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CaHRU Improvement Science and Research Methods Seminar:

Mixed methods surveys

Niro Siriwardena

CaHRU

…to increase people's health and well-being by improving the quality, performance and systems of care across the health, social and third sector care services through our world-leading interdisciplinary research with service users and health service professionals and organisations.

CaHRU
Community and Health Research Unit

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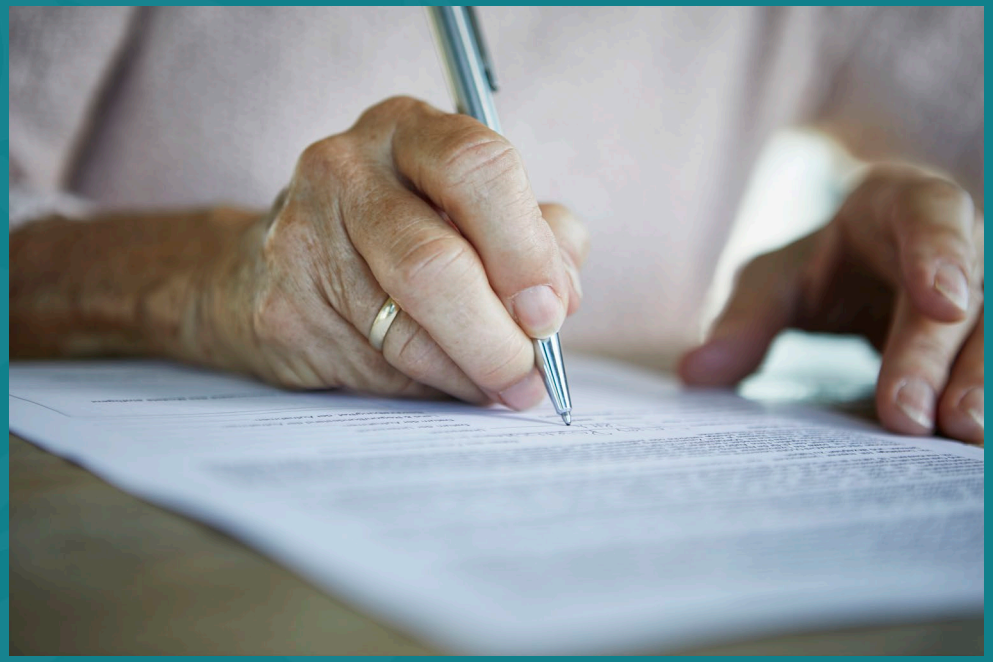
I Keep Six Honest Serving Men

I keep six honest serving-men
(They taught me all I knew);
Their names are What and *Why* and When
And *How* and Where and Who…….

Rudyard Kipling 1865-1936

Overview

- Definition
- Philosophy and theory
- Designs
- Use
- Examples



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Definitions and debates

Survey in which numerical and text data are collected and each analysed (differently):

- Survey/questionnaire: cross sectional + open ended, free text, ?qualitative
- Mixed methods cross-sectional survey
- Mixed methods survey
- Fetters: “Mixed methods lite”

Philosophy and theory

Philosophy: ontology, epistemology

Postpositivist: deductive

Constructivist/interpretivist: inductive

Pragmatism: “use of methods that work for the research questions, or where the utility of the research is highly valued”

O’Cathain A. Mixed Methods Research in Siriwardena AN. & Whitley G (eds). Prehospital Research Methods and Practice, Class Publishing, 2022.

