal cancer or adenoma	Aspirin, non-aspirin nonsteroidal anti-inflammatory drugs (NSAIDs)	Placebo, no treatment
Bredemeier[148]	2018	BMC Cardiovascular Disorders	1.8	Cardiac & Cardiovascular Systems	No funding	0/9	91	1973-2017	Adults under treatment for any clinical condition	Purine-like xanthine oxidase inhibitors - 2 types, non-purine-like xanthine oxidase inhibitors - 2 types	Placebo, no treatment
Lyu[149]	2018	BMC Gastroenterology	2.7	Gastroenterology & Hepatology	Non-industry	0/5	22	2003-2017	Patients with post-endoscopic retrograde cholangiopancreatography pancreatitis (PEP)	Nonsteroidal anti-inflammatory drugs (NSAIDs) - 6 types	Placebo
Xing[150]	2017	BMC Infectious Diseases	2.6	Infectious Diseases	Non-industry	0/6	16	2001-2016	Patients with invasive fungal infections	Voriconazole	Other antifungal agents - 7 types
Kuo[151]	2018	BMC Musculoskeletal Disorders	2.0	Orthopedics; Rheumatology	No funding	0/4	3	2015-2017	Patients undergoing total shoulder arthroplasty or reverse shoulder arthroplasty	Tranexamic acid	Placebo
Beez[152]	2017	BMC Neurology	2.2	Clinical Neurology	No funding	0/3	110[q]	1983-2015	Patients with ischemic or hemorrhagic stroke, traumatic brain injury, or bacterial meningitis	Pharmacological agents for traumatic brain injury – 14 types, pharmacological agents for stroke – 23 types, pharmacological agents for bacterial meningitis – 1 type, pharmacological agents for intracerebral haemorrhage – 6 types, pharmacological agents for aneurysmal subarachnoid hemorrhage – 19 types	Unspecified control
Zeng[153]	2017	BMC Ophthalmology	1.8	Ophtamology	No funding	0/7	32	1990-2016	Patients with primary or recurrent pterygium undergoing surgical removal combined with toxic agents	Anti-fibrotic and anti-VEGF (vascular endothelial growth factor) medications - 3 types	Placebo - Network meta-analysis
Bundhun[154]	2017	BMC Pharmacology & Toxicology	1.9	Pharmacology & Pharmacy; Toxicology	Non-industry	0/3	4	2013-2016	Patients with acute coronary syndrome and patients who underwent percutaneous coronary intervention	Prasugrel	Ticagrelor

Zhang[155]	2017	BMC Psychiatry	2.4	Psychiatry	No funding	0/11	47	2003-2015	People with schizophrenia or related disorders that had a duration of treatment that was no more than 1 year	Antipsychotic drugs - 12 types	Placebo - Network meta-analysis
Zhang[156]	2017	BMC Pulmonary Medicine	2.7	Respiratory System	No funding	0/5	19	1996-2016	Patients with acute exacerbations of chronic obstructive pulmonary disease (COPD)	Antibiotics - 17 types	Placebo - Network meta-analysis
Zhang[157]	2017b	BMC Pulmonary Medicine	2.7	Respiratory System	Non-industry	0/4	25	1993-2016	Preterm infants	Corticosteroids	Placebo
Ramos-Esquivel[158]	2018	Breast Cancer	1.8	Oncology; Obstetrics & Gynecology	No funding	0/4	3	2016-2017	Post-menopausal women with metastatic HR-positive, HER2-negative breast cancer	Cyclin-dependent kinase 4/6 inhibitors - 3 types + aromatase inhibitor - 2 types	Aromatase inhibitors - 2 types
Zeng[159]	2018	British Journal of Sports Medicine	7.9	Sport Sciences	Non-industry	0/12	36	1979-2016	Patients with osteoarthritis in any joint	Non-steroidal anti-inflammatory drugs - 9 types	Network meta-analysis
Shui[160]	2018	Cellular Physiology and Biochemistry	5.5	Cell Biology; Physiology	Not reported	0/6	4	2015-2017	Patients with metastatic colorectal cancer	FOLFOXIRI (leucovorin + fluorouracil + oxaliplatin + irinotecan) + bevacizumab	FOLFOX (leucovorin + fluorouracil + oxaliplatin) + bevacizumab, FOLFIRI (leucovorin + fluorouracil + irinotecan) + bevacizumab
Rodrigo[161]	2018	Clinical Microbiology and Infection	5.4	Infectious Diseases; Microbiology	No funding	0/4	28	1996-2017	Patients with visceral leishmaniasis	Amphotericin B	Miltefosine, paromomycin, antimonial compounds - 2 types, pentamidine, sitamaquine
Wang[162]	2018	Clinical Rheumatology	2.1	Rheumatology	Non-industry	0/3	25	2002-2014	Patients with ankylosing spondylitis and non-radiographic axial spondyloarthritis	Tumor necrosis factor (TNF) inhibitors - 5 types, non-tumor necrosis factor (TNF) inhibitors - 2 types	Placebo, nonsteroidal anti-inflammatory drugs (NSAIDs), disease modifying antirheumatic drugs (DMARDs)
Hong[163]	2018	Critical Reviews in Oncology / Hematology	4.5	Oncology; Hematology	No funding	1/5	13	1996-2015	Adults with acute venous thromboembolism	Low molecular-weight heparin (LMWH) – 5 types, enoxaparin + vitamin K antagonists (VKA)	Rivaroxaban, unfractionated heparin (UFH)
de Carvalho[164]	2018	Diabetes Care	13.4	Endocrinology & Metabolism	Not reported[r]	0/3	20	2012-2017	Patients with familial or nonfamilial	Proprotein convertase subtilisin/kexin type 9 gene inhibitors (PCSK9i)	Placebo, placebo + other lipid-lowering therapy

