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The factors associated with workforce attrition and intention-to-leave among healthcare workers in New Zealand: a systematic literature review and meta-synthesis of qualitative research

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Despite growing concern about the stability of New Zealand's (NZ) health workforce, no prior synthesis has examined qualitative evidence on factors associated with attrition or intention-to-leave. This systematic review and meta-synthesis included 20 studies and followed the ENTREQ checklist to guide a content analysis of the literature. Seven themes were generated spanning organizational, professional, and personal levels: high workloads, unsupportive organizational culture, limited opportunities for career advancement, inadequate remuneration, a decline in professional identity, negative impacts on wellbeing, and work-life imbalance. The findings demonstrate that attrition and intention-to-leave arise from cumulative pressures across these levels, highlighting the need for coordinated retention strategies that address all domains of work experience.

KEYWORDS
attrition, healthcare workforce, intention-to-leave, New Zealand, retention, systematic review, turnover intention

1 Introduction

Healthcare workforce attrition and intention-to-leave pose significant challenges to the sustainability of the Aotearoa New Zealand (NZ) health system. Attrition refers to the permanent departure of workers from their role or profession, while intention-to-leave describes the self-reported likelihood or plan to leave one's current role or profession in the near future. Across medicine, nursing, and allied health, national projections indicate substantial workforce shortfalls (Te Wh Ora—Health New Zealand, 2023). These pressures are driven by heavy reliance on internationally trained clinicians, persistent emigration of local graduates, and rising demand for healthcare services (OECD, 2021; Lynch, 2008; Yow and Ozanne A, 2015). Together, these pressures threaten workforce stability and equitable healthcare delivery across NZ (Wakelin and Skinner, 2007; Shelker et al., 2014; North et al., 2013).

While quantitative research has identified the prevalence and correlates of attrition and intention-to-leave, it often considers factors in isolation (Clarke et al., 2026). It therefore cannot fully capture the complex, interrelated reasons that underpin these decisions. Qualitative inquiry provides critical insight into these processes by exploring lived experiences, values, and meanings, including moral distress, cultural dissonance, collegial dynamics, and loss of professional identity (Farzeen et al., 2021; Choy, 2014). However, existing qualitative studies in NZ remain fragmented across professions, settings, and methodologies. This limits the ability to generate an integrated understanding of workforce attrition (Ram et al., 2025; Walker et al., 2018; Clendon and Walker, 2011).

In the NZ context, such synthesis is particularly important given the bicultural foundations of the health system and the unique experiences of indigenous Māori and Pacific health professionals (Tofi et al., 2025; Hunter and Cook, 2020). Factors such as institutional racism, culturally unsafe environments, and inequitable career pathways may shape workforce retention in ways not fully captured by quantitative analyses (Huria et al., 2014; Wilson et al., 2022). A comprehensive synthesis of qualitative evidence is therefore needed to contextualize these experiences and inform responsive workforce strategies (Hannes and Macaitis, 2012; Barnett-Page and Thomas, 2009).

This review provides the first systematic synthesis of qualitative research on healthcare worker attrition and intention-to-leave in NZ. It aims to synthesize qualitative evidence on the factors influencing attrition and intention-to-leave among healthcare professionals in NZ, and to provide an integrated understanding of these factors across the health system.

2 Methods

2.1 Study design

This systematic review and meta-synthesis was developed and reported in accordance with the ENhancing Transparency in REporting the synthesis of Qualitative research (ENTREQ) checklist (Tong et al., 2012). It presents the qualitative findings derived from a broader mixed-methods systematic literature review, registered with the International Prospective Register of Systematic Reviews (PROSPERO CRD: 42024590168). Given the large number of studies identified through the search strategy, qualitative and quantitative components were analyzed and reported separately. A conventional content analysis approach was used to synthesize qualitative data. This study was grounded in a realist epistemology, consistent with its aim of examining the factors associated with attrition and intention-to-leave among NZ health professionals (Braun and Clarke, 2006). The research team comprised registered allied health practitioners and both early- and advanced-career academics with clinical experience in the NZ health system. The team acknowledged that their professional backgrounds and health system knowledge influenced the study design, analysis, and interpretation. Ongoing reflective discussion was undertaken throughout the research process to critically examine these influences (Braun and Clarke, 2006).

This review and meta-synthesis examined studies conducted among participants within NZ health system, encompassing a range of healthcare professions and practice settings across primary, secondary, and community care. As such, this synthesis reflects system-wide, contextual influences on workforce attrition and intention-to-leave.

2.2 Search strategy

An extensive, pre-planned electronic search was conducted in December 2024 and updated in October 2025 across the following databases: CINAHL, Ovid Medline, Cochrane Library (via Ovid), PsycINFO, and Scopus. These platforms were selected to provide comprehensive and systematic access to peer-reviewed literature on workforce-related issues among registered health professionals in NZ (Lefebvre et al., 2025). Each search strategy employed controlled vocabulary, as outlined in Supplementary Table 1.1. To complement the database search, the first 100 Google Scholar results were screened for potential inclusion (Supplementary Table 1.2). A manual search targeting gray literature was also conducted using Google, prioritizing workforce reports from professional associations and regulatory authorities that contained original qualitative data relevant to the review aim. All eligible gray literature underwent the same eligibility screening process and methodological appraisal as peer-reviewed studies. The search strategy was developed collaboratively with an Auckland University of Technology (AUT) academic librarian to ensure methodological rigor.

The initial search and data exportation into Rayyan, a systematic review management tool (Johnson and Phillips, 2018), were conducted by one reviewer (MC). Following duplicate removal, two reviewers (Mia Clarke, B. Stephen) independently conducted a reliability exercise on a random sample of 20 studies to ensure consistency in article selection based on titles and abstracts. Discrepancies were resolved through discussion and consensus before both reviewers independently conducted full-text screening.

2.3 Study eligibility

Studies were included if they presented original qualitative findings, either from dedicated qualitative designs or from the qualitative components of mixed-methods studies. Mixed-methods studies were eligible where qualitative findings could be clearly identified and contributed meaningful insight into factors associated with attrition or intention-to-leave. As this review aimed to synthesize qualitative experiences rather than estimate prevalence or effect sizes, mixed-methods studies were included when the qualitative component provided extractable data relevant to the review aim, regardless of whether the exact qualitative subsample was reported. Where sample sizes for the qualitative components were unclear, this was recognized as a reporting limitation and considered during methodological appraisal. To meet the inclusion criteria, studies were required to explore factors associated with attrition or intention-to-leave among individuals from any health profession governed by the

NZ Health Practitioners Competence Assurance Act (HPCAA) 2003 Ministry of Health (NZ), 2023). Regulated professions under this act include Chinese medicine services, chiropractic, dentistry, dental hygiene, dental technology, dental and oral health therapy, dietetics, medical laboratory science, anesthetic technology, medical imaging, radiation therapy, medicine, midwifery, nursing, occupational therapy, optometry, optical dispensing, osteopathy, paramedic services, pharmacy, physiotherapy, podiatry, psychology, and psychotherapy.

Eligible participants were currently or formerly employed in public or private healthcare settings within the NZ health system, including primary, secondary, or tertiary services. No publication date limits were imposed to ensure comprehensive inclusion of studies within the NZ context, where workforce research remains limited across many health professions.

Studies were excluded if they involved non-regulated or non-NZ-based participants, or, if mixed participant samples did not report results separately for the NZ-regulated health workers. This ensured the review remained focused on HPCAA-regulated professions, for which workforce standards and reporting practices are more consistent and comparable across studies. Additional exclusions included non-English publications, case reports, conference abstracts, and non-original research. For gray literature produced by the same author across multiple years, particularly recurring workforce surveys or professional reports, only the most recent version was included. Two reviewers (Mia Clarke, B. Stephen) independently assessed the full texts of potentially relevant studies using the predefined eligibility criteria. Disagreements were resolved through discussion and consensus.

2.4 Methodological quality assessment

The quality of included studies was assessed using the Mixed-Methods Appraisal Tool (MMAT) (Hong et al., 2018). Although only qualitative data are reported in this review, the MMAT was selected for its ability to provide a standardized approach to evaluating methodological quality across various research designs. Despite its foundations in mixed-methods research, the MMAT included well-defined criteria tailored to qualitative and mixed-method study designs. The MMAT contains 27 criteria; however, only those relevant to each study design were applied. Criteria were scored on a nominal scale as 'yes' (criterion met), 'no' (criterion not met), or 'unclear' (insufficient information). Prior to full appraisal, two reviewers (Mia Clarke) conducted a reliability exercise on a random sample of five studies to ensure consistent interpretation and application of the criteria. This process ensured alignment between the two reviewers before proceeding with the full assessment. Following this exercise, both reviewers independently appraised all included studies. Any remaining discrepancies were resolved through discussion and consensus. No studies were excluded solely on the basis of methodological quality. Rather, the MMAT was used to assist interpretation of the findings during synthesis, particularly findings from gray literature where limitations in reporting or methodological transparency may have been more apparent.

2.5 Data extraction

A single reviewer (Mia Clarke) extracted data from each included study into a standardized Microsoft Excel spreadsheet. Extracted data included study characteristics (first author surname, publication year, research design, data collection method, data analysis methods, sample size), participant characteristics (age, gender, geographical location, profession, subspeciality, practice experience, and healthcare setting), and reported outcomes related to attrition or intention-to-leave. In line with recommended approaches to qualitative synthesis, both first-order constructs (participant quotations) and second-order constructs (author interpretations) were extracted to preserve participants' voices and contextual meaning (Barnett-Page and Thomas, 2009).

