Identifying the impact of audit and feedback on the professional role of the nurse and psychological well-being: an integrative systematic review.

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2024

Received: 22 March 2023 | Revised: 29 November 2023 | Accepted: 20 January 2024

DOI: 10.1111/nhs.13095

REVIEW ARTICLE

Nursing & Health Sciences WILEY

Identifying the impact of audit and feedback on the professional role of the nurse and psychological well-being: An integrative systematic review

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Abstract

This systematic review aimed to critically synthesis evidence to identify the impact that audit and feedback processes have on the professional role of the nurse and psychological well-being. Little is known about the extent to which audit and feedback processes can positively or negatively impact the professional role of the nurse and psychological well-being. An integrative systematic review was conducted. Covidence systematic review software was used to manage the screening process. Data extraction and methodological quality appraisal were conducted in parallel, and a narrative synthesis was conducted. Nurse participation and responsiveness to audit and feedback processes depended on self-perceived motivation, content, and delivery; and nurses viewed it as an opportunity for professional development. However, audit was reported to negatively impact nurses' psychological well-being, with impacts on burnout, stress, and demotivation in the workplace. Targeting framing, delivery, and content of audit and feedback is critical to nurses' satisfaction and successful quality improvement.

KEYWORDS
audit, feedback, nursing, professional role, psychological well-being, systematic review

Key points

- This systematic review identified that many nurses were responsive and wanted to participate in the audit process.
- However, how the feedback was given to nurses impacted perceived motivation in improvement processes, and for some, it resulted in burnout, stress, and demotivation in the workplace.
- Careful consideration is needed to develop supportive audit and feedback processes within healthcare organizations globally.

1 | INTRODUCTION

Audit and feedback are well-established and widely implemented tools used to drive change in nursing practice. The intended outcomes of audit and feedback are related to clinical care and aim to identify and reconcile gaps between actual nurse performance and desired nurse performance (Brown et al., 2019; De Groot et al., 2019; Ivers et al., 2020). Audit and feedback have varied efficacy in their widespread use in healthcare, and little progress has been made to optimize implementation in practice (Brown et al., 2019; Ivers et al., 2014). The audit and feedback cycle are commonly used to ensure that nursing care is evidence-based and that patients receive optimal care. However, the consequences of audit on nurses psychological well-being and their professional role remains unknown (Christina et al., 2016).

Audits are used to collect information about current professional practice standards and compare these to desired practice standards, with a goal to identify potential quality improvement areas (Ivers et al., 2012; Smyth et al., 2021). However, audit and feedback processes can positively or negatively impact the professional role of the nurse with the potential for negative impacts on psychological well-being (Giesbers et al., 2021; Nursing and Midwifery Board of Australia, 2016). The professional role of the nurse requires critical thinking in practice, applying the nursing process of assessment, planning, intervention, and evaluation, which are sensitive to resource availability in a specific context in order to meet the needs of the patient (de Gutiérrez & Morais, 2017; Nursing and Midwifery Board of Australia, 2016). Nursing standards and codes of ethics dictate that registered nurses should practice with accountability, integrity, and engage in reflective practice (de Gutiérrez & Morais, 2017; International Council of Nurses, 2021). Where the professional role of the nurse is defined by not just tasks and skills, but by ways of being, it is not unreasonable to imagine that the professional role of the nurse and their psychological well-being are intertwined (de Gutiérrez & Morais, 2017; Giesbers et al., 2021; Johnson et al., 2012).

Audit and feedback processes have been found to impact nurse retention and turnover over across the workforce (Brook et al., 2019). A systematic review of audit and feedback interventions identified stagnation in the audit and feedback process, whereby audit and feedback cycles can be fragmented and disjointed (Ivers et al., 2014). Nurse receptiveness to audit and feedback has been shown to vary with internal factors (such as perceptions and attitudes of audit and feedback, and previous experience) and external factors (such as organizational priorities, workflows, audit, and feedback processes) all of which have been found to influence psychological well-being and overall burnout in the nursing profession (Brown et al., 2019; Christina et al., 2016; Giesbers et al., 2021).

Importantly, nurses have reported that their clinical priorities were often different from that of the audit criteria, and would they would commonly ration care to meet clinical priorities rather than that of audit activities (Christina et al., 2016). This observation raises the important question in relation to how many nurses prioritize care to appease audit criteria, or ration their care based on a sense of surveillance (Jones, 2016). Audits often focus on documentation of tasks rather than the actual tasks that were conducted in practice, meaning there is the assumption that these accurately align (De Groot et al., 2019; Iula et al., 2020).

Nurses are influenceable intermediaries to patient outcomes, and nurses may, or may not, respond to audit and feedback toward the desired outcome in health service delivery. Gaining insights to nurses' experiences and perceptions of audit and feedback in relation to their professional role and psychological well-being is important, particularly as the profession recovers from the COVID-19 pandemic.

2 | AIM

This integrative systematic review aimed to synthesize evidence in relation to the impact of audit and feedback processes on the professional role of the nurse and on their psychological well-being.

3 | METHODOLOGY

3.1 | Design

An integrative systematic review has been reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines (see Data S1 for completed PRISMA checklist) (Kelly et al., 2016; Moher et al., 2009).

3.2 | Definition of terms

Nursing audit refers to any circumstance where there was an audit, which included nurse-produced documentation, including written or electronic records, charts or progress notes, with or without feedback. The desired outcomes of the study included reconciling documented nursing care with actual nursing care, measuring nursing work or performance indicators via audit of documentation, standardizing or reformatting nursing documentation platforms, systems or procedures, or examining the quality of, or delineating quality indicators for, nursing documentation (De Groot et al., 2019).

The professional role of the nurse includes traits and tasks expected of a registered nurse (clinical decision-making, critical thinking, accountability, integrity, reflective practice), their engagement with the profession (engagement, therapeutic relationships, professional development), and any professional role they might occupy (de Gutiérrez & Morais, 2017; International Council of Nurses, 2021; Johnson et al., 2012; Nursing and Midwifery Board of Australia, 2016).

Nurses' psychological well-being involves emotional or mental health, including work-related satisfaction, retention, burnout, stress, motivation, and well-being (Christina et al., 2016; Giesbers et al., 2021; Tuti et al., 2017; Vabo et al., 2017).

3.3 | Pre-selection eligibility criteria

All titles and abstracts were screened against a predetermined inclusion and exclusion criteria.

3.3.1 | Inclusion

All qualitative, quantitative, and mixed-method studies were included, irrespective of research design, and published in the English language. All studies related to audit and feedback of nursing documentation and the impact on the professional role of the nurse and/or psychological well-being outcomes.

3.3.2 | Exclusion

Any study conducted with student nurses and all commentaries, editorials, and studies where the impact of audit and feedback on the professional role of the nurses and/or psychological well-being were not explored.

