

Table 3: Content of instruments measuring CQI implementation and use ^{1,2,3,4}

	Apekey, 2011a [84]	Engels, 2006 [150]	Geboers, 2001a [121]	Solberg, 1998a [56]	Solberg, 2008 (1) [151]	Alemi, 2001 [99] *	Alexander, 2007 [152] *	Barsness, 1993 [89]	Duckers, 2008 (1) [93]	Gilman, 1995 [153] *	Gustafson, 2003 (1) [42]	Heifrich, 2009 (1) [95]	Lemieux-Charles, 2002 [35]	Meurer, 2002 (1) [108]	Olsson, 2003a (1) [154] *	Øvretveit, 2004 (1) [96] *	Schouten, 2010 (1) [94]	Westphal, 1997 (1) [155] *	Wilkens, 2006 [156]	
	primary care					other health care														
CQI implement process																				
Training in CQI principles, methods, tools			X																	
content, satisfaction with																		X		
coverage, timing, duration																				
Facilitation of CQI process																				
capability and influence of facilitator									X		X	X				X	X			
type of support provided and effectiveness						X		X			X						X		X	
commitment of facilitator			X		X			X		X	X						X			
Influencing roles																				
opinion leaders (support for CQI, QI or proposed change)												X				X	X			
champion					X						X									
Organisation-wide use of CQI methods																				
Continuous process improvement					X			X												
Structured problem solving, statistical methods and measurement					X			X												
Teams as major mechanism for improvement					X			X						X					X	
Empowerment to identify and act on opportunities for improvement					X			X						X						
Explicit focus on customers					X			X						X						
Use of CQI methods by QI teams																				
QI team formation, roles, meetings			X	X	X				X				X		X	X	X			
Setting overall aims			X	X	X								X		X	X	X			
Structured problem solving													X							
mapping existing process			X	X	X															
setting specific goals for process improvement		X	X	X	X										X	X	X			
selecting measures		X		X									X			X	X			
identifying sources of variation, root cause		X		X									X							
identifying and prioritising changes			X	X	X								X				X			
planning and testing changes on small scale		X	X		X								X				X			
Implementation & spread of changes				X	X															
Data collection and analysis during QI process																				
to characterise problem		X		X	X						X		X		X		X			
to identify sources & root cause of variation													X							
to identify potential changes/solutions				X							X							X		
to monitor the effect of changes		X		X	X						X		X			X	X			
Use of QI tools to collect, manage and analyse data			X																	
tools used	X				X				X					X					X	
extent/frequency of use	X						X													
Use of QI tools to facilitate group process			X																	
tools used	X								X				X						X	
extent/frequency of use	X						X							X						

¹ 'a' and 'b' are used to label instruments when multiple instruments are reported from a single paper (or two papers in the same year).

² (1) and (2) denote an instrument with content spanning more than one domain, (1) being the first entry and (2) the second entry.

³ * Denotes instruments excluded from Stage 4 - review of measurement properties (hence, they do not appear in Table 10 or in Additional files 5 and 6).

⁴ An 'X' may represent a single item, multiple items or an entire scale

Table 5: Content of instruments measuring organisational context in non healthcare settings ^{1,2,3,4,5}

	Ahire, 1996 [42] *	Armenakis, 2007 (1) [43]	Bouckennooghe, 2009 [44] *	Dabhikar, 2007 [45] *	Fisher, 2005 [46] *	Jansen, 2004 [47] *	Holt, 2007 (1) [48]	Taveira, 2003a [49] *	Taveira, 2003b [49] *	Zeitz, 1997a [50] *	Zeitz, 1997b [50] *
	non health care										
Capability											
Collective efficacy, skills, competency for CQI, change, improvement											
Capability development											
- history of using CQI methods or change	X										
- training in CQI principles, methods, tools								X			
- training & development (not QI specific)	X				X						
- capacity for learning, knowledge sharing				X	X						X
Commitment, goals, motivation											
Attitudinal indicators											
- beliefs about CQI					X						
- beliefs about change, improvement, quality					X				X	X	X
Behaviours indicating commitment											
- to CQI				X							
- to change, improvement or quality				X					X	X	X
Factors motivating use of CQI / change											
Tension for change											
Climate for QI or change											
Emphasis on process improvement				X	X			X		X	
Focus on customers' needs & expectations	X			X	X			X		X	
Staff involvement & participation	X		X	X	X			X		X	X
Staff empowerment for QI	X				X						X
Support for risk taking, experimentation, new ideas				X					X	X	X
Data & information for monitoring & improvement	X			X				X		X	
- timeliness, accuracy, relevance											
- comparison with similar organisations	X							X			
Alignment of QI with organisational plans & goals				X							
Integration of QI with daily work				X							
Recognition, rewards for QI or quality	X			X				X	X	X	X
Generic climate											
Cooperation, collaboration, coordination			X	X	X				X	X	
Communication, openness			X		X				X		X
Cohesion; shared goals, beliefs, values			X						X	X	X
Conflict					X						X
Role stress, overload, busyness, role clarity									X		
Job challenge, meaningfulness, autonomy									X		X
Internal & external networks				X							
Leader behaviours that influence climate			X						X		X
Culture									X-E		X-E
QI specific dimensions											X
Leadership for QI at all levels											
Sets clear goals & plans for quality, QI, change	X		X	X	X				X	X	
Commitment to QI (attitudes, behaviours)	X		X	X	X			X		X	
Enables involvement/empowerment			X		X						X
Seeks & responds to staff suggestions, feedback, views	X		X	X				X	X	X	X
Capability for QI and change			X							X	X
Resources, supporting systems, structures for QI											
Organisational readiness for change	X-E										
Commitment to imminent change		X	X			X	X				
Efficacy for behaviours arising from change		X									
Processes used to facilitate change			X								

