Supplementary File 1: Definition of terms

Context – Context often refers to the 'setting' of programmes and interventions. The literature suggests that differences should be contextualised by considering four levels of the context: (1) the external level (e.g. the wider social, economic or cultural setting); (2) the institutional level (e.g. the organisational culture, local priorities); (3) the interpersonal level (e.g. communication and collaboration); and (4) the individual level (e.g. personal values or knowledge) [1, 2]. Contextual elements can be expected to influence the relationship between audits and their outcomes and, in some cases, the outcomes of audits will influence the context (for example, a culture change may be generated by the outcomes of an audit). Some contextual elements may be essential for the outcome to occur and, because of this, may be confused with mechanisms [3, 4]. To resolve this, this research considers contextual elements as factors that can influence an outcome but are external to the intervention [3].

Mechanism – Mechanisms have been defined as '...underlying entities, processes, or [social] structures which operate in particular contexts to generate outcomes of interest' [5, p.2]. Identifying the mechanisms will advance the synthesis beyond describing 'what happened' to theorizing on 'why' it happened and 'under what circumstances'.

Outcome – Outcomes can be either intended or unintended, can be proximal, intermediate or final, and result from the activation of different mechanisms in different contexts.

Outcome patterns – Also described as 'demi-regularities' in the realist literature [2, 6], these amount to semi-predictable patterns of outcomes. First, 'semi' because variations in patterns of behaviour can only be partly attributed to contextual differences and, second, because individuals will likely, but not always, make similar choices about the resources they will use.

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Circumstances – The phrase 'in what circumstances' is interpreted, in realist terms, as meaning 'in what contexts and by what mechanisms'. One has to examine the key contextual conditions that affect the mechanisms, identity in what way those conditions affect the mechanisms, and describe how the interaction between context and mechanisms affects the outcomes.

Context-Mechanism-Outcome (CMO) configurations – The resulting explanations for the observed outcome patterns are formulated as CMO configurations. A sample CMO configuration is as follows: a hospital with a supportive culture for quality improvement implements an audit (context). Subsequently, improvements in care quality are noted (outcome). The reason for this is the active participation of healthcare professionals in the audit process (mechanism).

Programme theory – Programme theory refers to an abstracted description and/or diagram that explains what a programme or intervention comprises of, and how and why it is expected to work. Programme theories are usually described as 'middle-range', meaning that they are 'specific enough to generate propositions that can be tested about aspects of the program but sufficiently abstract to be applicable to other programs' [5].

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