3.4 | Literature search

The Population, Intervention, Comparison and Outcomes (PICo) mnemonic was used along with extrapolated key search terms to create the search architecture. This review considered publications that explored nurses (P) experiences of audit and feedback (I) on the professional role of the nurses and/or psychological well-being in various healthcare settings (Co). Database searches were conducted in July 2023 by an expert systematic review librarian trained in the efficient and exhaustive search method for systematic reviews developed at Erasmus University Medical Center (Bramer et al., 2018) (See Data S1 for full record of database searches). Search results were imported to Endnote reference management software and exported into Covidence systematic review software for removal of duplication articles and the study selection process.

3.5 | Study selection

The titles and abstracts and full text were screened according to predetermined inclusion and exclusion criteria. Any disagreement between reviewers regarding study selection was resolved by discussion. The reference lists of the retained studies in the review were checked for additional relevant studies.

3.6 | Data extraction

Data extraction was performed on the included full-text studies. The data were extracted by one reviewer and independently quality checked by a second reviewer. The data extraction tables were developed and tested on a small sample of studies and then further refined through discussion among the reviewers. Extracted data included author and year, aim, country, participants, sampling, response rate, design, setting, duration, type of audit, data collection methods, strengths, and weaknesses. Additional data were extracted in relation to the impact of audit and feedback on the attributes of professional role of the nurse (critical thinking, clinical decision-making, accountability, therapeutic relationships) and the impact on nurses' psychological well-being (satisfaction, retention, burnout, stress, motivation, well-being).

3.7 | Quality assessment

The Mixed Methods Appraisal Tool (MMAT) was used to perform an assessment of methodological quality (Hong et al., 2018). This tool is designed to provide an evaluation of quality assessment of diverse study designs including qualitative, quantitative, and mixed-methods studies (Hong et al., 2018). Each individual study was critically appraised against the MMAT criteria appropriate to each study design, where a rating of "Yes", "Unclear", or "No" was assigned to each criterion question (Hong et al., 2018). No study was excluded according to a predefined quality score because the aim of this review was to summarize existing evidence in the topic area.

3.8 | Data synthesis

The steps in the narrative synthesis involved (1) data reduction by tabulation, (2) data comparison between studies, and finally, (3) drawing conclusions. This process involved reading the full papers multiple times, linking together similarities and differences between the studies, and quality checking with the primary sources (Popay et al., 2006). The data comparison phase involved the reviewers identifying commonalities and differences, through counting and clustering and making comparisons and contrasting the study findings. Finally, the drawing of conclusions and verification involved checking themes with primary sources for accuracy throughout the process.

4 | RESULTS

Of the 3062 records screened, six studies were included in the final review. The reviewers promoted inclusivity by carefully reviewing a total of full-text screen ($n = 167$), which were excluded with reasons (see Figure 1). There were five qualitative studies and one mixed-methods study included, underscoring that this is an emergent area of focus in recent years in the profession.

4.1 | Study characteristics

Study designs included ($n = 5$) qualitative and ($n = 1$) mixed-methods study. The studies were conducted in Australia ($n = 1$), Canada

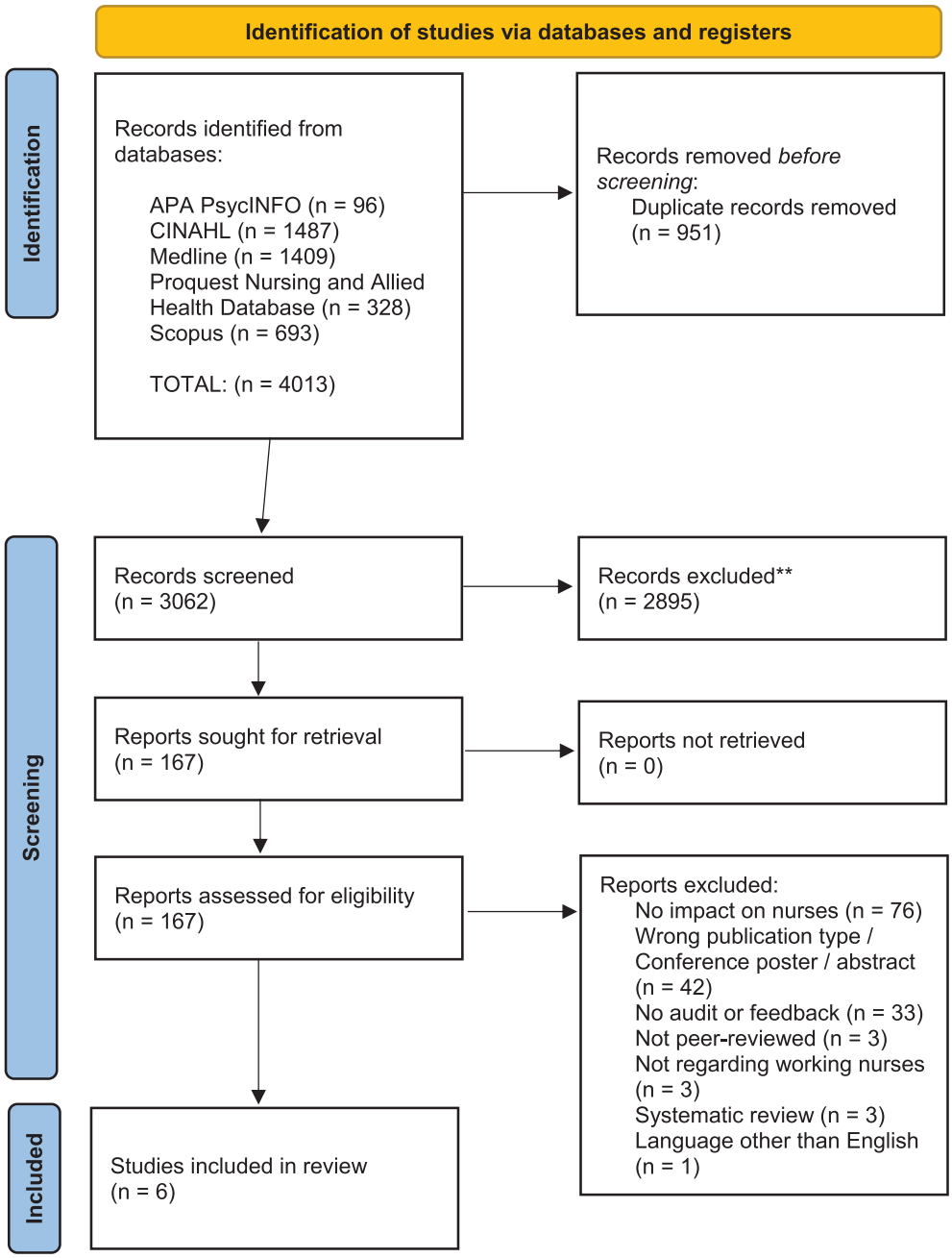

FIGURE 1 PRISMA flow diagram.