¹ 'a' and 'b' are used to label instruments when multiple instruments are reported from a single paper (or two papers in the same year). ² (1) and (2) denote an instrument with content spanning more than one domain, (1) being the first entry and (2) the second entry. ³ * Denotes instruments excluded from Stage 4 - review of measurement properties (hence, they do not appear in Table 10 or in Additional files 5 and 6). ⁴ An 'X' may represent a single item, multiple items or an entire scale. ⁵ X-E denotes instruments labelled by developers as measures of 'readiness' or 'culture'.

Table 6: Content of instruments measuring individual level factors 1,2,3,4

	Calomeni, 1999 [51]	Geboers, 2001b (2) [4]	Lin, 2005 [52]	Solberg, 1998b [53]	Balding, 2005 [54] *	Cunningham, 2002 [55]	Fedor, 2006 [18] *	Francois, 2005 [56] *	Gould, 2002 [57] *	Herscovitch, 2002a [58]	Herscovitch, 2002b [58]	Hill, 2001 [59] *	Irvine, 1995 [60]	Irvine, 1999 [61]	Lehman, 2002 [26] *	Miller, 2000 [62] *	Ogrinc, 2004 [63] *	Oudejans, 2011 [32] *	Armenakis, 2007 (2) [43]	Campbell, 2006 [64] *	Coyle-Shapiro, 2003 [65]	Hanpachern, 1998 [66]	Holt, 2007 (2) [48]	Jansen, 2004 [47] *	Spreitzer, 1995 [67] *	Wanberg, 2000 [68] *	
	primary care				other health care												non health care										
Capability & empowerment for QI & change																											
Existing knowledge in CQI specific domains																											
- knowledge tests									X																		
- perceived knowledge				X				X																			
- prior training & participation				X																							
Efficacy, perceived competency, perceived skills																											
- beliefs about capability to perform CQI activities	X	X							X					X			X										
- beliefs about capability to contribute to change or improvement	X								X					X			X	X		X					X		
Empowerment, agency, self-determination, autonomy					X									X											X		
- self determination or autonomy to initiate improvement														X					X						X		
- perceived ability to influence quality, QI outcomes, change					X									X	X			X							X		
Commitment, goals, motivation			X																								
Attitudinal measures																											
- beliefs about need for change, improvement (discrepancy)				X		X	X		X	X		X								X	X		X	X		X	X
- agreement with the principles & methods of CQI		X		X	X				X			X															
- beliefs about consequences & outcomes of CQI, QI or change	X	X	X	X	X			X	X			X				X				X	X						
- value placed on expected outcomes of QI, change	X		X							X										X			X	X		X	X
- perceived responsibility for & pride in quality, QI	X				X			X								X		X			X						
- specific factors that motivate participation	X	X						X		X		X															
Behaviours & intentions indicating commitment																											
- intention to participate in future CQI activities				X																							
- intention to participate in or support change, improvement						X	X	X			X												X				
- adopting behaviours consistent with CQI														X			X										
- adopting behaviours that support change, improvement		X				X	X				X		X		X			X		X	X						
Individual readiness for change						X-E													X-E		X-E	X-E					
Commitment to specific, imminent change							X			X	X										X	X	X			X	X
- attitudes indicating commitment										X									X				X	X			X
- behaviours or intentions indicating support for change							X				X											X					
Efficacy for change implementation process & behaviours arising																			X				X				

¹ 'a' and 'b' are used to label instruments when multiple instruments are reported from a single paper (or two papers in the same year).

² (1) and (2) denote an instrument with content spanning more than one domain, (1) being the first entry and (2) the second entry.

³ * Denotes instruments excluded from Stage 4 - review of measurement properties (hence, they do not appear in Table 10 or in Additional files 5 and 6).

⁴ An 'X' may represent a single item, multiple items or an entire scale. X-E denotes instruments labelled by developers as measures of 'readiness'

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