Design

Quantitative: cross-sectional using validated instrument(s), or purpose designed questions often using scales (Likert)

“Qualitative”: free text question(s)

Analysis

Deductive vs inductive

Free text data influenced by and linked to quantitative components

Thematic e.g. Framework

Integration

Approaches to integration: design vs analysis

Triangulation, agreement/convergence, disagreement/dissonance, complementarity, silence, joint displays

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Exploration of contextual factors in a successful quality improvement collaborative in English ambulance services: cross-sectional survey

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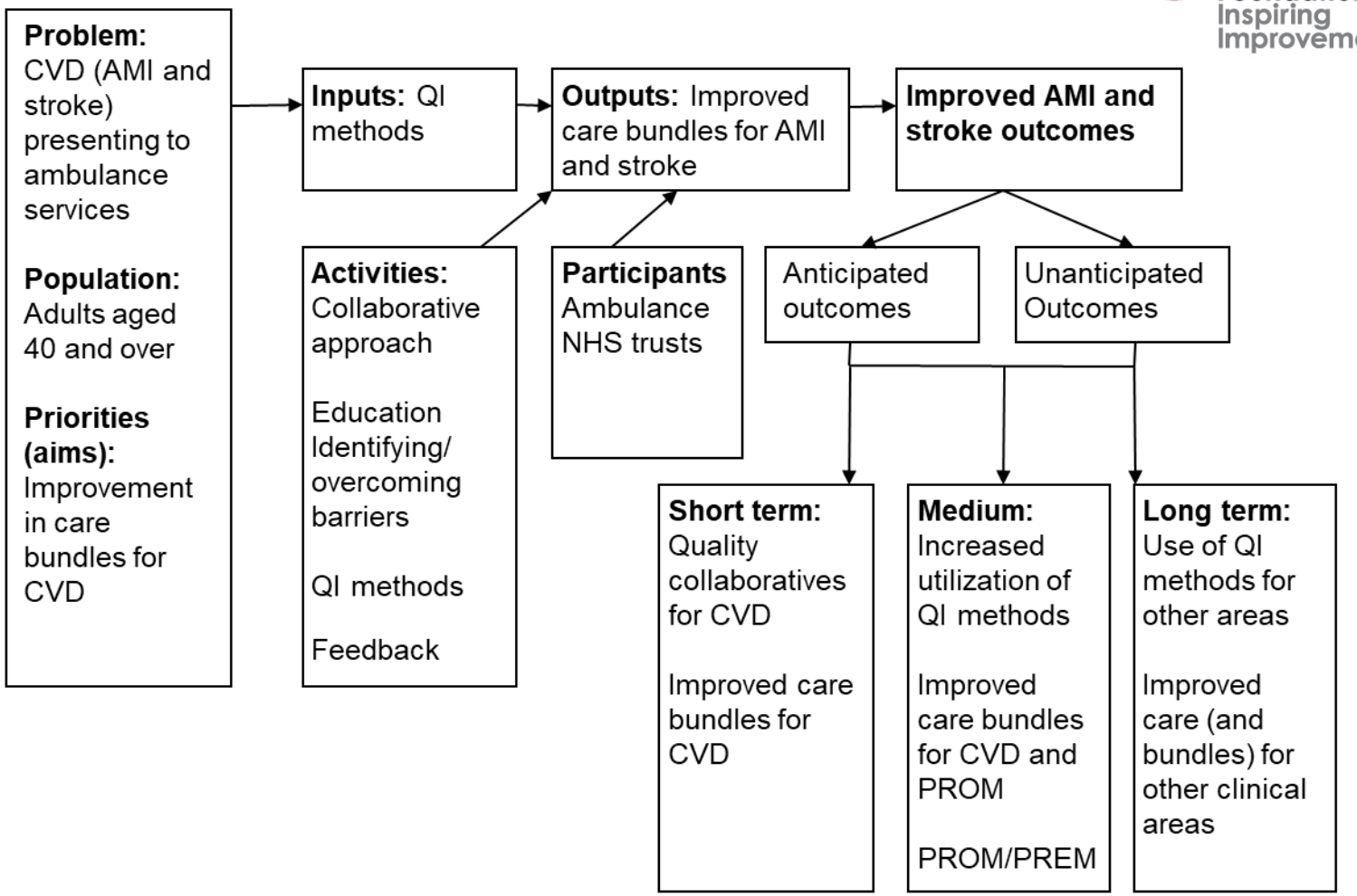
Aim

To explore relationship between clinical leadership behaviour, organisational culture of innovation, and clinical engagement in QI among ambulance clinicians participating in the ASCQI, a large-scale national ambulance QIC.