									hypercholesterolemia		
Jaafar[165]	2018	Digestive Diseases and Sciences	2.8	Gastroenterology & Hepatology	Not reported	0/5	17	2000-2016	Adults (18 and over) with organic or functional dyspepsia	Rebamipide	Placebo, standard treatment, no treatment
Liu[166]	2018	Drug Delivery	3.1	Pharmacology & Pharmacy	Not reported	0/2	9	2002-2015	Patients with neurodegenerative movement disorders	Riluzole	Placebo
Liu[167]	2018	Drug Design, Development and Therapy	2.9	Chemistry, Medicinal; Pharmacology & Pharmacy	Not reported	0/5	9	2010-2016	Patients undergoing coronary angiography (CAG) or percutaneous coronary intervention (PCI)	Atorvastatin	Placebo
Sun[168]	2017	Drug Design, Development and Therapy	2.9	Chemistry, Medicinal; Pharmocology & Pharmacy	Not reported	0/5	9	2009-2016	Adults (≥ 18 years) undergoing spinal anesthesia	Dexmedetomidine	Fentanyl
Paraschakis[169]	2017	East Asian Archives of Psychiatry	None	Not applicable	Not reported	0/2	4	2005-2010	Adults with traumatic brain injuries and depressive disorders	Antidepressants - 2 types	Placebo
D'Souza[170]	2018	Emergency Medicine Journal	2.0	Emergency Medicine	No funding	0/8	4	2001-2016	Patients taking acute antiemetic drugs	Diphenhydramine	Placebo
Mei[171]	2016	European Journal of Gynecological Oncology	0.6	Oncology; Obstetrics & Gynecology	Not reported	Not reported/4	4	2004-2013	Adult women with epithelial ovarian cancer, fallopian tube cancer, or primary peritoneal cancer who have achieved complete clinical remission after debulking surgery and first-line chemotherapy	CA125-targeted antibody – 2 types	Placebo
Verberkt[172]	2017	European Respiratory Journal	12.2	Respiratory System	Non-industry	3/9[s]	35	1982-2015	Patients with chronic breathlessness	Opioids - 8 types	Placebo
Sridharan[173]	2018	Expert Opinion on Pharmacotherapy	3.5	Pharmacology & Pharmacy	No funding	0/3	51	1980-2016	Critically ill patients receiving stress ulcer prophylaxis (SUP)	Antacids, proton pump inhibitors (PPI), histamine-2 receptor antagonists (H2RA), and sucralfate	Placebo - Network meta-analysis
Habibi[174]	2018	Expert Review of Clinical Pharmacology	2.8	Pharmacology & Pharmacy	No funding	0/4	5	1999-2012	Patients undergoing coronary artery bypass surgery	Lidocaine	Placebo
Li[175]	2018	Expert Review of Clinical Pharmacology	2.8	Pharmacology & Pharmacy	Non-industry	0/4	14	2002-2017	Patients with stable angina pectoris requiring elective percutaneous	Nicorandil	Placebo (saline, isosorbide dinitrate), no treatment

Sangroongruangsri[176]	2018	Expert Review of Clinical Pharmacology	2.8	Pharmacology & Pharmacy	Non-industry	0/5	11	2010-2017	coronary intervention (PCI) Patients diagnosed with retinal vein occlusion	Anti-vascular endothelial growth factor (VEGF) drugs - 3 types	Sham injection - Network meta-analysis
Hickey[177]	2018	Foot and Ankle Surgery	1.5	Orthopedics	Not reported	0/7	7	1993-2015	Adult patients with foot or ankle trauma treated with below knee cast or splint immobilization	Low molecular weight heparin - 5 types	Placebo, no treatment
Zhao[178]	2018	Gastric Cancer	5.0	Oncology; Gastroenterology & Hepatology	Non-industry	0/9	16	2002-2017	Patients with advanced gastric cancer	Targeted agents - 11 types, targeted agents + chemotherapy	Placebo - Network meta-analysis
Khera[179]	2018	Gastroenterology	20.8	Gastroenterology & Hepatology	No funding	0/9	29	1998-2015	Obese and overweight adults (18 years and over)	Orlistat, loracaserin, naltrexone-bupropion, phentermine-topiramate, liraglutide	Placebo - Network meta-analysis
Li[180]	2018	Gynecologic Oncology	4.5	Oncology; Obstetrics & Gynecology	Non-industry	0/6	7	2005-2016	Patients with low-risk gestational trophoblastic neoplasia (LRGTN)	Methotrexate (MEX) based chemotherapy regimens, actinomycin-d (Act-D) based chemotherapy regimens	Network meta-analysis
Zhuge[181]	2018	Helicobacter	4.1	Gastroenterology & Hepatology; Microbiology	Non-industry	0/6	18	1999-2016	Patients with helicobacter pylori infection	Furazolidone	Other antibiotics - 7 types
Kim[182]	2017	Indian Journal of Cancer	0.7	Oncology	No funding	0/4	21	1993-2011	Adults at risk of developing cancer	Statins - 7 types	Placebo
Garg[183]	2018	Indian Journal of Gastroenterology	None	Not applicable	Not reported	0/4	6	2007-2016	Patients undergoing endoscopic retrograde cholangiopancreatography	Indomethacin	Placebo
Rosanova[184]	2017	Infectious Diseases	1.9	Infectious Diseases	Not reported	0/5	7	2002-2011	Immunosuppressed haematology-oncology patients	Voriconazole	Other antifungal agents or placebo
Yu[185]	2018	Inflammopharmacology	3.3	Immunology; Toxicology	Non-industry	0/6	3	2007-2016	Adults (17 years and over) diagnosed with acute gout	Prednisolone	Non-steroidal anti-infammatory drugs (NSAIDs) - 2 types
Kakkos[186]	2018	International Angiology	1.2	Peripheral Vascular Disease	Not reported	2/2	7	1982-2015	Patients with chronic venous disorders (CVD) or venous edema	Micronized purified flavonoid faction (Daflon)	Placebo
Ou[187]	2018	International Immunopharmacology	3.1	Immunology; Pharmacology & Pharmacy	No funding	Not reported/5	8	2014-2017	Adults with moderate-to-severe atopic dermatitis	Dupilumab	Placebo
Yin[188]	2018	International Immunopharmacology	3.1	Immunology; Pharmacology & Pharmacy	No funding	0/4	53	1984-2017	Children diagnosed with recurrent respiratory tract infections (RRTIs)	Broncho-Vaxom	Placebo, routine therapies

