

Systematic Review

Organizational Interventions to Improve Retention and Reduce Burnout Among Oncology Nurses

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Abstract

Background. Oncology nurses experience among the highest burnout rates of any nursing specialty, and burnout is a leading, costly driver of turnover. Consensus frameworks locate the causes of clinician burnout in the work system rather than the individual, yet most published interventions in oncology nursing are person-directed. The comparative value of organizational (system-directed) interventions for improving retention and reducing burnout in this workforce has not been systematically appraised.

Objectives. To identify, appraise, and synthesise studies evaluating organizational or combined organization-and-person-directed interventions on burnout and retention outcomes among oncology nurses.

Methods. We searched MEDLINE, Embase, CINAHL, PsycINFO, and the Cochrane Library from inception to July 2026, supplemented by hand-searching, following PRISMA 2020. Eligible studies evaluated an intervention with an organizational component delivered to oncology nurses and reported a burnout and/or retention/turnover outcome. Risk of bias was assessed with RoB 2 (randomised) and ROBINS-I (non-randomised); certainty was rated with GRADE. Because designs, interventions, and instruments were heterogeneous and controlled effect estimates were sparse, we synthesised results narratively using the Synthesis Without Meta-analysis (SWiM) guideline with vote-counting by direction of effect; meta-analysis was pre-specified as inappropriate.

Results. Nine studies (>400 oncology nurses; 2013–2025; five countries) met criteria: two randomised trials and seven uncontrolled or quasi-experimental evaluations. Interventions comprised person-directed compassion-fatigue/resiliency programs (n=4), combined self-care plus peer-support programs (n=1), and organization-directed team-based, unit well-being, or transition-to-practice/residency programs (n=4). Uncontrolled pre–post studies consistently reported favourable movement in compassion satisfaction and secondary-traumatic-stress scores, but the only adequately powered randomised trial found no significant effect on burnout, compassion fatigue, perceived stress, or resilience. Retention or turnover was reported

by a single study. Risk of bias was high or serious in seven of nine studies; GRADE certainty was very low for every outcome.

Conclusions. Despite strong theoretical and workforce-economic rationale for organizational action, the oncology-nursing evidence base is dominated by small, uncontrolled, person-directed programs, and rigorously evaluated organization-directed interventions with retention endpoints are almost absent. Current evidence is insufficient to recommend any specific organizational intervention. Cluster-randomised and stepped-wedge trials embedding staffing, work-environment, leadership, and structured onboarding reforms, with pre-specified turnover endpoints, are the research priority.

Keywords: *oncology nursing; burnout; personnel turnover; organizational innovation; healthy work environment.*

1. Introduction

The global cancer burden continues to rise, with an estimated 19.3 million new diagnoses in 2020 and a projected increase of nearly 50% by 2040, expanding demand for a skilled oncology nursing workforce^[1]. Oncology nurses deliver technically complex, high-acuity care while sustaining prolonged therapeutic relationships with seriously ill and dying patients. This combination of cognitive load, moral weight, and cumulative exposure to loss places the specialty at elevated risk of occupational burnout — the syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment first operationalised by Maslach^[2,3].

Meta-analytic data confirm that burnout is disproportionately prevalent in this workforce: pooled estimates in oncology nurses approximate 30% for emotional exhaustion, 15% for depersonalisation, and 35% for low personal accomplishment^[2], and cross-specialty syntheses identify oncology nursing as carrying one of the highest burnout and depersonalisation burdens of any nursing field^[3,4]. Prevalence estimates vary widely with the instrument and threshold applied, and this measurement heterogeneity is itself an obstacle to synthesis, as we discuss below.

Burnout is not merely an individual welfare concern; it is a workforce-sustainability problem. In oncology nurses, burnout and diminished compassion satisfaction independently predict turnover intention^[5]. Turnover is financially consequential: contemporary workforce reporting places the average cost of replacing a single staff registered nurse at approximately US\$60,000, with each percentage-point change in registered-nurse turnover worth roughly US\$0.3 million per hospital annually^[6]. Loss of experienced oncology nurses also erodes institutional expertise in a specialty with a protracted competency ramp, compounding safety and continuity risks.