2.6 Data synthesis

A content meta-synthesis approach was used to systematically identify, organize, and interpret key concepts and patterns within the data (Ayton et al., 2024). Content analysis was selected as the primary analytic approach due to its suitability for synthesizing heterogeneous qualitative evidence and enabling the development of interpretative themes across studies. Qualitative findings from both peer-reviewed studies and eligible gray literature were synthesized using the same coding and thematic analysis procedures. During synthesis, findings from gray literature were interpreted in light of MMAT appraisal results, with particular attention to limitations in sampling, data collection, analytical transparency, and reporting completeness. To enhance analytical rigor and transparency, the synthesis process was informed by established thematic approaches. Specifically, Braun and Clarke's six-phase framework was used as a procedural and reflexive guide for familiarization, inductive coding, and iterative refinement of themes (Braun and Clarke, 2006). Elements of Thomas and Harden's thematic synthesis method were then applied to support the integration of findings across studies and the development of higher-order interpretive themes (Thomas and Harden, 2008).

Following thorough familiarization with the data, analysis proceeded in three iterative stages. First, two reviewers (Mia Clarke, S. Stewart) independently conducted line-by-line coding of findings from the included studies, encompassing both participant quotations (first-order constructs) and author interpretations (second-order constructs). This process aimed to capture the meaning and context of each text segment and generate a comprehensive set of initial codes. A reflexive approach was maintained throughout to support analytical rigor and transparency in interpretation (Ahmed et al., 2025).

Second, codes were organized and clustered using Miro (miro.com), an online collaborative platform, to develop descriptive themes that summarized shared meanings across studies while remaining close to the original data. Third, analytical themes (third-order constructs) were generated through iterative team-based discussion and interpretive comparison across descriptive themes. These themes extended beyond individual study findings by identifying broader patterns and relationships aligned with the review aim (Barnett-Page and Thomas, 2009).

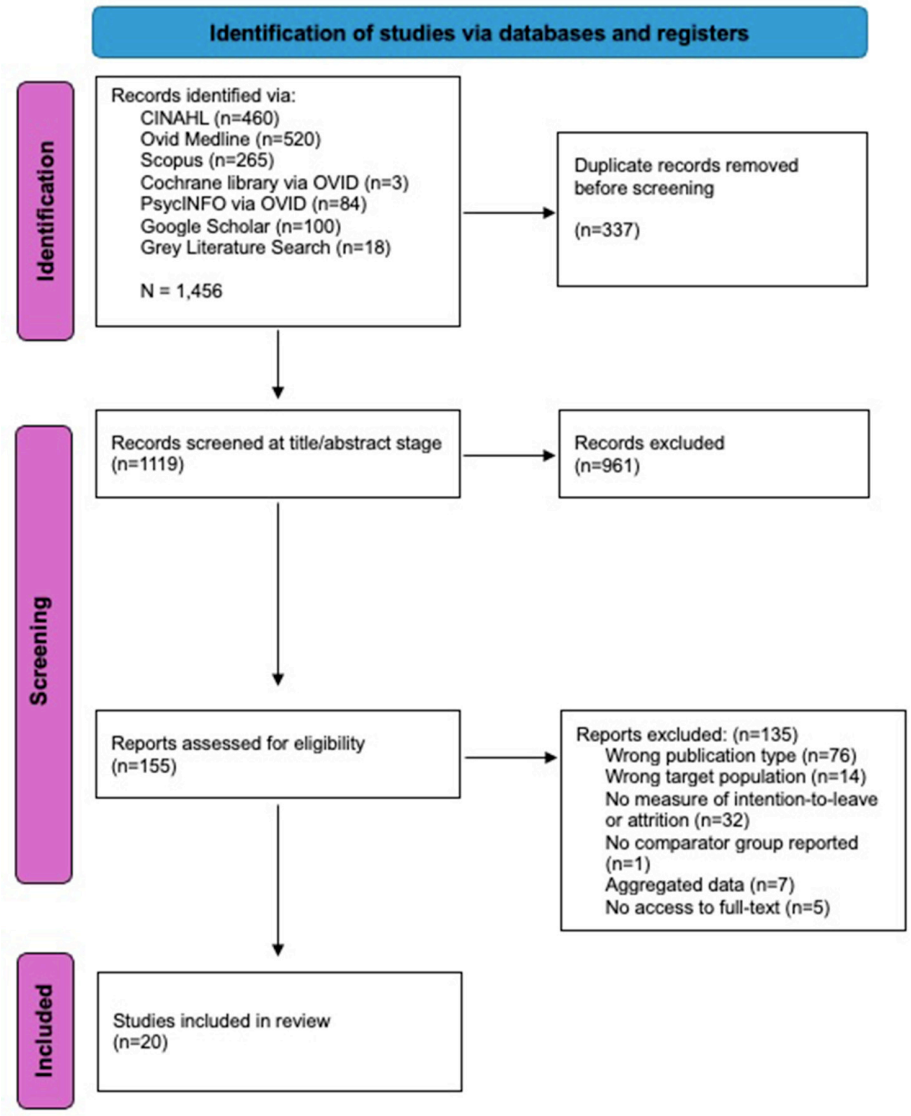

FIGURE 1
PRISMA flowchart of the systematic review process.

Themes were collaboratively refined by two authors (Mia Clarke, S. Stewart), and reviewed and approved by the wider research team. Consistency and analytical rigor were ensured through ongoing comparison between reviewers, with discrepancies in coding and theme interpretation resolved through discussion and consensus. Illustrative quotations were selected from the included studies to exemplify each theme.

3 Results

3.1 Search results

A total of 1,456 studies were identified through database and gray literature searches (Figure 1). After removal of duplicates, 1,119 studies remained for title and abstract screening. Of these, 155 full-text studies were assessed for eligibility, and 135 were excluded for reasons outlined in Figure 1. This process resulted in 20 studies being included in the final qualitative synthesis.

3.2 Study and participant characteristics

Study characteristics are summarized in Table 1, with detailed participant demographics, including gender, ethnicity, age, profession, and geographical location presented in Supplementary Table 2. All studies employed a cross-sectional design, with most ($n = 17$) adopting mixed-methods approaches that combine online open-ended survey questions with quantitative measures. Sample sizes ranged from small interview-based studies with nine participants to a national workforce survey with 1,382 participants. Owing to the inclusion of gray mixed-methods literature, the number of qualitative respondents was often unclear or aggregated within total sample sizes. Qualitative analysis

TABLE 1 Study and participants' characteristics of included studies ($n = 20$).

1st Author, Year	Aims	Profession	Theoretical framework	Analytical approach	Data collection method	Measure	Sample size[a]
Association of Salaried Medical Specialists (2022)	To explore the future intentions of the Aotearoa New Zealand senior medical workforce	Doctors; Dentists	NR	Thematic analysis	Online survey	Intention-to-leave	275[a]
Aspden et al. (2021)	To explore the characteristics, and perspectives of pharmacy as a career, of recent Bachelor of Pharmacy (BPharm, four-year degree) graduates who have left, or are seriously considering leaving the New Zealand pharmacy profession in the near future and where they have gone, or plan to go.	Pharmacists	NR	Content analysis	Semi-structured interviews	Attrition; Intention-to-leave	10[a]
Bradley et al. (2024)	To collect data on the current career satisfaction of early career pharmacists, and identify workplace factors that were most important to this group.	Pharmacists	NR	Inductive thematic analysis	Online survey	Intention-to-leave	416[b]
Chambers and Frampton (2022)	To investigate wellbeing of psychiatrists working in the public health system in New Zealand, identify the main risk factors for work-related stress, gauge perceptions of how workload has changed over time, assess job satisfaction and whether individuals intend or desire to leave their work.	Psychiatrists	Grounded theory	Thematic analysis	Online survey	Intention-to-leave	147[a]
Clendon and Walker (2011)	To identify the characteristics of younger nurse members of the New Zealand Nurses Organisation (aged under 30 – generation Y), and to explore their perceptions of nursing in New Zealand.	Nurses	NR	Thematic analysis	Online survey	Intention-to-leave	674[b]
Domett (2024)	To carry out insights research to investigate the experiences of New Zealand doctors working in the current health system.	Doctors	NR	Thematic analysis	Online survey	Intention-to-leave	1,382[b]
Jamieson et al. (2015)	To report on the analysis of qualitative, open text data, received from a national on-line survey of what factors Generation Y New Zealand Registered Nurses wish to change about nursing and consideration of the potential policy and practice impacts of these requests on their retention.	Nurses	Herzberg's motivation-Hygiene theory	Content analysis	Online survey	Intention-to-leave	271[a]
Jamieson and Taua (2009)	To identify the factors that have influenced New Zealand Registered Nurses to leave, and then return, to nursing practice.	Nurses	NR	Content analysis	Mailed survey	Attrition	32[a]

(Continued)

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TABLE 1 (Continued)