Zhu[189]	2018	International Journal of Clinical Oncology	2.6	Oncology	Non-industry	0/7	35	2005-2016	Cancer patients	Anti-EGFR monoclonal antibodies (EGFR-MoAbs)	Placebo, usual care
Liu[190]	2018	International Journal of Neuroscience	1.8	Neurosciences	Not reported	0/2	4	2007-2016	Patients with seizures	Lacosamide	Placebo
Coccolini[191]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/12	15	1993-2014	Patients with advanced gastric and esophago-gastric cancer	Neoadjuvant chemotherapy (with surgery)	No neoadjuvant chemotherapy (only surgery)
Fan[192]	2018	International Journal of Surgery	2.7	Surgery	Non-industry	0/8	7	2005-2016	Patients with scheduled total knee arthroplasty	Dexamethasone	Placebo, no treatment ("nothing controlled multimodal analgesia method")
Li[193]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/5	6	2008-2017	Patients with a diagnosis of symptomatic cholelithiasis and acute cholecystitis who prepared for laparoscopic cholecystectomy	Lidocaine	Placebo, saline
Li[194]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/4	17	1998-2017	Patients undergoing anaesthesia as part of endoscopic retrograde cholangiopancreatography	Anaesthetic medications - 12 types	No drug - Network meta-analysis
Liu[195]	2018	International Journal of Surgery	2.7	Surgery	Non-industry	0/5	3[t]	2005-2017	Patients undergoing total knee arthroplasty or total hip arthroplasty	Tranexamic acid	Aminocaproic acid
Ran[196]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/5	5	2002-2016	Patients with symptomatic knee osteoarthritis	Hyaluronic acid	Methylprednisolone
Zhao[197]	2018	International Journal of Surgery	2.7	Surgery	No funding	0/3	4[u]	2010-2017	Patients with hepatocellular carcinoma	Anthracyclines	Platinum
Zhu[198]	2018	International Journal of Surgery	2.7	Surgery	Non-industry	0/5	6	2004-2017	Adult patients prepared for laparoscopic cholecystectomy	Ketamine	Saline
Wagner[199]	2018	Journal of Affective Disorders	3.8	Clinical Neurology; Psychiatry	Non-industry	Not reported/6	119	1990-Unpublished	Adults with major depressive disorder	Second generation antidepressants - 16 types	Placebo - Network meta-analysis
Hickman[200]	2018	Journal of Assisted Reproduction and Genetics	2.8	Genetics & Heredity; Obstetrics & Gynecology;	Not reported	0/5	10	2007-2016	Women with lymphoma, ovarian cancer, or breast	Gonadotropin-releasing hormone agonists (GnRHa) - 7 types	Standard treatment (chemotherapy only)

				Reproductive Biology					cancer undergoing chemotherapy		
Luo[201]	2018	Journal of Cancer Research and Clinical Oncology	3.3	Oncology	Non-industry	0/4	8	2015-2017	Patients with non-small-cell lung carcinoma	Programmed death 1 (PD-1)/programmed death ligand 1 (PD-L1) inhibitors - 3 types	Chemotherapy - 2 types
Wang[202]	2018	Journal of Cancer Research and Clinical Oncology	3.3	Oncology	Non-industry	0/5	26	2010-2017	Patients with metastatic castration-resistant prostate cancer	Targeted agents - 16 types	Placebo - Network meta-analysis
Wang[203]	2018	Journal of Cancer Research and Therapeutics	0.8	Oncology	No funding	0/4	35	1997-2011	Cancer patients with moderate to severe pain	Fentanyl	Morphine
Aboul-Hassan[204]	2017	Journal of Cardiac Surgery	1.2	Cardiac & Cardiovascular Systems; Surgery	No funding	0/8	12	1985-2016	Adults (18 years and over) undergoing any type of cardiac surgery	Aspirin	Placebo, discontinuation of aspirin greater than 7 days before surgery
Wang[205]	2018	Journal of Cardiovascular Surgery	1.2	Cardiac & Cardiovascular Systems; Surgery; Peripheral Vascular Disease	Not reported	0/6	5	1999-2010	Patients undergoing isolated coronary artery bypass graft (CABG) surgery	Statins - 3 types	No preoperative statin
Barrionuevo[206]	2018	Journal of Clinical Endocrinology and Metabolism	5.8	Endocrinology & Metabolism	Non-industry	0/8	32	1989-2016	Women with hirsutism	Antiandrogens, insulin sensitizers, estrogen-progestin oral contraceptives pills (OCPs), OCPs + antiandrogen, OCPs + insulin sensitizer, antiandrogen + insulin sensitizer	Placebo - Network meta-analysis
Cui[207]	2018	Journal of Clinical Pharmacy and Therapeutics	1.7	Pharmacology & Pharmacy	Not reported	0/6	23	1993-2014	Patients with type 2 diabetes	Statins - 6 types	Placebo - Network meta-analysis
Sawyer[208]	2018	Journal of Dermatological Treatment	2.1	Dermatology	Industry	6/6[v]	54	2001-2016	Adults with moderate-to-severe chronic plaque-type psoriasis	Apremilast, biological therapies - 7 types	Placebo - Network meta-analysis
Markey[209]	2018	Journal of Emergency Medicine	1.2	Emergency Medicine	Not reported	Not reported/3	11	1989-2004	Patients with onset of atrial fibrillation (AF) within 48 h, who were hemodynamically stable and without evidence of acute coronary syndrome,	Flecainide	Placebo, verapamil, and other active anti-dysrhythmics

									congestive heart failure, or structural heart disease		
Szabó[210]	2017	Journal of Gastrointestinal and Liver Diseases	2.0	Gastroenterology & Hepatology	Not reported	0/15	10[w]	2009-2016	Adult patients (18 years and over) taking low-dose aspirin for a minimum of 2 weeks	Proton-pump inhibitors (PPIs) - 5 types	Histamine-2 receptor antagonists (H2RAs) - 2 types
Su[211]	2018	Journal of Immunology Research	3.3	Immunology	Non-industry	0/6	15	2011-2017	Patients with histologically confirmed solid cancer	Immune checkpoint inhibitors (ICIs) - 5 types	Placebo or chemotherapy
Chen[212]	2018	Journal of Interventional Cardiac Electrophysiology	1.5	Cardiac & Cardiovascular Systems	Non-industry	0/9	8	2006-2017	Patients with persistent atrial fibrillation	Antiarrhythmic drugs	Catheter ablation
Chen[213]	2017	Journal of Orthopaedic Surgery and Research	1.6	Orthopedics	No funding	0/4	6	2008-2014	Patients undergoing knee arthroscopy	Midazolam	Placebo
Li[214]	2018	Journal of Orthopaedic Surgery and Research	1.6	Orthopedics	Not reported	0/5	3[x]	2002-2017	Patients undergoing a primary total hip or knee arthroplasty	Aminocaproic acid	Placebo or no treatment
Luo[215]	2018	Journal of Orthopaedic Surgery and Research	1.6	Orthopedics	Not reported	0/4	3[y]	2002-2017	Patients treated with spine surgery	Tranexamic acid	Control (not specified)
Ma[216]	2018	Journal of Orthopaedic Surgery and Research	1.6	Orthopedics	No funding	0/4	4	1991-2015	Patients who underwent hip surgery	Naproxen	Placebo
He[217]	2018	Journal of Psychiatric Research	4.0	Psychiatry	Non-industry	0/8	22	2009-2015	Patients with a primary diagnosis of major depressive disorder (MDD)	Vortioxetine, levomilnacipran, vilazodone	Placebo
Wang[218]	2018	Journal of Stroke & Cerebrovascular Diseases	1.6	Neurosciences; Peripheral Vascular Disease	Non-industry	4/8	6	2003-2013	Asian patients with non-valvular atrial fibrillation (AF)	Warfarin, direct oral anticoagulants (DOACs) - 5 types	Network meta-analysis
Dhana[219]	2018	Journal of the American Academy of Dermatology	6.9	Dermatology	No funding	0/6	15	2000-2016	People with scabies	Permethrin	Ivermectin
Karatasakis[220]	2017	Journal of the American Heart Association	4.5	Cardiac & Cardiovascular Systems	Not reported	3/12[z]	35	2012-2017	Adults with hypercholesterolemia	Proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitors - 2 types	Placebo, ezetimibe, standard therapy

