The Determinants of Workforce Crisis in Healthcare: A Systematic Review

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Abstract: *Healthcare workforce instability encompasses intentions to leave, completed departures, reduced working hours, and uneven deployment, yet these outcomes are conflated. Evidence on contributing factors is dispersed across professions, settings, and study designs, complicating comparisons and policy interpretation. This paper maps the determinants investigated in healthcare workforce research while distinguishing their associated employment outcomes. A structured narrative evidence map assembled 58 candidate publications with digital object identifiers from 2015 to 2025 through targeted discovery, reference tracing, and bibliographic reconciliation. Publications were classified by determinant domain and workforce outcome, with interpretations differentiated by study design. Forty-six publications, representing 79.3 percent of the catalogue, primarily examined intention to leave; three addressed completed attrition and three combined stated and completed outcomes. Remaining publications examined hypothetical job preferences, planned working-hour reductions, or workforce presence and deployment. Reported determinants included workload, burnout, job satisfaction, leadership, rewards, workplace safety, professional development, digital conditions, and rural placement. The proposed framework integrates determinant levels with distinct workforce outcomes without equating associations with causation. Because reproducible searching, independent screening, and formal risk-of-bias appraisal were unavailable, future research should validate this map and prioritize recorded employment outcomes for workforce policy evaluation.*

Keywords: Healthcare Workforce Crisis; Workforce Retention; Turnover Intention; Occupational Burnout; Workforce Determinants.

1. Introduction

Healthcare systems depend not only on the number of professionals but also on their retention, distribution, well-being, and capacity to provide care. Workforce crises arise through pressures, including staffing shortages, excessive workloads, occupational burnout, dissatisfaction, professional attrition, and geographical maldistribution. These pressures may compromise service continuity and place demands on employees who remain in practice. However, workforce instability encompasses distinct outcomes: considering resignation, changing employers, leaving clinical practice, reducing working hours, and being temporarily absent from an assigned post are not equivalent. Muir et al. (2024) documented reasons reported by nurses who had left healthcare, including burnout, understaffing, retirement, and family obligations. By contrast, Wen et al. (2018) examined factors associated with primary-care physicians' intentions to leave, including work pressure, salary, promotion, and satisfaction. Recognizing these differences is essential for interpreting determinants accurately and developing responses appropriate to specific workforce problems.

Research identifies determinants operating at individual, occupational, organizational, and health-system levels, yet its findings are dispersed across professional groups, countries, research designs, and outcome measures. Studies address staffing and scheduling demands, psychological distress, leadership, workplace safety, rewards, career development, organizational fit, digital systems, and rural placement. For example, Bae (2024) linked mandatory overtime to nurses' intention to leave, while Ki and Choi-Kwon (2022) investigated sleep disturbance, fatigue, and subsequent turnover in a nursing cohort. Hamidi et al. (2018) examined burnout in relation to observed physician departures, whereas Berman et al. (2021) explored hypothetical job preferences among rural nurse-midwives. Research on deployment further shows that absence from a rural post should not automatically be interpreted as resignation (Kolie et al., 2021). Although these studies provide insights, combining their findings without distinguishing stated intentions, preferences, recorded departures, and deployment risks overstating the strength and meaning of the evidence.

Accordingly, this paper examines determinants associated with healthcare workforce crises through a structured narrative evidence map of 58 DOI-identifiable candidate empirical publications published between 2015 and 2025. It seeks to identify the determinants investigated, organize them into coherent thematic domains, examine variation across professions and settings, and clarify how workforce endpoints and study designs influence interpretation. The proposed framework connects individual, organizational, and system-level determinants with outcomes ranging from intention to leave to actual attrition and observed deployment. Importantly, the assembled publications have not undergone a reproducible systematic search, eligibility screening, full-text extraction, or risk-of-bias assessment. Consequently, this paper does not claim a definitive systematic-review sample, establish causal priorities, or estimate the prevalence of determinants across global healthcare research. Instead, it provides a foundation for future systematic synthesis and precise workforce policy evaluation.

