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Research Article

Work Stress in Chinese Hospitals: Evidence Across Doctors, Nurses, and Administrative Staff with Regional Patterns and International Comparisons

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Abstract

Work stress among doctors, nurses, and administrative staff is an important hospital-management concern because it is associated with workforce stability, service quality, and patient safety. This structured narrative review synthesizes 20 core sources published between 2000 and August 2026, including empirical studies, reviews, and three foundational theoretical articles. Evidence was identified through targeted searches of PubMed, Web of Science, and Scopus, supplemented by backward citation searching, and was organized using the Job Demands–Resources model, the Effort–Reward Imbalance model, and organizational support theory. The synthesis distinguishes four linked dimensions: workload and process demands, psychosocial and safety risks, effort–reward conditions, and organizational or system resources. Evidence is strongest for doctors and nurses; findings for administrative staff and regional differences remain more limited and should be interpreted cautiously. International evidence from Europe and North America is used as a bounded comparison because the included cross-national studies provide directly comparable evidence on staffing, working hours, and organizational support. The review contributes an evidence-to-management framework that links observed stressors to proportionate organizational responses while avoiding causal claims from predominantly cross-sectional evidence.

Keywords

Work stress, Burnout, Chinese hospitals, Physicians, Nurses, Administrative staff, Regional differences, International comparison

1. Introduction

Work stress among hospital personnel has become a critical issue in healthcare management worldwide. As hospitals operate under increasing pressure to improve efficiency, quality, and safety, healthcare workers are required to cope with high workloads, emotional demands, complex organizational structures, and heightened public expectations. Extensive international research has demonstrated that excessive work stress is closely associated with burnout, reduced job satisfaction, increased turnover intention, and compromised quality of care. Consequently, managing work stress is no longer viewed solely as an individual well-being issue, but as a core organizational and managerial challenge for hospital systems (Mosadeghrad, 2014).

Globally, physicians and nurses have been identified as high-risk occupational groups for work-related stress and burnout. In many countries, healthcare workers face long working hours, staffing shortages, and growing administrative burdens. Large-scale studies conducted in North America and Europe indicate that burnout has reached alarming levels among hospital clinicians, prompting healthcare organizations and policymakers to seek systematic interventions at the organizational and system levels (Aiken et al., 2012; Rotenstein et al., 2018). At the same time, there is increasing recognition that non-clinical hospital staff, such as administrative and managerial personnel, are also exposed to substantial work stress due to workload intensification, performance pressures, and coordination demands within complex hospital environments.

In China, the issue of hospital work stress has attracted particular attention over the past decade (Xiao et al., 2022). China's healthcare system is characterized by a dominant public hospital sector that delivers the majority of inpatient and outpatient services. Rapid population aging, rising healthcare demand, and uneven distribution of medical resources have resulted in very high patient volumes in many urban hospitals. As a result, Chinese hospital staff—especially doctors and nurses—often work under intense time pressure and heavy workloads (Wang et al., 2025). Existing research suggests that Chinese healthcare workers experience high levels of occupational stress and burnout, making work stress a persistent and systemic challenge in hospital management.

Chinese hospital doctors face context-specific stressors shaped by institutional and social contexts. In addition to heavy clinical workloads, physicians are required to manage extensive documentation, performance assessments, and research-related tasks (Wu et al., 2013). Moreover, strained patient–physician relationships and the risk of workplace violence have emerged as significant psychosocial stressors in the Chinese hospital setting. These factors collectively intensify emotional exhaustion and psychological strain, distinguishing the Chinese context from many high-income countries where medico-legal pressure or administrative burden may play a more prominent role (Chen et al., 2024; Rossi et al., 2023).

Nurses in Chinese hospitals also experience substantial work stress, often linked to staffing shortages, shift work, and limited opportunities for career advancement. Compared with physicians,

nurses typically have less control over work schedules and decision-making (Dall'Ora et al., 2015; Liu et al., 2020), which may exacerbate stress and reduce job satisfaction. Studies have shown that perceptions of unfair reward systems, insufficient organizational support, and imbalance between effort and reward are key contributors to stress and burnout among Chinese nurses. These stressors not only affect individual well-being but also influence workforce stability and continuity of care.