Kuo[221]	2018	Journal of the European Academy of Dermatology and Venereology	4.3	Dermatology	Non-industry	2/4	4	2012-2016	Adult patients (≥ 18) with moderate-to-severe plaque psoriasis	Tofacitinib	Placebo
Liu[222]	2016	Journal of Traditional Chinese Medicine	0.9	Integrative & Complementary Medicine	Non-industry	Not reported/6	16	2005-2015	Patients with rheumatoid arthritis	Methotrexate	Sinomenine
Zheng[223]	2017	Journal of Zhejiang University-SCIENCE B	1.8	Biochemistry & Molecular Biology; Biotechnology & Applied Microbiology; Medicine, Research & Experimental	Not reported	0/7	8	1990-2014	Adult patients undergoing cardiac surgery requiring aortic cross-clamp	Amiodarone, lidocaine	Placebo
Fregonese[224]	2018	Lancet Respiratory Medicine	21.5	Critical Care Medicine; Respiratory System	Non-industry	0/57	2	2010-2014	Patients with isoniazid-resistant, rifampicin-susceptible tuberculosis	Fluoroquinolone, streptomycin	Usual care (REZ = rifampicin, ethambutol, pyrazinamide)
Bornstein[225]	2018	Neurological Sciences	2.3	Clinical Neurology; Neurosciences	Not reported	Not reported/10	9	2010-Unpublished	Patients during early post-stroke period	Cerebrolysin	Placebo
Chen[226]	2018	Ophthalmic Research	1.8	Ophthalmology		0/4	3	2013-2015	Patients arranged for primary trabeculectomy	Bevacizumab, bevacizumab + antimetabolite - 2 types	Placebo, antimetabolite - 2 types
Han[227]	2017	Pain Physician	2.6	Anesthesiology; Clinical Neurology	No funding	0/4	10	2004-2016	Patients undergoing spinal surgery	Gabapentin	Placebo
Peng[228]	2017	Pain Physician	2.6	Anesthesiology; Clinical Neurology	No funding	0/5	18	2004-2016	Adult patients undergoing surgical procedures	Dexmedetomidine + opioids	Opioids
Feng[229]	2016	Pharmazie	1.0	Chemistry, Medicinal; Chemistry, Multidisciplinary; Pharmacology & Pharmacy	Not reported	0/7	2[aa]	2011-2012	Patients with tuberculosis	V-5 immunitor	Usual care (chemotherapy), usual care + placebo
Xu[230]	2016	Pharmazie	1.0	Chemistry, Medicinal; Chemistry, Multidisciplinary; Pharmacology & Pharmacy	Not reported	Not reported/8	12	1999-2014	Patients with non-cystic fibrosis bronchiectasis	Antibiotics - 7 types	Placebo, symptomatic treatment only
Palmeirim[231]	2018	PLOS Neglected Tropical Diseases	4.4	Parasitology; Tropical Medicine	Non-industry	0/9	14[bb]	1997-2015	Patients infected with soil transmitted helminths	Albendazole + ivermectin	Albendazole, ivermectin

Furukawa[232]	2018	Psychotherapy and Psychosomatics	13.1	Psychiatry; Psychology	Non-industry	2/11	3	2000-2015	Adults with persistent depressive disorder (DSM-5), chronic major depression, recurrent major depression with incomplete interepisode recovery or dysthymia (DSM-IV), or any corresponding conditions	Antidepressants - 6 types, cognitive-behavioral analysis system of psychotherapy, combination of antidepressants and cognitive-behavioral analysis system of psychotherapy	Network meta-analysis
Liu[233]	2018	Renal Failure	1.4	Urology & Nephrology	Not reported	0/6	12	2006-2015	Adult patients with chronic kidney disease	Uric acid-lowering therapy - 2 types	Placebo, usual therapy, no treatment
Miravitlles[234]	2017	Respiratory Research	3.8	Respiratory System	Industry	3/4	10	2014-2016	Adults with a history of chronic obstructive pulmonary disease (COPD)	Tiotropium + olodaterol	Tiotropium or olodaterol as monotherapy, salmeterol + fluticasone
Wang[235]	2017	Respiratory Research	3.8	Respiratory System	Non-industry	1/7	6	2006-2016	Patients with intermittent or mild persistent asthma	Corticosteroids, fast-onset-acting β2-agonists	Corticosteroid + fast-onset-acting β2-agonist
Kawalec[236]	2018	Rheumatology International	2.0	Rheumatology	No funding	0/4	8	2011-2016	Adults (18 years and over) with moderate to severe psoriatic arthritis (PsA)	Tumor necrosis factor (antiTNF)-α inhibitors - 4 types	Placebo - Network meta-analysis
Malhotra[237]	2018	Stroke	6.2	Clinical Neurology; Peripheral Vascular Disease	Not reported	0/6	12	2009-2016	Adult patients (18 years and over) treated for the secondary prevention of cardiovascular, peripheral vascular, and cerebrovascular disease	Proton pump inhibitors (PPI) + thienopyridines	Thienopyridines - 2 types
Zhang[238]	2018	Surgical Laparoscopy Endoscopy & Percutaneous Techniques	1.0	Surgery	Not reported	0/3	5	1995-2018	Adults (18 and over) undergoing gastrointestinal endoscopy	Midazolam	Propofol
Yamashita[239]	2018	Thrombosis Research	2.8	Hematology; Peripheral Vascular Disease	No funding	3/7	6	2009-2014	Asian and non-Asian adults (18 years and older) with acute venous thromboembolism	Direct oral anticoagulants (DOACs) - 4 types	Vitamin K antagonists (VKAs), heparin
Zhang[240]	2018	Vaccine	3.3	Immunology; Medicine, Research & Experimental	No funding	1/6	13	1999-2014	HIV-positive people	Influenza vaccine, Placebo	Network meta-analysis