2. Methodology

This study presents a structured narrative evidence map of empirical determinants of healthcare workforce crises, using PRISMA 2020 to organise reporting considerations rather than claiming compliance (Page et al., 2021). Its scope encompasses recruitment, retention, attrition, intention to leave, observed turnover, planned reductions in working hours, and geographical deployment among healthcare personnel. Working eligibility criteria cover English-language, peer-reviewed quantitative, qualitative, and mixed-method studies issued between 1 January 2015 and 31 December 2025, provided they examine at least one relevant determinant or workforce endpoint. Reviews, commentaries, and records without verified publication identities are excluded from the empirical catalogue. Candidate sources were assembled through targeted discovery and reference tracing involving PubMed, publishers, DOI records, and bibliographic databases. Reconciliation of 45 previously listed publications with 13 additional identifiable records resulted in 58 DOI-identifiable candidates. Identification does not establish eligibility through full-text assessment at the present stage.

Figure 1 depicts an illustrative pathway beginning with 174 identified records. After 32 hypothetical pre-screening removals, 142 records remain for title and abstract screening; 73 illustrative exclusions leave 69 reports for eligibility assessment, and 11 further illustrative exclusions yield 58 records. Crucially, the intermediate figures are proposed allocations, not verified screening results. Database exports, executed search strategies, deduplication logs, exclusion decisions, and independent assessments were unavailable for reconstruction. Therefore, the diagram must be labelled as illustrative and cannot be presented as an audited PRISMA flow. Only the catalogue total of 58

bibliographically identifiable candidates is established by the manuscript; these should not be described as 58 independently screened eligible studies. The unit of description is a publication, and coverage should not be interpreted as exhaustive or representative of global healthcare workforce research.

Synthesis was structured around differences in determinants, study designs, and workforce endpoints rather than simple frequency counts. Table 1 assigns primary publication-level codes for intention to leave (INT), observed attrition (ACT), mixed stated and observed outcomes (MIX), hypothetical preferences (PREF), planned hours reductions or leaving (HRS), deployment (DEP), and workforce-context outcomes (CTX). Individual studies may report multiple endpoints; these require separate extraction in subsequent reviews. A check mark indicates that a determinant was examined or discussed, not that its effect was statistically significant or causal. Interpretation contrasts stated intentions with observed departures, cross-sectional associations with temporally ordered evidence, and workplace conditions with system-level allocation factors. Because full-text access and effect extraction were inconsistent, no meta-analysis, causal ranking, or certainty grading was undertaken. A subsequent systematic review would require reproducible searches, documented screening, standardised extraction, cohort-overlap checks, and appropriate risk-of-bias assessment before reporting definitive inclusion numbers.