($n = 2$), the United States ($n = 1$), the Netherlands ($n = 1$), and the United Arab Emirates ($n = 1$). Sample sizes ranged from $n = 14$ to $n = 184$, with a combined total sample size of $n = 398$. The was some diversity in the participant demographics in terms of age, clinical specialty, role titles, education level, gender, and years of experience in nursing (Table 1).

4.2 | Quality appraisal

The results of the quality appraisal identified variable methodological quality, which is detailed in Table 2. Generally, there were limitations inherent in each of the studies, which included issues with the generalizability of study findings, sampling biases, and small sample sizes (Christina et al., 2016; Drobny et al., 2019; Giesbers et al., 2021; Ramukumba & El Amouri, 2019; Sinuff et al., 2015).

5 | FINDINGS

5.1 | Impact of audit and feedback on the professional role of the nurse

All studies reported findings related to the professional role of the nurse attributes. The findings were aligned with one or more of the registered nurse standards for practice: 'thinks critically and

TABLE 1 Overview of the study characteristics.

Author and year, country	Aim	Type of audit	Design	Participants	Sampling	Setting	Data collection	Response rate
Christina et al. (2016) Canada	To explore nurse perceptions of factors influencing audit and feedback effectiveness in an acute care setting.	Audit was undertaken weekly or biweekly by a senior nurse on the ward. Audit items were: hand hygiene, IV sites, lines, and pumps use and assessments. Feedback (audit results and improvement suggestions) were communicated as soon as possible.	Qualitative	$N = 14$ (7 hematology–oncology nurses, 7 internal medicine nurses). All female, aged 20–45 years, with bachelor degree or higher. 10 are full-time, 4 part-time, with 1–11 years nursing experience.	Convenience $10 voucher remuneration.	Acute care teaching hospital across 2 units (medicine, hematology)	Individual semi-structured interviews, recorded and transcribed. Field notes taken by the interviewers.	Not reported
Drobny et al. (2019) USA	To explore peer review of nursing practice in audit processes in a rural hospital setting.	Peer review of same-specialty nurses.	Case study of multi-hospital peer review intervention	$N = 17$ (12 registered nurse peer reviewers, 5 chief nursing officers), all involved in the peer review committee. Demographics information was not reported.	Nomination and application by participants was approved by Nursing Practice Peer Review Executive Committee of the hospital network	Six rural hospitals	Survey used to determine perceptions Unprompted narrative comments.	76.5% survey response rate
Giesbers et al. (2021) Netherlands	To investigate the impact of the nurses' attributions of managerial reasons for feedback in audits and its relationship to staff engagement and burnout. Anticipation of audit added to work frustration,	Feedback on quality indicators selected by ward managers in relation to pressure area screen, patient self-reported pain scores, malnutrition risk screening, frailty in elderly, delirium, or acute illness.	Convergent mixed methods	$N = 184$ nurses received feedback across 4 wards. Of these 184 nurses, 91 nurses returned surveys (ages, genders, experience in the specialty and years qualified are all reported). Of the 184 nurses, 8 from each ward (32 total) and	Convenience	Four surgical wards in three teaching hospitals	Online survey and individual semi-structured face-to-face interviews with nurses and their manager, transcribed verbatim.	Of the 184 nurses who received feedback, 91 (49.46%) returned surveys Of the 184 nurses who received feedback, 17.4% took part in interviews

(Continues)

TABLE 1 (Continued)

Author and year, country	Aim	Type of audit	Design	Participants	Sampling	Setting	Data collection	Response rate
	feelings of not meeting job requirements, and left nurses overwhelmed			their managers (4 total) participated in interviews (36 people interviewed, with ages and genders reported)				
Michl et al. (2023) Australia	To understand how nurses talk about documentation audit in relation to their professional role.	The goal of audit was to provide oversight across the hospital of consistency of documentation, and provide scrutiny of care delivery across the different regions of the hospital. Audit was used to demonstrate service-level competency in relation to meeting accreditation requirements. The documentation audit was generally conducted twice a year by a senior nurse.	Qualitative	$N = 94$ Nurses (enrolled nurses, registered nurses and nurse managers) from nine clinical areas	Purposive sampling	Australian metropolitan health service represented clinical divisions of surgical, medical, rehabilitation, acute and community aged care, cancer and ambulatory support, critical care, antenatal and gynecological, mental health, justice health, and drug and alcohol services	14 face-to-face focus groups, recorded and transcribed. Field notes taken by the interviewers.	Not reported
Ramukumba and El Amouri (2019) United Arab Emirates	To investigate nurses' perspectives of documentation audit in the hospital, and potential improvement to the audit process.	Audit of the electronic health record documentation undertaken by participants.	Qualitative	$N = 17$ (13 quality management nurses, 4 informatics nurses). Participant demographics not reported.	Purposive sampling	Hospital in Abu Dhabi	Semi-structured interviews, and 3 focus groups of 5–6 participants	Not reported

TABLE 1 (Continued)

Author and year, country	Aim	Type of audit	Design	Participants	Sampling	Setting	Data collection	Response rate
Sinuff et al. (2015) Canada	To explore the experience of audit and feedback among ICU nurses.	Nil implemented but rather based upon the participants past experiences of audit.	Qualitative	$N = 72$ (17 intensivists, 34 nurses, 17 respiratory therapists, 1 dietician, 3 pharmacists) Varied critical care experience, no other demographics reported.	Purposive sampling	10 ICU units (5 academic ICUs, 5 community adult ICUs)	72 in-depth, semi-structured interviews (60 face to face, 12 telephone) Interviews were audio-recorded and transcribed.	Not reported

analyses nursing practice', 'engages in therapeutic and professional relationships', 'maintains the capability for practice', 'comprehensively conducts assessments', 'develops a plan for nursing practice', 'provides safe, appropriate and responsive quality nursing practice', and 'evaluates outcomes to inform nursing practice' (Table S3). These domains were intricately intertwined and presented significant crossover in integrating all the facets of the professional role of the nurse. However, distinct themes emerged, which included: (1) nurse's perceptions of audit and feedback inform patient safety; (2) perception of the motivation for audit and feedback was aligned with nurse engagement; (3) content and delivery of audit and feedback was aligned with nurse engagement; and (4) audit and feedback was viewed as a professional development opportunity.