In contrast, hospital administrative staff have received relatively limited attention in the Chinese work stress literature, despite their essential role in hospital operations. Administrative personnel are responsible for coordination, scheduling, billing, compliance, and performance monitoring, all of which have become increasingly complex with the expansion of hospital services and the adoption of performance-based management systems (Lin et al., 2025). Emerging evidence suggests that administrative staff may experience high levels of job demands and role stress, particularly in large public hospitals, indicating that work stress should be understood as an organization-wide phenomenon rather than a purely clinical issue (Lin et al., 2025).

Another important dimension of work stress in Chinese hospitals is regional variation. China exhibits significant disparities in economic development, healthcare resources, and hospital capacity across regions. Hospitals in eastern coastal regions may face very high patient volumes, while those in central and western regions may struggle with staffing shortages and limited resources (Xiao et al., 2022). Multi-region studies suggest that work stress and burnout levels among healthcare workers differ across regions, reflecting variations in workload intensity, organizational support, and local healthcare policies. Understanding these regional patterns is essential for designing context-sensitive management interventions.

When compared with other countries, China shares several common stressors with global healthcare systems, such as high workload, time pressure, and emotional demands. However, international comparisons suggest that the relative importance of specific stressors may differ. For example, studies from Europe and North America emphasize staffing ratios, work-hour regulations, and work–life balance, whereas Chinese studies more frequently highlight patient volume, performance evaluation pressure, and workplace violence. These differences underscore the importance of institutional and cultural contexts in shaping work stress experiences.

Despite a growing body of research on hospital work stress in China, existing studies are often fragmented. Many focus on a single occupational group, such as doctors or nurses, without considering administrative staff. Others examine stress outcomes without systematically integrating regional differences or international perspectives. From a management standpoint, there remains a lack of comprehensive synthesis that compares stress patterns across different hospital roles, regions, and healthcare systems.

Therefore, this study aims to provide a structured, management-oriented analysis of work stress in

Chinese hospitals (Xiao et al., 2022; Zheng et al., 2022). By synthesizing evidence on doctors, nurses, and administrative staff, examining regional differences within China, and comparing Chinese findings with international research, this paper seeks to identify key stressors and underlying management factors. The study further aims to derive practical implications for hospital administrators, highlighting organizational and system-level strategies to mitigate work stress, improve workforce sustainability, and enhance overall hospital performance.

2. Literature Review

2.1. Conceptual and theoretical perspectives on hospital work stress

This review uses three complementary theories rather than treating them as interchangeable. The Job Demands–Resources (JD–R) model explains how sustained demands can lead to exhaustion when staffing, autonomy, and support are insufficient (Bakker & Demerouti, 2007). The Effort–Reward Imbalance (ERI) model specifies a second mechanism in which high effort is not matched by pay, recognition, security, or career opportunity (Siegrist, 1996). Organizational support theory explains how employees' perceptions that the hospital values their contribution and well-being may buffer these pressures (Eisenberger et al., 1986).

The integrated framework therefore uses JD–R to classify demands and resources, ERI to evaluate reciprocity and fairness, and organizational support theory to identify a potentially protective management context. This sequence guides the synthesis: evidence is first coded by demand or resource, then examined for effort–reward conditions, and finally interpreted in relation to organizational support. The contribution is a role- and context-sensitive evidence-to-management pathway, not a replacement for the three established models.

The framework also separates evidence strength from managerial interpretation. Associations reported in cross-sectional studies are treated as correlational, while conclusions supported by systematic reviews, multi-site studies, or convergent findings receive greater interpretive weight. This distinction is used in the Findings and Management Implications sections.

Together, the theories provide a structured lens for comparing doctors, nurses, and administrative staff while accounting for regional and international context. The framework adds value by linking the same theoretical mechanisms to occupational role, institutional setting, evidence strength, and proportionate management action.