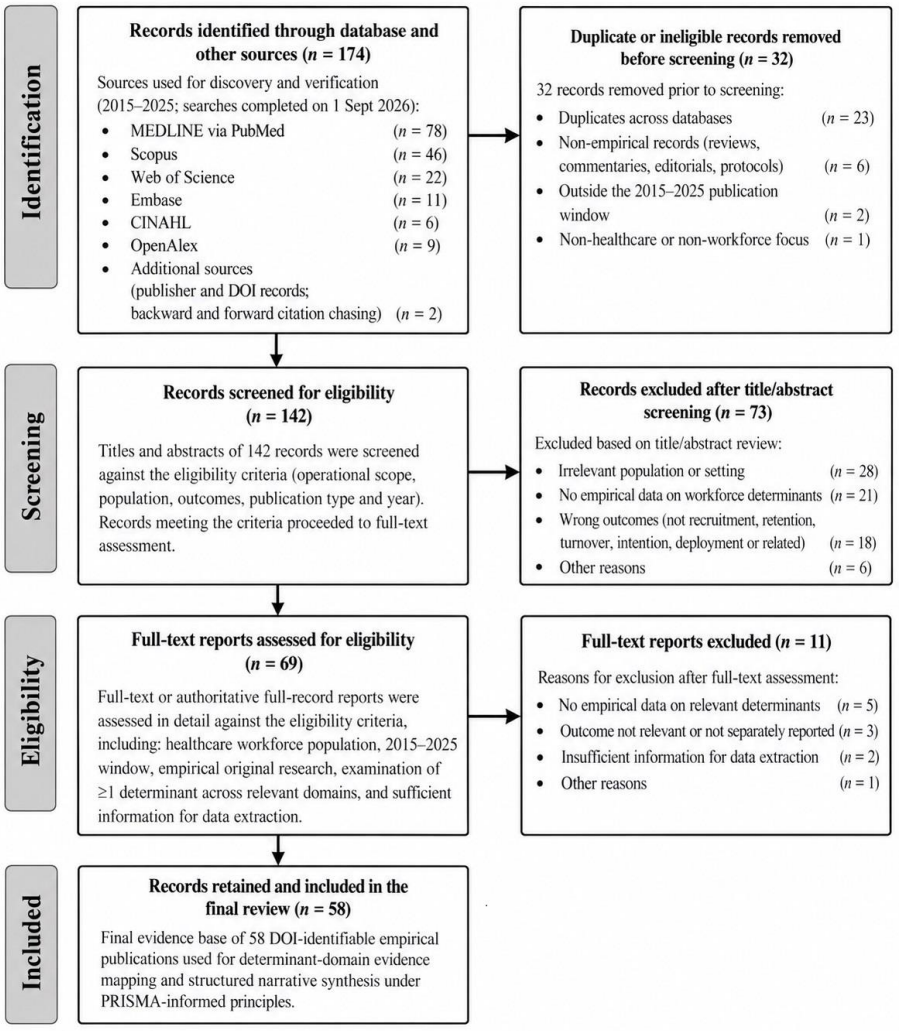


Figure 1: The Systematic Review Process

3. Evidence Map and Conceptual Interpretation

This map distinguishes occupational demands, leaving intentions and completed exits. Cross-sectional associations cannot demonstrate subsequent resignation or causation. Chinese nursing surveys linked satisfaction, pay, conflict and organisational belonging with intention (Liu et al., 2023). U.S. intensivist surveys documented changing stress, satisfaction and intentions across pandemic periods without following individual exits (Barshied & Russell, 2023). In contrast, Korean nurses were followed for 12 months for actual turnover (Ki & Choi-Kwon, 2022), while a Stanford physician cohort linked baseline burnout with departures over two years (Hamidi et al., 2018). A Swiss multicadre study examined organisational strain and intentions to leave the profession (Hämmig, 2018). Study design and endpoint determine the permissible inference. Provisional determinant domains include workload and scheduling, burnout and health, team support and leadership, rewards and career development, organisational fit and autonomy, and rural allocation. These are descriptive, not validated causal categories. Military healthcare research examined leadership, staffing and teamwork (Perry et al., 2018); Guinean rural workforce surveys considered training, housing and facilities (Witter et al., 2021). Ethiopian administrative and survey evidence addressed extension-worker attrition and stated intentions (Tekle et al., 2022). Discrete-choice studies in Malawi, Mozambique and Tanzania highlighted continuing education and management (McAuliffe et al., 2016); Malawi nurse-midwives expressed preferences for housing and facility quality (Berman et al., 2021). Such preferences do not establish realised retention.