1st Author, Year	Aims	Profession	Theoretical framework	Analytical approach	Data collection method	Measure	Sample size[a]
Lynch (2008)	To provide an up-to-date stocktake of the Anatomical Pathology Scientific and Technical workforce in the Auckland metropolitan region.	Medical laboratory professionals	WHO Human Resources in Health Action framework	Thematic analysis	Informant interviews; Focus groups	Intention-to-leave	42[a]
Moloney et al. (2017)	To better understand why RNs leave the profession.	Nurses	Critical realism	General inductive thematic analysis	Semi-structured interviews	Attrition	24[a]
Pharmaceutical Society of New Zealand (2024)	To gather more data on the pressures that everyone working across the pharmacy sector is facing and the impact this is having.	Pharmacists	NR	Thematic analysis	Workforce survey	Intention-to-leave	431[b]
Du Plooy et al. (2025)	To investigate the current professional quality of life and intentions to leave the profession among mental health professionals in Aotearoa New Zealand, providing evidence to inform health workforce planning and service sustainability strategies.	Psychologists	Health services research framework	Inductive content analysis	Online survey	Intention-to-leave	380[a]
Psychology Workforce Task Group (2017)	To undertake this study a survey was designed with the following aims. 1. Identify issues that lead to psychologists leaving jobs, particularly with government agencies 2. Identify strategies that could improve retention of psychologists in job roles 3. Assess baseline satisfaction levels for psychologists within current job roles	Psychologists	Stress Scale for Mental Health Professionals	Inductive content analysis	Online survey	Intention-to-leave	634[b]
Ram et al. (2025)	To identify factors that influence internationally qualified nurses to leave NZ	Nurses	NR	Thematic analysis	Online survey	Intention-to-leave	323[a]
Satchell and Jacobs (2024)	To investigate the factors that influence the thriving of early-career nurses in Aotearoa New Zealand	Nurses	Spreitzer's Thriving at Work Model; Appreciative Inquiry	Reflexive thematic analysis	Semi-structured interviews	Intention-to-leave	9[a]
Stokes and Dixon (2018)	To provide the Occupation Therapy Board of NZ with a better understanding of the current occupational therapist workforce and how this workforce could potentially change in the future.	Occupational therapists	NR	Thematic extraction	Workforce survey	Attrition	1059[b]

(Continued)

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TABLE 1 (Continued)

1st Author, Year	Aims	Profession	Theoretical framework	Analytical approach	Data collection method	Measure	Sample size[a]
Tuckett et al. (2015)	To qualitatively add to our understanding about nurses' perceptions of reasons for leaving the profession.	Nurses	NR	Content analysis	Open ended questions posted through an electronic newsletter	Attrition	66[a]
Walker (2017)	To assess employment conditions, morale, burnout, and systemic challenges in NZ nursing workforce	Nurses	NR	Thematic analysis	Online survey	Intention-to-leave	272[a]
Walker and Clendon (2018)[b]	To examine the factors contributing to nurses choosing to exit the nursing profession before retirement age.	Nurses	NR	Thematic analysis using a general inductive approach	Online survey	Attrition	285[a]
Walker et al. (2018)[a]	To examine whether reasons reported in the international "intention to leave nursing" literature match those given by New Zealand nurses who left the profession before retirement age.	Nurses	NR	Thematic analysis	Online survey	Attrition	459[a]

[a]Qualitative sample size (when specified); [b]Total sample size.
NR, Not reported; NZ, New Zealand; RN, Registered Nurse, ASMS, Association of Salaried Medical Specialists; WHO, World Health Organisation.

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was typically thematic or content-based, although only seven studies reported an explicit theoretical framework. Publication years ranged from 2009 to 2025. Thirteen studies examined intention-to-leave, six examined attrition, and one study reported on both outcomes.

Participants represented a diverse cross-section of the NZ health workforce, spanning early-career to senior practitioners across community, hospital, primary care, aged care, education, and private sectors. Nurses were the most frequently studied group ($n = 10$), followed by physicians ($n = 3$), pharmacists ($n = 3$), psychologists ($n = 2$), medical laboratory professionals ($n = 1$), and occupational therapists ($n = 1$). Most studies ($n = 16$) reported a higher proportion of female participants, while 11 studies reported predominantly NZ European participants. Māori and Pacific participants were represented in 12 studies; however, although demographic characteristics were frequently reported, qualitative findings were rarely disaggregated or interpreted according to ethnicity, limiting the extent to which culturally specific experiences of attrition and intention-to-leave could be examined. Participants were drawn from both urban and rural regions, although detailed geographical distribution was often not reported.

3.3 Methodological quality assessment

Methodological quality was assessed using the MMAT (Figure 2). All four qualitative studies met all criteria, demonstrating appropriate study design, robust data collection, and coherence between data collection, analysis, and interpretation (Figure 2A). Mixed-methods non-randomized studies ($n = 3$) were generally of high quality, although some limitations were noted in qualitative interpretation, consideration of confounders, and justification of the mixed-method approach in one study (Figure 2B). The remaining studies ($n = 13$) were appraised under the mixed-methods descriptive category, which showed greater variability in quality (Figure 2C). While most justified their mixed-methods design and integrated components, common limitations included unclear reporting of sampling strategies, representativeness, measurement validity, and completeness of outcome data. Four studies did not meet one or more MMAT criteria within the quantitative descriptive component. Integration quality was generally adequate, although some studies did not explicitly address divergences between qualitative and quantitative findings. No clear temporal trend in methodological quality was observed across publication years.

3.4 Synthesis of qualitative studies

Thematic synthesis generated seven interrelated themes spanning organizational, professional, and personal levels (Figure 3; Supplementary Table 3). The identified themes were: high workloads; unsupportive organizational culture; limited opportunities for career advancement; inadequate remuneration; a decline in professional identity; negative impacts on wellbeing; and imbalance between work and personal life. Across the included studies, themes appeared broadly consistent between studies examining attrition and those examining intention-to-leave. Findings were therefore synthesized together, with outcome type considered during interpretation rather than used as a basis for separate thematic analysis.

Themes were grouped according to their primary level of manifestation for analytic clarity. However, many themes spanned multiple levels, with reciprocal interrelationships evident across the dataset. Figure 3 illustrates the relationships between themes, with directional arrows indicating potential pathways of influence across organizational, professional, and personal domains. Illustrative participant quotations are presented alongside each theme, with additional supporting quotations provided in (Table 2).

3.4.1 High workloads

High, unmanageable workloads were consistently identified as key drivers of attrition and intention-to-leave, reported in 18 studies. Participants described workloads as excessive, unrelenting, and increasingly complex. These were attributed to rising service demand and patient complexity that outpaced workforce capacity and available resources. Chronic staff shortages, fragmented service delivery, and inefficient staff utilization intensified workload pressures. Many participants reported feeling unable to sustain their roles long term. One psychiatrist intending to leave explained:

> *"My caseload is 150 + patients. Well above average for other parts of the service. This is reflective of significant population growth. I highlight these concerns regularly, but additional resource is not forthcoming…"* (Chambers and Frampton, 2022).

Long work hours and scheduling demands also contributed to fatigue. Shift work, on-call responsibilities, and overtime were frequently described as unsustainable. Another psychiatrist reported,

> *"the team is down in capacity by 20%…. I have to use personal study time to finish admin/place clinics…and shorten appointment times to fit more people in a week"* (Chambers and Frampton, 2022).

Administrative and credentialing burdens further compounded these pressures, with one nurse recalling doing

> *"more paperwork than patient care"* (Moloney et al., 2017).

Persistent overwork was associated with reduced wellbeing, engagement, and professional motivation, with workforce exit seen as the only realistic option to restore balance and preserve health.

