



EQUIP Spring Meeting 2015



Quality Circles

a realist approach
DPhil Project

Department of Continuing Education, University of Oxford
Adrian Rohrbasser, MSc Evidence Based Health Care



Quality Circles (QC) in Primary Care

"Small Groups of Health Care Professionals who meet at regular intervals to increase and disseminate knowledge"

practice based small group, peer review group, problem based small group learning, practice based research group, quality circle, CME group, CPD group

«Complex»

(Medical Research Council, 2010; Campbell, 2007)

“QCs” - program System: “Primary Health Care”

- numerous and varying components
 - varying contexts
 - target different organizational levels
 - work is not constant, develop over time, probably showing a learning curve
 - take place inconsistently over an uncertain period of time
- Constantly changing:
 - Scientific progress
 - Social and cultural changes (migration etc.)
 - Economic context

Do QCs work?

“overall effect”

- Change in prescription habits
- Change in test ordering (doctors become more specific)
- Systematic Review (Zaher 2012)

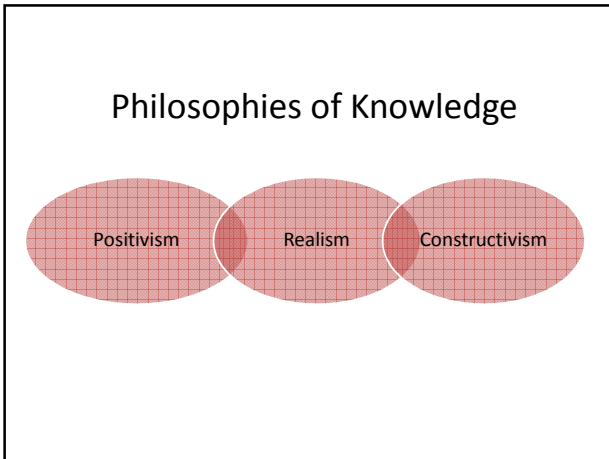
“components”

- Facilitation (Dogherty et al., 2010, Baskerville et al., 2012)
- Workshop (O'Brien, 2009, Forsetlund, 2009)
- Outreach visits (O'Brien, 2007)
- Audit and feedback (Ivers, 2012)
- Use of local opinion leaders (Rodgers, 2011)

! performance varies substantially !

Question

Why and How do QCs work ???



Research philosophy: **Realism**

Based on a belief that reality exists, independent to human thoughts and beliefs

- Social phenomena, external to or independent of individuals affect the way people perceive their world, whether they are aware of them or not
- Shares some philosophical aspects with positivism

Realism aims to explain knowledge through theories

PS: Social research is often a mixture between positivism and interpretivism, reflecting the stance of realism

Realist Approach

- **Systematic Review:**
Aggregation of data
- **Realist Review:**
Comparison of mechanisms *to develop theories* explaining the programme:
when, how and why do they work

“Mixed Methods Review”: parallel convergent design with a realist interpretation

Realist Interpretation of QCs

- Causal power lies in the **Mechanism**
- Whether the Mechanism is triggered depends on the **Context**
- The Mechanism generates the **Outcome!**

What is the use of theory (Funnel and Rogers 2011)

Description

- Describing a phenomenon or event e.g. 'This is what happened'

Explanation

- Looking at the reasons for a phenomenon or event e.g. 'This happened because of...'

Prediction

- Hypothesizing that a phenomenon or event will produce a particular outcome e.g. 'If you do this, then this will be the outcome'

Control

- Using the pattern between cause and effect to alter a situation to achieve the desired outcome e.g. 'When I choose this variation of the program, then the outcome will be so and so'.

Realist Review: concept

What works for whom under what circumstances?