5.1.1 | Nurse perceptions of audit and feedback inform patient safety

Patient safety was emphasized as an outcome of audit and feedback in four studies (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019). The experience of audit and feedback demonstrated that nurses engaged in audit and feedback cycles with their 'patients' at the forefront of their minds (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019). Participation in audit and feedback necessitated timely analysis and reflection of existing nursing practice to maintain nursing standards (Ramukumba & El Amouri, 2019). Nurses articulated that audit and feedback served to identify and reconcile gaps between current practice and best practice, but should be aligned to patient care priorities (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023).

5.1.2 | Perception of the motivation for audit and feedback is aligned with nurse engagement

Nurses reported motivational reasons for conducting audit and feedback, which included (a) aligning current and best practice, (b) striving to improve patient outcomes, (c) developing nursing practice, (d) for managerial or accreditation expectations, and (e) due to peer norms (Christina et al., 2016; Drobny et al., 2019; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019; Sinuff et al., 2015). Intrinsic motivation levels varied between nurses even during the occurrence of the same audit session (Christina et al., 2016; Giesbers et al., 2021). Individual factors included personality traits and perceived accountability (to patients, themselves and their work environment), which were found to directly influence the effectiveness of the audit and feedback process (Christina et al., 2016; Michl et al., 2023).

Critical thinking and analysis of the purpose of audit and feedback were identified in four studies (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019; Sinuff et al., 2015). Nurses understood that audit and feedback was undertaken because of quality improvement, critical thinking as part of

TABLE 2 Quality appraisal of primary studies.

	Item number of check list						
Qualitative study	**S1.**	**S2.**	**1.1.**	**1.2.**	**1.3.**	**1.4.**	**1.5.**
Christina et al. (2016)	Y	Y	Y	Y	Y	Y	Y
Drobny et al. (2019)	Y	N	Y	N	Y	Y	N
Michl et al. (2023)	Y	Y	Y	Y	Y	Y	Y
Ramukumba and El Amouri (2019)	Y	N	Y	U	Y	N	U
Sinuff et al. (2015)	U	Y	Y	Y	U	U	Y

Item number check list key*: S1. Are there clear research questions. S2. Do the collected data allow to address the research questions. 1.1. Is the qualitative approach appropriate to answer the research question. 1.2. Are the qualitative data collection methods adequate to address the research question. 1.3. Are the findings adequately derived from the data. 1.4. Is the interpretation of results sufficiently substantiated by data. 1.5. Is there coherence between qualitative data sources, collection, analysis, and interpretation.

	Item number of check list						
Mixed Methods	**S1.**	**S2.**	**5.1.**	**5.2.**	**5.3.**	**5.4.**	**5.5.**
Giesbers et al. (2021)	Y	Y	Y	Y	Y	Y	Y

Item number check list key*: S1. Are there clear research questions, S2. Do the collected data allow to address the research questions. 5.1. Is there an adequate rationale for using a mixed-methods design to address the research question. 5.2. Are the different components of the study effectively integrated to answer the research question. 5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted. 5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed. 5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved

*Three levels of assessment quality scores

Yes (Y) | Unclear (U) | No (N)

nursing practice, and important for shared patient goals, self-improvement, or evidence-based practice (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019). However, when nurses perceived a hierarchical top-down approach, this resulted in nurses performing auditable tasks without questioning the requirement or reason for the audit, and importantly they were disengaged (Michl et al., 2023; Sinuff et al., 2015). Low engagement, coupled with a lack of transparency and power imbalance, of the audit and feedback process led to lower levels of critical thinking and analysis skills being utilized among nurses (Sinuff et al., 2015).

5.1.3 | Content and delivery of audit and feedback is aligned with nurse engagement

The content and delivery of audit and feedback included the communication medium and style, timing, relevance or perceived relevance, actionability, and transparency of audit and feedback (Christina et al., 2016; Drobny et al., 2019; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019; Sinuff et al., 2015). When the feedback was perceived as genuinely helpful, patient-oriented, and/or actionable, it was more positively viewed by nurses compared with feedback, which had no clear link to patients or indeed nursing priorities (Christina et al., 2016; Michl et al., 2023; Sinuff et al., 2015). Poor timing of audit and feedback was an issue for nurses. For example, when it was done too early in a shift, too far after the audited event, when it interrupted direct patient care or other nursing duties, or impacted the nurses' break or personal time, negative perceptions of audit and feedback were formed (Christina et al., 2016; Michl et al., 2023; Ramukumba & El Amouri, 2019; Sinuff et al., 2015).

Nurse engagement with audit and feedback was influenced by peers and manager–nurse interactions (Giesbers et al., 2021; Michl et al., 2023; Sinuff et al., 2015). For example, nurses who worked on night shifts frequently reported being unaware of why they were being directed to perform certain tasks or complete certain forms, due to poor or day-shift communication (Sinuff et al., 2015). Other issues were identified by nurses working on night duty where they were purposefully excluded altogether from the audit process (Christina et al., 2016). Importantly, when communication about audit and feedback interventions was not transparent or conducted without a clear rationale, critical evaluation of audit and feedback purpose was lacking among nurses (Michl et al., 2023; Sinuff et al., 2015). However, when audit and feedback was perceived as relevant and was communicated effectively, nurses articulated motivation and engagement in the process (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023). Facilitating a supportive feedback environment engaged nurses by ensuring feedback delivery was appropriately timed and communicated in a constructive manner (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023).

5.1.4 | Audit and feedback was viewed as a professional development opportunity

Identification of gaps in nursing practice allowed nurses to analyze nursing practice and develop a plan for future quality improvements

in service delivery practice (Christina et al., 2016; Sinuff et al., 2015). Christina et al.'s (2016) study identified that nurses perceived continuous audit cycles as a reminder of nursing practice standards. Nurses reported that feedback of audit results needs to be actionable, not just 'fed back', because its purpose and function aims to deliver improvement in practice standards (Michl et al., 2023; Sinuff et al., 2015).

Exposure to the audit and feedback process itself was viewed as an opportunity for nurses' professional development (Drobny et al., 2019; Michl et al., 2023; Ramukumba & El Amouri, 2019; Sinuff et al., 2015). Nurses articulated that audit and feedback enriched their professional development through exposure to quality improvement tools for systemic healthcare change (Drobny et al., 2019; Ramukumba & El Amouri, 2019; Sinuff et al., 2015). Nurses reported that post-implementation, they perceived that their nursing practice had been developed through peer-learning, which also presented challenges requiring development of their critical thinking skills (Drobny et al., 2019; Ramukumba & El Amouri, 2019).

5.2 | Impact of audit and feedback on nurses' psychological well-being

The findings of the impact of audit and feedback on nurses' psychological well-being related to the following: (1) nurses' satisfaction, (2) nurse retention, (3) burnout, (4) stress, (5) motivation, and (6) overall well-being (Table S4).