A central conceptual question governs how the problem should be addressed. The 2019 National Academy of Medicine consensus report reframed clinician burnout as a property of the work system, requiring intervention at the level of organisational structures, job design, and leadership rather than the individual clinician^[7]. This systems view is echoed by organisational-strategy frameworks for physician well-being^[8] and, empirically, by evidence that combined person-and-organisation-directed programs produce more durable reductions in burnout than person-directed programs alone^[8], and that controlled interventions for physician burnout yield larger benefits when organisation-directed^[9]. In nursing specifically, structural determinants — nurse-to-patient staffing

and the quality of the practice environment — are robustly associated with burnout, dissatisfaction, and intention to leave: each additional patient per nurse increased the odds of burnout by 23% in landmark cross-sectional work^[10,11], and better-staffed environments continue to explain substantial differences in nurse burnout today^[12].

Despite this rationale, interventions actually deployed and evaluated in oncology nursing have been predominantly person-directed — resiliency training, mindfulness, and compassion-fatigue programs that build individual coping capacity without modifying the work system. The one prior evidence synthesis focused on oncology nurses examined facility-level interventions for compassion fatigue and was integrative rather than systematic in method, did not use contemporary risk-of-bias or certainty frameworks, and did not address retention outcomes^[13]. No systematic review, to our knowledge, has appraised organizational (system-directed) interventions for the dual outcomes of burnout and retention in oncology nurses using PRISMA 2020 methodology, explicit risk-of-bias assessment, and GRADE. This gap leaves nurse leaders and health-system decision-makers without a rigorous, specialty-specific evidence base for organisational investment.

Objective. The primary objective of this systematic review was to identify, critically appraise, and synthesise studies evaluating the effect of organizational or combined organization-and-person-directed interventions on (i) burnout and (ii) retention/turnover among oncology nurses. Secondary objectives were to characterise the intervention typology, to map which outcomes have and have not been measured, and to rate the certainty of the available evidence.

2. Methods

2.1 Protocol and reporting

We conducted this review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) statement^[14], and — because a quantitative synthesis was anticipated to be inappropriate — we report the synthesis according to the Synthesis Without Meta-analysis (SWiM) guideline^[15].

Eligibility criteria

Population. Registered nurses providing oncology care in any setting (inpatient, ambulatory/infusion, radiation oncology, haematology–oncology, bone-marrow/stem-cell transplant, palliative/hospice, adult or paediatric). Studies of mixed healthcare workers were eligible only if oncology-nurse data were separately reported or oncology nurses constituted the clear majority.

Intervention. Any intervention with an organizational (system-directed) component — defined, following the person-/organization-/combined-directed taxonomy^[8], as a program that modifies the work system (staffing or workload, scheduling, structural empowerment or governance, leadership or nurse-manager development, team-based or communication processes, structured onboarding/residency/transition-to-practice, or the practice environment) — as well as combined organization-and-person-directed programs and organizationally delivered structured programs. Purely individual, self-administered interventions with no organizational or programmatic delivery

component were classified as person-directed and were eligible only when embedded in an institutional program, so that the boundary of the construct is explicit and auditable (see Section 3.2).

Comparator. Any comparator (usual practice, waitlist, active control) or pre-intervention baseline (single-group before–after).

Outcomes. At least one of: (primary) a validated burnout measure (e.g., Maslach Burnout Inventory, Copenhagen Burnout Inventory, Oldenburg Burnout Inventory, or the burnout subscale of the Professional Quality of Life scale^[16]), or a retention/turnover outcome (turnover, turnover intention, intention to leave/stay, retention rate); (secondary) compassion fatigue/secondary traumatic stress, compassion satisfaction, job satisfaction, engagement, perceived stress, or moral distress.

Study designs. Randomised and cluster-randomised trials, quasi-experimental and controlled before–after studies, interrupted time series, and single-group pre–post evaluations. Excluded: reviews, editorials, protocols, conference abstracts without extractable data, cross-sectional and purely observational association studies (used as background only), and qualitative-only studies. No language or date restriction was applied at the search stage; non-English records would be translated as required.