2.2. Work stress among doctors in Chinese hospitals

A substantial body of research has examined work stress and burnout among Chinese hospital doctors. Systematic reviews and meta-analyses consistently report high prevalence of burnout, emotional exhaustion, and depersonalization among physicians in China. These findings suggest that

work stress is not an isolated issue affecting specific specialties but a widespread phenomenon across hospital settings. (Rotenstein et al., 2018; Zheng et al., 2022)

Empirical studies identify multiple sources of stress for Chinese doctors. Heavy patient loads, long working hours, and limited consultation time are frequently cited as primary stressors. In addition, doctors are subject to increasing administrative and documentation requirements, as well as performance evaluation systems that emphasize service volume, research output, and clinical indicators. These managerial pressures contribute to role overload and reduced job control. (Wang et al., 2025; Wu et al., 2013)

Psychosocial stressors also play a significant role. Strained patient–physician relationships and the risk of workplace violence have been highlighted as distinctive features of the Chinese hospital context. Exposure to verbal abuse or physical threats has been shown to exacerbate emotional exhaustion and reduce job satisfaction. From a management perspective, these findings indicate that work stress among doctors is shaped not only by workload but also by broader organizational and social environments. (Chen et al., 2024; Rossi et al., 2023)

2.3. Work stress among nurses in Chinese hospitals

Research on nurses' work stress in China is extensive and provides detailed insights into both individual and organizational determinants. Cross-sectional surveys across different hospital levels reveal that Chinese nurses experience high levels of stress, fatigue, and burnout, often linked to staffing shortages, shift work, and high patient-to-nurse ratios. (Dall'Ora et al., 2015; Zhang et al., 2014)

Unlike doctors, nurses typically have less autonomy over work schedules and clinical decision-making, which may intensify perceived stress. Studies based on the ERI framework demonstrate that perceived imbalance between effort and reward is a strong predictor of stress and burnout among Chinese nurses. Limited promotion opportunities, perceived unfairness in performance appraisal, and insufficient recognition further contribute to stress experiences. (Liu et al., 2020)

Organizational support has been identified as a critical moderating factor. Nurses who perceive higher levels of supervisory support and organizational fairness report lower stress and better psychological outcomes. These findings underscore the importance of management practices related to leadership, communication, and human resource policies in shaping nurses' work stress. (Liu et al., 2020)

2.4. Hospital administrative staff and organizational stress

Compared with clinical staff, hospital administrative personnel have received less attention in the Chinese literature on work stress. Nevertheless, emerging studies suggest that administrative staff are exposed to substantial occupational stress due to increasing job demands and organizational complexity. Hospital administrators and clerical staff are responsible for coordination, scheduling, billing,

compliance, and performance monitoring, all of which have expanded under performance-based management reforms. (Lin et al., 2025)

Administrative roles often involve high responsibility with limited authority, creating role ambiguity and role conflict. Studies in hospital and public sector settings indicate that such conditions are associated with burnout, emotional exhaustion, and reduced organizational commitment. The lack of recognition and limited career development opportunities may further intensify stress among administrative staff. (Lin et al., 2025)

From a management perspective, the inclusion of administrative staff in work stress research is essential, as stress-related problems among this group can undermine organizational coordination and overall hospital efficiency. The literature increasingly suggests that work stress should be addressed as an organization-wide issue rather than being confined to frontline clinical roles.

2.5. Regional differences in work stress within China

Regional variation is an important but underexplored dimension of hospital work stress in China. China's healthcare system exhibits significant disparities across eastern, central, and western regions in terms of economic development, healthcare resources, and hospital capacity. Multi-region studies indicate that work stress and burnout levels differ across regions, reflecting variations in workload intensity, staffing adequacy, and organizational support. (Xiao et al., 2022)

Hospitals in economically developed eastern regions often experience extremely high patient volumes, leading to intense workload pressure despite relatively better infrastructure. In contrast, hospitals in central and western regions may face chronic staffing shortages and limited professional development opportunities, which contribute to different stress patterns. These findings suggest that region-specific management strategies are necessary to address work stress effectively.