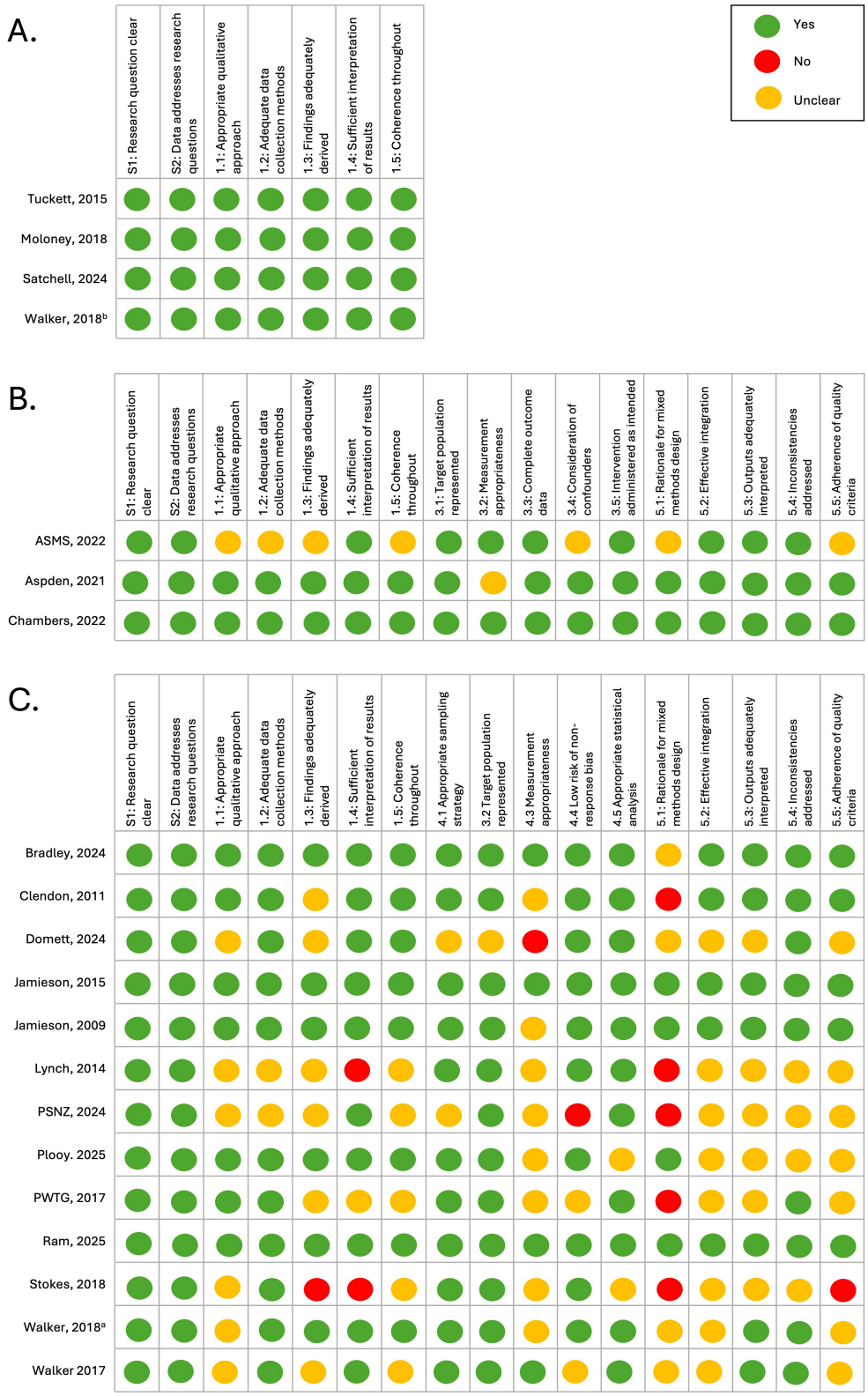

FIGURE 2
Quality assessment of included studies using the MMAT. **(A)** Qualitative; **(B)** Mixed-methods non-randomized designs; **(C)** Mixed-methods descriptive designs.

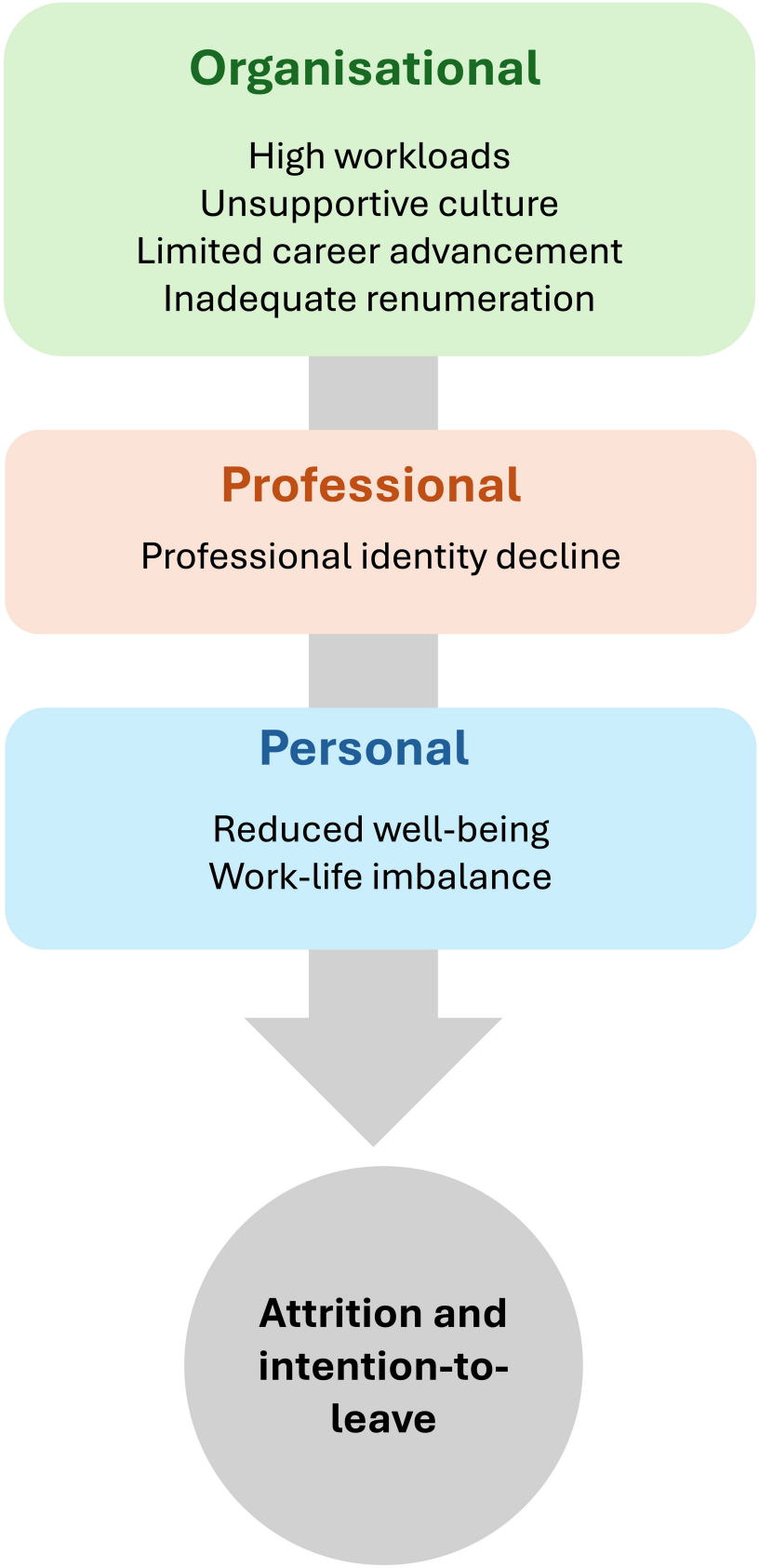

FIGURE 3
Conceptual pathway linking organizational, professional, and personal-level themes influencing attrition and intention-to-leave.

3.4.2 Unsupportive organizational culture

Unsupportive workplace cultures were reported in 17 studies as major system-level drivers of attrition and intention-to-leave. Participants described poor management support, limited communication, and weak advocacy. These factors fostered feelings of neglect, exclusion from decision-making, and diminished organizational trust. As one psychologist who had left the NZ health service reflected,

> *"When staff don't feel heard, prioritized, and supported, that has a huge impact on feelings of burnout"* (Du Plooy et al., 2025).

Another nurse stated:

> *"Bad management cause some good staff to find other jobs and leave the rest wondering why they are still there"* (Walker, 2017).

Experiences of feeling undervalued were attributed to structural and cultural features of the workplace rather than internal perceptions of competence or purpose.

Lack of organizational support during key career transitions were also commonly reported. New graduates and returning staff described inadequate orientation, mentorship, and supervision, leaving them unprepared and overwhelmed. One nurse recalled being

> *"thrown to the wolves"* (Tuckett et al., 2015).

Senior clinicians reported supervisory overload and strain from imbalanced skill mixes, limiting opportunities for peer support and professional development. Professional isolation was also common, attributed to siloed services, poor communication, and inadequate resourcing.

Toxic or dysfunctional workplace cultures further contributed to negative experiences. Participants described bullying, harassment, discrimination, and unresolved interpersonal conflict that were often tolerated or unaddressed by management. One pharmacist recounted:

> *"My internship year I was subject to bullying from the owner. And my preceptor, who was the co-owner, allowed it to continue…"* (Aspden et al., 2021).

Work environments characterized by blame, commercial pressures, and bureaucratic priorities were viewed as unsafe and demoralizing. One nurse stated:

> *"It became an unsafe environment to work in. No managerial support. The culture was not one of working as a team. Finger-pointing culture"* (Walker et al., 2018).

3.4.3 Limited opportunities for career advancement

Limited opportunities for professional growth were reported in 15 studies as factors influencing attrition and intentions-to-leave. Participants described rigid promotion structures, few defined career pathways, and limited access to training and leadership. As one nurse noted,

> *"It is very hard to go up, there are not many positions you can rise to"* (Moloney et al., 2017).

Heavy workloads and resourcing constraints often restricted participation in continuing education and upskilling. This reinforced frustration and restricted opportunities for progression. One nurse, anticipating leaving the profession, reflected:

> *"I do not think I could be on the floor for the rest of my life giving enemas"* (Moloney et al., 2017).

A perceived lack of challenge or autonomy also contributed to disengagement and career dissatisfaction. Several participants described feeling constrained by outdated service models and narrow scopes of practice that offered limited variety or intellectual stimulation. As one pharmacist observed,

> *"I wouldn't be surprised if a lot of pharmacists have left the profession simply because they got bored, it wasn't challenging enough to keep them engaged as a profession…because the scope is so small…"* (Aspden et al., 2021).

Even where advanced roles existed, they were often associated with greater administrative burden, stress, and reduced patient contact, creating tension between progression and professional fulfillment. Opportunities abroad were frequently viewed as more accessible and rewarding, with some participants considering migration as a pathway for career progression.

3.4.4 Inadequate remuneration

Financial dissatisfaction was a consistent factor influencing both attrition and intention-to-leave, reported in 14 studies. Participants described stagnant pay rates, limited financial progression, and remuneration that failed to reflect the demands and responsibilities of their roles. One participant intending to leave the nursing profession stated:

> *"Do not believe the pay is sufficient for the level of personal and professional risk, degree of autonomy, and accountability"* (Walker et al., 2018).

TABLE 2 Illustrative quotes.

