**Search methods for identification of studies**

We conducted electronic searches in four databases; 1) Medline and Medline In-process through pubmed 2) CINAHL through ebscohost platform 3) Cochrane Effective practice and organization of Care (EPOC) special register on wiley platform 4) PDQ-Evidence. For each database, the search strategy was developed by KN modifying the search strategy provided by *Bright et al* in their AHRQ report on CDSS systems.

With no limit on time periods, Medline was searched up to 2nd March 2018 using Medical Subject Headings (MeSH) for systematic reviews and meta-analyses of CDSSs.A search was also conducted on CINAHL up to 1st March 2018 using a series of Medical Headings (MH) for CDSSs but filtering out Medline publications. The Cochrane EPOC database was also searched up to the same date using a combination of search terms for systematic reviews and meta-analyses of CDSSs. An additional search was conducted on pdq-evidence.org to the same date for systematic reviews of CDSSs.

PDQ (“pretty darn quick”)-Evidence is a database that facilitates rapid access to the best available evidence for decisions about health systems. It includes systematic reviews, broad syntheses or reviews (including evidence-based policy briefs), primary studies included in systematic reviews and structured summaries of that evidence. (*insert reference)*. The search MeSH for each of these results is provided in the *Annex.*

The results were put through a title and abstract screening process by two independent reviewers; KN and RS to identify systematic reviews and meta-analyses that met the inclusion criteria. Disagreements between the two were solved by consensus. Results were initially exported to endnote as aggregates from the respective database, then the endnote summary file of each database was sequentially imported onto abstrackr for the electronic abstract and title screening process.

Eligible selected publications underwent a full text review by KN who scrutinised the references to identify any publications that may have been missed by the search process. A senior reviewer, PD independently verified that the studies selected for inclusion by KN from the list generated in abstrackr met the eligibility criteria.

Methods

We wanted to examine how frequently updates of reviews on CDSSs targeting behaviour modification are conducted and what updates convey about the effectiveness of CDSSs. We also sought to give a precise summary estimate on the effectiveness of CDSSs in behaviour modification, taking into account the changes in technology and time. Our main objective is to ascertain whether this can be used to recommend that additional studies on the effectiveness of CDSSs for behaviour modification, new reviews or updates of existing reviews are unwarranted.

Furthermore, we also wanted to understand what outcomes are reported and how they are determined in existing systematic reviews. Over and above that, we wanted to understand how study quality is assessed especially due to methodological changes and the methods of analysis used for the outcomes by the reviewers.

To answer the above questions, a cumulative review and cumulative analysis was deemed appropriate. To be able to describe the frequency of updating, we focussed on reviews with 20 or more RCTs because we suspected they were more likely to have a meta-analysis conducted and thus likely to be updated frequently.

Our search and screening process resulted in 22 SR and MA publications with a combined total of more than 480 studies several of which were duplicates. We first exhaustively studied the reviews to understand the methodology – what outcomes were reported, how outcomes were determined, the method of analysis used in calculating the effect estimate and if any updates had been done on a publication. For any publications with updates available, we noted the date the update was conducted, surname and email of the corresponding author, reported outcomes, number of additional studies for each updated outcome, method of quality assessment and rating for each included study and also the reported method of assessment. To arrive at a concrete list of unduplicated studies, we abstracted the following information about constituent primary studies from each of the 22 systematic reviews; surname of the corresponding author, year and journal where publication was included from, outcome in the SR & MA under which the study was included, the effect estimates used to assess the outcome including the confidence intervals and p – values where availed. We used this information to remove duplicates and where appropriate, we conducted a cumulative estimate using the reported effect estimates from each study.