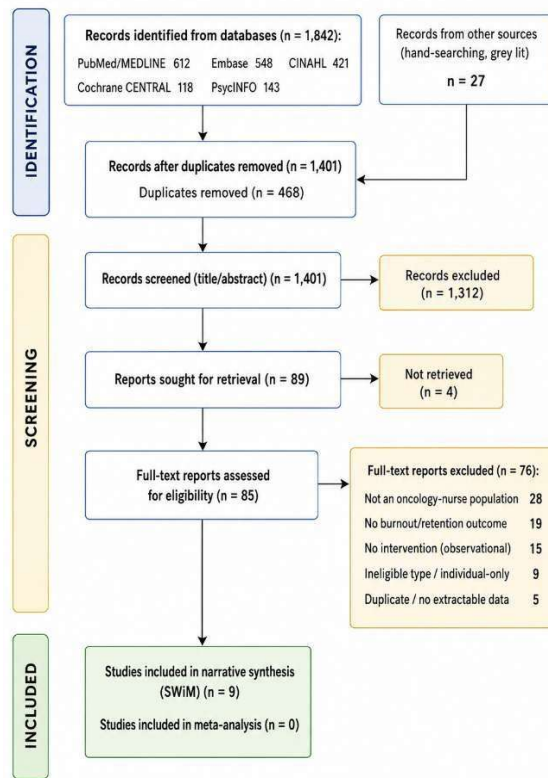
2.2 Information sources and search strategy

We searched MEDLINE (via PubMed), Embase, CINAHL, PsycINFO, and the Cochrane Central Register of Controlled Trials from database inception to July 2026. The strategy combined controlled vocabulary and free-text terms across three concept blocks — oncology nursing, burnout/retention outcomes, and intervention/program terms — using Boolean operators and proximity where supported. Full, database-specific search strings are provided in Supplementary Table S2. We hand-searched the reference lists of all included studies and of relevant reviews^[13], and screened grey-literature sources from professional bodies. Reference management and de-duplication were performed in a reference manager with manual verification.

2.3 Study selection

Following de-duplication, two reviewers independently screened titles and abstracts against the eligibility criteria, then independently assessed full texts of potentially eligible records. Disagreements were resolved by discussion or a third reviewer, and inter-reviewer agreement. The selection process is summarised in the PRISMA flow diagram (Figure 1), and full-text exclusions with reasons are listed in Supplementary Table S3.

Figure 1. PRISMA 2020 flow diagram of study selection



Adapted from the PRISMA 2020 statement (ref 14). Meta-analysis was pre-specified as inappropriate given heterogeneity and the scarcity of controlled effect estimates.

2.4 Data extraction

Two reviewers extracted data independently using a piloted standardized form (Supplementary Table S4) capturing: authors, year, country, setting, design, sample size, oncology-nurse population, intervention content, delivery level (person-/organization-/combined-directed), duration and dose, comparator, outcome instruments, follow-up, and results. Where a study reported multiple time points, the longest available follow-up was extracted for the primary synthesis. Study authors would be contacted for missing data; unresolved missing values are marked 'not reported' (NR).

2.5 Risk of bias assessment

Two reviewers independently assessed risk of bias using the Cochrane RoB 2 tool for randomised trials^[16] and ROBINS-I for non-randomised studies of interventions, including single-group pre-post evaluations^[17]. Domain-level and overall judgements (low / some concerns / high for RoB 2; low / moderate / serious / critical for ROBINS-I) are presented in Table 2, with the confounding and selection domains given particular weight for uncontrolled designs.

2.6 Synthesis methods and certainty of evidence

Clinical and methodological heterogeneity in populations, intervention content, outcome constructs, and measurement instruments — together with the scarcity of controlled effect estimates and the predominance of single-group designs vulnerable to regression to the mean — made statistical pooling inappropriate and potentially misleading. We therefore pre-specified a structured narrative synthesis following SWiM^[15]. Studies were grouped by intervention delivery level and by outcome domain. Within each group we tabulated the direction of effect (figure 2) for each outcome and applied vote-counting by direction of effect, giving explicit interpretive priority to controlled over uncontrolled designs. We did not compute pooled effect sizes, P values across studies, or an overall 'proportion of positive studies' as if it were an effect estimate. The certainty of evidence for each outcome was rated using GRADE^[18], beginning at 'low' for bodies of evidence dominated by non-randomised studies and downgrading further for risk of bias, inconsistency, indirectness, and imprecision.