5.2.1 | Nurses' satisfaction

Positive experiences of audit and feedback led to a higher incidence of satisfaction in the workplace, and negative experiences resulted in frustration, cynicism, and disengagement (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Sinuff et al., 2015). Some nurses perceived audit and feedback to be a personal attack, and experienced dissatisfaction due to feeling disenfranchised from audit and feedback (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Sinuff et al., 2015). When the audit was deemed as irrelevant to the nurses' imminent priority, nurses felt attacked and angered, which had a profound negative impact on the improvement process (Christina et al., 2016). When the nurses perceived audit and feedback as a personal attack, they did not feel valued as agents for change (Christina et al., 2016; Michl et al., 2023). Similarly, when the audit and feedback was perceived as not legitimate or was regarded as unhelpful bureaucracy, nurses were cynical of the audit process (Giesbers et al., 2021; Michl et al., 2023). Nurses also reported low satisfaction with audit and feedback when they were excluded from explanatory communications about the process and key findings (Michl et al., 2023; Sinuff et al., 2015). Nurse satisfaction of audit and feedback was impacted by the content of the audit and feedback intervention (relevance of feedback information, specificity to setting and the problem), its delivery mode (timing, individual or team), and its accessibility (transparency of motivations, rationales) (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Sinuff et al., 2015).

5.2.2 | Nurses' retention

None of the studies reported on the impact of audit and feedback processes on nursing workforce retention.

5.2.3 | Nurses' burnout

Nurses experienced burnout-like impacts from audit and feedback when it was perceived as irrelevant, and when nurses were disengaged with audit and feedback processes due to external constraints (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Sinuff et al., 2015). When nurses were given poor quality feedback, they deemed this to be 'personal' and became exasperated and angry (Christina et al., 2016). Likewise, nurses who perceived audit and feedback as irrelevant to nursing care priorities were inclined to dismiss or diminish the feedback provided to them (Christina et al., 2016).

5.2.4 | Nurses' stress

Some nurses reported that they felt 'stressed' and 'pretty negative' about their experience in the audit process (Christina et al., 2016; Michl et al., 2023). Nurses were aware of being under surveillance, which resulted in stress among nurses and prevented them from undertaking their normal duties at full capacity (Michl et al., 2023; Sinuff et al., 2015). The uncertainty of the outcome of the feedback following audit also created an element of self-doubt as to whether the nursing care that individual nurses provided was best practice or would be criticized (Sinuff et al., 2015).

5.2.5 | Nurses' motivation

The impact of audit and feedback on nurses' motivation somewhat coincided with the theme of attribution of motivation; however, we distinguish the personal impact here from the professional impact. Audit and feedback can be a positive motivator when feedback content is deemed as apt, legitimate, and relevant, or a negative motivator when feedback is interpreted as punitive, redundant, or exploitative (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023). When audit and feedback processes considered end-user input, nurses were motivated to improve the quality improvement intervention's effectiveness demonstrating feelings of ownership, participation, and self-satisfaction (Michl et al., 2023; Sinuff et al., 2015).

5.2.6 | Nurses' well-being

Audit and feedback impacted nurses' feelings of worth, support, and inclusion in collegial teams (Christina et al., 2016; Giesbers et al., 2021; Michl et al., 2023; Sinuff et al., 2015). Nurses reported different levels of resilience in the face of positive or negative feedback, ranging from resistance to receptiveness to change (Christina et al., 2016; Michl et al., 2023).

6 | DISCUSSION

This integrative systematic review set out to identify the impact of audit and feedback on the professional role of the nurse and their psychological well-being. Overall, the findings of this review have underscored that audit and feedback processes do impact upon nurses (Christina et al., 2016; Drobny et al., 2019; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019; Sinuff et al., 2015). This relationship was influenced by a range of factors, which included the content and delivery of audit and feedback, perceived and actual motivators of audit processes, the feedback environment, and the individual nurse (Christina et al., 2016; Drobny et al., 2019; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019; Sinuff et al., 2015).

The range of impacts of audit and feedback processes on the nurse reminds the reader that nurses are influenceable and influential. The review presents a growing evidence base in which nurses are agents of change in audit and feedback processes, but are not considered to interact with these processes except as tools to outcome measures (Ivers et al., 2012). This review has made an important contribution by examining audit and feedback processes among nurses, and how these processes impacted their role and their psychological well-being (Christina et al., 2016; Drobny et al., 2019; Giesbers et al., 2021; Michl et al., 2023; Ramukumba & El Amouri, 2019; Sinuff et al., 2015). While a plethora of studies exist regarding audit, many of these have not examined feedback as part of the quality improvement process, thus lacking comprehensive insight (Ivers et al., 2012; Ivers et al., 2014).

The involvement of nurses in quality improvement at the audit stage only means that nurses are subjected to critique, surveillance, and control measures without being provided the opportunity to change nursing practice (Brown et al., 2019; Tuti et al., 2017). For example, one study conducted in the United Kingdom explored surveillance of nursing standards, and audit was seen by managers as a way of confirming complaints, and was viewed punitively rather than as an inquiry tool for continual quality improvement as part of clinical governance (Cooke, 2006). This frames audit as a tool to return practice to baseline, rather than an opportunity to promote quality nursing care, and does not consider valuable nurse perspectives of the situation (Brown et al., 2019; Tuti et al., 2017).

The attributes of the professional role of the nurse and nurses' psychological well-being interaction in audit and feedback is complex, and further research is needed (Christina et al., 2016; Drobny et al., 2019; Ramukumba & El Amouri, 2019; Sinuff et al., 2015). The findings of this review highlighted the distinction between professional and personal impacts of the audit and feedback process, acknowledging that nursing is a profession in which these often overlap (de Gutiérrez & Morais, 2017; Johnson et al., 2012). The interpretation of audit and feedback data was viewed as clinically meaningful when it depended on whether or not the nurses maximized the learning opportunity, and whether nurses were interested in further participation in the intervention (Christina et al., 2016; Giesbers et al., 2021; Sinuff et al., 2015). Feedback that does not engage the nurse in a professional and sensitive manner is less effective than feedback where the nurses' personal factors are considered (Smyth et al., 2021). Feedback that provides a clear, actionable, and appropriate plan is most effective, but still dependent on content and delivery (Brown et al., 2019; Smyth et al., 2021). Standardized procedures and protocols that are required of the nurse in a professional context may not always meet the continuously evolving needs of the nurse's personal identity (Johnson et al., 2012).