Organizational factors[a]	High workloads	"Looking to exit medicine in a timely manner. Have been working 50+ hours per week during med school and throughout medical career – so nearly 3 decades now. It is increasingly complex and under-resourced in the public health sector" (Doctor, intending to leave) (Association of Salaried Medical Specialists, 2022) "We need more staff. Full stop. I love my job. I have personally achieved a huge amount in the last 5 years in my community. I'm currently watching it burn into flames. I love my town and my hospital, but I cannot stay in this chaos." (Doctor, intending to leave) (Domett, 2024)
	Unsupportive organizational culture	"I chose it [pharmacy] because there was a representation and a governing body and that's one aspect I'm a little disappointed with… I think that the [national pharmacy advocacy and training body], together with the [pharmacy regulatory body] need to step up and represent us as our own entity and promote our services and facilitate the means to meet those services, otherwise we're going to be left behind." (Pharmacist, intending to leave) (Aspden et al., 2021) "As a first year nurse in my clinical area I have felt unsupported and thrown in the deep end. I understand that we are in busy times with little money but if there was anything I (sic) could change it would be how new graduate nurses are accepted into their placements. I feel many nurses need a big attitude adjustment about this and feel if we had a more positive response more young people like myself would stay in nursing' (Nurse, left the profession) (Jamieson and Taua, 2009) "This work can be very isolating, the acuity and complexity in private is increasing and private practitioners are unsupported by crisis services. The health system is not functioning well overall in my view, and this makes practice as a psychologist very challenging." (Psychologist, intending to leave) (Du Plooy et al., 2025)
	Limited opportunities for career advancement	"There's no progression, you are a pharmacist when you come out of pharmacy school, and unless you do anything different, at 65 you're still dispensing and there's no clear path, there's no leadership, there's no mentor system, there's nothing for new leaders wanting to come through." (Pharmacist, left profession) (Aspden et al., 2021). "I have thought about leaving [my current nursing role] to try different areas, partly because of the slow progression. I had a stage where I did not feel I was learning anything new" (Nurse, intending to leave) (Satchell and Jacobs, 2024).
	Inadequate remuneration	"I think our pay is honestly shocking comparative to our level of responsibility and, yeah, the expectations of us especially as newly-registered pharmacists…I have friends who are nurses and doctors and that type of thing and it seems that they have a clear pay scale proportionate to experience, and when they have a lack of experience, they have a lower pay but that lower pay comes with increased supervision and increased support." (Pharmacist, intending to leave) (Aspden et al., 2021). "One of my interns went to Australia when she graduated and started on a salary of $NZ120k. It's depressing; I am planning to go private in the future for financial reasons, once I feel I have enough experience to be comfortable to do so." (Psychologist, indenting to leave) (Du Plooy et al., 2025)
Professional factors[a]	**Decline in professional identity**	"I used to be on the [X] District Health Board clinical advisory committee, and I discovered an institutional hostility towards pharmacists. I found that very difficult, that pharmacists are seen as shopkeepers, they're seen as having commercial interests that override health best practice." Participant 3; female, left profession" (Pharmacist, left profession) (Aspden et al., 2021) "Came to the conclusion that I no longer wanted to submit to the constant need to prove oneself capable of doing the job that I had done for so long, and so well." (Nurse, left profession) (Walker et al., 2018)
Personal factors[a]	**Negative impacts on wellbeing**	"My role takes a toll on my emotional and physical well-being, with chronic elevated workloads, poor retention and delays in recruiting, and no relieving nurses available…" (Nurse, intending to leave) (Clendon and Walker, 2011) "I love the work that I do, but am definitely putting thought into what I want the remaining years of my career to include. If the demand continued as it is right now, I would think about pulling back from certain work commitments to prioritise my own self-care and personal wellbeing." (Psychologist, intending to leave) (Chambers and Frampton, 2022)
	Imbalance between work and personal life	"Hard to manage really big and busy jobs and to manage home lives," (Nurse, intending to leave) (Moloney et al., 2017) "My husband has been retired for eight years already and though I am younger, it was time for us to do other things together." (Nurse, left profession) (Walker et al., 2018)

[a]Themes have been presented according to the level at which they predominantly manifest; however, several themes span multiple levels.

Perceived inequities across professions, settings, and experience levels reinforced a sense of being undervalued. Rising living costs and financial pressures further intensified dissatisfaction. Many participants compared their situation unfavorably with international counterparts and viewed overseas employment as a pathway to fairer pay and greater financial security. As one doctor explained,

> *"I am a locum but the rates have not changed in the last 15 years and hence I would look at moving overseas"* (Domett, 2024).

A psychologist similarly reflected,

> *"Burnout, overworked and underpaid. Knowing overseas psychologists earn much more for the same work"* (Du Plooy et al., 2025).

As a result, inadequate remuneration served both as a disincentive to long-term commitment and as a direct driver of workforce turnover.

3.4.5 Decline in professional identity

A decline in professional identity was reported in 14 studies and was associated with dissatisfaction, disengagement, and intention-to-leave. This theme captured participants' experiences of diminished value and purpose in their work. Participants described feeling that their contributions were misunderstood or undervalued by both the public and other healthcare professionals, which affected their sense of competence and belonging. As one pharmacist explained when reflecting on their decision to leave their profession:

> *"…we're constantly proving ourselves, proving our value. That should be a given"* (Aspden et al., 2021).

For some, these experiences were accompanied by self-doubt, reduced confidence, and concerns about underperformance. One nurse described:

> *"I was not performing to my own expected level of ability, nor did I feel capable of working in the areas I was interested in"* (Walker et al., 2018).

Others articulated a broader loss of meaning and disillusionment in their roles, leading to workforce exit:

> *"…Disillusioned, disappointed and nothing to show for all my effort,"* noted another pharmacist (Pharmaceutical Society of New Zealand, 2024).

Concerns about the ability to provide high-quality, patient-centered care were also reported. Participants described organizational priorities, such as rapid-discharge and financial efficiency, displacing patient-centered relational care and creating moral distress. As one psychologist intending to leave explained:

> *"The care we wish to provide to people isn't possible in the current conditions/system which feels very helpless and demotivating"* (Du Plooy et al., 2025).

3.4.6 Negative impacts on wellbeing

Negative impacts on wellbeing were reported in 13 studies. Healthcare work was frequently associated with adverse physical and mental health effects, which influenced decisions to leave. Physically, participants described fatigue and general deterioration in health, with some exiting the workforce due to injury or chronic conditions. One nurse paired their physical limitations to feelings of burdening colleagues, stating:

> *"Following shoulder surgery, I wasn't sure whether this would be fully functional, and I felt it unfair on my colleagues to 'carry' me in tasks I couldn't manage"* (Walker et al., 2018).

Mental health strain was commonly reported. Unrelenting workloads, staff shortages, and high levels of responsibility contributed to emotional exhaustion, compassion fatigue, and burnout. As one psychiatrist explained,

> *"I frequently work overtime…and that is when I'm likely to feel burnt out."* (Chambers and Frampton, 2022).

Exposure to high-pressure or traumatic situations, particularly in under-resourced settings, intensified psychological distress. For newer graduates, these demands created early vulnerability and prompted consideration of alternative roles, with some anticipating eventual burnout as an inevitable outcome. One psychologist reflected,

> *"I do think this role has a shelf life for me, in that at some stage the emotional weight of the work will no longer be sustainable…"* (Du Plooy et al., 2025).

Some participants described seeking lower-stress roles or overseas opportunities:

> *"I've had two job offers from Australia and it's tempting…. Once major debt is cleared, I am considering taking an income cut and entering a lower stress career"* (Association of Salaried Medical Specialists, 2022).

3.4.7 Imbalance between work and personal life

Work-life imbalance was a prominent driver of attrition and intention-to-leave, reported in 14 studies. Participants described roles that intruded heavily on personal time, leaving limited opportunity for rest, family, or outside interests. One nurse who had already left the profession explained,

> *"I just want to have some normality in my life. To be stress-free and wanted more time to pursue activities"* (Walker et al., 2018).

Limited employment flexibility made it difficult for many to sustain professional healthcare roles. Rigid scheduling, long or unpredictable hours, and restricted access to part-time or flexible arrangements were frequently cited as barriers to achieving balance. Family and caregiving responsibilities, including childcare and elder care, often conflicted with inflexible work structures. Several participants described gendered expectations that compounded this strain. As one young nurse shared,

> *"Having a baby next year, and the DHB is not flexible enough to employ me at a couple of days a week when my maternity leave is finished"* (Clendon and Walker, 2011).

Geographical and lifestyle factors were also described. Long commutes, rural isolation, and relocation pressures contributed to difficulties sustaining employment. One nurse who had left their profession noted:

> *"Distance from a rural area to the hospital made it difficult"* (Jamieson and Taua, 2009).

For others, lifestyle priorities such as travel, recreation, or spousal employment took precedence, tipping the balance toward leaving the healthcare workforce.

4 Discussion

This meta-synthesis provides a comprehensive overview of the factors influencing attrition and intention-to-leave among health workers in NZ. Seven distinct, but interrelated themes were identified across organizational, professional, and personal levels. Rather than functioning as discrete or independent drivers, these factors interacted cumulatively. Organizational conditions commonly acted as initiating pressures that shaped professional experiences and ultimately manifested as personal strain. Workforce exit therefore reflected the escalation of interconnected pressures over time, rather than any single isolated factor.