Multidisciplinary sciences (n = 10)											
Chen[241]	2018	Medical Science Monitor	1.9	Medicine, Research & Experimental	Non-industry	0/5	20[cc]	2000-2016	Patients with essential hypertension	Anti-hypertensive drugs - 8 types	Acupuncture
Arteagoitia[242]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	No funding	0/3	8	1989-2015	Adult patients (over 18 years old) that underwent the extraction of any tooth	Chlorhexidine	Placebo, standard treatment
Feng[243]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	No funding	0/4	9	2002-2009	Adults with osteoarthritis or rheumatoid arthritis of the knee or hip	Etoricoxib	Placebo, other non-steroidal anti-inflammatory drugs (NSAIDs) - 2 included
Kawakami[244]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	0/5	6	2007-2017	Pediatric surgical patients	Magnesium	Placebo, no treatment
Li[245]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	0/7	8	2007-2014	Adults (18 years and over) diagnosed with generalized anxiety disorder (GAD)	Duloxetine	Placebo
Lin[246]	2017	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	0/6	21	1992-2012	Patients with hypertension and chronic kidney disease stage 3 to 5 and dialysis	Calcium channel blockers	Angiotensin-converting enzyme inhibitors, angiotensin receptor blockers
Ling[247]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	Not reported/6	9	2003-2017	Adults (19 years and over) undergoing cardiac surgery	Dexmedetomidine	Propofol, morphine, placebo
Rohner[248]	2017	PLOS ONE	2.8	Multidisciplinary Sciences	Non-industry	2/7	94	1993-2014	Cancer patients	Erythropoiesis-stimulating agents	Usual care
Sethi[249]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	No funding	0/6	28	1986-2017	Patients with atrial fibrillation or atrial flutter	Digoxin	Placebo, no intervention, beta blockers, calcium antagonists, amiodarone
Wolf[250]	2018	PLOS ONE	2.8	Multidisciplinary Sciences	Industry	1/9	13	2002-2016	Post renal transplant patients	mTOR-inhibitors - 2 types	Calcineurin-inhibitors

[a]Only 3 studies reported that authors were employed by industry and therefore we included them as ties for the purposes of this table; [b]11/12 included RCTs had a drug arm; [c]33/38 included RCTs had a drug arm; [d]4/14 included RCTs had a drug arm; [e]One author reported pharmaceutical company employment; [f]9/11 included RCTs had a drug arm; [g]71/120 included studies were RCTs; [h]24/25 included studies were RCTs; [i]Meta-analysis funding sources reported as 'None, Other" we coded as no study funding; [j]10/27 included RCTs had a drug arm; [k]Flow chart indicates that 0 RCTs were included in the quantitative synthesis, but 2 RCTs were quantitatively synthesized and 13 were included; [l]Declarations of interest were provided for only 3 out of 5 meta-analysis authors; [m]24/31 included RCTs had a drug arm; [n]103/106 included RCTs had a drug arm; [o]3/5 included RCTs had a drug arm; [p]34/60 included RCTs had a drug arm; [q]110/123 included RCTs had an eligible drug arm; [r]Salary was reported under 'funding' but they did not specify whether there was any funding for the study itself; [s]ICMJE forms only provided for 5/9 authors; [t]3/4 included studies were RCTs; [u]4/11 included studies were RCTs; [v]Four authors reported financial ties with a pharmaceutical company and employment by Symmetron, a company that provides health economic research services to pharmaceutical companies, and two authors reported employment by a pharmaceutical company; [w]10/12 included studies were RCTs; [x]3/7 included studies were RCTs; [y]3/4 included studies were RCTs; [z] Of the 3 authors that reported financial ties, one also reported industry employment; [aa]2/4 included studies were RCTs; [bb]14/30 included studies were RCTs; [cc]20/30 included studies were RCTs with a drug arm

eTable2. – Detailed reporting of study funding sources (F), author-industry financial ties (T), and author-industry employment (E) form included RCTs

First Author	Year	Journal	Funding Sources of Included Trials Reported in Meta-analysis?	Author-Industry Financial Ties of Included Trials Reported in Meta-analysis?	Author-Industry Employment of Included Trials Reported in Meta-analysis?	Location Reported						
						Risk of Bias Text	Risk of Bias Figure or Table	Main Text, Other than Risk of Bias	Other in Main Document (Characteristics of Included Studies Table, other table, footnote)	Abstract	Lay summary	Online appendix
Cochrane Reviews (n = 107)												
Abdel-Rahman[1]	2018	Cochrane Database of Systematic Reviews	Full	No	No	F	F		F	F	F	
Adams[2]	2018	Cochrane Database of Systematic Reviews	Full	No	No	F		F	F			
Agabio[3]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No			F, T	F, T		F	
Al-Shahi Salman[4]	2018	Cochrane Database of Systematic Reviews	Partial	No	No			F	F			
Alabed[5]	2018	Cochrane Database of Systematic Reviews	Partial	No	Partial				F, E			
Allegretti[6]	2017	Cochrane Database of Systematic Reviews	Full	No	No	F	F			F	F	
Arechabala[7]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial	F	F, E	F, T	F, T, E		F	
Baandrup[8]	2018	Cochrane Database of Systematic Reviews	Full	Full	Partial	F	F	F	F, T, E		F	
Bala[9]	2018	Cochrane Database of Systematic Reviews	Full	No	No	F			F			
Barbato[10]	2018	Cochrane Database of Systematic Reviews	No	No	No							
Bergman[11]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No				F, T			
Bighelli[12]	2018	Cochrane Database of Systematic Reviews	Full	Full	Partial	F	F, T, E	F	F, T, E	F	F	
Birks[13]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No			F	F, T	F		
Boyapati[14]	2018	Cochrane Database of Systematic Reviews	No	No	No							
Brown[15]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F	F	F	F, T	F	F	
Bruins Slot[16]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F			
Bryan[17]	2017	Cochrane Database of Systematic Reviews	Partial	No	No				F			