ASCQI

The Health Foundation Inspiring Improvement | Closing the Gap



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ASCQI

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Significant improvements in 10 (of 12) participating trusts for the AMI care bundle and eight (of 12) for the stroke care bundle.

Eleven of 12 trusts showed a significant improvement in either the AMI or stroke care bundle.

Six out of twelve showed significant improvements for both AMI and stroke.

Overall performance for the care bundle for AMI increased nationally in England from 43 to 79 percent and for stroke from 83 to 96 percent.

Survey

Design: mixed methods survey

Validated scales: 1. ‘leadership behaviour’; 2.‘organisational culture of innovation’; 3. ‘use of QI methods’

Free text: “Lastly, we welcome any additional comments or suggestions you may have of how to achieve and maintain clinician engagement in quality improvement initiatives.”

Responses

Quantitative:

2,743 responses (12.4 per cent) from 22,117 frontline staff from all 12 ambulance services in England.

Around three per cent of respondents had been involved in ASCQI.

Free text:

From 2,743 responses, 514 (19%) provide comments on how to achieve and maintain clinician engagement in QI initiatives.

Analysed using NVivo.

Culture of innovation

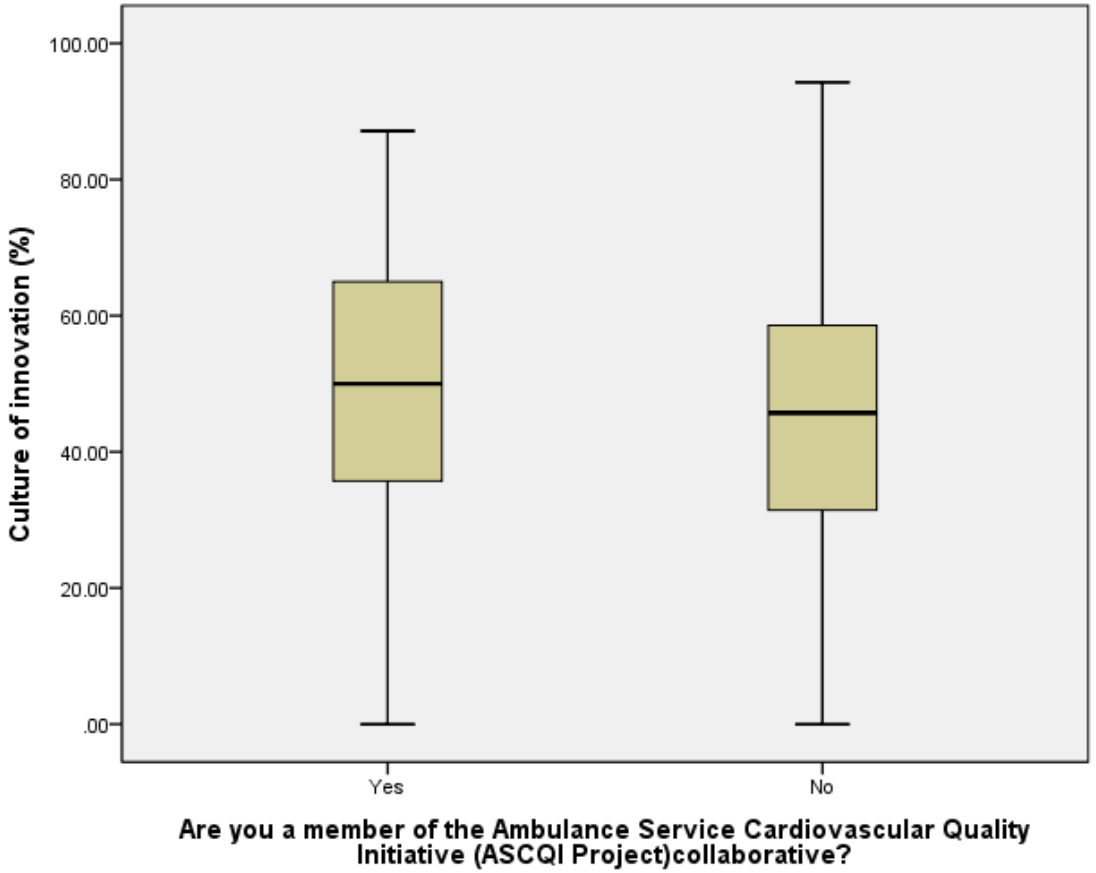
Measured against seven dimensions.