In contrast to much of the quantitative turnover literature, which often models factors independently, this synthesis conceptualizes attrition and intention-to-leave as dynamic processes shaped by reinforcing organizational, professional, and personal mechanisms. These findings align closely with the Job Demands-Resources (JD-R) framework, which provides a useful lens for understanding how these interrelated organizational, professional, and personal factors contribute to workforce withdrawal within the NZ health system context (Demerouti et al., 2001).

No consistent differences were observed between studies examining attrition and those focusing on intention-to-leave across professional groups, methods, or core themes. Studies examining attrition more often reflected longer-term career trajectories and retrospective decisions, while studies reporting on intention-to-leave captured current or anticipated dissatisfaction. However, these differences were subtle and did not influence thematic patterns. This supports the interpretation of attrition and intention-to-leave as closely related phenomena, situated along a continuum of workforce withdrawal, rather than categorically distinct outcomes.

High workloads emerged as a central mechanism through which system-level pressures translated into personal strain. National workforce monitoring indicates that workload intensity in healthcare exceeds that of many other occupational sectors, driven by rising patient complexity, administrative burden, and persistent workforce shortages (Te Wh Ora—Health New Zealand, 2023; Medical Council of New Zealand, 2024). While some health professions have substantially grown (Peacock et al., 2020; Maier et al., 2016), shortages remain pronounced in others and across the wider health system (Hong et al., 2024; Jo, 2023). These are further intensified by uneven regional distribution, reliance on internationally trained clinicians, and an aging workforce (OECD, 2021; Peacock et al., 2020; Hong et al., 2024).

Within the JD-R framework, these findings reflect a pattern of escalating demands occurring in the absence of sufficient organizational resources, resulting in chronic strain and heightened turnover intentions (Demerouti et al., 2001; Scanlan and Still, 2019). Viewed through the JD-R lens, sustained imbalance between job demands and organizational resources contributes to burnout and progressively erodes work engagement. This provides a useful explanation for how organizational pressures translate into downstream changes in professional identity, wellbeing, and ultimately workforce withdrawal.

Organizational culture shaped how these workload pressures were experienced. Despite repeated system restructuring, including the 2022 transition from District Health Boards to a single national entity, Te Whatu Ora Health NZ, cultural dimensions of workforce sustainability have not been consistently prioritized (Scahill, 2012). Leadership, described in the wider literature as hierarchical, disconnected, and unresponsive, contributes to perceptions of unsupportive or unsafe work environments (Rees, 2019; Labrague et al., 2020). Evidence suggests that inclusive, relational, and visible leadership can buffer the effects of high workloads and improve staff retention, highlighting leadership capability as a key component of workforce stabilization (Jerab and Mabrouk, 2023). Supportive leadership and positive organizational culture therefore represent important organizational resources that help offset high job demands, enhance engagement, and reduce the likelihood of attrition and intention-to-leave (Demerouti et al., 2001).

Career development pathways remain inconsistent throughout the NZ health sector, particularly for allied health professions. While initiatives such as Te Ara Tarai (a career development guide for allied health) provide a framework for progression, uptake and implementation vary widely across professions (Ministry of Health (NZ), 2025). Other systemic barriers, including limited protected learning time and access to training, are known challenges, particularly in NZ's rural and high-needs regions (George et al., 2019; Adams and Carryer, 2019). Alongside career progression, equitable remuneration plays an important role in workforce retention. Pay disparities within the sector and relative to Australia also remain problematic despite ongoing funding initiatives (Health New Zealand, 2018; Goodyear-Smith and Ashton, 2019). These challenges are further intensified by NZ's high cost of living, particularly in major urban centers (Yao et al., 2017), reinforcing professional and personal strain. Together, these conditions reduce the attractiveness of remaining in the profession while increasing the appeal of alternative employment or migration (OECD, 2021; Hitchon et al., 2024). Collectively, these constitute key job resources within the JD-R framework. When these resources are limited, the imbalance between job demands and organizational resources is further exacerbated, increasing disengagement and workforce withdrawal (Demerouti et al., 2001).

The cumulative effect of these organizational pressures was reflected in a decline in professional identity. From a Social Identity Theory perspective, professional identity is shaped by clinicians' sense of belonging, value, cohesion, and alignment with the norms and purpose of their professional group (Stets and Burke, 2000). Organizational conditions that undermine autonomy, recognition, or the ability to provide care consistent with professional values may therefore weaken professional identification. Identity strain may be particularly pronounced during periods of organizational change (Porter and Wilton, 2020), such as the transition to Te Whatu Ora (Health NZ), during which uncertainty, instability, and resource constraints were widely reported (Deloitte, 2024; Health New Zealand, 2024; Akmal et al., 2023). Similar challenges have been documented among NZ's social workers, optometrists, and public health physicians, suggesting that declining professional identity reflects broader systemic pressures rather than profession-specific issues (Beddoe, 2013; Lam et al., 2023; Te Whatu Ora—Health New Zealand, 2024; Health New Zealand, 2024; Handy et al., 2020; Thompson, 2015). In this synthesis, clinicians ability to practice in ways aligned with their professional values or sense of purpose may have contributed to diminished wellbeing and increased likelihood of workforce withdrawal (Stets and Burke, 2000). These findings suggest that professional identity decline may not be a simple individual-level experience, but a key pathway between organizational conditions and workforce exit.

Negative impacts on wellbeing emerged as a downstream consequence of these organizational and professional pressures. Burnout, emotional exhaustion, and psychological distress are widely reported among NZ health workers (Chambers and Frampton, 2022; Nicholls et al., 2021), representing the health impairment pathway proposed by the JD-R framework, whereby sustained job demands in the absence of adequate organizational resources result in declining wellbeing and workforce withdrawal (Demerouti et al., 2001).

Work-life imbalance was similarly shaped by higher-level conditions and is consistently associated with workforce withdrawal in international literature (Ocean and Meyer, 2023; AbdELhay et al., 2025). Within this synthesis, declines in wellbeing and work-life balance represent critical thresholds at which cumulative pressures become untenable. This reinforces the interpretation of attrition and intention-to-leave as rational, self-protective responses rather than individual failures of resilience or commitment.

Although nine of the included studies were published after 2020, COVID-19 did not emerge as a distinct analytical theme contributing to attrition or intention-to-leave. This should be interpreted cautiously, as most included studies were not designed to examine pandemic-related impacts. Rather than acting as an independent driver of workforce withdrawal, the pandemic may have amplified pre-existing structural pressures.

4.1 Strengths and limitations

This review provides a comprehensive synthesis of factors associated with attrition and intention-to-leave among NZ health professionals. Key strengths include a robust and systematic search strategy across multiple databases, the inclusion of both peer-reviewed and gray literature to capture diverse perspectives, and independent dual screening and coding processes to enhance methodological rigor and minimize bias.

However, several limitations must be acknowledged. The inclusion of gray literature improved contextual relevance but introduced variability in methodological quality and reporting standards. Considerable heterogeneity across professions, analytical approaches, and theoretical frameworks may also have influenced theme development. Although common themes were identified across professions, synthesizing findings across multiple health disciplines may have reduced the visibility of profession-specific experiences and contextual nuances. In addition, the two-decade span of included studies means some findings may reflect period-specific issues.

The data included in this review may have been subject to publication bias, whereby studies reporting dissatisfaction, stress, or workforce exit, were more likely to be conducted, published, or identified than studies describing positive workplace experiences, workplace retention, or reasons for remaining in the workforce. Selection bias may also be present, particularly given the predominance of voluntary, survey-based studies. Many HPCAA-regulated professions were underrepresented, which limits the transferability of findings and suggests that smaller or less-studied professions may face distinct and underexplored challenges. As a qualitative meta-synthesis, this review did not quantify or weight the relative importance of themes. Although theme frequency is reported, it should not be interpreted as an indicator of causal strength or priority. While this limits conclusions about relative influence, it supports understanding of how cumulative and interacting pressures contribute to attrition and intention-to-leave.

Although participant ethnicity was reported in many studies, qualitative findings were rarely disaggregated or interpreted according to ethnicity. Consequently, it was not possible to examine whether Māori and Pacific health professionals experienced distinct factors influencing attrition or intention-to-leave. This limited the ability of the review to fully address culturally specific and systemic influences on workforce withdrawal, including racism, culturally unsafe workplaces, and inequitable access to support, leadership, and career development opportunities. This is particularly important given the systemic and cultural challenges faced by Māori and Pacific health professionals, including cultural loading, the additional, often unrecognized expectation to provide cultural leadership and advocacy within health systems that may not align with their values (Tofi et al., 2025). These additional organizational and cultural demands may therefore contribute to attrition and intention-to-leave in ways that could not be explored within the available evidence.

Future research should prioritize ethnicity-specific qualitative analysis and Kaupapa Māori and Pacific-informed research approaches to better understand the experiences of Māori and Pacific health workers. Greater use of qualitative research employing clearly articulated theoretical frameworks may strengthen interpretive depth and comparability. In addition, mixed-methods and longitudinal research could help clarify the relative influence and temporal progression of factors contributing to attrition and intention-to-leave.

4.2 Implications for policy and practice

The findings of this review highlight the need for coordinated, system-level strategies to address the multifactorial drivers of attrition and intention-to-leave among health professionals in NZ. Interventions focused solely on individual resilience or isolated incentives are unlikely to be effective without concurrent attention to organizational conditions and workforce structures. Strengthened national workforce planning and data systems are essential to support proactive resourcing, reduce regional inequities, and ensure service continuity. This should include improved workforce monitoring, demand forecasting, and targeted investment in under-resourced professions and regions.