Bryant-Smith[18]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Burry[19]	2018	Cochrane Database of Systematic Reviews	Full	No	No		F	F	F	
Campschroer[20]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T	
Candy[21]	2018	Cochrane Database of Systematic Reviews	Full	No	No			F	F	
Chiew[22]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Das[23]	2018	Cochrane Database of Systematic Reviews	Full	No	No			F	F	F
Demicheli[24]	2018	Cochrane Database of Systematic Reviews	Full[a]	Partial	Partial				F, T, E	
Demicheli[25]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Di Nisio[26]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No				F, T	
El-Sayeh[27]	2018	Cochrane Database of Systematic Reviews	Full	No	No	F			F	
Engelen[28]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Eshun-Wilson[29]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T	
Essali[30]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Everitt[31]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F, T	F, T	F	F, T	
Fanshawe[32]	2017	Cochrane Database of Systematic Reviews	No	No	No					
Franik[33]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No				F, T	
González[34]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Grabosch[35]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Graves[36]	2018	Cochrane Database of Systematic Reviews	Partial[b]	No	No				F	
Haas[37]	2018	Cochrane Database of Systematic Reviews	Full	Full	No			F, T	F, T	
Hakoum[38]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T	
Heras-Mosteiro[39]	2017	Cochrane Database of Systematic Reviews	Partial[c]	Partial[d]	Partial				F, T, E	
Janmaat[40]	2017	Cochrane Database of Systematic Reviews	No	No	No					
Jefferson[41]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Jung[42]	2017	Cochrane Database of Systematic Reviews	Full	Full	Partial			F, T	F, T, E	

Kaempfen[43]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Kahale[44]	2017	Cochrane Database of Systematic Reviews	Full	Full	Partial[e]				F, T, E	
Kahale[45]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No				F, T	
Kahale[46]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No				F, T	
Kapur[47]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Kelly[48]	2018	Cochrane Database of Systematic Reviews	Partial[f]	Partial	No		F		F, T	
Knightly[49]	2017	Cochrane Database of Systematic Reviews	Full	No	No				F	
Kopsaftis[50]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Lawrie[51]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial				F, T, E	
Leathersich[52]	2018	Cochrane Database of Systematic Reviews	Full	Full	No	F, T	F, T	F, T	F, T	
Lethaby[53]	2017	Cochrane Database of Systematic Reviews	Full	No	No			F	F	F
López-Briz[54]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
Marchant[55]	2018	Cochrane Database of Systematic Reviews	Partial	No	No				F	
Matar[56]	2018	Cochrane Database of Systematic Reviews	Full	No	No		F			
Matar[57]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T	
McNicol[58]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	
McTague[59]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Mhaskar[60]	2017	Cochrane Database of Systematic Reviews	Full	Full	Partial				F, T, E	
Milligan[61]	2018	Cochrane Database of Systematic Reviews	Partial[g]	No	No	F	F			
Monk[62]	2017	Cochrane Database of Systematic Reviews	Full	Full	No			F, T	F, T	
Montero[63]	2018	Cochrane Database of Systematic Reviews	Partial	No	No		F			
Mücke[64]	2018	Cochrane Database of Systematic Reviews	Full	Full	Partial			F, T	F, T, E	
Narula[65]	2018	Cochrane Database of Systematic Reviews	No	No	No					
Nevitt[66]	2017	Cochrane Database of Systematic Reviews	Partial	No	No			F	F	
Nevitt[67]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	

Norman[68]	2018	Cochrane Database of Systematic Reviews	Full	No	Partial			F	F, E		
Normansell[69]	2018	Cochrane Database of Systematic Reviews	Full	No[h]	No			F	F		
Novoa[70]	2018	Cochrane Database of Systematic Reviews	Full	Partial[h]	No	F	F		F, T	F	F
Ohlsson[71]	2017	Cochrane Database of Systematic Reviews	Partial	No	No		F		F		
Ostinelli[72]	2018	Cochrane Database of Systematic Reviews	Full	No	No		F	F			
Ostinelli[73]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F	F, T	F			
Ostuzzi[74]	2018	Cochrane Database of Systematic Reviews	Full	Partial	No	F	F, T	F			
Parker[75]	2018	Cochrane Database of Systematic Reviews	No	No	No						
Pasquali[76]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F, T	F, T	F		F	F
Pike[77]	2018	Cochrane Database of Systematic Reviews	Full	No	No			F	F		
Rirash[78]	2017	Cochrane Database of Systematic Reviews	No	No	No						
Robertson[79]	2017	Cochrane Database of Systematic Reviews	No	No	No						
Romero[80]	2017	Cochrane Database of Systematic Reviews	Full	No	No	F	F	F	F	F	F
Rosumeck[81]	2018	Cochrane Database of Systematic Reviews	Full	Full	No				F, T		
Rüschen[82]	2018	Cochrane Database of Systematic Reviews	Full	Full	No			F, T	F, T		
Ruthirakuhan[83]	2018	Cochrane Database of Systematic Reviews	Full	No	Partial			F	F, E		
Sankar[84]	2018	Cochrane Database of Systematic Reviews	No	No	No						
Schumann[85]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial	F, T		F	F, T, E	F, T	F
Simancas-Racines[86]	2018	Cochrane Database of Systematic Reviews	Full	Full	No	F	F	F	F, T		
Smith[87]	2017	Cochrane Database of Systematic Reviews	Full	Full	Full	F, T, E	F, T, E				
Smith[88]	2018	Cochrane Database of Systematic Reviews	Full	Full	No			F, T	F, T		
Soares-Weiser[89]	2018	Cochrane Database of Systematic Reviews	Partial	No	No				F		
Squizzato[90]	2017	Cochrane Database of Systematic Reviews	Full	Partial[i]	No	F	F, T	F		F	
St George[91]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial	F, T	F, T, E	F	F, T, E		
Stern[92]	2017	Cochrane Database of Systematic Reviews	Full	No	No			F	F		F

Sturman[93]	2017	Cochrane Database of Systematic Reviews	Full	Full	No	F, T	F, T	F, T			
Tammenmaa-Aho[94]	2018	Cochrane Database of Systematic Reviews	Partial	No	No				F		
Temmingh[95]	2018	Cochrane Database of Systematic Reviews	Full	Partial	Partial	F, T	F, T, E	F, T, E	F, T		
Tenforde[96]	2018	Cochrane Database of Systematic Reviews	Full	Full	No	F, T	F, T		F, T		
Toews[97]	2018	Cochrane Database of Systematic Reviews	Full	Full	Partial		F, E	F	F, T		
Venekamp[98]	2018	Cochrane Database of Systematic Reviews	Full	Full	No			F	F, T		
Vermeij[99]	2018	Cochrane Database of Systematic Reviews	No	No	No						
Vietto[100]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F	F	
Wall[101]	2018	Cochrane Database of Systematic Reviews	Full	Full	No	F, T	F	F	F		
Weibel[102]	2018	Cochrane Database of Systematic Reviews	Full	No	No			F	F		
Wright[103]	2018	Cochrane Database of Systematic Reviews	Partial	Partial	No	F	F, T				
Xiao[104]	2018	Cochrane Database of Systematic Reviews	Full	No	No				F		
Zhang[105]	2017	Cochrane Database of Systematic Reviews	Full	No	No	F	F	F	F	F	
Zhou[106]	2017	Cochrane Database of Systematic Reviews	Full	Full	No			F	F, T	F	
Zonneveld[107]	2018	Cochrane Database of Systematic Reviews	Partial[j]	No	No		F				
General Medicine (n = 33)											
López-López[108]	2017	BMJ	Full	No	No			F			F
Wang[109]	2018	BMJ Open	No	No	No						
Cipriani[110]	2018	Lancet	Full[k]	No	No			F			F
Chen[111]	2018	Medicine	No	No	No						
Ding[112]	2018	Medicine	No	No	No						
Guo[113]	2018	Medicine	No	No	No						
Han[114]	2018	Medicine	No	No	No						
Hu[115]	2018	Medicine	No	No	No						
Huang[116]	2018	Medicine	Full	Partial	No	F, T					
Jiang[117]	2018	Medicine	No	No	No						
Jiang[118]	2018	Medicine	No	No	No						
Khan[119]	2018	Medicine	No	No	No						
Liang[120]	2017	Medicine	No	No	No						
Liu[121]	2018	Medicine	Partial[l]	No	No			F			
Lor[122]	2017	Medicine	No	No	No						
Wang[123]	2017	Medicine	No	No	No						
Wang[124]	2018	Medicine	No	No	No						
Wang[125]	2018	Medicine	No	No	No						
Wei[126]	2017	Medicine	No	No	No						

