When is audit and feedback effective in dementia care? A systematic review

Michael J. Sykes*, Jennifer McAnuff, Niina Kolehmainen

Institute for Health and Society, Newcastle University, Richardson Road, Newcastle-Upon-Tyne NE2 4AF, UK

ARTICLE INFO

ABSTRACT

Background: Evidence-based care for people with dementia is a priority for patients, carers and clinicians and a policy priority. There is evidence that people with dementia do not always receive such care. Audit and feedback, also known as clinical audit, is an extensively-used intervention to improve care. However, there is uncertainty about the best way to use it.

Objectives: To investigate whether audit and feedback is effective for improving health professionals' care of people with dementia. To investigate whether the content and delivery of audit and feedback affects its effectiveness in the context of health professionals' care for people with dementia.

Design: Systematic review

Data sources: The Cochrane Central Register of Controlled Trials, Prospero, Medline (1946–December week 1 2016), PsycInfo (1967–January 2017), Cinahl (1982–January 2017), HMIC (1979–January 2017), Embase (1974–2017 week 1) databases and the Science Citation Index and Social Science Citation Index were searched combining terms for audit and feedback, health personnel, and dementia.

Review methods: Following screening, the data were extracted using the Template for Intervention Description and Replication (TIDieR), and synthesised graphically using harvest plots and narratively.

Results: Thirteen studies met the inclusion criteria. Published studies of audit and feedback in dementia rarely described more than one cycle. None of the included studies had a comparison group: 12 were before and after designs and one was an interrupted time series without a comparison group. The median absolute improvement was greater than in studies beyond dementia which have used stronger designs with fewer risks of bias. Included studies demonstrated large variation in the effectiveness of audit and feedback.

Conclusions: Whilst methodological and reporting limitations in the included studies hinder the ability to draw strong conclusions on the effectiveness of audit and feedback in dementia care, the large interquartile range indicates further work is needed to understand the factors which affect the effectiveness of this much-used intervention.

What is already known about the topic?

- Audit and feedback is a much-used intervention to implement evidence-based care.
- Audit and feedback varies in the extent to which it changes practice.
- There have been calls for further research to explore the causes of variation in the effectiveness of audit and feedback

What this paper adds

- This review found no evidence that variations in the source, delivery or frequency of audit feedback affected the subsequent care practices in the context of dementia.
- Studies with at least two data collection cycles, which detail the ingredients of the intervention and have a comparator group are

needed to better investigate and understand the factors explaining the variation in the effectiveness of audit and feedback.

1. Background

Evidence-based care for people with dementia is a priority for patients, carers and clinicians (Lind, 2014), and a policy priority (Department of Health, 2012; AHRQ Strategic Plan, 2014). Yet, people with dementia do not always receive evidence-based care. Data from the U.S. suggests gaps in the delivery of evidence-based care, for example, only 31% of people with dementia met the quality indicator of having been screened for depression during the initial evaluation (Arora et al., 2007). In England and Wales, the national audit of dementia found that whilst 97% of organisations had a process in place to undertake a mental state examination, this was done in only 50% of

---

records audited (Royal College of Psychiatrists, 2013). An earlier audit of hospitals in England and Wales (Souza et al., 2014) found that only 26% of patients with dementia had a standardised assessment of functioning. The challenge of providing evidence-based care for people with dementia is not limited to hospitals, for example, they are often prescribed anti-psychotic drugs inappropriately in care homes (All-Party Parliamentary Group on Dementia, 2008; Kheun, 2013).

Audit and feedback, also known as clinical, nursing or medical audit, is a practice change intervention to increase the receipt of evidence-based care (Souza et al., 2014). Audit and feedback is widely advocated as a way to increase the use of evidence and to provide data to assess assurance of care quality. It is a requirement of professional registration (e.g. General Medical Council, 2012), of regulatory arrangements (e.g. Care Quality Commission, 2010) and has an important role in nursing care (e.g. Christina et al., 2016). Audit and feedback involves comparing current care against an evidence-based standard, and giving feedback to staff on whether that current care meets those standards. Steps in the audit process have been described as planning, standard setting, measuring performance, providing feedback, implementing change and re-auditing (Benjamin, 2008).