Organizational interventions should prioritize leadership development and workplace culture. Leadership training that emphasizes relational, inclusive, and responsive practices may help mitigate workload pressures and improve staff engagement (Jerab and Mabrouk, 2023). Organizations should also support staff participation in decision making and ensure access to appropriate supervision and support.

Clear, equitable, and well-supported career development pathways are essential, particularly within allied health. This includes structured progression frameworks, access to funded continuing professional development, and protected time for training and upskilling. Remuneration structures should also be routinely reviewed to ensure alignment with the complexity and demands of healthcare provision. Addressing pay disparities, both within NZ and relative to international markers, is critical to reduce workforce loss through emigration.

Finally, workforce strategies should be subject to ongoing monitoring and evaluation. This requires the development of measurable indicators of workforce sustainability, alongside regular review to ensure policies remain responsive to evolving workforce conditions.

5 Conclusion

This meta-synthesis highlights the interrelated organizational, professional, and personal-level factors influencing attrition and intention-to-leave among NZ's health workforce. This research demonstrates that interventions targeting a single personal or professional level are unlikely to be effective without concurrent attention to the wider organizational environment in which health workers practice. Continued research and responsive policy action are essential to building a resilient, supported, and sustainable workforce capable of meeting NZ's future healthcare needs.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

MCl: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. BS: Data curation, Formal analysis, Writing – review & editing. MF: Conceptualization, Formal analysis, Supervision, Writing – review & editing. IZ: Conceptualization, Methodology, Writing – review & editing. MCa: Supervision, Writing – review & editing. RS: Conceptualization, Methodology, Supervision, Writing – review & editing. SS: Data curation, Formal analysis, Methodology, Supervision, Writing – original draft, Writing – review & editing.

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Conflict of interest

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships

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Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/forgp.2026.1777186/full#supplementary-material

References

AbdELhay, E. S., Taha, S. M., El-Sayed, M. M., Helaly, S. H., and AbdELhay, I. S. (2025). Nurses retention: the impact of transformational leadership, career growth, work well-being, and work-life balance. *BMC Nurs.* 24:148. doi: 10.1186/s12912-025-02762-1

Adams, S., and Carryer, J. (2019). Establishing the nurse practitioner workforce in rural New Zealand: barriers and facilitators. *J. Prim. Health Care* 11, 152–158. doi: 10.1071/HC18089

Ahmed, S. K., Mohammed, R. A., Nashwan, A. J., Ibrahim, R. H., Abdalla, A. Q., Ameen, B. M. M., et al. (2025). Using thematic analysis in qualitative research. *J. Med. Surg. Public Health* 6:100198. doi: 10.1016/j.glmedi.2025.100198

Akmal, A., Podgorodnichenko, N., Gauld, R., and Stokes, T. (2023). New Zealand Pae Ora healthcare reforms 2022: viable by design? a qualitative study using the viable system model. *Int. J. Health Policy Manag.* 12:7906. doi: 10.34172/ijhpm.2023.7906

Aspden, T. J., Silwal, P. R., Marowa, M., and Ponton, R. (2021). Why do pharmacists leave the profession? a mixed-method exploratory study. *Pharm. Pract.* 19:2332. doi: 10.18549/PharmPract.2021.2.2332

Association of Salaried Medical Specialists (2022). *Over the Edge*. Wellington: Association of Salaried Medical Specialists.

Ayton, D., Tsindos, T., and Berkovic, D. (2024). *Qualitative Research: a Practical Guide*. Melbourne: Monash University.

Barnett-Page, E., and Thomas, J. (2009). Methods for the synthesis of qualitative research. *BMC Med. Res. Methodol.* 9:59. doi: 10.1186/1471-2288-9-59

Beddoe, L. (2013). Health social work: professional identity and knowledge. *Qual. Soc. Work* 12, 24–40. doi: 10.1177/1473325011415455

Bradley, F., Hammond, M., and Braund, R. (2024). Career outlook and satisfaction in the presence of workload intensification—a survey of early career pharmacists. *Int. J. Pharm. Pract.* 32, 164–169. doi: 10.1093/ijpp/riad084

Braun, V., and Clarke, V. (2006). Using thematic analysis in psychology. *Qual Res Psychol.* 3, 77–101. doi: 10.1191/1478088706qp063oa

Chambers, C. N., and Frampton, C. M. (2022). Burnout, stress and intentions to leave work in New Zealand psychiatrists; a mixed methods cross sectional study. *BMC Psych.* 22:380. doi: 10.1186/s12888-022-03980-6

Choy, L. T. (2014). The strengths and weaknesses of research methodology. *IOSR J. Humanit. Soc. Sci.* 19, 99–104. doi: 10.9790/0837-194399104

Clarke, M., Stephen, B., Fecklington, M., Zeng, I., Caroll, M., and Stewart, S. (2026). The prevalence and factors associated with workforce attrition and intention-to-leave among healthcare workers in New Zealand: a systematic literature review and meta-analysis. *J. Rev. Soc. N Z* 56:e70025. doi: 10.1002/snz2.70025

Clendon, J., and Walker, L. (2011). Characteristics and perceptions of younger nurses in New Zealand. *Kaitiaki Nurs. Res.* 2, 4–11. doi: 10.3316/informit.776867026217347

Deloitte (2024). *Health NZ Financial Management Review 2024*. Wellington (NZ): Deloitte. Available online at: https://www.tewhatuora.govt.nz/publications/health-nz-financial-management-review

Demerouti, E., Bakker, A. B., Nachreiner, F., and Schaufeli, W. B. (2001). The job demands-resources model of burnout. *J. Appl. Psychol.* 86:499. doi: 10.1037/0021-9010.86.3.499

Domett, T. (2024). *New Zealand Women in Medicine Workforce Survey 2024*. Wellington: NZWIM.

Du Plooy, K., Stewart, M., Kercher, A., Hsu, C. W., and Tan, V. (2025). Health workforce sustainability in mental health services: a qualitative analysis of factors affecting psychologist retention in Aotearoa New Zealand. doi: 10.21203/rs.3.rs-6753953/v1

Farzeen, T., Malik, S., and Hussain, R. (2021). Interviews in healthcare: a phenomenological approach. *J Public Health Int.* 4, 10–15. doi: 10.14302/issn.2641-4538.jphi-21-3881

George, J., Larmer, P., and Kayes, N. (2019). Strengthening the rural allied health workforce. *Rural Remote Health.* 19:4878.

Goodyear-Smith, F., and Ashton, T. (2019). New Zealand health system. *Lancet* 394, 432–42. doi: 10.1016/S0140-6736(19)31238-3

Handy, J., Warren, L., Hunt, M., and Gardner, D. (2020). Managing professional identity within a changing market environment: New Zealand optometrists' responses to the growth of corporate optometry. *Kotuitui N. Z. J. Soc. Sci. Online* 15, 204–216. doi: 10.1080/1177083X.2019.1700137

Hannes, K., and Macaitis, K. (2012). Systematic and transparent approaches in qualitative evidence synthesis. *Qual. Res.* 12, 402–42. doi: 10.1177/1468794111432992

Health New Zealand (2018). *Pay Disparities*. Wellington (NZ): Health New Zealand. Available online at: https://www.healthnz.govt.nz/health-professionals/employment-information-agreements/pay-equity-framework/pay-disparities?utm_source=chatgpt.com

Health New Zealand (2024). *About Te Whatu Ora–Health New Zealand [Internet]*. Wellington (NZ): Health New Zealand. Available online at: https://www.tewhatuora.govt.nz/corporate-information/our-health-system/organisational-overview/about-health-new-zealand

Hitchon, E. G., Eggleston, K., Mulder, R. T., Porter, R. J., and Douglas, K. M. (2024). The Aotearoa New Zealand doctor shortage: current context and strategies for retention. *N. Z. Med. J.* 137, 9–13. doi: 10.26635/6965.6553

Hong, C. Y., Merriman, M., Wilson, G., and Hong, S. C. (2024). Update and projections for New Zealand's ophthalmology workforce. *New Zealand Med. J.* 137, 27–36. doi: 10.26635/6965.6361

Hong, Q. N., Gonzalez-Reyes, A., and Pluye, P. (2018). Improving the mixed methods appraisal tool. *J. Eval. Clin. Pract.* 24, 459–67. doi: 10.1111/jep.12884

Hunter, K., and Cook, C. (2020). Cultural and clinical practice realities of Māori nurses in Aotearoa New Zealand. *Nurs. Praxis N Z.* 36, 7–23. doi: 10.36951/27034542.2020.011

Huria, T., Cuddy, J., Lacey, C., and Pitama, S. (2014). Working with racism: perspectives of Māori registered nurses. *J. Transcult. Nurs.* 25, 364–72. doi: 10.1177/1043659614523991

Jamieson, I., Kirk, R., Wright, S., and Andrew, C. (2015). Generation Y New Zealand Registered Nurses' views about nursing work: a survey of motivation and maintenance factors. *Nurs. Open* 2, 49-61. doi: 10.1002/nop2.16

Jamieson, I., and Taua, C. (2009). Leaving from and returning to nursing practice: contributing factors. *Nurs. Praxis New Zealand* 25, 15–27.