- Identification of the basic logic (theory) behind QC
- Identification of CMO configurations and patterns
- Identification of Demi-Regularities
- confirmation or refining the theory

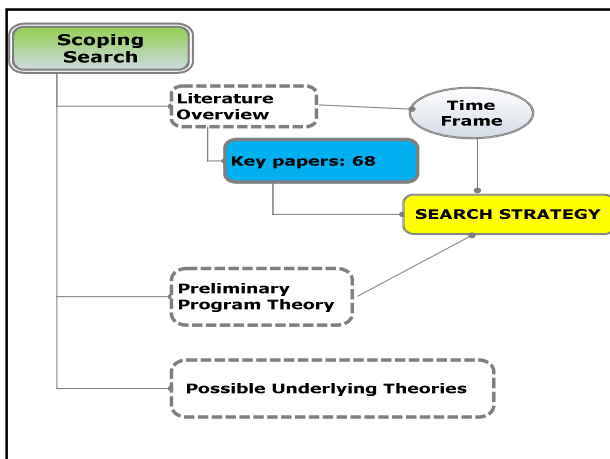
Steps of a Realist Review (Pawson, 2006)

- ✓ Identifying the review question
- ✓ Several phases of search
- ✓ Identification / Selection and Quality appraisal
- ✓ Extracting the data
- ❖ **Analysing the Data**
 - Looking for Explanations
 - Comparing and Contrasting Explanations
- ❖ Synthesis

FIRST Step:

- Preliminary Theory
- Focussing the research question

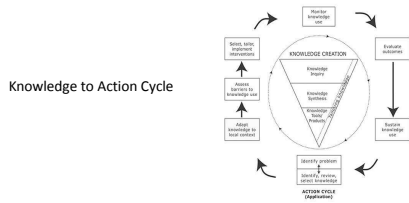


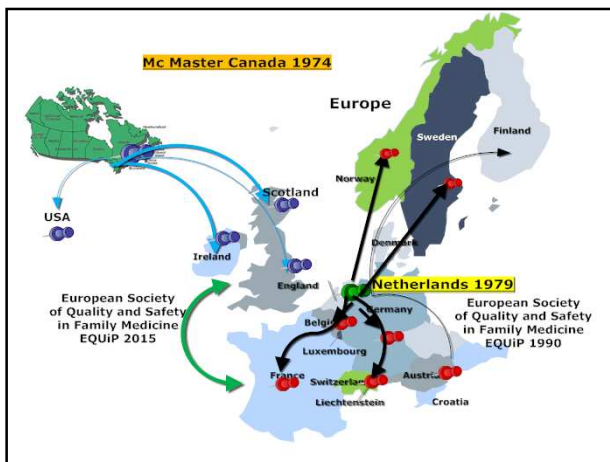


Time Frame: History

Origin and concept:

- combination of PBL and Principles of CME/CPD/QI
 - Quality Circles
- Two centres: *Mc Master 1974 Nijmegen 1979*





Underlying Theories

- Group and Facilitation Theories
- Theories about Knowledge in Groups
- Quality Improvement
- Theories concerning Knowledge / Evidence
- Theories about Action and Motivation
- Theories concerning the Setting

Stakeholders: 1st Interview

- help me understand the programme
- Stakeholders' view of underlying theories
- Stakeholders' expectations of the review

- ❖ FOCUS THE REVIEW QUESTIONS
- ❖ OFFER A PRELIMINARY PROGRAM THEORY

Questions important to stakeholders	Networks	SAFM	SAM
Programme Features	+++ All stakeholders seem to	+++ have the same understanding	+++ of the programme!
The users understanding of the programme theory	+	+	-
implementation chain	+++ All stakeholders want to	+++ Know more about variations	++ Of the programme
Programme is changed by decision makers	+	-	-
Contextual influences	+++ IMPORTANT	+++ TO	+++ ALL
shaped by previous or co existing service delivery	-	-	-
habituation, self-defeating or self-affirming effects	Cycle of QC	Cycle of QC	Cycle of QC

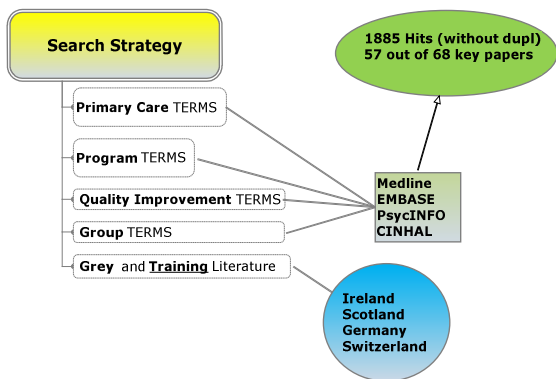
Questions

Why and How do QCs work ?