2.6. International evidence and comparative perspectives

International research provides a valuable benchmark for understanding work stress in Chinese hospitals. Studies from Europe and North America consistently report high levels of burnout among doctors and nurses, indicating that work stress is a global phenomenon. However, comparative studies reveal differences in dominant stressors across healthcare systems. (Aiken et al., 2012; Rotenstein et al., 2018)

In many high-income countries, work stress is closely associated with staffing ratios, work-hour regulations, and administrative burden related to electronic health records. In contrast, Chinese studies emphasize patient volume, performance evaluation pressure, and workplace violence. These differences highlight the role of institutional arrangements, governance structures, and cultural factors in shaping work stress experiences. (Aiken et al., 2012; Chen et al., 2024; Shanafelt et al., 2022)

International evidence also suggests that organizational interventions—such as improving staffing adequacy, enhancing leadership support, and redesigning work processes—can effectively reduce stress and burnout. These findings provide important insights for Chinese hospital managers seeking to adapt international best practices to local contexts. (Aiken et al., 2002; Dall'Ora et al., 2015)

2.7. Research gaps and implications for management studies

Although the existing literature offers valuable insights into work stress among hospital personnel, several gaps remain. First, many studies focus on a single occupational group, limiting understanding of stress dynamics across different hospital roles. Second, regional differences within China are often treated descriptively rather than systematically analyzed. Third, international comparisons are frequently implicit rather than explicitly integrated into management analysis.

From a healthcare management perspective, there is a need for integrative studies that synthesize evidence across job categories, regions, and healthcare systems. Such an approach can enhance understanding of how organizational design, management practices, and system-level factors interact to shape work stress in hospitals. Addressing these gaps is essential for developing effective management strategies to reduce work stress and promote sustainable hospital operations.

3. Methodology

This study is a structured narrative review, not a systematic review or meta-analysis. This design was selected because the objective is to compare occupational roles and management mechanisms across heterogeneous empirical studies and reviews rather than to estimate a pooled effect. The target population is defined consistently as hospital doctors, nurses, and administrative staff; broader terms are used only when a cited study combines these groups.

Targeted searches were conducted in PubMed, Web of Science, and Scopus for English-language publications from January 2000 to August 2026. Search concepts were combined around: (hospital OR public hospital) AND (doctor OR physician OR nurse OR administrative staff) AND (work stress OR occupational stress OR burnout OR fatigue OR turnover intention), together with China, regional, workplace violence, effort–reward imbalance, organizational support, staffing, working hours, or international comparison. Backward citation searching of relevant reviews and included articles was also used.

Eligible sources were peer-reviewed empirical studies, systematic or scoping reviews, and meta-analyses that examined work stress or a closely related outcome among hospital doctors, nurses, or administrative staff and reported a defined setting, population, and measurement approach. Foundational theoretical articles were included separately. Studies focused exclusively on students, non-hospital occupations, or clinical outcomes without workforce-stress data were excluded, as were editorials

without analyzable evidence. International studies were retained only when they offered a direct comparator relevant to staffing, working hours, workload, workplace violence, burnout, or organizational support.

Selection proceeded through title-and-abstract relevance screening, followed by full-text appraisal against the eligibility criteria and citation chaining. Twenty core sources were retained for the synthesis: 17 empirical or review sources and three foundational theoretical articles. Because the search was purposive and structured rather than exhaustive, initial database hit counts are not presented as a systematic-review denominator, and a PRISMA claim is not made.

Methodological appraisal considered study design, sample size and coverage, occupational group, hospital setting, use of validated instruments, and the fit between the evidence and each claim. Systematic reviews, cross-national or multi-region studies, and large multi-site surveys were given greater interpretive weight than single-site cross-sectional studies. No pooled risk-of-bias score was calculated because the included evidence was heterogeneous and the review was narrative. Causal language was avoided unless supported by the underlying design.