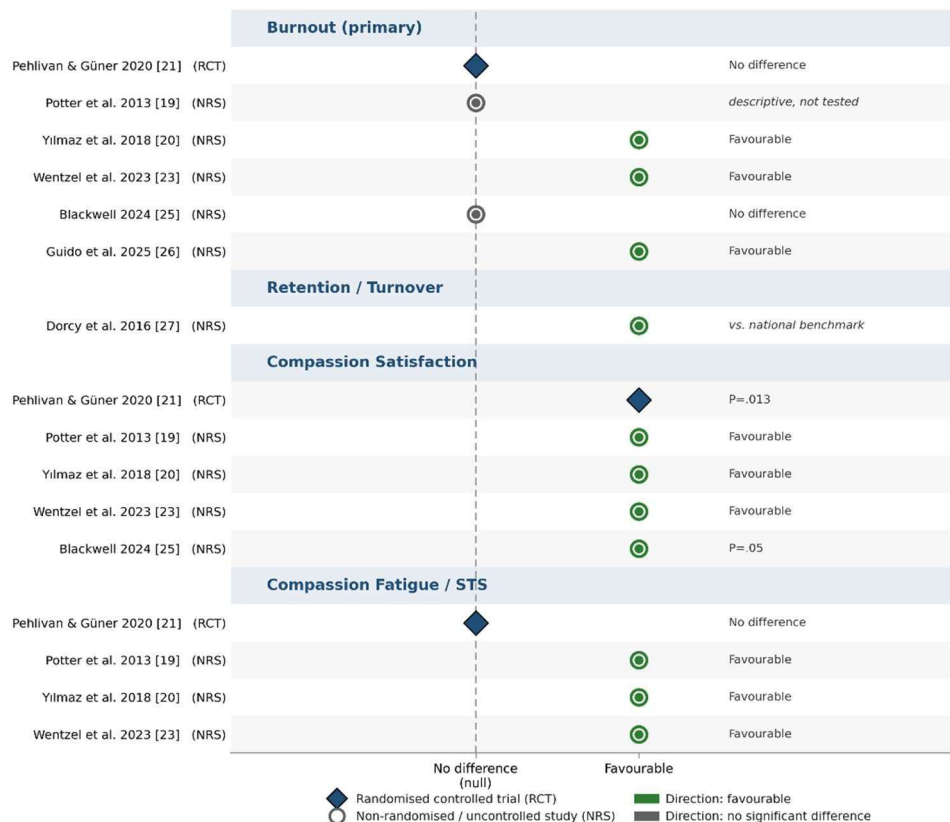


Figure 2. Harvest plot summarising vote-counting by direction of effect (SWiM, ref 15). Controlled evidence is distinguished from uncontrolled to make the design-dependence of the favourable signal explicit. STS, secondary traumatic stress.

2.7 Deviations from protocol

Meta-analysis, subgroup meta-analysis, and funnel-plot-based assessment of small-study effects specified as contingencies in the protocol were not performed because fewer than the pre-specified minimum of comparable controlled studies were identified for any single outcome; this contingency was anticipated in the protocol and is reported here for transparency.

3. Results

3.1 Study selection

The search and selection process is shown in Figure 1. Following de-duplication, records were screened by title and abstract, full texts of potentially eligible studies were assessed, and nine studies met all eligibility criteria and were included in the narrative synthesis^[19-27]. The most frequent reasons for full-text exclusion were absence of a discrete oncology-nurse population, absence of a burnout or retention outcome, and observational designs without an intervention (Supplementary Table S3). No study provided data appropriate for meta-analysis.