- How do configurations of components and their underlying mechanisms within Quality Circles influence their outcomes?
- How do contextual features surrounding Quality Circles improve individual and/or group performance?

SECOND Step: Search





THIRD Step: Identification / Selection and Quality appraisal



Relevant Information

- Use of sifting Questions for Identification
 - Suitable article are:
 - context of primary healthcare
 - structured small group work or facilitator
- Use of sifting Questions for Selection
 - Suitable articles are:
 - Information about evaluation OR
 - Qualitative Data about QC

Results

		Overlap	Discussion
JH	26		
ADR	51	25	
JH/ADR			40
SM	24		
ADR	43	20	49
			89

Credible and rigorous sources of information

Tool: MMAT (mixed method appraisal tool)

- ✓ Type of study
- ✓ Criteria of quality

Theory Coherence:

- ✓ Reporting of the theory
- ✓ Analysis according to stated theory
- ✓ Relation to other papers of the cluster

Concept	Description (Booth, Harris 2013)
Cluster searching	A systematic attempt, using a variety of search techniques, to identify papers or other research outputs that relate to a single study. This relation may be direct (i.e. "sibling" papers produced from the same study) or indirect ("kinship" studies that inform theoretical or contextual elements of the study of interest).
Key paper citation	A key work in a topic area, specifically in this context a report of a research study that acts as a retrieval point for related outputs that may help to explicate theory or to understand context.
Kinship study	A study subsequently identified as being related to an original study of interest. Kinship studies may share a common theoretical origin, links to a common antecedent study or a contemporaneous or spatial context.
Sibling paper	A paper subsequently identified as being an output from the same study as an original paper of interest.
Study cluster	A group of inter-related papers or other research outputs that relate to the same single research study.

Concept	Description (Booth, Harris 2013)
Cluster searching	A systematic attempt, using a variety of search techniques, to identify papers or other research outputs that relate to a single study. This relation may be direct (i.e. "sibling" papers produced from the same study) or indirect ("kinship" studies that inform theoretical or contextual elements of the study of interest).
Key paper citation	A key work in a topic area, specifically in this context a report of a research study that acts as a retrieval point for related outputs that may help to explicate theory or to understand context.
Kinship study	A study subsequently identified as being related to an original study of interest. Kinship studies may share a common theoretical origin, links to a common antecedent study or a contemporaneous or spatial context.
Sibling paper	A paper subsequently identified as being an output from the same study as an original paper of interest.
Study cluster	A group of inter-related papers or other research outputs that relate to the same single research study.

Paper Flow: 89 papers

Excluded

- Double reporting 4
- Q Criteria not fulfilled: 32
 - NOT QC! No relevance!
 - No evaluation
 - Description of the program without data
 - Partial evaluation
 - BG Paper («reviews»)

Additional Search

- «search for kinship»: 23
- Backward and forward citation «key papers»
 - Web of Science
 - Google Scholar
 - Contacts with stakeholders

All in all 76 papers

FOURTH Step: Data Extraction



Data Extraction Sheet

- **Author, Year**
- Country
- Study design:
 - setting
 - Number in group,
 - professional backgrounds
 - QC Frequency
 - Participation, voluntary, mandatory
 - Financial compensation, link to mandatory
 - **Group dynamics**
- **Didactic and QI technique**
 - Facilitator's role
 - Facilitator skills, training
 - Profession of facilitator
 - Autonomy of re process
 - Autonomy re issue choice
 - Written summary, minutes
 - QC purpose
 - Evaluation purpose
 - Evaluation tool
 - **Outcome, results**
 - **Mechanisms**

FIFTH Step: Data Analysis



1st Level of Analysis

- Author / Year: circumstances / contextual features
- Activities
- Feelings / activated resources / attitudes (M)
- Outcomes (quant OR qual)

C1-x M1 M2 M3 O1-x

Possible outcome chains and any variations

2nd Level of Analysis:

- Take a **key pearl citation** to use as a basis for propositional statements!
- Aim: Comparison of contexts, activities, possible M and Outcomes across studies