Finally, the included studies did not report any relationship between nursing retention rates and audit and feedback processes, which is an interesting finding in itself, given the burden of audit activity placed on the nursing profession as a whole (Ivers et al., 2012). Elsewhere, the outcome of nurses disengaging from quality improvement activities as outlined in the reviewed studies meets the definition of burnout, and some nurses' psychological well-being was compromised, including their capacity to undertake safe and evidence-based nursing care (Bakker et al., 2014; Christina et al., 2016; Dall'Ora et al., 2020; Giesbers et al., 2021; Michl et al., 2023; Suleiman-Martos et al., 2020). Future studies might consider burnout, intention to leave, and retention rates among nurses who have had positive or negative experiences of audit and feedback. Moreover, given the emerging evidence about the psychological impact of audit and feedback among nurses, further studies are needed in this context across different clinical settings. Positive audit and feedback cycles are considered essential to successful healthcare organizations that attract and retain nurses, known as 'Magnet programs. Research into how health services move forward from unsatisfactory audit and feedback cycles to supportive feedback loops will aid development in this area (Giesbers, 2017; Sermeus et al., 2022). Interventions that include engagement and integration between audit and care teams and the use of data feedback mechanisms in the review of care quality also warrant further research.

6.1 | Limitations

This review followed a clear and transparent process; however, studies were limited to English language and consequently important studies may have been omitted. A full and comprehensive literature search was performed, capturing all relevant studies until July 2023, including checking reference lists of included studies; however, we did not conduct a gray literature check. The findings reported here are

specific to the inclusion and exclusion criteria and the definitions and interpretation of professionalism; different terms may result in alternate findings. One of the major challenges of this review was synthesizing evidence from heterogeneous study designs and methodologies, and our findings are constrained due to the methodological limitations of the primary studies included.

6.2 | Impact statement

Healthcare organizations should consider the findings in this review to support contemporary nursing workforces in their audit and implementation processes, given the impact on patient care and nurses' psychological well-being.

7 | CONCLUSION

This systematic review has provided insight into the relationship between audit and feedback processes and the professional role of the nurse and on psychological well-being. Nurses continually face a range of challenging and complex scenarios in practice, which can influence the effectiveness of the audit and feedback intervention, and thereby patient safety. Future research should examine the nurse experience of audit in an experimental setting.

AUTHOR CONTRIBUTIONS

Gabriella Michl: Conceptualization; data curation; formal analysis; writing – original draft; methodology; writing – review and editing; software. **Kasia Bail:** Conceptualization; data curation; formal analysis; writing – original draft; methodology; investigation; supervision; writing – review and editing; validation; software. **Murray Turner:** Investigation; methodology; writing – review and editing; software; project administration; data curation. **Catherine Paterson:** Conceptualization; data curation; formal analysis; writing – original draft; methodology; supervision; writing – review and editing; validation; investigation; visualization; software.

ACKNOWLEDGMENT

Open access publishing facilitated by Flinders University, as part of the Wiley - Flinders University agreement via the Council of Australian University Librarians.

CONFLICT OF INTEREST STATEMENT

None declared.

DATA AVAILABILITY STATEMENT

The data that supports the findings of this study are available in the supplementary material of this article.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Michl, G., Bail, K., Turner, M., & Paterson, C. (2024). Identifying the impact of audit and feedback on the professional role of the nurse and psychological well-being: An integrative systematic review. *Nursing & Health Sciences*, *26*(1), e13095. https://doi.org/10.1111/nhs.13095

Supplementary 1.

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Page 1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Yes
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Page 3
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Page 5
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Table 1
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Page 6
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Tables 3, 4
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Page 7
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Page 7
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Pages 5, 6
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Table 5
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Table 6
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Qualitative
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Fig 1, Table 1
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Table 5
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Tables 7, 8
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Page 7
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	n/a
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Table 6
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Table 5, Page 7
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Qualitative
RESULTS			

Supplementary 1.

Section and Topic	Item #	Checklist item	Location where item is reported
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Page 8, Figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Figure 1
Study characteristics	17	Cite each included study and present its characteristics.	Table 5
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Table 6
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Table 5
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Table 6, Page 22
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	N/A
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Table 5, Page 22
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Table 6
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Qualitative, Table 6
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Page 19-22
	23b	Discuss any limitations of the evidence included in the review.	Page 22
	23c	Discuss any limitations of the review processes used.	Page 22
	23d	Discuss implications of the results for practice, policy, and future research.	Page 22
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	N/A
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	N/A
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Page 23
Competing interests	26	Declare any competing interests of review authors.	Page 23
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Software declared in methods

Supplementary File 2 – Search strategy

The APA PsycINFO, CINAHL, Medline (all via EBSCOhost), Proquest Nursing and Allied Health, and Scopus databases were searched on 17 July 2023 to identify relevant studies. Searches were limited from date 2009 onwards and a language limiter applied to return studies in English. Searches returned a total 4013 results. Search terms and number of results by database:

APA PsycINFO (96)

(documentation AND (audit OR assessment OR evaluation OR feedback OR monitoring OR "performance improvement" OR "performance measurement" OR "quality assurance" OR "quality improvement" OR "quality measurement" OR "report cards" OR "surveillance") AND (nurs* N3 (accountab* OR "adaptive practice" OR advoca* OR "appropriate practice" OR adherence OR attitude* OR behavio* OR burnout OR "care plan" OR "clinical decision-making" OR "clinical development*" OR "clinical judgement" OR "clinical learning" OR "clinical relation*" OR "clinical thinking" OR collaborat* OR competence OR compliance OR "comprehensive assessment" OR (coordinat* N3 (care OR resources)) OR "critical thinking" OR development OR efficacy OR enable* OR empower* OR engagement OR (evaluat* N3 (nurs* OR practice)) OR "evidence-based" OR improvement OR integrity OR motivation OR (nurs* N5 scope) OR "nurse decision-making" OR "nursing assessment" OR participation OR "patient assessment" OR perception OR performance OR "professional engagement" OR "professional development" OR "professional learning" OR "professional relation*" OR reflect* OR responsib* OR "responsive practice" OR retention OR "safe practice" OR satisfaction OR stress OR "therapeutic bond" OR "therapeutic rapport" OR "therapeutic relationship" OR upskill OR "well-being" OR "work engagement" OR "workplace relation*")))

CINAHL (1,487)

(documentation AND (audit OR assessment OR evaluation OR feedback OR monitoring OR "performance improvement" OR "performance measurement" OR "quality assurance" OR "quality improvement" OR "quality measurement" OR "report cards" OR "surveillance") AND (nurs* N3 (accountab* OR "adaptive practice" OR advoca* OR "appropriate practice" OR adherence OR attitude* OR behavio* OR burnout OR "care plan" OR "clinical decision-making" OR "clinical development*" OR "clinical judgement" OR "clinical learning" OR "clinical relation*" OR "clinical thinking" OR collaborat* OR competence OR compliance OR "comprehensive assessment" OR (coordinat* N3 (care OR resources)) OR "critical thinking" OR development OR efficacy OR enable* OR empower* OR engagement OR (evaluat* N3 (nurs* OR practice)) OR "evidence-based" OR improvement OR integrity OR motivation OR (nurs* N5 scope) OR "nurse decision-making" OR "nursing assessment" OR participation OR "patient assessment" OR perception OR performance OR "professional engagement" OR "professional development" OR "professional learning" OR "professional relation*" OR reflect* OR responsib* OR "responsive practice" OR retention OR "safe practice" OR satisfaction OR stress OR "therapeutic bond" OR "therapeutic rapport" OR "therapeutic relationship" OR upskill OR "well-being" OR "work engagement" OR "workplace relation*")))