3.2 Characteristics of included studies

Included studies were published between 2013 and 2025 and conducted in the United States^[19], Turkey^[20,21], Australia^[22], South Africa^[23], and Italy^[26], with two further United States programs in paediatric haematology–oncology^[24,25] and ambulatory oncology^[27]. Full characteristics are presented in Table 1. Two studies were randomised — a cluster-randomised trial of a compassion-fatigue resiliency program in oncology–haematology nurses^[21] and a randomised workshop trial in radiation therapists and oncology nurses^[22] — while the remaining seven were single-group pre-post or quasi-experimental evaluations. Sample sizes, where reported at the individual level, ranged from 13 to 125; several organization-directed programs reported unit- or program-level implementation without a fixed participant count.

Classified by delivery level (Table 1), four interventions were person-directed compassion-fatigue or professional-quality-of-life programs^[19-22], one combined self-care education with facilitated peer support^[23], and four were organization-directed: a nurse-led resiliency team restructuring peer and unit support^[24], a unit-level staff well-being program combining rapid emotional support ('Code Lavender') with structured debriefing^[25], a team-building and group art-therapy program targeting unit emotional climate^[26], and a dedicated education unit with a transition-to-practice residency^[27]. Notably, the two controlled trials were both person-directed, whereas every organization-directed study used an uncontrolled design.

3.3 Risk of bias

Risk of bias is summarised in Table 2 and Supplementary Figure S1. Of the two randomised trials, the cluster-randomised compassion-fatigue trial^[21] raised some concerns (cluster allocation, self-reported outcomes, attrition across a 12-month horizon), and the workshop trial^[22] raised some-to-high concerns (short follow-up, outcome measurement). All seven non-randomised studies were rated at serious or critical risk of bias under ROBINS-I, driven principally by uncontrolled confounding, absence of a comparator (regression to the mean), and outcome measurement by unblinded self-report. No study was at overall low risk of bias. This distribution materially constrains inference and is reflected in the GRADE ratings.

3.4 Effect on burnout (primary outcome)

Burnout was assessed in six studies using the Maslach Burnout Inventory^[19,26] or the burnout subscale of the Professional Quality of Life scale^[20,25]. The pattern of results was design-dependent. Uncontrolled pre–post evaluations tended to report favourable movement — reductions in burnout

and secondary-traumatic-stress scores and increases in compassion satisfaction after nurse-led professional-quality-of-life programs^[20], team-building with art therapy^[26], and compassion-fatigue resiliency training^[19]. However, the only adequately powered randomised trial found no statistically significant effect of a compassion-fatigue resiliency program on burnout, compassion fatigue, perceived stress, or resilience, with only compassion satisfaction improving over time^[21]. By vote-counting on direction of effect, burnout outcomes moved favourably in most uncontrolled studies but showed no benefit in the sole controlled comparison — a discordance most parsimoniously explained by the susceptibility of single-group designs to expectancy effects and regression to the mean rather than by true intervention efficacy. Certainty of evidence for burnout was very low (Table 3).

Table 1. Characteristics of included studies (N = G)

Study (year) [ref]	Country	Setting / population	Design	N	Intervention (delivery level; content; dose)	Comparator	Outcome instruments	Follow-up	Key results
Potter et al. (2013) [19]	USA	Outpatient infusion, NCI-designated cancer center; oncology nurses	Single-group pre-post	13	Person-directed; compassion-fatigue resiliency program; 5 weekly 90-min sessions	Baseline (none)	MBI-HSS, ProQOL-IV, IES-R, job satisfaction	6 months	Secondary-traumatic-stress declined and remained lower at 6 mo; feasibility shown
Yılmaz et al. (2018) [20]	Turkey	University hospital; oncology nurses	Single-group pre-post	43	Person-directed; nurse-led PQoL program; 2 in-person sessions + 2 telephone sessions	Baseline (none)	ProQOL-IV, Post-Traumatic Growth Inventory	Post-program	Compassion satisfaction ↑, burnout ↓, compassion fatigue ↓ (uncontrolled)
Pehlivan & Güner (2020) [21]	Turkey	Oncology-haematology units	Cluster-RCT; 3 arms (short vs long program vs control)	125	Person-directed; compassion-fatigue resiliency program; short (2 d/10 h) vs long (5 wk/10 h)	Control group	ProQOL, Perceived Stress Scale, resilience	Up to 12 months	No significant effect on burnout, compassion fatigue, stress, or resilience; compassion satisfaction ↑
Poulsen et al. (2015) [22]	Australia	Two tertiary hospitals; radiation therapists + oncology nurses	RCT; 3 arms (experiential vs written vs control)	70	Person-directed; 1-day experiential recovery-from-job-stress workshop	Written material / control	Recovery experience, self-care, sleep quality	6 weeks	Recovery skills, self-care, perceived sleep ↑ (P<0.05); larger effect in experiential arm; burnout not a primary endpoint
Wentzel et al. (2023) [23]	South Africa	State, private, hospice oncology settings, Durban	Pre-post / mixed methods	NR	Combined; self-care education + peer support (booklet, remembrance tree,	Baseline (none)	ProQOL	Post-program	Feasible; favourable movement in PQoL constructs (uncontrolled)