Concept	Description (Booth, Harris 2013)
<small>Cluster analysis</small>	<small>A systematic attempt, using a variety of search techniques, to identify papers or other research outputs that relate to a single study. This relation may be direct (i.e. "sibling" papers produced from the same study) or indirect ("kinship" studies that inherit theoretical or contextual elements of the study of interest).</small>
Key pearl citation	A key work in a topic area, specifically in this context a report of a research study that acts as a retrieval point for related outputs that may help to explicate theory or to understand context.
<small>kinship study</small>	<small>A study subsequently identified as being related to an original study of interest. Kinship studies may share a common theoretical origin, links to a common antecedent study or a contemporaneous or spatial context.</small>
<small>sibling paper</small>	<small>A paper subsequently identified as being an output from the same study as an original paper of interest.</small>
<small>study cluster</small>	<small>A group of inter-related papers or other research outputs that relate to the same single research study.</small>

Number	propositional statement: if...[activity].....then [process outcome] ... chain of reasoning (?)	Norway		Netherlands		
		Rich/Regstad	Froh/Selstad	Saborer	Engels	Verstapp
	<u>Index paper Herbert 2004 (RCT) and Armon qualitative data</u>					
	(Introduction and explanation of the Q model) support in the use of the model AND involve all staff, easy to handle projects, then [easier to use] [motivation higher]			Y	Y	
	ONE MEETING IS NOT ENOUGH					
	if the group [decides on the topic] [identifies the problem], then.....[sense of ownership]...[people feel actively involved]				Y	
	if [case based discussion] is [well facilitated], then.....[feeling of trust within the group increases]...[supportive and understanding culture]...[sense of collegiality]					
	if not facilitated or facilitated by outsider / limited credibility, then [will not fire]	Y	Y	Y		Y
real life	if personal [experiences are shared] in a safe environment - eating sandwiches, drinking tea, ... [collegiality and supportive understanding increases], [active participation increases]... [medical issues seem relevant to participants] ... [increased self esteem]... [people feel encouraged to reflect on what and how they do it]... [stimulate / encourage participant to tell]... [knowledge exchange takes place] ... [prone to accept different perspectives]	Y	Y	Y		
	if people [make contact with colleagues], then a feeling of [joy in professional life] arises					
	if [discussion of reports in the group] in a safe environment, then [people feel encouraged to reflect on what and how they do it]	Y				
	(pairwise talk) then [social influence of colleagues and respected individuals]					Y
	(sharing personal experiences) then [growth in professional role]...then [protection against burnout]					
	if personal [experiences are shared] in a safe environment, then [training of communication skills] is possible					
	if [discussion is lively, well facilitated] [consensus finding], ... [participants feel and are more active]					Y

?Developing a theory?

- List of process outcomes
- List of activities
- Look for Mechanisms
- Study contexts

Each summary statement is a mini theory

?Developing a program theory? - «process outcome chain»

- Group meeting takes place
- regular group meetings take place
- Active participation
- job satisfaction improved
- protection against burnout
- safe environment of trust
- supportive and understanding culture / sense of collegiality / feeling of trust
- enjoyment in activity increases
- reflective thinking on how and why something is done
- learning environment
- awareness of uncertainty and ability to reflect
- increased knowledge about applicability of data in own practice
- implementation of new knowledge is considered
- increased knowledge about applicability of data in own practice
- growth in professional role
- training of communication skills
- consensus finding
- willingness to change
- commitment to change
- recognition of relevant necessary changes
- application in work environment
- implementation of new Knowledge / CME / CPD / QI
- people formulate possible improvements and decide on continuous action plan

Process outcome: Interactive learning and personal reflection on action

Activities: clinical cases are presented and different opinions discussed. The facilitator involves all QC members with an appropriate balance between comfort and challenge, depending on what level of trust the group has reached.

Mechanisms: "Reasoning"

M1 Previous knowledge is activated through case discussions.

M2 The group supports and rewards exploratory behaviour by giving the feeling of competency, which enables participants to describe what they actually do.

M3 People are motivated to imitate those peers who are more competent and then receive positive feedback.