MEDLINE (1,409)

(documentation AND (audit OR assessment OR evaluation OR feedback OR monitoring OR "performance improvement" OR "performance measurement" OR "quality assurance" OR "quality improvement" OR "quality measurement" OR "report cards" OR "surveillance") AND (nurs* N3 (accountab* OR "adaptive practice" OR advoca* OR "appropriate practice" OR adherence OR attitude* OR behavio* OR burnout OR "care plan" OR "clinical decision-making" OR "clinical development*" OR "clinical judgement" OR "clinical learning" OR "clinical relation*" OR "clinical

thinking" OR collaborat* OR competence OR compliance OR "comprehensive assessment" OR (coordinat* N3 (care OR resources)) OR "critical thinking" OR development OR efficacy OR enable* OR empower* OR engagement OR (evaluat* N3 (nurs* OR practice)) OR "evidence-based" OR improvement OR integrity OR motivation OR (nurs* N5 scope) OR "nurse decision-making" OR "nursing assessment" OR participation OR "patient assessment" OR perception OR performance OR "professional engagement" OR "professional development" OR "professional learning" OR "professional relation*" OR reflect* OR responsib* OR "responsive practice" OR retention OR "safe practice" OR satisfaction OR stress OR "therapeutic bond" OR "therapeutic rapport" OR "therapeutic relationship" OR upskill OR "well-being" OR "work engagement" OR "workplace relation*")))

Proquest Nursing and Allied Health Database (328)

(documentation AND (audit OR assessment OR evaluation OR feedback OR monitoring OR "performance improvement" OR "performance measurement" OR "quality assurance" OR "quality improvement" OR "quality measurement" OR "report cards" OR "surveillance") AND (nurs* NEAR/3 (accountab* OR "adaptive practice" OR advoca* OR "appropriate practice" OR adherence OR attitude* OR behavio* OR burnout OR "care plan" OR "clinical decision-making" OR "clinical development*" OR "clinical judgement" OR "clinical learning" OR "clinical relation*" OR "clinical thinking" OR collaborat* OR competence OR compliance OR "comprehensive assessment" OR (coordinat* NEAR/3 (care OR resources)) OR "critical thinking" OR development OR efficacy OR enable* OR empower* OR engagement OR (evaluat* NEAR/3 (nurs* OR practice)) OR "evidence-based" OR improvement OR integrity OR motivation OR (nurs* NEAR/5 scope) OR "nurse decision-making" OR "nursing assessment" OR participation OR "patient assessment" OR perception OR performance OR "professional engagement" OR "professional development" OR "professional learning" OR "professional relation*" OR reflect* OR responsib* OR "responsive practice" OR retention OR "safe practice" OR satisfaction OR stress OR "therapeutic bond" OR "therapeutic rapport" OR "therapeutic relationship" OR upskill OR "well-being" OR "work engagement" OR "workplace relation*")))

Scopus (693)

(documentation AND (audit OR assessment OR evaluation OR feedback OR monitoring OR "performance improvement" OR "performance measurement" OR "quality assurance" OR "quality improvement" OR "quality measurement" OR "report cards" OR "surveillance") AND (nurs* W/3 (accountab* OR "adaptive practice" OR advoca* OR "appropriate practice" OR adherence OR attitude* OR behavio* OR burnout OR "care plan" OR "clinical decision-making" OR "clinical development*" OR "clinical judgement" OR "clinical learning" OR "clinical relation*" OR "clinical thinking" OR collaborat* OR competence OR compliance OR "comprehensive assessment" OR (coordinat* W/3 (care OR resources)) OR "critical thinking" OR development OR efficacy OR enable* OR empower* OR engagement OR (evaluat* W/3 (nurs* OR practice)) OR "evidence-based" OR improvement OR integrity OR motivation OR (nurs* W/5 scope) OR "nurse decision-making" OR "nursing assessment" OR participation OR "patient assessment" OR perception OR performance OR "professional engagement" OR "professional development" OR "professional learning" OR "professional relation*" OR reflect* OR responsib* OR "responsive practice" OR retention OR "safe practice" OR satisfaction OR stress OR "therapeutic bond" OR "therapeutic rapport" OR "therapeutic relationship" OR upskill OR "well-being" OR "work engagement" OR "workplace relation*")))

Supplementary Table 3. Overview of Findings

Study	Thinks critically and analyses nursing practice	Engages in therapeutic and professional relationships	Maintains the capability for practice	Comprehensively conducts assessments	Develops a plan for nursing practice	Provides safe, appropriate and responsive quality nursing practice	Evaluates outcomes to inform nursing practice
(Christina et al., 2016)	- Audit and feedback which is perceived as relevant helps raise awareness of gaps between current practice and best-practice.	- Team accountability towards patients means audit and feedback results can be seen as a collective effort towards good quality care.	- There is an increased perception of accountability to patients which is linked to an increased perceived importance of audit and feedback: nurses seek to fill gaps in nursing care.	Not reported	- Audit and feedback would be more effective when perceived as genuinely helpful to the nurses in their planning of their nursing care.	- Audit and feedback are disregarded in instances that audit priorities do not align with patient care priorities.	- Understanding the purpose of audit and feedback for patient care and care quality might improve appreciation of audit and feedback.
(Drobny et al., 2019)	- In the peer review intervention, participants expressed that the feedback helped them to develop their nursing practice by reflecting upon it and incorporating it into practice.	- The peer review intervention enables participants to feel comfortable communicating within the team and providing feedback to one another in a positive way.	- In the peer-review intervention, participants expressed that they felt themselves growing and learning, and that the meetings contributed to their professional development. - Participating in the intervention helped develop their nursing practice.	Not reported	Not reported	Not reported	Not reported
(Giesbers et al., 2021)	- Belief that self-improvement and identification of gaps in nursing practice are reasons for managerial-imposed audit and feedback, with the tendency to consider nursing care outcomes over self-improvement. - There is a critically identified differentiation between statistics and audit, and patient needs.	- A positive association between a supportive feedback environment (communication, delivery and receipt of feedback) and the belief that audit and feedback benefits the nurse.	- Nurses believe that audit and feedback are imposed by social norms and/or healthcare inspectorate as so compliance is a requirement of nursing practice. - These beliefs have no association with work engagement	Not reported	Not reported	Not reported	Not reported
(Michl et al. 2023)	Nurses value quality improvement but need to feel involved in the cycle of change.	Nurses describe tension between audited documentation being just bureaucratic and constructively building workflows	Audit and audited documentation are perceived as useful but the focus on completion of documentation for audit creates unintended and undesirable consequences	Not reported	Not reported	Nurses value building rapport (with nurses and patients) but this is often contrasted with requirements (organizational, legal and audit)	Nurses highlight that failed audit does not equal failed care
(Ramukumba & El Amouri, 2019)	- The belief that documentation audit contributes to patient safety via ongoing quality improvement.	Not reported	- Compliance to documentation audit due to expectations of demonstrating evidence-based practice to nurse managers and accreditation agencies, with the overarching belief that it will contribute to patient safety.	Not reported	- There was uncertainty of how to proceed with audit as it was a new experience, however it needs to occur in protected time.	- There is a need for protected time to audit so as not to impact patient care or lead to nurses working overtime.	- The audit shows “complete” or “incomplete” meaning that feedback doesn’t enable specific or partial change.
(Sinuff et al., 2015)	- Poor communication of audit and feedback reasons led to staff undertaking tasks without knowing why, without any information to critically think about the audit and feedback	- Where in-person face to face communication was lacking, night shift staff felt excluded from quality improvement initiatives, finding out through email and posters.	- Alienation of staff from audit and feedback due to lack of transparency of quality improvement measures – lost learning opportunities.	Not reported	- Timely, transparent and actionable feedback enables behaviour change and the clinical decision-	- Clinicians’ active work process disrupted where feedback is not timely or specific.	- Without knowledge of QI initiatives, no capacity to evaluate change. - Feedback where discussion is possible