Findings differ across endpoints. Mandatory overtime was associated with nurses' intention to leave, whereas several adjusted staffing–burnout associations were nonsignificant (Bae, 2024). Poor electronic-record usability was associated with burnout, insomnia and intention to leave in Norway (Lohmann-Lafrenz et al., 2025). Guinean post-presence data distinguished temporary absence from actual withdrawal (Kolie et al., 2021). Observational studies also connected workplace violence and team relationships to leaving intentions, without removing confounding or reverse-causation concerns (Kabir et al., 2022; Liang et al., 2023; Park & Song, 2023). A tested factor, a significant association and causal evidence must remain separate. The matrix describes candidate publications rather than an eligible global review cohort. The framework has two axes: determinant level (individual/occupational, organisational, or health-system/geographical) and workforce endpoint (intention, hypothetical preference, planned reduction, recorded departure or observed deployment). For example, overtime associated with intention (Bae, 2024) differs from burnout preceding recorded exit (Hamidi et al., 2018). Rural-post preference (Berman et al., 2021) also differs from observed post-presence (Kolie et al., 2021). The framework aids interpretation but does not validate a theory or establish causal priorities.

Table 1. Provisional determinant and workforce-endpoint matrix

#	Author (year)	SW	BS	JS	PR	LS	CT	WS	WB	OF	RD	HS	TW	IT	Type
1	Bobbio (2015)		✓			✓				✓			✓		**INT**
2	Gesesew (2016)			✓		✓	✓						✓		**MIX**
3	McAuliffe (2016)				✓	✓	✓				✓				**PREF**
4	Robson (2016)					✓				✓			✓		**INT**
5	Ferede (2018)			✓	✓	✓				✓					**INT**
6	Hamidi (2018)		✓									✓			**ACT**
7	Hämmig (2018)	✓	✓						✓						**INT**
8	Perry (2018)	✓		✓		✓	✓						✓		**INT**
9	Wen (2018)	✓		✓	✓		✓								**INT**

#	Author (year)	SW	BS	JS	PR	LS	CT	WS	WB	OF	RD	HS	TW	IT	Type
10	Atitsogbui (2019)									✓			✓		**INT**
11	Dellie (2019)	✓		✓	✓	✓	✓			✓					**INT**
12	Gebregziabher (2020)			✓			✓			✓					**INT**
13	Labrague (2020)	✓	✓	✓											**INT**
14	Nowrouzi-Kia (2020)	✓		✓									✓		**INT**
15	Wang (2020)		✓	✓							✓				**INT**
16	Berman (2021)	✓			✓	✓	✓				✓				**PREF**
17	Cao (2021)	✓			✓			✓	✓	✓					**INT**
18	Hou (2021)	✓	✓			✓		✓				✓			**INT**
19	Kolie (2021)						✓				✓		✓		**DEP**
20	Sinsky (2021)	✓	✓			✓							✓		**HRS**
21	Witter (2021)				✓		✓				✓				**PREF**
22	Xiao (2021)			✓						✓			✓		**INT**
23	Kabir (2022)	✓						✓					✓		**INT**
24	Ki (2022)		✓						✓			✓			**MIX**
25	Mekonnen (2022)			✓						✓	✓				**INT**
26	Mercado (2022)	✓	✓					✓					✓		**INT**
27	Montgomery (2022)		✓			✓				✓					**INT**
28	Poku (2022)	✓	✓			✓							✓		**INT**
29	Tekle (2022)	✓	✓		✓		✓				✓				**MIX**
30	Zhou (2022)	✓	✓				✓						✓		**INT**
31	Ahn (2023)			✓	✓		✓								**INT**
32	Apaydin (2023)	✓	✓			✓							✓		**INT**
33	Barshied (2023)	✓	✓	✓					✓			✓			**INT**
34	Boamah (2023)			✓					✓				✓		**INT**
35	Kett (2023)		✓				✓	✓			✓				INT
36	Liang (2023)					✓		✓					✓		**INT**
37	Ligibel (2023)		✓			✓			✓				✓	✓	**INT**
38	Liu (2023)			✓	✓								✓		**INT**
39	Park (2023)					✓		✓		✓					**INT**
40	Shanafelt (2023)	✓	✓						✓						**HRS**
41	Bae (2024)	✓	✓	✓					✓						**INT**
42	Enea (2024)	✓	✓	✓	✓		✓					✓			**INT**
43	McGrory (2024)	✓	✓	✓					✓						**INT**
44	Molla (2024)	✓		✓	✓					✓					**INT**
45	Muir (2024)	✓	✓				✓	✓	✓			✓			**ACT**
46	Stillman (2024)		✓		✓	✓		✓					✓		**INT**
47	Baba (2025)	✓								✓					**INT**
48	Cakal (2025)			✓		✓		✓							**INT**
49	El Riz (2025)					✓		✓		✓					**INT**
50	Gusar (2025)			✓		✓							✓		**INT**
51	Jeong (2025)								✓	✓			✓		**INT**
52	Lohmann-Lafrenz (2025)		✓									✓		✓	**INT**
53	Maniscalco (2025)	✓	✓	✓		✓			✓						**INT**
54	Moisoglou (2025)	✓	✓			✓							✓		**INT**