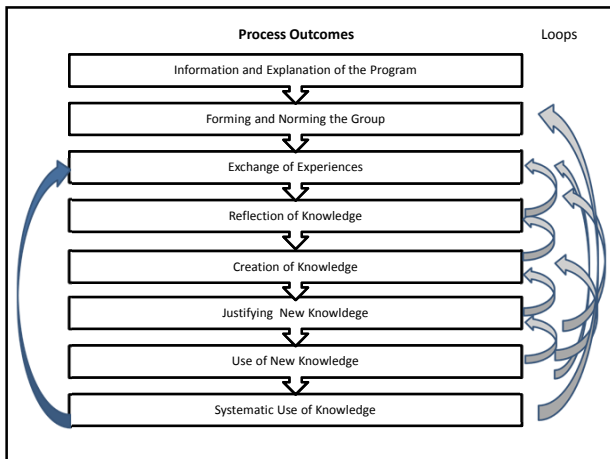
Summary statement:

Case discussions as a basis of challenging each other's position enable the group to reflect on their practice and to learn from each other in a cooperative atmosphere of mutual understanding.

If clinical cases are presented and different opinions discussed

then interactive learning and personal reflection on action take place

provided that the facilitator involves all QC members with an appropriate balance between comfort and challenge, depending on what level of trust the group has reached.



Results: Reflection of Knowledge

Knowledge:

- Knowledge is creational and based on distinction making in observation
- Knowledge is history dependent and thus is context sensitive
- Knowledge is not directly transferable

Knowledge:

- Knowledge is representation of a pre-given reality
- Knowledge is unchanging, universal and objective
- Knowledge is directly transferable

Participants create their own version of new knowledge (Duality of Knowledge, Hildreth 2002)

Results: Reflection of Knowledge

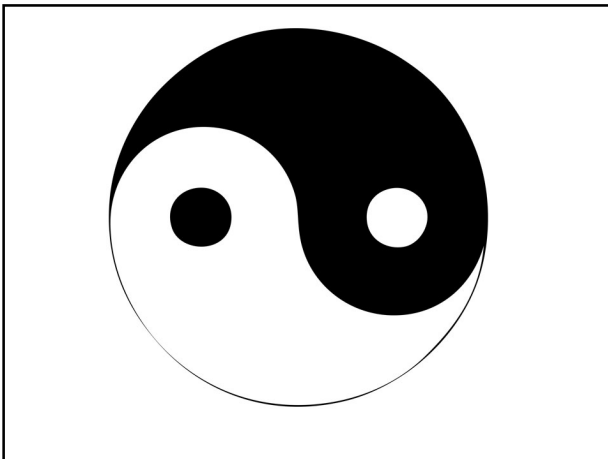
Knowledge: autopoietic «constructivist»

- Knowledge is creational and based on distinction making in observation
- Knowledge is history dependent and thus is context sensitive
- Knowledge is not directly transferable

Knowledge: representational «positivist»

- Knowledge is representation of a pre-given reality
- Knowledge is unchanging, universal and objective
- Knowledge is directly transferable

Participants create their own version of new knowledge (Duality of Knowledge, Hildreth 2002)



Consequences: «what makes people reflect?»

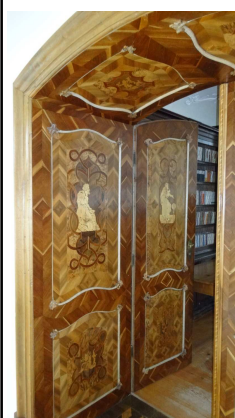
- Own case discussions are key!
- Case discussions with Local opinion leaders
- Videos representing a typical patient
- Diagnostic patterns and *prescription habits*:
 - often used in studies (measurable results!)
 - Results improve if combined with case discussions!
 - Results improve if people gather own cases!

!Better understanding!

- EQUIP workshop
- Stakeholders: 2nd Interview
 - propositional statements:
 - plausible
 - applicable

3rd level of analysis

- broader social science theories
 - 1) theories of adult learning, social learning (social cognitive theory) and problem-based learning,
 - 2) theories on behaviour change individual practitioner / group
 - 3) theories related to implementing research in health



Interests

- Program Theory for monitoring and evaluation
- Program Theory for evidence based policy
- Program theory to engage colleagues because of shared understanding and improved communication