A recent Cochrane review of audit and feedback (Ivers et al., 2012) in different clinical domains found that while audit and feedback led to a relatively small 4.3% median absolute improvement in practice (for example, prescribing or undertaking assessments), it also had the potential to result in larger effects, with an interquartile range from 0.5% to 16%. Different theories have been applied to explain how audit and feedback might change behaviour. For example, control theory (Carver and Scheier, 1982) describes how feedback influences the perception of a gap between current and intended behaviour. Persons will seek to close this gap unless they believe it to be too large or they lack the skills or motivation to close it. Under this theory, clear performance feedback and action plans to meet the goal would increase the effectiveness of audit and feedback. Feedback intervention theory (Kluger and DeNisi, 1996) describes that attention is limited and that feedback directs attention to an action, which impacts upon performance of that action. Under this theory, characteristics of the feedback, the task, the actors and the goals determine the extent to which feedback affects performance. Understanding the differential effectiveness of audit could develop understanding of how it works (Ivers et al., 2012) and provide nurses with better information about undertaking effective audit (e.g. Christina et al., 2016). The Cochrane review (above) identified five potential determinants of the effect of audit and feedback as demonstrated within randomised controlled trials. A further search for determinants of the effectiveness of audit and feedback has drawn upon experience and expert interviews (Brehaut et al., 2016). The current review extends the previous searches by exploring influences described within studies that use a range of designs. The specific purpose was to inform work to enhance audit in dementia care and related research, including hypothesis generation for future effectiveness trials.

Specifically, this review investigated:

(1) Whether audit and feedback is effective for improving health professionals' care of people with dementia?
(2) Whether the content and delivery of audit and feedback affect its effectiveness in the context of health professionals' care for people with dementia?

2. Method

A systematic review with adherence to established principles (e.g. Khan et al., 2003) for such reviews was undertaken.

2.1. Protocol and registration

The review protocol provides the details for the searches and is available on Prospero at: http://www.crd.york.ac.uk/PROSPERO/

display_record.asp?ID=CRD42015023688

2.2. Eligibility criteria

The population under study was health professionals providing care to people with dementia and/or the informal carers of people with dementia. The intervention was audit and feedback. The outcome was change in target behaviour (for example, a change in the use of nutrition assessments for people with dementia pre- and post- audit and feedback). To be included, studies were therefore required to have at least two cycles of data. Studies with or without a comparison group were included.

2.3. Information sources

The Cochrane Central Register of Controlled Trials, Prospero, Medline (1946–December week 1 2016), PsycInfo (1967 to January 2017), Cinahl (1982 to January 2017), HMIC (1979 to January 2017), Embase (1974–2017 week 1) databases and the Science Citation Index and Social Science Citation Index were searched.

2.4. Search

The search combined terms relating to dementia, health personnel and audit and feedback. The search strategy was adapted from previous reviews (Ivers et al., 2012; Forbes et al., 2014). An example search is presented in Supplementary Text S1. Peer-reviewed journals, reports, book chapters, theses and conference abstracts which met the following criteria were included.

Reference lists from all included studies and a previous review of audit and feedback (Ivers et al., 2012) were hand-searched and citations of included studies sought using the Science and Social Sciences Citation Indexes and Google Scholar. The resulting references and citations were assessed against the inclusion/exclusion criteria. The search was re-run in January 2017 prior to final reporting in order to identify recently published studies. The reference data was managed using EndNote.

2.5. Study selection

Two researchers (MS, NK) undertook an iterative process involving three cycles of independently screening, assessing agreement, clarifying the criteria and then re-screening against inclusion/exclusion criteria. 131 papers, including 83 abstracts only, were reviewed in this way in order to enable learning and refinement to the approach. Once a consistent approach between the two reviewers was developed, the remainder (4517 papers) were screened by one person (MS). Studies about which the screener was uncertain were discussed by MS and NK. A consistent approach to dual screening was assessed using Kappa coefficient. Titles were screened and either rejected or progressed to abstract screen. The screened abstracts were either rejected or progressed to full-text screen. The full-text screen identified the studies to be included.

2.6. Data collection process

MS and JM independently assessed study design of included studies (Hartling et al., 2011).

Data extraction was undertaken using a pre-determined and piloted tool (Supplementary text S2). Within this, the target behaviours within the studies were categorised as relating to the outcome of care (for example, whether patients were restrained), the process of care (for example, whether there was a care plan for the use of restraint or whether it was provided as per instructions) and structure (for example, training) (Benjamin, 2008). The Template for Intervention Description and Replication (TIDieR) (Hoffmann et al., 2014) was used to