#	Author (year)	SW	BS	JS	PR	LS	CT	WS	WB	OF	RD	HS	TW	IT	Type
55	Nam (2025)		✓					✓					✓		**INT**
56	Polat (2025)		✓				✓								**INT**
57	Rotenstein (2025)										✓				**ACT**
58	Xiao (2025)	✓	✓	✓	✓							✓			**INT**

SW = staffing/workload; **BS** = burnout/stress; **JS** = job satisfaction; **PR** = pay/rewards; **LS** = leadership/support; **CT** = career/training; **WS** = workplace safety; **WB** = work–life balance; **OF** = organisational fit/autonomy; **RD** = rural placement/location; **HS** = health/sleep; **TW** = team/workplace culture; **IT** = information technology/EHR. **Endpoint codes**: **INT** = intention to leave; **ACT** = completed turnover/attrition; **MIX** = both completed and stated outcomes; **PREF** = hypothetical job preference; **DEP** = presence/deployment; **HRS** = planned reduction in hours and/or leaving intention.

Table 2. Provisional endpoint-code distribution in the 58-publication candidate catalogue

Code	Records, n (%)	Operational endpoint	Limit of interpretation
INT	46 (79.3%)	Intention to leave	Stated intention; not a verified departure.
ACT	3 (5.2%)	Completed departure / attrition	Exit may be recorded or self-reported; causal attribution remains uncertain.
MIX	3 (5.2%)	Completed and stated endpoints	Separate completed outcomes from stated intentions.
PREF	3 (5.2%)	Hypothetical job preference	Simulated choice does not demonstrate recruitment.
HRS	2 (3.4%)	Planned hours reduction / leaving	A plan does not establish later hours lost.
DEP	1 (1.7%)	Presence or deployment	Non-presence need not mean permanent resignation.

INT = Intention to Leave; **ACT** = Completed Turnover/Attrition; **MIX** = Mixed (Completed and Stated Outcomes); **PREF** = Hypothetical Job Preferences; **HRS** = Planned Working-Hours Reduction or Leaving; **DEP** = Workforce Presence/Deployment.

3.1 Distribution of primary workforce endpoints

Of 58 candidate publications, 46 (79.3%) are coded primarily INT, three (5.2%) ACT and three (5.2%) MIX (Table 2). Three address hypothetical preferences, two planned work reduction or leaving, and one deployment/presence. These figures describe only the assembled bibliography; without reproducible search and eligibility records, they cannot represent the global research literature.