Eleven point scale ranging from -5 (very unsupportive) to 0 (neither) to +5 (very supportive).

Innovation score ranked from 0 (not at all innovative) to 100 (completely innovative culture).

No significant difference between ASCQI members (48.8) and non-ASCQI members (45.1) ($p = 0.085$).

Culture of innovation



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Culture

"Our organisation does not actively support learning, extra pressure and constraints are placed on frontline staff and very little support is forthcoming. Ideas and innovations are frequently ignored in place of target based initiatives with little evidence base and no reward has ever been offered."

Male Emergency Care Assistant, South Western Ambulance Service, non-ASCQI member

"To achieve and maintain clinician involvement, staff should not be expected to be involved in their own free time. Too much time and effort is given without acknowledgement or reward."

Female Clinical / Paramedic Team Leader, London Ambulance Service, ASCQI member

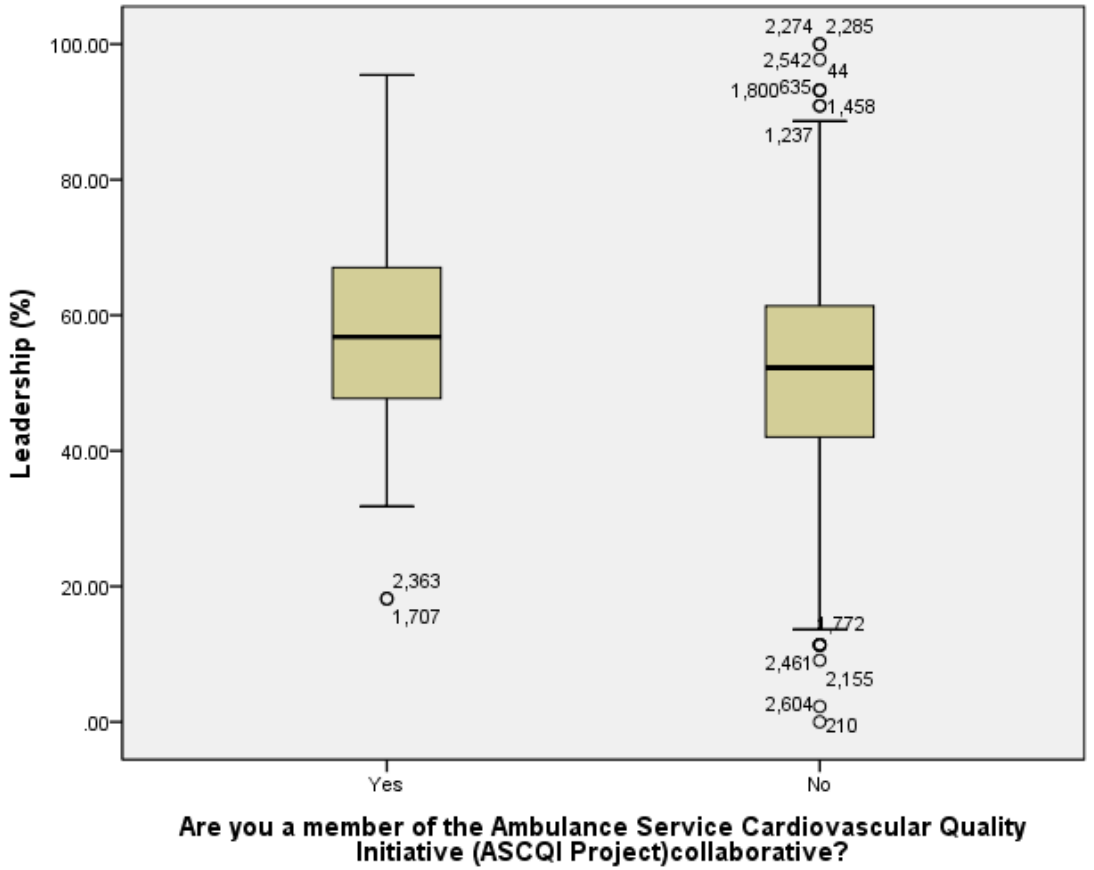
Leadership behaviours

Frequency with which they engaged in QI behaviours that inspires vision, enables others to act, models the way and 'encourages the heart' in relation to QI.

Five point Likert Scale – 1 (never), 2 (rarely), 3 (sometimes), 4 (frequently), 5 (very frequently).

ASCQI members significantly more likely to express leadership behaviours 57.9% vs 52.5% (p = 0.001).

Leadership behaviours



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Leadership

"I feel that the [service] has made significant improvements since the introduction of a more clinical focused leadership model with Advanced Paramedics and Senior Paramedics"

Male, Paramedic, non-ASCQI member

"I feel staff should be given more time and appropriate opportunities to feed back what they have learnt from experience and get that feedback collated to assist other staff to make correct decisions".

Male, Paramedic, ASCQI member.

Engagement

"Management need to listen to operational staff, as they deal with patients on a day-to-day basis and have good ideas and suggestions about improving a patient's experience. However, any suggestions that are put forward are rarely ever put into practice, with most new initiatives being implemented by senior managers and government both of which have very little, if any, patient contact."

Female Operation Manager, West Midlands Ambulance Service, non-ASCQI member.

Uptake of QI

Uptake of QI methods low

Use of QI significantly higher among ASCQI than non-ASCQI members (15.8 per cent vs. 9.1 per cent, $p < 0.001$).

Associated with longer length of service, paramedics and clinical or paramedic team leaders vs student paramedics least likely to use QI methods