Jerab, D., and Mabrouk, T. (2023). The role of leadership in changing organizational culture. doi: 10.2139/ssrn.4574324

Jo, E. (2023). Podiatrists' *Workforce Forecasting Model Update 2023*. Health New Zealand | Te Whatu Ora. Available online at: https://www.healthnz.govt.nz/publications/workforce-forecast-models-oia (Accessed April 8, 2026).

Johnson, N., and Phillips, M. (2018). Rayyan for systematic reviews. *J. Electron. Resour. Librariansh*. 30, 46–48. doi: 10.1080/1941126X.2018.1444339

Labrague, L. J., Nwafor, C. E., and Tsaras, K. (2020). Influence of toxic and transformational leadership practices on nurses' job satisfaction, job stress, absenteeism and turnover intention: a cross-sectional study. *J. Nurs. Manag.* 28, 1104–1113. doi: 10.1111/jonm.13053

Lam, S. J., Lynd, L. D., and Marra, C. A. (2023). Pharmacists' satisfaction with work and working conditions in New Zealand—an updated survey and a comparison to Canada. *Pharmacy* 11:21.doi: 10.3390/pharmacy11010021

Lefebvre, C., Glanville, J., Briscoe, S., Littlewood, A., Marshall, C., Metzendorf, M. I., et al. (2025). "Searching for and selecting studies," in *Cochrane Handbook for Systematic Reviews of Interventions. Version 6.5.1*, eds., J. P. T Higgins, J. Thomas (Hoboken, NJ: Wiley), 67–107.

Lynch, A. C. (2008). So why are New Zealand-trained doctors leaving? *N Z Med. J.* 121, 6–8.

Lynch, C., Harris, M., Blackwell, A., and NRA Project Team. (2014). *Anatomical Pathology Scientific and Technical Workforce Situation Analysis*. Available online at: https://apex.org.nz/wp-content/uploads/2014-09-01-Anatomical-Pathology-Scientific-and-Technical-Workforce-Project-Final.pdf (Accessed December 03, 2025).

Maier, C. B., Barnes, H., Aiken, L. H., and Busse, R. (2016). Descriptive, cross-country analysis of the nurse practitioner workforce in six countries: size, growth, physician substitution potential. *BMJ Open* 6:e011901. doi: 10.1136/bmjopen-2016-011901

Medical Council of New Zealand (2024). *The New Zealand Medical Workforce in 2024*. Wellington: Medical Council of New Zealand.

Ministry of Health (NZ) (2023). *Responsible Authorities Under the Act*. Wellington (NZ): Ministry of Health. Available online at: https://www.health.govt.nz/regulation-legislation/health-practitioners/responsible-authorities (Accessed December 03, 2025).

Ministry of Health (NZ) (2025). *Te Awa Tārai–A Career Development Guide For Allied Health*. Wellington (NZ): Ministry of Health. Available online at: https://www.health.govt.nz/publications/te-awa-tarai-a-career-development-guide-for-allied-health-hauora-haumi

Moloney, W., Boxall, P., Parsons, M., and Sheridan, N. (2017). Which factors influence New Zealand registered nurses to leave their profession?. *N. Zealand J. Employ. Relat.* 43, 1–13. doi: 10.3316/informit.310511224053365

Nicholls, M., Hamilton, S., Jones, P., Frampton, C., Anderson, N., Tauranga, M., et al. (2021). Workplace wellbeing in emergency departments in Aotearoa New Zealand 2020. *N. Z. Med. J.* 134, 96–110.

North, N., Leung, W., and Lee, R. (2013). New graduate separations from New Zealand's nursing workforce in the first 5 years after registration. *J. Adv Nurs.* 70, 1813–24. doi: 10.1111/jan.12339

Ocean, N., and Meyer, C. (2023). Satisfaction and attrition in the UK healthcare sector over the past decade. *PLoS ONE* 18:e0284516. doi: 10.1371/journal.pone.0284516

OECD (2021). *Health at a Glance* 2021: *OECD Indicators*. Paris: OECD Publishing.

Peacock, A., Adams, B., and Tan, S. (2020). Plastic and reconstructive surgery workforce. *Australas. J. Plast. Surg.* 3-10. doi: 10.34239/ajops.v3n2.206

Pharmaceutical Society of New Zealand (2024). *Pharmacy Workforce Survey 2024*. Wellington: Pharmaceutical Society of New Zealand Inc.

Porter, J., and Wilton, A. (2020). Professional identity of allied health staff associated with a major health network organizational restructuring. *Nurs. Health Sci.* 22, 1103–1110. doi: 10.1111/nhs.12777

Psychology Workforce Task Group (2017). *Retaining the Psychology Workforce*. Available online at: https://cdn.prod.website-files.com/6629c7c5b8a3b236ee45e8f0/673010d71533c41ff2dea4fa_Retaining-Psychology-Workforce-Health-2017.pdf (Accessed December 03, 2025).

Ram, F. S. F., McDonald, E. M., Kuttan, A., and Sudarsan, I. (2025). Nursing brain drain: retaining internationally qualified nurses. *Policy Polit Nurs Pract.* 26, 136–43. doi: 10.1177/15271544251314338

Rees, G. H. (2019). The evolution of New Zealand's health workforce policy and planning system: a study of workforce governance and health reform. *Hum. Res. Health* 17:51. doi: 10.1186/s12960-019-0390-4

Satchell, E., and Jacobs, S. (2024). What matters to you? a qualitative investigation of factors that influence Aotearoa New Zealand early-career nurses to thrive in the workplace. *Nurs. Prax. Aotearoa N. Z.* 40:1. doi: 10.36951/001c.120581

Scahill, S. L. (2012). Organisational culture in New Zealand healthcare. *N Z Med J.* 125:79-89.

Scanlan, J. N., and Still, M. (2019). Relationships between burnout, turnover intention, job satisfaction, job demands and job resources for mental health personnel in an Australian mental health service. *BMC Health Serv. Res.* 19:62. doi: 10.1186/s12913-018-3841-z

Shelker, W., Poole, P., Bagg, W., Wood, I., and Glue, P. (2014). Postgraduation retention of medical students from Otago and Auckland medical programmes. *N Z Med J.* 127, 47–54

Stets, J. E., and Burke, P. J. (2000). Identity theory and social identity theory. *Soc. Psychol. Quart.* 63, 224–237. doi: 10.2307/2695870

Stokes, F., and Dixon, H. (2018). *Making Sense of the Numbers: The Occupational Therapist Workforce*. Prepared for the Occupational Therapy. Board of New Zealand, BERL (Business and Economic Research Limited).

Te Wh Ora—Health New Zealand (2023). *Health Workforce Plan 2023/24*. Wellington (NZ): Te Whatu Ora. Available online at: https://www.tewhatuora.govt.nz/publications/health-workforce-plan-202324

Te Whatu Ora—Health New Zealand (2024). *Pharmacy Workforce [Internet]*. Wellington (NZ): Te Whatu Ora—Health New Zealand. Available online at: https://www.tewhatuora.govt.nz/corporate-information/planning-and-performance/health-workforce/health-workforce-plan-2024/profession-specific-analysis/pharmacy

Thomas, J., and Harden, A. (2008). Methods for thematic synthesis. *BMC Med. Res. Methodol.* 8:45. doi: 10.1186/1471-2288-8-45

Thompson, L. (2015). Leaving the stethoscope behind: public health doctors and identity work. *Crit. Public Health* 25, 89–100. doi: 10.1080/09581596.2014.894241

Tofi, U., Kayes, N. M., and Wilson, B. J. (2025). Experiences and perspectives of thriving (or not) as Māori and Pacific allied health professionals. *N Z Med. J.* 138, 95–105. doi: 10.26635/6965.6697

Tong, A., Flemming, K., McInnes, E., Oliver, S., and Craig, J. (2012). ENTREQ reporting guideline. *BMC Med Res Methodol.* 12:181. doi: 10.1186/1471-2288-12-181

Tuckett, A., Winters-Chang, P., Bogossian, F., and Wood, M. (2015). 'Why nurses are leaving the profession… lack of support from managers': what nurses from an e-cohort study said. *Int. J. Nurs. Pract.* 21, 359–366. doi: 10.1111/ijn.12245

Wakelin, K., and Skinner, J. (2007). Staying or leaving: a telephone survey of midwives exploring the sustainability of practice as lead maternity carers in one urban region of New Zealand. *N Z Coll. Midw. J.* 37, 10–14.

Walker, L. (2017). *NZNO Employment Survey 2017*. Wellington (NZ): NZNO.

Walker, L., and Clendon, J. (2018). Early nurse attrition in New Zealand and associated policy implications. *Int. Nurs. Rev.* 65, 33–40. doi: 10.1111/inr.12411

Walker, L., Clendon, J., and Willis, J. (2018). Why older nurses leave the profession. *Kaitiaki Nurs. Res.* 9, 5–11. doi: 10.3316/informit.080406975795719

Wilson, D., Barton, P., and Tipa, Z. (2022). Rhetoric, racism, and reality for the Indigenous Māori nursing workforce. *Online J. Issues Nurs.* 27:Man02. doi: 10.3912/OJIN.Vol27No01Man02

Yao, C., Parker, J., Arrowsmith, J., and Carr, S. C. (2017). The living wage as an income range for decent work and life. *Employee Relat.* 39, 875–887. doi: 10.1108/ER-03-2017-0071

Yow, A., Ozanne A, andAudas R. (2015). Carousel and conveyor belt: the migration of doctors in New Zealand. *Labo. Ind. J. Soc. Econ. Relat. Work* 25, 219–234. doi: 10.1080/10301763.2015.1081479