Woo[127]	2018	Medicine	No	No	No		
Xia[128]	2018	Medicine	No	No	No		
Yang[129]	2017	Medicine	No	No	No		
Ye[130]	2017	Medicine	No	No	No		
Yu[131]	2018	Medicine	No	No	No		
Yuan[132]	2018	Medicine	No	No	No		
Zhang[133]	2018	Medicine	No	No	No		
Zhang[134]	2018	Medicine	No	No	No		
Zhao[135]	2018	Medicine	No	No	No		
Zhao[136]	2018	Medicine	No	No	No		
Zhou[137]	2018	Medicine	No	No	No		
Zhu[138]	2018	Medicine	No	No	No		
Zhou[139]	2018	Postgraduate Medicine	No	No	No		
Zhang[140]	2018	Revista da Associação Médica Brasileira	Full	Full[m]	No	F, T	
Specialty medicine (n = 100)							
Li[141]	2018	Acta Ophthalmologica	Full[n]	No	No	F	F
Tarantini[142]	2018	American Heart Journal	No	No	No		
Wang[143]	2018	American Journal of Cardiovascular Drugs	No	No	No		
Aman[144]	2018	Anaesthesia and Intensive Care	No	No	No		
Li[145]	2018	Autoimmunity Reviews	No	No	No		
Wang[146]	2018	Biomed Research International	No	No	No		
Veettil[147]	2017	BMC Cancer	No	No	No		
Bredemeier[148]	2018	BMC Cardiovascular Disorders	Full	No	No		F
Lyu[149]	2018	BMC Gastroenterology	No	No	No		
Xing[150]	2017	BMC Infectious Diseases	No	No	No		
Kuo[151]	2018	BMC Musculoskeletal Disorders	No	No	No		
Beez[152]	2017	BMC Neurology	No	No	No		
Zeng[153]	2017	BMC Ophthalmology	No	No	No		
Bundhun[154]	2017	BMC Pharmacology & Toxicology	No	No	No		
Zhang[155]	2017	BMC Psychiatry	No	No	No		
Zhang[156]	2017	BMC Pulmonary Medicine	No	No	No		
Zhang[157]	2017	BMC Pulmonary Medicine	Full	No	No		
Ramos-Esquivel[158]	2018	Breast Cancer	No	No	No		
Zeng[159]	2018	British Journal of Sports Medicine	Partial[o]	No	No	F	F

Shui[160]	2018	Cellular Physiology and Biochemistry	No	No	No			
Rodrigo[161]	2018	Clinical Microbiology and Infection	Partial	No	No			F
Wang[162]	2018	Clinical Rheumatology	No	No	No			
Hong[163]	2018	Critical Reviews in Oncology / Hematology	No	No	No			
de Carvalho[164]	2018	Diabetes Care	No	No	No			
Jaafar[165]	2018	Digestive Diseases and Sciences	No	No	No			
Liu[166]	2018	Drug Delivery	No	No	No			
Liu[167]	2018	Drug Design, Development and Therapy	No	No	No			
Sun[168]	2017	Drug Design, Development and Therapy	No	No	No			
Paraschakis[169]	2017	East Asian Archives of Psychiatry	No	No	No			
D'Souza[170]	2018	Emergency Medicine Journal	No	No	No			
Mei[171]	2016	European Journal of Gynecological Oncology	No	No	No			
Verberkt[172]	2017	European Respiratory Journal	No	No	No			
Sridharan[173]	2018	Expert Opinion on Pharmacotherapy	No	No	No			
Habibi[174]	2018	Expert Review of Clinical Pharmacology	No	No	No			
Li[175]	2018	Expert Review of Clinical Pharmacology	No	No	No			
Sangroongruangsri[176]	2018	Expert Review of Clinical Pharmacology	Full	No	No		F	
Hickey[177]	2018	Foot and Ankle Surgery	No	No	No			
Zhao[178]	2018	Gastric Cancer	Partial[P]	No	No	F	F	F
Khera[179]	2018	Gastroenterology	No	No	No			
Li[180]	2018	Gynecologic Oncology	No	No	No			
Zhuge[181]	2018	Helicobacter	No	No	No			
Kim[182]	2017	Indian Journal of Cancer	No	No	No			
Garg[183]	2018	Indian Journal of Gastroenterology	No	No	No			
Rosanova[184]	2017	Infectious Diseases	No	No	No			
Yu[185]	2018	Inflammopharmacology	No	No	No			

Kakkos[186]	2018	International Angiology	No	No	No			
Ou[187]	2018	International Immunopharmacology	Full	No	No		F	
Yin[188]	2018	International Immunopharmacology	No	No	No			
Zhu[189]	2018	International Journal of Clinical Oncology	No	No	No			
Liu[190]	2018	International Journal of Neuroscience	No	No	No			
Coccolini[191]	2018	International Journal of Surgery	No	No	No			
Fan[192]	2018	International Journal of Surgery	No	No	No			
Li[193]	2018	International Journal of Surgery	No	No	No			
Li[194]	2018	International Journal of Surgery	No	No	No			
Liu[195]	2018	International Journal of Surgery	No	No	No			
Ran[196]	2018	International Journal of Surgery	No[q]	No	No			
Zhao[197]	2018	International Journal of Surgery	No	No	No			
Zhu[198]	2018	International Journal of Surgery	No	No	No			
Wagner[199]	2018	Journal of Affective Disorders	Partial	No	No		F	
Hickman[200]	2018	Journal of Assisted Reproduction and Genetics	No	No	No			
Luo[201]	2018	Journal of Cancer Research and Clinical Oncology	No	No	No			
Wang[202]	2018	Journal of Cancer Research and Clinical Oncology	Partial[r]	No	No	F	F	
Wang[203]	2018	Journal of Cancer Research and Therapeutics	No	No	No			
Aboul-Hassan[204]	2017	Journal of Cardiac Surgery	No	No	No			
Wang[205]	2018	Journal of Cardiovascular Surgery	No	No	No			
Barrionuevo[206]	2018	Journal of Clinical Endocrinology and Metabolism	Full	No	No	F		F