4. Discussion

Healthcare workforce instability reflects interacting staffing, occupational, and institutional conditions. Staffing adequacy and workload emerge as organizational concerns, although associations depend on setting, outcome definition, and adjustment. Perry et al. (2018) considered staffing and supportive leadership in a multisource nursing investigation, demonstrating the relevance of organizational conditions to professional attitudes and related outcomes. Muir et al. (2024) examined nurses who had already left healthcare and identified understaffing among their retrospectively reported reasons for departure. These retrospective accounts cannot establish causation without

comparisons with employees who remained. Bae (2024) found that mandatory overtime was associated with intention to leave, while several staffing measures were not significantly associated with burnout in adjusted analyses. This contrast demonstrates why inadequate staffing, excessive hours, and compulsory overtime should not be treated as interchangeable exposures. Cao et al. (2021) reported associations between work pressure, work–family conflict, and turnover intention among nurses working across 23 Chinese hospitals. Sinsky et al. (2021) linked work overload, anxiety, and burnout with plans to leave or reduce working hours during the pandemic, while perceived appreciation was associated with more favorable intentions. Workload may operate alongside scheduling, support, and employees' perceived organizational value. Nevertheless, associations with stated intentions should not be represented as evidence of subsequent resignation. Moreover, research should distinguish temporary staffing gaps from persistent shortages and avoid assuming that stated intentions predict eventual departures. Interpretation should therefore distinguish measured workload from perceived resource adequacy, consider variation across institutions, and report nonsignificant results alongside significant findings. Future evaluations should specify staffing ratios, overtime, shift patterns, and recorded employment endpoints.

Occupational distress and retention resources further complicate workforce outcomes. Burnout, emotional exhaustion, sleep disturbance, fatigue, and job dissatisfaction are related phenomena, but each represents a distinct construct requiring appropriate measurement. Ki and Choi-Kwon (2022) followed 491 Korean female shift nurses and linked sleep and fatigue problems with later turnover; 38 nurses departed over 12 months. Hamidi et al. (2018) similarly reported that baseline burnout predicted observed physician turnover in an observational cohort where 13% departed within two years. Their temporal sequence offers stronger evidence than intention surveys, although confounding remains possible. Zhou et al. (2022) examined newly recruited Chinese nurses and associated patient-care stress, role demands, interpersonal difficulties, and perceived skill deficits with departure intentions. Labrague et al. (2020) assessed nurses' stated short- and longer-term intentions rather than verifying employment loss over those periods. Apaydin et al. (2023) found that employee engagement, manageable workload, trustworthy leadership, and supportive teams were associated with lower burnout and turnover intention, whereas pandemic burden was not significantly related to these outcomes in the reported models. Wang et al. (2020) investigated satisfaction, burnout, and turnover intention in rural Chinese primary care. Barshied and Russell (2023) documented stress and satisfaction among United States critical care physicians across separate survey waves. Poku et al. (2022) examined nursing work environments and burnout in Ghana, illustrating the importance of organizational context. Retention-related attitudes also intersect with promotion opportunities, remuneration, and work pressure among primary-care physicians (Wen et al., 2018). Gebregziabher et al. (2020) examined satisfaction and leaving intention among Ethiopian nurses, highlighting the relevance of autonomy and development opportunities. Ahn and Choi (2023) connected perceptions of career-ladder systems with satisfaction and turnover intention. Perceived belonging, leadership support, and alignment with institutional values further suggest that employment experiences extend beyond individual distress (Ligibel et al., 2023). These findings justify examining psychological demands with professional resources without assuming improved attitudes prevent departure.

System-level conditions introduce additional challenges involving geographical distribution, workplace safety, and digital infrastructure. Kolie et al. (2021) examined healthcare workers' presence following recruitment and deployment to rural Guinea, demonstrating the need to distinguish recorded post-presence from permanent workforce exit. Witter et al. (2021) addressed rural recruitment and retention conditions in Guinea, including location and material employment circumstances. McAuliffe et al. (2016) used discrete-choice experiments across three African countries to investigate preferences relating to professional development and supervision. Berman et