	intervention, leading them to feel disenfranchised and task-focused.	- Nurses held a preference for face-to-face communication where discussions can take place, connecting feedback to specific instances or patients. - There was difficulty providing feedback compared to implementing audit due to communication challenges and change fatigue. - Audit data being fed back doesn't equal effective feedback. - Peer-to-peer information sharing was suggested to improve audit and feedback effectiveness by generating clinician engagement.	- Peer-to-peer discussions for greater clinician engagement with quality improvement, and peer-driven behaviour and attitude change towards education and compliance.		making process based on specific feedback rather than just audit information in general.	- Feedback should be patient-oriented and actionable-connected to bedside care, not abstract.	enables linking feedback content to specific instances so the clinician can reflect appropriately. Audit results being fed back does not necessarily equate to effective feedback.

Supplementary Table 4. Overview of Findings

Study	Satisfaction	Retention	Burnout	Stress	Motivation	Wellbeing
(Christina et al., 2016)	- Poor timing of feedback linked to nurses feeling attacked and negative about the feedback. - Knowing that accountability is a team effort, a shared duty for improvement minimised feelings of being attacked.	Not reported	- Feedback which was perceived as critical resulted in exasperation and anger.	- Poor timing of audit and feedback resulted in annoyance and ignoring the feedback.	- When the purpose of audit and feedback isn't understood it is seen as punitive and pointless. - Motivation to engage in audit and feedback varies with perceptions around its clinical relevance. - Feedback is more likely to be ignored or negatively responded to (laughter and/or anger) when audit criteria are perceived as irrelevant. - Nurses ignored feedback and feedback-delivery when it was ill-timed. - Nurses deliberately or spitefully chose not to fulfill audit criteria in cases where feedback was perceived as a critique. - Pairing of negative and positive feedback might increase action and change.	- Nurses became exasperated and angry when they perceived feedback as a criticism. - Nurses have varying levels of resistance or responsiveness to change and so the effect of audit on them would likely differ.
(Drobny et al., 2019)	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported
(Giesbers et al., 2021)	- Quality improvement mechanisms can exist in conflict with nurses' job satisfaction despite understanding their purpose.	Not reported	- Burnout levels are higher when nurses believe that audit and feedback is undertaken due to external constraints such as health inspectorate mandates. - Beliefs around audit and feedback being externally imposed also led to cynicism and exhaustion - Burnout was reduced when nurses believe that audit and feedback serve to improve their own practice, and patient outcomes.	Not reported	- Beliefs about the reason for audit and feedback have no association with work engagement. - Nurses were more inclined to believe that audit and feedback served to improve their practice and patient outcomes when there was a supportive feedback environment.	- Where there is a supportive feedback environment, nurses were more inclined to believe audit and feedback served to improve their practice and patient outcomes. - Where there is a supportive feedback environment, nurses were less inclined to attribute audit and feedback to cost-reduction and nurse-exploitation.
Michl et al. 2023)	-Documentation audit, while well-intended and historically useful, has unintended negative consequences on patients, nurses and workflows. Audit was focussed on select items which were not perceived as the bulk of nursing care work	Not reported	-Nurses expressed anger and frustration when they felt that their work was not fully acknowledged and valued, primarily due to the documentation misrepresenting their work. Anticipation of audit added to work frustration, feelings of not meeting job requirements, and left nurses overwhelmed.	-Nurses expressed a sense of responsibility to their patients, the nursing profession, the institution and themselves, but were concerned that competing priorities prevented them from fulfilling all obligations all of the time, and frequently felt that rapport with patients was sacrificed to meet organizational requirements	-Nurses also highlighted the importance of understanding the rationale for the change, and its proper implementation. Nurses stated that the rationale for the change was central to motivating their engagement with quality improvement interventions	Nurses described negative functional and well-being Consequences as a consequence of the audit. Perverse audit incentives resulted in inaccurate documentation, consequent inappropriate care, standardization detracting from person-centred care, time stolen from nurses and patients, and reduced nurse well-being
(Ramukumba & El Amouri, 2019)	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported
(Sinuff et al., 2015)	- Night shift clinicians expressed dissatisfaction due to their exclusion and perceived marginalisation from key	Not reported	Not reported	- Nurses felt as though they were under surveillance.	- Nurses disengaged with quality improvement processes in general when they felt excluded by the non-transparency of specific audit and feedback interventions.	- Ineffective feedback led to nurses feeling blame, marginalisation, disconnection

	communications and quality improvement projects (information is disseminated during the day).				- Nurses reported an increased sense of ownership of results when they were included in information sharing and audit and feedback implementation, leading to overall improved effectiveness of the audit and feedback. - Clinicians are more engaged with quality improvement overall and more receptive to education with peer-to-peer discussion. - Nurses might be more engaged with feedback and motivated to undertake quality improvement cycles if a specific action plan or performance targets are agreed upon in the planning stage of the intervention.	from the audit and feedback process. - Nurses felt excluded from the team when audit reasons were ineffectively communicated.