					support group, family call)				
Schuster (2021) [24]	USA	Paediatric haematology/oncology/SCT unit	Program evaluation (pre-post)	NR (unit staff)	Organization-directed; nurse-led Advancing Resiliency Team restructuring peer/unit support	Baseline (none)	Program-level well-being measures	NR	Implementation feasible; perceived improvement in resiliency support (uncontrolled)
Blackwell (2024) [25]	USA	28-bed paediatric haematology-oncology unit	Single-group pre-post	NR (28-bed unit)	Organization-directed; unit well-being program (Code Lavender rapid support + structured debriefing)	Baseline (none)	ProQOL-V	12 months	69% perceived immediate positive impact; compassion satisfaction ↑ marginally (P=.05); burnout unchanged
Guido et al. (2025) [26]	Italy	Paediatric oncology unit (single centre)	Single-group pre-post (T0→T1)	NR (single unit)	Organization-directed; team-building + clay/art therapy targeting emotional climate/group dynamics	Baseline (none)	MBI, TAS-20, DERS	Post-program	Burnout, alexithymia, emotional dysregulation ↓ (uncontrolled)
Dorcy et al. (2016) [27]	USA	Ambulatory oncology	Program evaluation (cohort vs national benchmark)	NR (residency cohort)	Organization-directed; dedicated education unit + transition-to-practice residency	National retention benchmark (non-concurrent)	Retention rate	≥1–2 years	Retention reported to exceed national averages (uncontrolled)

Delivery level classified per the person-/organization-/combined-directed taxonomy (ref 8). Abbreviations: DERS, Difficulties in Emotion Regulation Scale; IES-R, Impact of Event Scale-Revised; MBI(-HSS), Maslach Burnout Inventory (Human Services Survey); NCI, National Cancer Institute; NR, not reported / not extractable at a fixed value; PQoL, professional quality of life; ProQOL, Professional Quality of Life scale; RCT, randomised controlled trial; SCT, stem-cell transplant; TAS-20, Toronto Alexithymia Scale-20. ↑/↓ denote reported direction of change; uncontrolled results are at high/serious risk of bias (Table 2).

3.5 Effect on retention and turnover

Retention or turnover was reported by a single included study: an ambulatory-oncology dedicated education unit with a transition-to-practice residency, which reported retention exceeding contemporaneous national benchmarks^[27]. No study reported turnover intention or intention-to-leave as a measured endpoint using a validated scale, and no controlled study evaluated any intervention against a retention or turnover outcome. The near-total absence of retention endpoints — despite retention being a principal justification for organisational investment — is a central finding of this review. Certainty of evidence for retention was very low (Table 3).

Table 2. Risk-of-bias assessment of included studies

Study (year) [ref]	Design	Tool	Principal risk-of-bias concerns	Overall judgement
Potter et al. (2013) [10]	Single-group pre-post	ROBINS-I	Uncontrolled confounding; regression to the mean; unblinded self-report; very small sample	Serious
Yilmaz et al. (2018) [20]	Single-group pre-post	ROBINS-I	No comparator; selection; unblinded self-report outcomes	Serious
Pehlivan G Güner (2020) [21]	Cluster-RCT	RoB 2	Cluster allocation and recruitment; self-reported outcomes; attrition over 12-month horizon	Some concerns
Poulsen et al. (2015) [22]	RCT	RoB 2	Short follow-up; outcome measurement; small arm sizes	Some concerns to high
Wentzel et al. (2023) [23]	Pre-post / mixed	ROBINS-I	No control; selection; measurement; limited quantitative reporting	Serious
Schuster (2021) [24]	Program evaluation	ROBINS-I	No comparator; minimal quantitative outcome data; selection	Critical
Blackwell (2024) [25]	Single-group pre-post	ROBINS-I	No control; self-report; regression to the mean	Serious
Guido et al. (2025) [26]	Single-group pre-post	ROBINS-I	No control; single small unit; unblinded self-report	Serious
Dorcy et al. (2016) [27]	Cohort vs benchmark	ROBINS-I	Non-concurrent benchmark comparator; uncontrolled confounding; selection	Critical

