Appendix 1
Eligibility criteria

RESEARCH QUESTION & SEARCH PARAMETERS	**RESEARCH QUESTIONS:** *1. In older adults aged ≥ 65 years, what is the effectiveness of chronic disease management (CDM) tools addressing one or more high-burden chronic disease?* *2. Can the impact of such tools be optimized? For desired outcomes, what are the causal mechanisms and related triggering contexts?*	
	RESTRICTIONS: • Database searching 1990 and onwards (few multi-morbidity studies published prior to 1990) • No language restrictions on searching	
	DATA SOURCES: • <u>Databases</u>: MEDLINE, EMBASE, CINAHL, AgeLine, Cochrane clinical trials register, EPOC • <u>Grey literature</u>: Conference proceedings; Websites of relevant organizations • <u>Other</u>: Scanning reference lists of included studies; Contact with content, clinical and methodological experts	
	FILTERS: • <u>Hedges age filter</u>: search strategy for people aged ≥ 65 years	
SCREENING QUESTIONS	**INCLUSION CRITERIA**	**Exclusion criteria**
1. Does this study involve <u>older adults</u> *(age ≥ 65)?*	<u>**Population:**</u> Adults aged ≥ 65 years,	People aged < 65 years
2. Is this an <u>intervention</u> that integrates ≥ 1 high-burden chronic disease?	<u>Any chronic disease management (CDM) or quality improvement (QI) strategy:</u> • Tools that facilitate the ongoing, proactive and preventative support for optimal disease management in one or more high-burden chronic diseases affecting seniors; • Include one or more QI components defined according to the EPOC classification: o Care co-ordination o Patient self-management o Reminders o Education o Decision support o Facilitated relay o Organizational change • Targeted to any health care professional, patient, and/or caregiver; • Delivered in any format (paper-based, electronic, in-person). <u>High-burden chronic diseases considered:</u> **Cardiovascular** • Congestive Heart Failure • Coronary artery disease • Atrial fibrillation **Metabolic/Endocrine**	• Interventions investigating acute conditions • Interventions aimed at primary prevention of the chronic diseases (unless they are part of a secondary prevention strategy) o Studies investigating <u>drug(s)</u> as the intervention o Studies investigating <u>surgery</u> as the intervention

	• Diabetes **Neurological** • Stroke • Dementia (including Alzheimer's disease) **Respiratory** • Chronic obstructive pulmonary disease (COPD) **Musculoskeletal** • Arthritis • Osteoporosis **Mental health** • Depression **Other** • Urinary incontinence	
	Comparator: • Other CDM tools or QI strategies • Any control intervention or usual care strategy	
	Context: Any setting or context under which CDM tools and QI strategies are tested	
3. Does this study report on at east one of the outcomes?	**Outcomes – Systematic Review:** Patient-level: • *Primary outcomes*: Impact of CMD tools for improving disease-specific chronic disease management as reported by primary studies (i.e., if the CDM tool targets improving glycemic control as part of diabetes care, we would consider glycosylated hemoglobin or hemoglobin A1c level as the primary outcome of interest or any reported composite outcome such as a chronic disease management score). • *Secondary outcomes:* Quality of life, functional status (including cognitive, physical, social and psychological functioning), adherence to treatment, and treatment harms (e.g., hypoglycemia for diabetes). Since chronic disease affects men and women differently, we will also assess all outcomes by sex Provider-level: • Initiation of disease management activities according to guideline-informed evidence (e.g., diagnostic or laboratory investigations, prescription of medications) Process-level: • Feasibility and usability of the CDM tool reported in the study System-level: • Hospital admission, admission to long-term care, physician and emergency department visits, and costs	NA
	Outcomes – Realist review • An overall realist program theory that explains the finding of the effectiveness systematic review. • Explanatory theory will be used to explain the Context-Mechanism-Outcome (CMOC) configurations for each outcomes contained within the program theory(ies)	

| 4. Does this study use any of the following study designs?
 • RCTs
 • Cluster RCTs
 • Quasi-RCTs
 • Non-randomized controlled trials or controlled clinical trials
 • CBA
 • ITS
 • Prospective cohort
 • Retrospective cohort
 • Cross-sectional survey
 • Qualitative | **Study design:**
 <u>Experimental studies</u>
 • *Randomized controlled trial (RCT)*: An experiment in which groups of patients/participants are randomly assigned/allocated to two or more interventions or a control intervention or placebo
 • *Cluster RCT*: Same as RCT, but the unit of assignment is clinics/hospitals/organizations instead of patients/participants
 <u>Quasi experimental studies</u>**:**
 • *Quasi RCT*: Similar to an RCT, but methods of assignment is not random but intended to produce similar groups: date of birth, day of the week or month of the year, medical record number, or just allocating every alternate person
 • *Non-randomized controlled trial (i.e., Controlled clinical trial):* Similar to Quasi-RCT but not as rigorous
 • *Controlled before-after study (CBA)*: A study in which observations are made before and after the implementation of an intervention both in a group that receives the intervention or not (control group)
 • *Interrupted time series (ITS)*: A study that uses observations at multiple time points before (baseline) and after (intervention period) an intervention is implemented (the 'interruption').
 <u>Observational studies:</u>
 • *Prospective cohort study*: Investigator identifies exposed (e.g., taking drugs of interest) and non-exposed groups of patients (e.g., not taking drugs of interest), each a cohort, and then follows them forward in time (i.e., prospectively), monitoring the occurrence of the predicted outcome (e.g., death) – more rigorous than retro
 • *Retrospective cohort study*: Patients/participants are identified retrospectively from a database(s) and exposures are assessed
 • *Cross-sectional surveys*: Investigation of the question at one point in time – **NOTE**: we will consider for inclusion only those surveys that include a qualitative component
 <u>Qualitative studies</u>
 • *Any qualitative design (e.g., Interviews, Focus groups, Phenomenology)* | • <u>Case-control studies</u>: Patients who have developed the outcome (e.g., death) are identified and their past exposure to suspected aetiological factors is compared with that of controls who do not have the disease – this permits estimation of odds ratios (but not of attributable risks).
 • <u>Case reports</u>: A detailed description of a single case
 • <u>Editorials or letters</u>: These are opinion pieces
 • <u>Non-systematic or narrative reviews</u>: Non-systematic reviews typically written by one author that represents their opinion on a particular topic, which can be biased; they also tend not to be structured like a research study (i.e., no methods, results, etc)
 • <u>Basic science or animal studies</u>: Usually studies with fundamental functions in biology |