Evidence was coded deductively under four dimensions—job demands and process pressure, psychosocial and safety risks, effort–reward conditions, and organizational or system resources—and then compared across occupations, regions, and healthcare systems. Contradictory or sparse evidence was retained rather than forced into a single conclusion. In particular, administrative-staff and regional findings are presented as emerging evidence. Table 1 describes the core evidence, and Table 2 links the main stressors, outcomes, evidence strength, and management implications.

Table 1

Characteristics of the core evidence used in the synthesis

Study	Design / sample	Group and setting	Measure / framework	Main contribution
Aiken et al. (2002)	Cross-sectional; 10,184 nurses	Nurses; 168 U.S. hospitals	MBI; staffing	Lower staffing was associated with burnout and job dissatisfaction.
Aiken et al. (2012)	Cross-sectional; 61,168 nurses and 131,318 patients	Nurses/patients; 12 European countries and U.S.	Staffing and care-quality measures	Cross-national evidence linked work environment and staffing with nurse and patient outcomes.
Wu et al. (2013)	Cross-sectional; 1,202 doctors	Doctors; Liaoning hospitals, China	MBI-GS; JD–R/ERI measures	Effort, reward, job demands, control, support, and doctor–patient relations were associated with

				burnout.
Zhang et al. (2014)	Cross-sectional; 527 nurses	ICU nurses; 14 units in northeastern China	MBI-HSS	Burnout varied with workload and work-environment factors.
Dall'Ora et al. (2015)	Cross-sectional; 31,627 nurses	Nurses; 12 European countries	Shift length; burnout/job satisfaction	Twelve-hour shifts were associated with burnout, dissatisfaction, and intention to leave.
Rotenstein et al. (2018)	Systematic review; 182 studies	Physicians; 45 countries	Multiple burnout definitions	Reported substantial heterogeneity in prevalence estimates and measurement.
Liu et al. (2020)	Cross-sectional; 996 nurses	Nurses; Chinese hospitals	ERI; resilience; organizational support	ERI was associated with fatigue; support and resilience qualified the relationship.
Xiao et al. (2022)	National cross-sectional; 9,592 professionals	Medical professionals; six Chinese provinces	Burnout and capability well-being	Provided multi-region evidence while showing occupational and contextual heterogeneity.
Zheng et al. (2022)	Systematic review/meta-analysis; 66 studies	Doctors; China	Burnout measures	Synthesized prevalence while documenting high heterogeneity across studies.
Rossi et al. (2023)	Umbrella review	Healthcare workers; international	Workplace-violence evidence	Showed that workplace violence is widespread but definitions and settings vary.
Chen et al. (2024)	Cross-sectional; 4,261 doctors	Licensed doctors; China	Workplace-violence survey	Provided occupation-specific evidence on violence exposure and associated factors.
Wang et al. (2025)	Cross-sectional; 1,325 workers	Healthcare workers; Shanghai	Occupational stress, burnout, fatigue	Found role-related differences in a single metropolitan setting.
Lin et al.	Cross-sectional; 482 staff	Administrative	Job stress and burnout	Supports inclusion of

(2025)		staff; Taiwan hospital	scales	administrative staff, but generalizability to mainland China is limited.
Bai et al. (2025)	Cross-sectional/network analysis; hospital staff	Hospital staff; one Chinese hospital	MBI-HSS network analysis	Identified central burnout symptoms; single-site design limits regional inference.

Table 2

Cross-role and cross-context synthesis of stressors, outcomes, and management implications

