Step 0: Defining the research question and eligibility criteria • Recommendation: Use an appropriate framework, such as population, intervention, comparator, outcome (PICO) framework, to define research question and eligibility criteria Step 1: Determining where to search Recommendation: As a minimum, search ClinicalTrials.gov and WHO ICTRP Recommendation: For some research questions, consider searching EU-CTIS, formerly EU-CTR. (drug trials) or regional registries (region-specific research questions) Step 2: Identifying key search concepts and deriving search terms • Recommendation: Identify one or two key concepts from PICO (or other appropriate framework) (step 0), typically population (P) and intervention (I). For each concept, list synonyms or alternative terms expressing same concept Step 3: Formulating search strategies • Recommendation: Focus search strategies on one or two concepts identified in step 2 and aim to maximise sensitivity while balancing against reasonable specificity • Recommendation: Adjust search strategies according to specific registry resource and familiarise yourself with search tools and rules of each • Recommendation: Test whether search strategy retrieves preidentified eligible studies (if possible) Recommendation: Apply filters (eg, by study type, participant age) only in exceptional circumstances (eg, where there are extremely limited resources or only a rough search is • Recommendation: Avoid limiting searches by recruitment status, since this field might not be up to date, and therefore eligible studies might be missed Step 4: Conducting the search, removing duplicate records, and preparing records for screening • Recommendation: Keep detailed records of all register searches, including date conducted, names of registers searched, interfaces used (basic, advanced), full search strings, and number of records retrieved from each • Recommendation: Download search records into your preferred software and remove duplicates Step 5: Title screening (optional) • Recommendation: If preliminary title screening is to be conducted, only exclude obviously irrelevant records Step 6: Full record screening • Recommendation: Screen full registration records at the source registry website • Recommendation: Screen all records in full at least once, and consider an independent second reviewer if resources allow • Recommendation: Screen records systematically using a hierarchical list of eligibility criteria, starting from the simplest (eg, study design, then population) and use the structured data fields on registers to expedite this process Step 7: Completing PRISMA flow diagram Recommendation: Complete PRISMA flow diagram, which includes records retrieved from trial register searches Step 8: Finalising eligible studies • Recommendation: If there are uncertainties about study eligibility, contact registrants for clarification, if feasible Step 9: Obtaining data then synthesising as applicable • Recommendation: Attempt to obtain unpublished results data for eligible studies by checking registers and repositories and contacting study registrants if needed Recommendation: Explore the potential impact of publication bias, selective outcome reporting, and data availability bias when there are missing results • Recommendation: Report register searches in accordance with the PRISMA 2020 statement and Step 11: Updating register searches • Recommendation: Update searches at an appropriate frequency, depending on available resources, the research question (slow v fast-moving field) and type of review (eg, annually for standard reviews, monthly for living reviews)

Figure 1: Steps and recommendations to search for registered studies

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