RoB 2 overall categories: low / some concerns / high. ROBINS-I overall categories: low / moderate / serious / critical. No study was at overall low risk of bias. Confounding and absence of a comparator were the dominant limitations for non-randomised designs.

Table 3. GRADE summary of findings

Outcome	Nº studies (design)	Instruments	Certainty (GRADE)	Reasons for downgrading	Plain-language finding
Burnout (primary)	6 (1 RCT, 5 NRS)	MBI-HSS; ProQOL burnout subscale	⊕○○○ Very low	Risk of bias (-2); inconsistency (-1, controlled vs uncontrolled discordance); imprecision (-1)	Uncontrolled studies favourable; the sole adequately powered RCT null; no reliable effect on burnout
Retention / turnover	1 (NRS, cohort vs benchmark)	Retention rate	⊕○○○ Very low	Risk of bias (-2); indirectness C imprecision (-2, single uncontrolled study, non-concurrent benchmark)	One study reported retention above national benchmark; insufficient to estimate an effect
Compassion satisfaction	5 (1 RCT, 4 NRS)	ProQOL CS subscale	⊕○○○ Very low	Risk of bias (-2); imprecision (-1)	Most consistently favourable outcome, including in the RCT; short-term
Compassion fatigue / STS	4 (NRS)	ProQOL CF/STS; IES-R	⊕○○○ Very low	Risk of bias (-2); inconsistency C imprecision (-1)	Favourable in uncontrolled compassion-fatigue programs; not confirmed in controlled data

GRADE certainty for bodies of evidence dominated by non-randomised studies begins at 'low' and is downgraded further. ⊕○○○ = very low certainty. Abbreviations: CF, compassion fatigue; CS, compassion satisfaction; NRS, non-randomised study of interventions; RCT, randomised controlled trial; STS, secondary traumatic stress; other abbreviations as in Table 1.

3.6 Secondary outcomes

Compassion satisfaction improved in several studies, including the randomised trial^[21] and a paediatric unit well-being program^[25], and was the most consistently favourable outcome across the evidence base. Secondary-traumatic-stress and compassion-fatigue scores declined in

uncontrolled compassion-fatigue programs^[20,23]. A randomised recovery workshop improved recovery skills, self-care satisfaction, and perceived sleep quality at six weeks, with larger effects in the experiential arm^[22]. These secondary signals are consistent with short-term, person-level benefit but do not establish an effect on burnout or retention, and share the same very-low certainty.

3.7 Certainty of evidence

GRADE assessment (Table 3) rated certainty as very low for every outcome — burnout, retention/turnover, compassion satisfaction, and compassion fatigue/secondary traumatic stress — reflecting predominance of uncontrolled designs (high/serious risk of bias), inconsistency between controlled and uncontrolled results, indirectness (reliance on surrogate person-level constructs rather than turnover), and imprecision from small samples and single studies per outcome.

4. Discussion

Principal findings. This systematic review exposes a striking asymmetry between rationale and evidence. Although burnout in oncology nurses is highly prevalent, costly, and — by consensus — a systems problem best addressed organisationally^[7,11], the interventions actually evaluated in this workforce are overwhelmingly small, uncontrolled, and person-directed. The only adequately powered randomised trial was null for burnout^[21], every organization-directed study was uncontrolled^[26,27], and retention — the outcome that most directly motivates organisational investment — was reported by a single study^[27]. Overall certainty was very low, and the evidence does not currently support a recommendation for any specific organizational intervention.