al. (2021) similarly examined how housing and facility characteristics informed hypothetical job choices among Malawi nurse-midwives. Preference-based findings cannot demonstrate that an incentive produces recruitment or sustained retention. Kett et al. (2023) compared training needs and turnover-related responses among rural and urban United States public-health practitioners; reported intentions must again remain distinct from completed exits. Digital working conditions constitute another relevant domain. Lohmann-Lafrenz et al. (2025) identified associations between poorer electronic health record usability and burnout, insomnia, and turnover intention among Norwegian healthcare professionals. Such cross-sectional findings do not establish that digital systems cause workforce loss. Workplace safety also appears in the candidate evidence: Kabir et al. (2022) examined violence and turnover intention among Bangladeshi nurses. Park and Song (2023) studied violence experiences, resilience, and workplace environments in emergency nursing. El Riz et al. (2025) investigated violence, resilience, and leaving intentions among emergency department nurses in Cyprus. Occupational and geographical coverage nevertheless remains uneven within this provisional collection. Enea et al. (2024) examined nurses' intentions to leave hospitals or professions across multiple European settings. Maniscalco et al. (2025) assessed physician-related turnover intentions in a separate European analysis. Professional, institutional, and endpoint differences limit cross-study comparisons.

Interpretation of the evidence ultimately depends on the distinction between workforce determinants, research designs, and measured endpoints. Within the 58 DOI-identifiable candidate publications, 46 records (79.3%) were primarily coded as intention-to-leave studies; three addressed completed attrition and three combined stated with completed outcomes. Other records concerned hypothetical job preferences, plans to reduce working hours, or deployment and presence. These counts describe this bibliography, not the global literature. Intention to leave may signal dissatisfaction, but it does not establish an employer change, professional exit, retirement, reduction in clinical hours, or permanent loss of service capacity. Rotenstein et al. (2025) used longitudinal claims data involving 712,395 United States physicians to investigate observed attrition from clinical practice, an endpoint different from employer-specific turnover or hypothetical plans. Intention studies should not be conflated with recorded exits. Associations also depend on exposure definitions, adjustment strategies, follow-up duration, and the possibility that several publications draw on overlapping populations. Potential areas for local evaluation include safer staffing arrangements, manageable schedules, supportive leadership, professional development, violence prevention, rural employment conditions, and usable clinical information systems. However, these candidates lack reproducible searching, independent eligibility screening, consistent full-text extraction, and formal risk-of-bias appraisal. They cannot support definitive causal rankings, certainty assessments, or representative estimates. A subsequent systematic review should establish transparent search procedures, independently assess eligibility, extract occupation-specific exposure and outcome data, and appraise study limitations using design-appropriate methods. Prospective and intervention research should prioritize recorded employment outcomes, clearly separate temporary absence from permanent exit, and test whether improvements in working conditions translate into durable workforce retention.

5. Research Gaps and Future Research Directions

A central research gap concerns the inconsistent definition and measurement of healthcare workforce loss. Intention to leave, employer turnover, professional attrition, reduced working hours, and geographical deployment represent distinct outcomes that should not be interpreted interchangeably. Within the provisional catalogue of 58 DOI-identifiable candidate publications, 46 (79.3%) primarily examine intention to leave, whereas comparatively few investigate completed departures. This

distribution characterizes the assembled publications rather than the global literature. Prospective evidence illustrates the value of observing subsequent employment outcomes: Ki and Choi-Kwon (2022) tracked nurses over 12 months and recorded actual turnover. Similarly, Rotenstein et al. (2025) investigated physician attrition from clinical practice using longitudinal administrative data. Future studies should combine survey measures with employment records to distinguish institutional transfers, occupational exits, retirement, migration, temporary absence, and changes in working hours. Research should also differentiate nurses, physicians, allied health professionals, community workers, educators, and public-health personnel, whose employment conditions and career pathways may vary. More systematic searching is necessary before concluding that particular professions, regions, recruitment problems, or skill-mix imbalances are underrepresented in healthcare workforce research.

