The value of implementing clinical audit: The experience of the National NHS England PET-CT Clinical Audit Programme

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Aims and objectives

Healthcare budgets around the world account for a significant proportion of spending as a percentage of a country's GDP. According to OECD figures (2013), the United States spent by far the most on healthcare as a percentage of its GDP at 16.4 percent compared to the lowest spending European country Estonia, which spent only 6 percent on health care as a percentage of GDP. In comparison OECD 2013 figures show that the UK spends around 8.5 percent of GDP on healthcare. In view of the large expenditures associated with healthcare, governments everywhere are increasingly under pressure to intervene to improve the effectiveness of their healthcare services. The National NHS PET-CT Clinical Audit Programme for England introduced in 2008, is an example of one such intervention. Aimed at driving up standards and monitoring effectiveness, its implementation has led to structural changes to the way in which diagnostic reporting is undertaken within NHS England. However, assessing the effectiveness of this government initiative is far from straightforward as ultimately its success or failure depends on its successful assimilation and the value attached to it by its community of practitioners.

The aim of the study was to evaluate and better understand the value of clinical audit from the perspective of the clinician.
Methods and materials

An exploratory sequential mixed methods study was undertaken. The unit of analysis was a single embedded case study centred on the National NHS PET-CT Clinical Audit Programme. The case study was influenced by Yin and was comprised of two parts: [1] a pilot study with in-depth interviews, and [2] a longitudinal on-line survey to all reporters participating in the clinical audit programme.

Pilot study

Thirteen semi-structured interviews were purposefully sampled from participating hospitals to ensure a range of perspectives were represented. The question items were developed in conjunction with a critical reference group and informed by the process innovation, organisational learning and medical engagement literature. The critical reference group comprised of two managers, a social science researcher, one auditor and one doctor reporting on the programme. Some question items were taken from previous studies and adapted so as to accommodate the pilot study's qualitative method. The interviews were audio-recorded with the permission of the participant. The content of the recordings were transcribed verbatim and verified by the respondent to clarify meaning. The interview data was coded and thematic analysis techniques were used whereby themes were drawn from the data and matched against the study's propositions to facilitate generalisation of the data to the theory. Reliability of the data collection process was maintained by the adoption of a standardised interview protocol.

On-line survey

The first survey was conducted in 2013 with a follow-up survey undertaken in 2016. The survey comprised of 35 five-point Likert scale questions ranging from strongly disagree to strongly agree. The survey question items were informed by the pilot study findings. The anonymous survey was sent out electronically to all 59 reporters on the scheme. 58 responses were received.
Results

The results of the pilot study can be accessed in Nuclear Medicine Communications. The following survey results confirmed the pilot study findings and describe graphically the value of clinical audit from the perspective of the clinician. The results relate to the first of the two surveys administered.

An Opportunity for Collective Learning?

Opportunity for collective learning and discussion of audit feedback was a key concern among reporters. The metaphor of a dove had emerged from the interview data to distinguish auditors that gave reporters the opportunity to discuss their performance feedback. The survey data showed that 93% of survey reporters strongly agreed or agreed that auditor feedback was more meaningful when they had the opportunity to discuss audit findings, 2% disagreed or strongly disagreed, 5% unsure (Fig. 1A).

However when asked if the audit programme provided a culture within which knowledge could be shared, 50% agreed or strongly agreed, 21% disagreed or strongly disagreed, 29% unsure (Fig.1B). Further when asked whether clinical audit was a collaborative process; 69% agreed or strongly agreed, 19% disagreed or strongly disagreed, 12% unsure (Fig. 1C).

Better Diagnostic Reporter?

Asked if participation in the audit programme improved reporting skills; 76% of reporters agreed or strongly agreed that audit improved their reporting skills, 15% disagreed or strongly disagreed, 9% unsure (Fig. 2). When the same question was asked specifically about their own reporting; 48% of reporters agreed or strongly agreed, 24% disagreed or strongly disagreed, 28% unsure. However, when asked whether they considered themselves leaders in reporting practice compared to those outside the programme; 41% of reporters agreed or strongly agreed, 21% disagreed, 38% unsure.

In general reporters agreed that clinical audit improved clinical governance; 95% strongly agreed or agreed that clinical audit had an important governance role; 7 % disagreed or were unsure (Fig. 3A). However, when asked about patient safety; 60% of reporters strongly agreed or agreed that audit improved patient safety, 5% disagreed, 35% were unsure (Fig. 3B).

Re-assuring or Threatening?
85% of reporters agreed or strongly agreed that participation in audit was reassuring, 7% disagreed, 8% unsure (Fig.4A). Associated with this was the view that audit helped validate professional competence; 93% of reporters agreed or strongly agreed that participation in audit helped validate their professional competence, 7% disagreed, 2% unsure (Fig.4B).

In contrast a number of reporters also found the audit experience stressful and threatening at the start of the programme; 79% of reporters agreed or strongly agreed, 2% disagreed, 16% unsure (Fig.4C). However, when the same question was repeated in the present tense the percentage of reporters who agreed or strongly agreed dropped to 27% with 53% disagreeing or strongly disagreeing, 5% unsure (Fig.4D).

Overall the results show that levels of medical engagement increased; 66% of reporters said they were more positive about the value of audit compared to the start (Fig.5A). Asked whether they would wish to continue to participate with the National NHS Audit Programme even if not mandatory; 62% of reporters agreed or strongly agreed that they would wish to continue participating in the audit programme, 9% disagreeing, 29% unsure (Fig.5B).
Fig. 1: Audit feedback is more meaningful when reporters have the opportunity to discuss findings with auditors.

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**Fig. 2:** Fig.1B: The audit process now provides a culture within which knowledge can be shared.

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**Fig. 3:** Fig. 1C: The audit process is a collaborative process between auditors, managers and reporters.

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**Fig. 4:** Fig 2: Participation in audit enables reporters to improve their reporting skills.

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**Fig. 5:** Fig. 3A: The audit process has an important governance role.

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**Fig. 6:** Fig. 3B: The audit process has improved patient safety.

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**Fig. 7:** Fig. 4A: Participation in the audit programme is reassuring for me as a reporter

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**Fig. 8:** Fig. 4B: My participation in the audit programme helps me to validate my professional competence

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**Fig. 9:** Fig. 4C: The audit programme felt threatening at the start
Fig. 10: Fig. 4D: The audit programme feels threatening
**Fig. 11:** Fig. 5A: I am more positive about the value of audit in PET-CT compared to when I first joined the audit programme

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![Bar chart](image)

**Fig. 12:** Fig. 5B: I would wish to participate in the National NHS Audit Programme even if it was not mandatory

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Conclusion

The value of clinical audit from the perspective of the clinician depends on the way in which the programme is implemented. A supportive team climate can help doctors to more fully engage with audit by inducing a sense of shared meaning and a culture of trust. In contrast the study’s data showed how an unsupportive environment constrained medical engagement at times; evidenced in lower levels of dialogue between doctors, reduced levels of trust, increased anxiety, and a perceived culture of blame in which doctors adopted defensive reporting behaviours. From a clinician perspective the value of clinical audit would appear to be highly context dependent.
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References