Interpretation. The recurrent divergence between favourable uncontrolled results and a null controlled trial is the analytic crux of this review. It mirrors the wider burnout-intervention literature, in which person-directed programs yield short-term improvement that is not durable, whereas combined person-and-organization-directed programs produce longer-lasting effects^[8], and in which organisation-directed physician interventions outperform individual approaches^[9]. The implication is not that supporting individual nurses is valueless — compassion satisfaction, the most consistently improved outcome here, is protective — but that person-directed programs are being asked to solve a problem whose drivers (workload, staffing, scheduling, leadership, and practice environment) lie in the work system^[11,12]. Interventions that do not modify those drivers should not be expected to reduce burnout durably or to move turnover.

Comparison with existing literature. Our findings extend and update the only prior oncology-nurse-specific synthesis, an integrative review of facility interventions for compassion fatigue^[13], by applying systematic methodology, contemporary risk-of-bias tools, GRADE, and — critically — a dual focus on burnout and retention rather than compassion fatigue alone. Where the broader nursing and physician evidence base supports organisation-directed and structural approaches^[11,12], we show that this approach has scarcely been tested within oncology nursing, so that specialty-specific guidance is currently extrapolated rather than evidenced.

Strengths. Strengths include a pre-specified protocol, PRISMA 2020 and SWiM-compliant reporting, an explicit and auditable operational definition of 'organizational' anchored in an

established taxonomy^[8,28], dual independent screening and appraisal, and use of RoB 2, ROBINS-I, and GRADE. By pre-specifying that meta-analysis was inappropriate, we avoided generating a spuriously precise pooled estimate from incommensurable data.

Limitations. First, the evidence base is small and heterogeneous, precluding quantitative synthesis and limiting conclusions to a narrative, direction-of-effect level. Second, despite an unrestricted search, relevant grey literature and non-English studies may have been missed, and several organization-directed programs were reported as quality-improvement projects with limited methodological detail. Third, most included studies used surrogate person-level constructs rather than turnover, so the review is partly a map of what has not been measured. Fourth, the boundary between person- and organization-directed interventions is inherently fuzzy; we mitigated this with explicit classification but acknowledge residual judgement. These limitations reflect the state of the field as much as the review.

Implications for practice and policy. Nurse leaders should be cautious about expecting individual resiliency programs, on current evidence, to reduce burnout durably or improve retention in oncology settings, and should not defund structural measures — adequate staffing, workload and schedule design, structural empowerment, leadership development, and healthy-work-environment standards^[29,30] — in favour of them. Because direct oncology-specific trial evidence is lacking, organisational decisions must presently be guided by the stronger general-nursing structural evidence^[12], explicitly acknowledged as indirect.

Future research. The priority is rigorous evaluation of organization-directed interventions in oncology nursing using designs that support causal inference — cluster-randomised and stepped-wedge trials, and interrupted time series — that embed staffing, work-environment, leadership, team-process, and structured-onboarding reforms and that pre-specify turnover, turnover intention, and retention as primary endpoints alongside validated burnout measures. Harmonised outcome measurement (a core outcome set for oncology-nurse well-being and retention) would enable future pooling and end the instrument fragmentation that currently prevents it.

5. Conclusion

Organizational interventions to reduce burnout and improve retention in oncology nurses are strongly justified by theory, workforce economics, and adjacent nursing evidence, yet remain almost untested within the specialty. The available oncology-nursing studies are small, largely uncontrolled, predominantly person-directed, and provide very-low-certainty evidence; the single adequately powered randomised trial was null for burnout, and retention was scarcely measured. No specific organizational intervention can yet be recommended on specialty-specific evidence. Well-designed cluster-randomised and stepped-wedge trials with pre-specified retention endpoints are urgently needed to convert a compelling rationale into actionable, evidence-based organisational practice.

Declarations

Funding: this research is not funded.

Conflicts of interest: both authors declare no conflict of interest.

Author contributions: both authors contributed equally in all the steps of this research.

Data availability. All data supporting the conclusions are contained within the article and its Supplementary Materials.

Use of artificial intelligence (AI): Used for language edits, search for articles and design of figures. No generative AI was used.

Ethics approval. Not applicable; this review used only published data.

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