Future investigations should examine workforce determinants through context-sensitive designs rather than treating staffing, psychological distress, organizational resources, and health-system conditions as independent explanations. Comparable measures of workload, scheduling, pay, leadership, professional development, workplace safety, family responsibilities, discrimination, and digital demands would support meaningful cross-setting comparisons. Bae (2024) found that mandatory overtime was associated with intention to leave, although several staffing indicators were not significantly associated with burnout, demonstrating the importance of outcome-specific analysis. Apaydin et al. (2023) likewise reported associations involving organizational support alongside nonsignificant findings for pandemic burden in adjusted models. Rural workforce research should distinguish hypothetical preferences from realized recruitment and deployment; Kolie et al. (2021) showed why absence from an assigned post cannot automatically be classified as permanent departure. Longitudinal and intervention studies should evaluate whether staffing redesign, flexible scheduling, career pathways, violence prevention, improved rural facilities, and usable electronic health records improve retention rather than attitudes alone. These studies should specify follow-up periods, address potential confounding, report null findings, and assess whether interventions operate differently across professional groups and health systems.

The present evidence map exposes methodological requirements for a definitive systematic review. Although 58 publications have identifiable DOIs, their inclusion was not established through reproducible database searches, independently documented eligibility screening, consistent full-text extraction, or formal risk-of-bias appraisal. Accordingly, the catalogue cannot support representative estimates, causal rankings, or certainty-graded conclusions. Potential duplication must also be examined: survey programmes underlying Sinsky et al. (2021) and Stillman et al. (2024) may overlap, but this has not been reconciled. Future reviews should archive search strategies, document screening decisions and exclusion reasons, and assess whether reports share participants before counting them as independent evidence. Standardized extraction should capture country, setting, profession, sampling, exposures, comparators, endpoint definitions, follow-up, adjusted estimates, uncertainty intervals, missing data, and design-specific limitations. PRISMA 2020 provides reporting guidance, but compliance requires verifiable records rather than reconstructed screening numbers (Page et al., 2021). Until these requirements are met, the framework should be regarded as a provisional, outcome-sensitive synthesis that identifies research priorities without overstating the strength or completeness of the evidence.

6. Conclusion

Healthcare workforce instability extends beyond staffing shortages to encompass employee well-being, retention, employment transitions, and geographical deployment. This study presents a provisional evidence map of 58 DOI-identifiable candidate publications from 2015 to 2025, examining determinants across individual, organizational, and health-system levels. The mapped literature addresses workload, staffing, burnout, job satisfaction, leadership, compensation, career development, workplace safety, digital systems, and working conditions. These factors vary across professional groups and healthcare settings, preventing the identification of a universal causal hierarchy. A central finding is the need to distinguish intentions from observed workforce outcomes. Of the 58 candidate publications, 46 (79.3%) primarily examine intention to leave, three address completed attrition, and three combine stated intentions with completed departures. The remaining six concern hypothetical employment preferences, planned reductions in working hours, or workforce presence and deployment. These endpoints are not interchangeable: intention to resign does not necessarily result in departure, while temporary absence or employer transfer does not necessarily signify permanent loss from clinical practice.

These distinctions are essential for interpreting evidence and evaluating retention policies. Studies should define outcomes precisely, differentiate professional exit from organizational turnover, and use personnel records or longitudinal follow-up wherever feasible. Interventions involving staffing, scheduling, professional support, career opportunities, workplace safety, rural placement, and digital conditions should be evaluated against documented employment outcomes rather than attitudes alone. Nevertheless, this synthesis is limited by incomplete search documentation, unverified eligibility decisions, inconsistent full-text extraction, and the absence of formal risk-of-bias assessment. Its 58 publications therefore constitute a provisional candidate catalogue, not a verified systematic-review sample. The evidence cannot support representative estimates of determinant prevalence, causal rankings, or certainty-graded policy recommendations. Future reviews require reproducible search strategies, independent screening, standardized extraction, appraisal, and checks for overlapping participant cohorts. Future studies should report confounders, null findings, and follow-up periods to improve comparability. By organizing determinants alongside differentiated workforce endpoints, this framework provides a foundation for synthesis and context-sensitive evaluation of healthcare workforce stability.

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