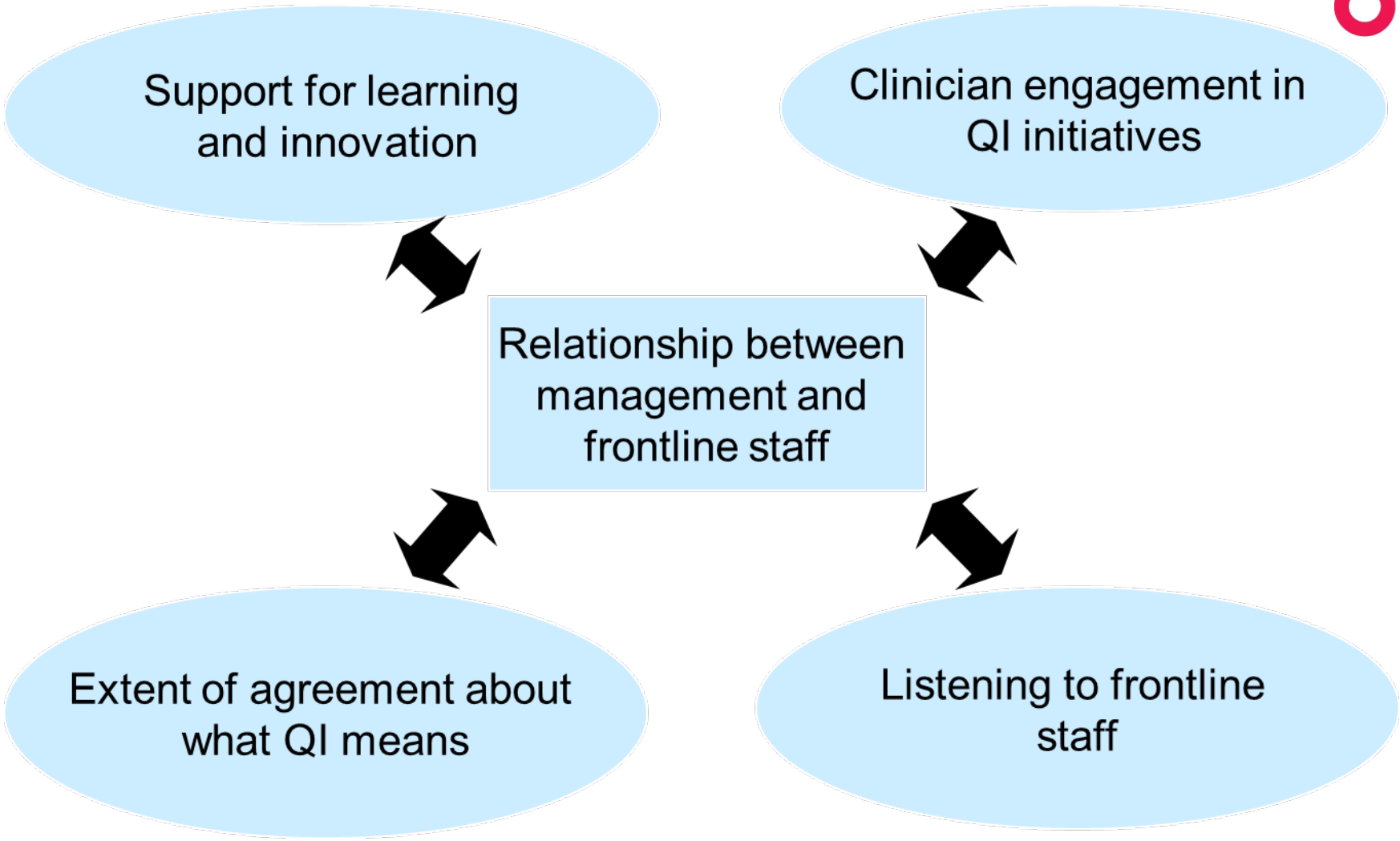
Views about QI

"In a time of rota changes and pension uncertainties, in my place of work at least, trying to get any clinician to engage in any improvement initiatives with any degree of enthusiasm is nigh on impossible. There are of course, the interested few, but these are a minority and are largely unsupported."

Female, Paramedic, non-ASCQI member

"Clinical staff in my Trust have frequently shown willingness to engage in quality improvement, research and audit."

Male, Clinical / Paramedic Team Leader, non-ASCQI member



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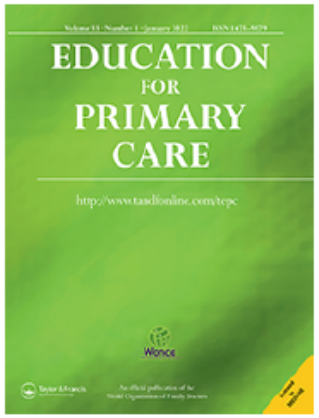

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Taylor & Francis Group

Education for Primary Care

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Candidate perceptions of the UK Recorded Consultation Assessment: cross-sectional data linkage study

Vanessa Botan, Despina Laparidou, Viet-Hai Phung, Peter Cheung, Adrian Freeman, Richard Wakeford, Meiling Denney, Graham R Law & Aloysius Niroshan Siriwardena

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Background

Challenges of conducting face-to-face OSCEs during pandemic.

Recorded Consultation Assessment (RCA).

13 patient consultations (telephone, video, face-to-face) recorded on, or uploaded to, a specially customised online information technology platform.

Two examiners reviewed each consultation using an assessment grid.

Aim

To evaluate candidate perceptions of the RCA and explore the relationship with performance.

