Appendix 3 (as supplied by the authors)
Codebook of definitions of quality improvement (QI) interventions and their elements

QI intervention category	**QI element** (adapted from EPOC criteria)	**Code**	**QI element definition; Example from included studies**
IMPLEMENTATION STRATEGIES: Interventions designed to bring about changes in healthcare organizations, the behaviour of healthcare professionals or the use of health services by healthcare recipients			
Interventions targeted at healthcare workers [and patients]	**Patient education** **Synonyms:** • Health counseling • Coaching • Training	ED-Pt	• Education for patients involving In-person education either individually or part of a group or community and through print or audio-visual educational materials; could be the sole component of a quality improvement (QI) strategy or part of a multifaceted QI strategy **Education:** Provision of information, education, counseling or training to any targets (e.g., providers, patients) in any format (i.e. in-person, printed, electronic, and/or telephone) about the disease process, signs and symptoms of heart failure (HF), diet, importance of weight monitoring, effects of medications, and importance of compliance with recommendations. It may also involve goal setting and promotion of self-management delivered by study nurses or pharmacists aimed at attaining realistic health behavioural changes
	Provider education **Synonyms:** • Health counseling • Coaching • Training	ED-Pr	• A variety of interventions including educational workshops, meetings, lectures (in-person or computer-based), educational outreach visits (by a trained representative who meets providers in their practice settings to disseminate information with the intent to change practice); distribution of educational materials (electronically or printed); Includes conferences, workshops, distribution of educational materials (written, video, other) and educational outreach visits • Instructions, and coaching provided for training purposes directed to study personnel (e.g., study nurse, research coordinator) aimed at optimizing the delivery of the intervention (e.g., how to use a TM device) or study conduct (training on study protocols)
	Patient reminder	REM-Pt	• Any effort directed by providers or research personnel toward patients that encourages them to follow-up with their provider, keep appointments, adhere to prescribed management strategy, and encourage use of self-management aid in any delivery format (e.g., printed, electronic, telephone) • To facilitate, encourage, remind, alert or prompt an action or request aimed at disease management (e.g., patient to follow-up with their provider; provider to prescribe a medication) to any target (e.g., providers, patients) delivered in any format (e.g., printed, electronic, telephone)
	Provider reminder	REM-Pr	• Any system intended to remind, prompt or alert a health care professional to facilitate disease management such as to recall patient-specific information (e.g. weight), prescribe treatment (e.g., drug; exercise), perform a specific task (e.g. blood pressure; care plan)
	Facilitated relay	FR	• The transfer of clinical information collected directly from patients and relayed to the provider. In instances where the data are not generally collected during a patient visit, or using some format other than the existing local medical record system (i.e., the telephone transmission of a patients' BP measurements from a specialists' office), EPOC uses the term "patient mediated" to describe such interventions • Feedback provided to health care professionals or providers (physicians, nurses, pharmacists), clinic or care team on the patient's: o Clinical data or clinical assessment (e.g., blood pressure, weight) o Clinical status (e.g., status changes, deterioration, care plan, decision making) o Post-discharge plan o Treatment (e.g., medication regimen) • Method of feedback on how clinical data, clinical status, post-discharge planning, and treatment is delivered could include different modes such as TM, in-person, printed
DELIVERY ARRANGEMENTS: Changes in how, when and where healthcare is organized and delivered, and who delivers healthcare.			
Coordination of care and management of care processes: Changes in how healthcare workers interact with each other or patients to ensure timely and efficient delivery of healthcare	**Case Management** **Synonyms:** • Care management • Collaborative care?	CM	• Introduction, modification or removal of strategies to improve the coordination and continuity of delivery of services i.e. improving the management of one "case" (patient) • Any system for coordinating diagnosis, treatment, or routine management of patients (e.g., arrangement for referrals, follow-up of test results) and other assessments (see below) by a person or multidisciplinary team in collaboration with or supplementary to, the primary care physician; the coordination of assessment, treatment, and referrals is typically done by a case manager (usually a nurse) • Coordinating an aspect of care. For example, if there is a depression care manager that coordinated that aspect of care **Assessments in CM may include:**

			• Assessment includes baseline clinical and health status evaluation (physical exam, cardiovascular risk stratification, HF investigations, medication review and analysis, cognitive functioning); diet, social functioning, home environment
			  ○ Patient assessment:
			  ▪ Clinical assessment (e.g., physical exam)
			  ▪ Medication assessment/review
			  ▪ Diet assessment
			  ▪ Environmental assessment
			  ▪ Assessment of social functioning
			  ○ Monitoring symptoms: Checking and recording weight, symptoms and signs of HF, heart rate and blood pressure, and reviewing labs
			  ○ Treatment: Any treatments in response to clinical assessments and/or monitoring, and could include tailored or optimized treatment: Best practice treatment that is tailored and individualized for the specific needs of the patient
			• CM activities and/or follow-up care could be done at the home, hospital, nursing home, outpatient, or over the telephone
			NOTE:
			• If the study called the intervention "case management", code it as such