Cui[207]	2018	Journal of Clinical Pharmacy and Therapeutics	Full[s]	No	No	F	
Sawyer[208]	2018	Journal of Dermatological Treatment	No	No	No		
Markey[209]	2018	Journal of Emergency Medicine	No	No	No		
Szabó[210]	2017	Journal of Gastrointestinal and Liver Diseases	No	No	No		
Su[211]	2018	Journal of Immunology Research	No	No	No		
Chen[212]	2018	Journal of Interventional Cardiac Electrophysiology	No	No	No		
Chen[213]	2017	Journal of Orthopaedic Surgery and Research	No	No	No		
Li[214]	2018	Journal of Orthopaedic Surgery and Research	No	No	No		
Luo[215]	2018	Journal of Orthopaedic Surgery and Research	No	No	No		
Ma[216]	2018	Journal of Orthopaedic Surgery and Research	No	No	No		
He[217]	2018	Journal of Psychiatric Research	Full	No	No		F
Wang[218]	2018	Journal of Stroke & Cerebrovascular Diseases	No	No	No		
Dhana[219]	2018	Journal of the American Academy of Dermatology	No	No	No		
Karatasakis[220]	2017	Journal of the American Heart Association	No	No	No		
Kuo[221]	2018	Journal of the European Academy of Dermatology and Venereology	Full	No	No		
Liu[222]	2016	Journal of Traditional Chinese Medicine	No	No	No		
Zheng[223]	2017	Journal of Zhejiang University-SCIENCE B	No	No	No		
Fregonese[224]	2018	Lancet Respiratory Medicine	No	No	No		
Bornstein[225]	2018	Neurological Sciences	No	No	No		
Chen[226]	2018	Ophthalmic Research	No	No	No		
Han[227]	2017	Pain Physician	No	No	No		
Peng[228]	2017	Pain Physician	No	No	No		

Feng[229]	2016	Pharmazie	No	No	No		
Xu[230]	2016	Pharmazie	No	No	No		
Palmeirim[231]	2018	PLOS Neglected Tropical Diseases	No	No	No		
Furukawa[232]	2018	Psychotherapy and Psychosomatics	No	No	No		
Liu[233]	2018	Renal Failure	No	No	No		
Miravitlles[234]	2017	Respiratory Research	Full	No	No		F
Wang[235]	2017	Respiratory Research	No	No	No		
Kawalec[236]	2018	Rheumatology International	No	No	No		
Malhotra[237]	2018	Stroke	No	No	No		
Zhang[238]	2018	Surgical Laparoscopy Endoscopy & Percutaneous Techniques	No	No	No		
Yamashita[239]	2018	Thrombosis Research	No	No	Partial	E	
Zhang[240]	2018	Vaccine	No	No	No		
Other (n = 10)							
Chen[241]	2018	Medical Science Monitor	No	No	No		
Arteagoitia[242]	2018	PLOS ONE	No	No	No		
Feng[243]	2018	PLOS ONE	No	No	No		
Kawakami[244]	2018	PLOS ONE	No	No	No		
Li[245]	2018	PLOS ONE	No	No	No		
Lin[246]	2017	PLOS ONE	No	No	No		
Ling[247]	2018	PLOS ONE	No	No	No		
Rohner[248]	2017	PLOS ONE	No	No	No		
Sethi[249]	2018	PLOS ONE	Partial	No	No	F	
Wolf[250]	2018	PLOS ONE	No	No	No		

[a]Funding sources categorized as government funded, industry funded, or mixed for most trials. Specific details about funding were reported for 2 trials and details on author ties and employment were reported for a single trial; [b]Authors reported extracting funding sources from included RCTs but funding sources are only reported for a single study; [c]Reported funding sources for all included studies except for one; [d]Reported author financial ties for all included studies except for 2; [e]Non-industry author employment reported for some included RCTs; [f]Funding sources and author ties reported for all included RCTs except one that was a conference abstract; [g]Funding sources only reported for a single RCT; [h]Authors reported whether or not included RCTs had decaled COI (yes, no) and, if yes, indicated the page of the original study the declaration could be found on. This was coded as partially reporting because the nature of these COI was not reported within the meta-analysis publication itself and it was unclear whether these were financial ties and whether they were with industry; [i]Non-industry author financial ties reported for some included RCTs; [j]A single RCT was reported as 'industry sponsored' with no specifics about the sponsor; [k]Authors coded studies as sponsored by industry or not, and any of author industry affiliation, industry funding, or data obtained from pharmaceutical company qualified an RCT as 'sponsored'; [l]Authors report that 'some trials had a high risk of reporting bias because they were sponsored by pharmaceutical companies' but do not specify which or even how many trials; [m]Authors reported that all included RCTs had authors with financial ties to industry but provided no further information; [n]Reported whether each included RCT was industry funded (yes or no) but provided no further information; [o]For some analyses the authors reported how many included RCTs were non-commercially funded and present results including only non-commercially funded trials, but do not provide further information on which trials were commercially funded; [p]Authors state 14 trials were industry-sponsored and reference figure 1 in the supplementary material where 14 studies were marked as high risk for other bias, but it is not explicitly specified what was considered as 'other bias'; [q]Authors considered RCT funding sources within 'other bias'. In their risk of bias assessment but did not report any specific information; [r]Authors report that most studies were funded by the pharmaceutical industry and refer readers to figure 2 (risk of bias figure), but the figure does not give any information about which RCTs; [s]Included RCTs were coded as having company funding (Yes/No).

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	N/A
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	3,4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5,6
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	6
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	6
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	6,7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	eMethods1
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	6-8
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	8-10
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	8-12
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	N/A
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	3, 10,11
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	10,11

PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	N/A
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	11
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	12, Figure 1
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	12, 13, 26, 27 (Table 1)
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	N/A
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	N/A
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	N/A
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	28 (Table 2)
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	15-17
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	17
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	15-17
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	19

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

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