Survey

Design: Mixed method survey of RCA candidates including purpose designed attitudinal (Likert), demographic, and free text response options.

Analysis

Quantitative descriptive, factor analysis and regression supported by Stata 14

Qualitative thematic analysis of free text responses supported by NVivo 12.

Questions

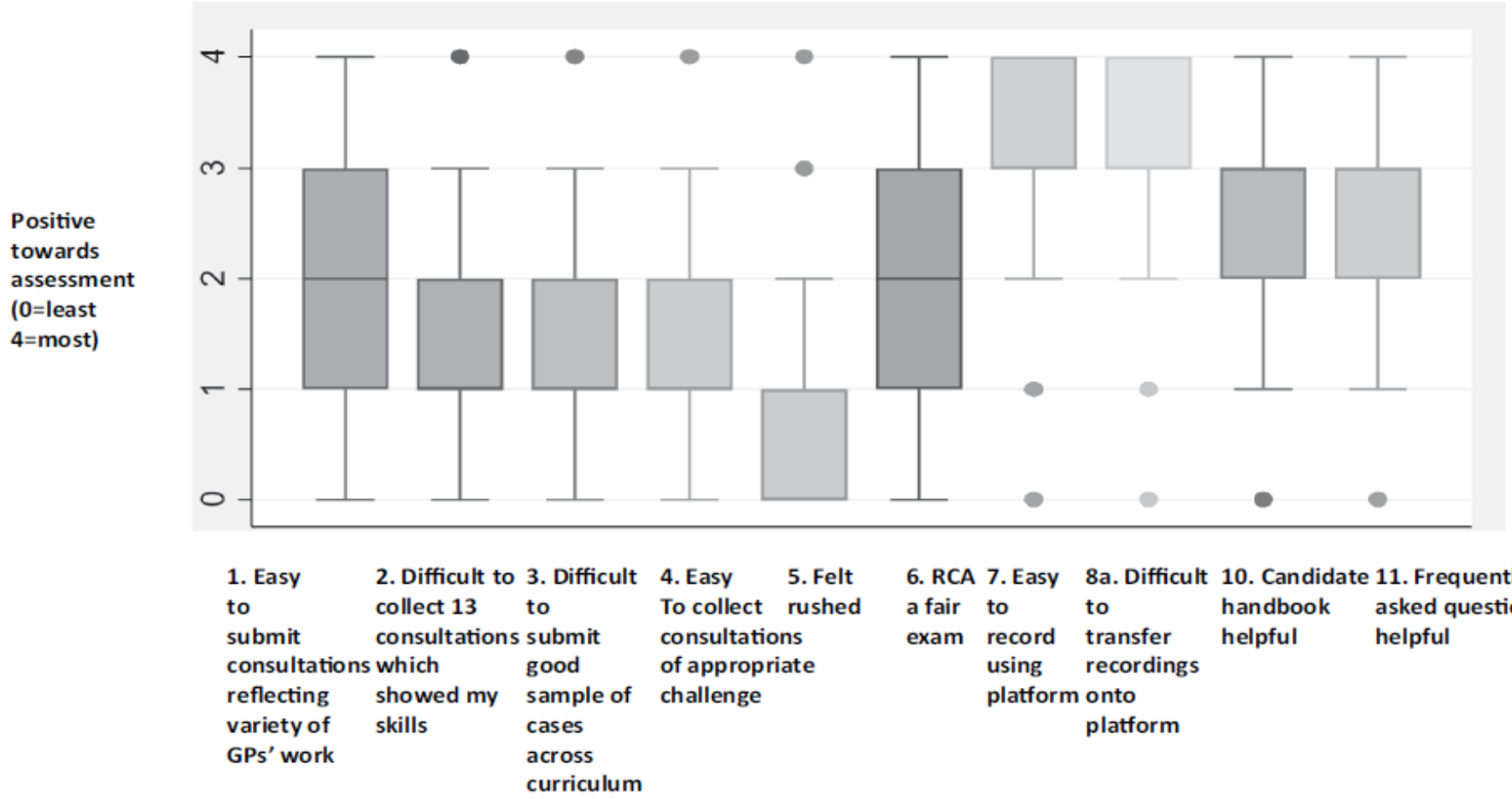
- Ease of collecting, recording, submitting and uploading consultations.
- Whether consultations reflected the variety of GP work across the curriculum.
- Perceived test fairness.
- Ease of use of online platform.
- Information about the exam handbook or frequently asked questions (FAQs).
- Whether consultations mainly conducted remotely via audio, remotely via video, face to face or a mixture of these.
- Trainer review of consultations before submission.
- Demographic questions on candidate gender and whether English was their first language.
- Free text option asked, ‘Do you have any additional comments?’