	Disease management	DM	• Programs designed to manage or prevent a chronic condition using a systematic approach to care and potentially employing multiple ways of influencing patients, providers or the process of care • Any strategy to encourage follow-up to facilitate disease management by providers (e.g., providers referrals to obtain diagnosis and treatment) and facilitated contact (e.g., patients to follow-up with their provider) in any setting (e.g., home-based, outpatient) ○ Facilitated contact: Provision of contact information to patients by study personnel aimed at facilitating access and communication about disease management such as to answer any questions pertaining to worsening symptoms or about the intervention or to facilitate follow-up with their provider; all telephone-based follow-up can be classified here. • Follow-up reflects activities done in different settings (home; hospital; outpatient, telephone) delivered by providers or other HCPs to patients to facilitate DM • Assessments as part of DM (same as CM above) • DM activities and/or follow-up care could be done at the home, hospital, nursing home, outpatient, or over the telephone • DM could include psychosocial treatment **NOTE:** • If the study calls the intervention "disease management" we classified it as such unless it's clearly described as case management
	Care pathway management **Synonyms:** Management plans • Care plans • Personalized plans • Management flowcharts / pathways • Plans	CPM	• Care/disease pathway management (CPM/DPM) is an innovative approach to QI, which brings together experts to improve the quality of care, processes and patient experience. • An important step in the CPM/DPM approach to QI is the development of Disease Pathway Maps (pathways), which are flowcharts that provide a high-level overview of the care that patients should receive. • The pathways depict evidence-based best practice for a typical patient, which may include specific diagnostic procedures, referrals to specialists, and types of treatment. • They are intended to set care expectations based on best scientific evidence, but they are NOT intended to constitute medical advice or replace clinical judgment or to be an educational resource for patients
	Shared care **Synonyms:** • Consultations? • Co-management	SC	• Continuing collaborative clinical care between primary and specialist care physicians • Shared care can be nurse-led, where a specialized nurse practitioner is substituted for a primary care physician (Eijkelberg 2002) **NOTE:** • The main difference between "Shared care" and "Teams" is that clinicians in Shared care are not necessarily part of the team but they co-manage patients; "Teams" involves a multidisciplinary group of healthcare professionals working together as a team (e.g., a Geriatrician going to a family medicine clinic to see patients and discusses these patients with the family physician - however the Geriatrician is NOT part of the team) • As per Sharon, shared care implies they all work together - if they just provided consultation, may not be shared care
	Teams **Synonyms:** • Collaborative care • Multidisciplinary care/team	TEAM	• Creating and delivering care through a multidisciplinary team of healthcare workers • Providing care across a team • Care delivered by a multidisciplinary team of health care professionals aimed at integrating clinical management. • It can also involve adding new members to a treatment team (e.g., the addition of a diabetes nurse, a clinical pharmacist, or a nutritionist to a clinical practice), creating multidisciplinary teams within a practice, or revising the roles of existing team members

			(e.g., a clinic nurse is given a more active role in patient management), or the simple addition of more nurses, pharmacists, or physicians to a clinical setting
Who provides care and how the healthcare is managed	**Self-management** **Synonyms:** • Chronic disease self-management (CDSM) • Promotion of self-efficacy • Self-care	SM	• Shifting or promoting the responsibility for healthcare or disease management to the patient and/or their family • Any activity or aid to promote or develop skills in patient self-management: • Self-management aids such as weight scales, blood pressure cuff, pedometer, food diary, and to aid for adhering to prescribed medications such as a medication organizer and pill boxes can be considered as self-management, unless it's called "telemonitoring" or "telehealth" **NOTE:** • If the self-management aid involves a telehealth or telemonitoring device then call it "Telemonitoring" or "Telehealth" • If self-management is delivered as or part of an educational activity, then code as "Patient education" • Patients should be encouraged to use the data to set goals and change behaviour
Information and communication technology (ICT): ICT used by healthcare organizations to manage the delivery of healthcare, and to deliver healthcare	**Telehealth** **Synonyms** • Telecare • Telemedicine • Video visits	TH	• Exchange of healthcare information from one site to another via electronic communication • If authors call it "telehealth" than code it as such • Telehealth is often done in remote locations such as Northern Ontario because they don't have geriatricians, so care is delivered this way (but there isn't necessarily a peripheral device for monitoring vital signs, etc) **NOTE:** • If telehealth equipment also provides peripheral devices for monitoring vital signs, then call it telemonitoring

	Telemonitoring
	
	Synonyms:
	• Remote patient monitoring
		TM	• Electronic assistive technologies; Technology based methods to transfer healthcare information and support the delivery of care
			• Monitoring patients' signs, symptoms, medications, clinic visits; the transmission of laboratory values, medications, weight, self-care activities, adherence to treatment plan, modification of cardiac risk factors, next physician appointment; reinforcement of education and counseling; and to provide alerts or prompts. Monitoring can be remote:
			  ○ Computer-based: installed devices such as a computer-based system utilizing the internet to automatically transmit data,
			  ○ Non-computer-based: study personnel use the telephone (including voice response) or conduct in-person interviews to gather, monitor and interpret data
			NOTE:
			• It should say that the equipment provides a peripheral device for monitoring vital signs, etc, otherwise call it telehealth
			• There may be other ways of monitoring patients – these are captured via CM or DM

Broad intervention categories:

Coordination of care = it has to be predominantly from one or several of the following elements

- Case management (CM)
- Disease management (DM)
- Care pathways (CP)
- TEAMS (TEAM)
- Shared care
- Described as "collaborative" or "multidisciplinary"

Cognitive-behavioural = can include any element as long as at least one of them is related to some aspect of psychological or cognitive-behavioural

- Applies a behavior theory (e.g., theory of planned behavior)
- Psychological
- Behaviour program

Information and communication technology-based (ICT) = computer-based, eHealth or technology-based

- Electronic Clinical decision support system
- Computer-based counselling system
- Telemedicine = includes at least telemonitoring that is primarily telephone-based
  - Telemonitoring (TM); home telemonitoring
  - Telehealth
  - Telecare
  - Include in here even if computerized telemonitoring to distinguish from other technology-based

Self-management = has to be described as a self-management intervention, but could have other elements from other categories

- Self-management program
- Described as "patient empowerment"
- Medication self-management