Responders

645 of 1551 (41.6%) candidates completed a questionnaire.

The question, ‘Do you have any additional comments?’ elicited 198 responses (~30% of responders).

Quantitative results



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Themes

Theme 1: Assessment experience

Perceptions of RCA and compared with CSA

Reflects work and skills vs unrepresentative

Difficulties finding, consenting, consulting and selecting cases

Fairness overall and compared to CSA vs unfair

Impact on individuals, training, work, and patients

Theme 2: Resources and support

Organisational problems with exam developed at short notice

Logistic, equipment and exam barriers and costs

Guidance and communication problems

Theme 3 Digital platform

Theme 4 Suggestions for improvement

More time, clearer guidance

Assessment experience

'I feel the RCA is a good alternative to the CSA during the current pandemic but more time at least 2-3 months is needed to collect appropriate recordings. I think there should be more discussion about the consultation models that are appropriate for remote consulting.' C254.

'I think the main issue with difficulty in demonstrating skill, curriculum coverage and complexity for RCA was shortage of time building up to this particular first sitting rather than the method of examination per se.' C56.

Resources and support

'The difficulty finding a variety of consultations to show my skills isn't a reflection on the exam but the current pandemic and the different way in which we are working. My main issue with the exam was how last minute all the information and confirmed deadline date was (given that I work part time and had lots of annual leave booked).' C40.

'Our ESs also did not really have any additional info or support they could offer, as they had no information or experience.' C152.

Digital platform

‘Fourteen fish platform surprisingly good but occasionally did weird things like delete my face off a video consult or drop audio in video consult.’ C122.

Suggestions for improvement

‘12-15 minutes is more realistic for RCA consultations since we are dealing with real patients.’ C34.

‘It would have been nice to get an email confirmation when they were submitted. I know the FourteenFish site said they were, but I would have felt more reassured by an RCGP confirmation email. Perhaps I was just being paranoid, but I didn't feel exactly sure it had gone through ok as I assumed I would get an email to confirm it!’ C83.

Predictor		Odds ratio	95% CI		P
Sex (Male)		0.48	0.23	1.02	0.055
Disability (Yes)		0.48	0.18	1.30	0.15
Ethnicity (White)		**2.99**	**1.23**	**7.30**	**0.016**
PMQ (UK graduate)		**6.88**	**2.79**	**16.95**	**<0.001**
English first language (Yes)		**5.11**	**2.08**	**12.56**	**<0.001**
Attempts	Second	1.73	0.62	4.82	0.29
	Third +	1.78	0.62	5.11	0.28
Perceptions of exam	Exam satisfaction	1.56	0.85	2.88	0.15
	Resources helpful	1.34	0.80	2.24	0.27
	Digital platform	0.85	0.58	1.24	0.40
Consultation type	Mainly audio	0.61	0.25	1.50	0.28
	Mainly video	0.65	0.07	5.63	0.69
	MainlyF2F	1.88	0.27	13.35	0.53
Trainer review	Some	0.63	0.10	4.07	0.63
	All	0.50	0.08	3.11	0.46

Considerations

When to use

Design and sampling

Publishing

“90% luck and 10% skill. But don’t try it without that 10%.” Benaud

Thanks for Listening

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