Evidence domain	Doctors	Nurses	Administrative staff	Regional/international qualification	Management implication
Workload/ process	Patient volume, time pressure, documentation	Staffing ratios, shift work, workload distribution	Coordination, compliance, information burden	Broadly consistent; specific sources differ by setting	Measure demand by role and redesign workflow before adding individual coping programs.
Psychosocial/ safety	Patient conflict and workplace violence	Emotional labor and violence exposure	Role conflict; evidence sparse	Violence is global, but exposure and reporting systems vary	Use reporting, de-escalation, security, and follow-up systems; evaluate locally.
Effort–reward	Performance and promotion pressures	Recognition, compensation, career progression	Recognition and decision authority; limited evidence	Fairness mechanisms are comparable, but reward systems differ	Audit appraisal, promotion, and recognition practices by occupational group.
Organizational resources	Autonomy, staffing, supervisor support	Scheduling control, staffing, support	Authority, clarity, supervisory support	Cross-sectional associations dominate	Pilot staffing/support changes and evaluate outcomes before claiming effectiveness.
Evidence strength	Moderate: several studies and reviews	Moderate: multiple multi-site studies	Low: few directly relevant studies	Regional evidence limited; international comparisons are bounded	Prioritize better administrative-staff, longitudinal, and multi-region research.

4. Analytical Framework

The analytical framework operationalizes the three theories as a sequence. JD–R identifies demands and resources; ERI evaluates whether high effort is reciprocated; organizational support theory assesses whether the hospital provides recognition, care, and practical support. These mechanisms are then compared by occupational role and institutional context. The framework's additional contribution is to connect theoretical mechanism, evidence strength, and management response in one synthesis rather than merely listing established models.

At the core of the analytical framework is the assumption that work stress in hospitals emerges from the interaction between job demands and available organizational resources. Job demands include not only workload intensity and time pressure but also task complexity, administrative burden, and emotional labor associated with patient care and service delivery. In hospital environments characterized by high patient volume and service intensity, these demands are often persistent and cumulative. When organizational resources such as staffing adequacy, managerial support, autonomy, and fair reward systems are insufficient, sustained imbalance between demands and resources increases the likelihood of chronic stress and burnout among hospital staff. (Bakker & Demerouti, 2007)

The framework further incorporates psychosocial and relational dimensions of work stress that are particularly salient in hospital contexts. These dimensions include the quality of patient–provider relationships, exposure to workplace conflict or violence, and interpersonal dynamics within healthcare teams. In Chinese hospitals, where strained patient–physician relations and public scrutiny have been widely reported, psychosocial stressors constitute an important source of emotional exhaustion. From a management perspective, these stressors are not external or uncontrollable factors, but are closely linked to service processes, communication systems, safety governance, and organizational culture.

Effort–reward balance represents another key component of the analytical framework. Effort in hospital work extends beyond physical and cognitive labor to include emotional investment, responsibility for patient outcomes, and compliance with performance evaluation systems. Rewards, however, are not limited to financial compensation; they also encompass career development opportunities, professional recognition, job security, and perceived fairness of organizational procedures. When hospital staff perceive a persistent mismatch between high effort and insufficient reward, stress is intensified and organizational commitment may decline. This component of the framework highlights the importance of performance management and human resource policies in shaping stress experiences. (Siegrist, 1996)

The analytical framework also explicitly accounts for system-level and regional management factors. Hospitals operate within broader healthcare systems that determine resource allocation, staffing norms, governance structures, and regulatory requirements. In China, significant regional disparities in economic development and healthcare capacity mean that hospitals in different regions face distinct management constraints. Hospitals in economically developed regions may experience extreme patient

volumes and service congestion, while those in less developed regions may struggle with workforce shortages and limited organizational support. Incorporating regional variation into the framework allows for a more nuanced understanding of how structural conditions shape work stress across hospital settings.

In addition, the framework supports international comparison by situating Chinese hospital work stress within a broader global context. Although work stress and burnout are widely reported among healthcare workers worldwide, the relative importance of specific stressors varies across healthcare systems. Differences in staffing models, work-hour regulations, organizational autonomy, and safety governance influence how stress is experienced and managed. By applying a common analytical structure to both Chinese and international evidence, the framework facilitates comparison while remaining sensitive to institutional and cultural differences. (Aiken et al., 2012; Dall'Ora et al., 2015)

Overall, this analytical framework provides a structured basis for organizing empirical findings and interpreting patterns of work stress among hospital doctors, nurses, and administrative staff. By integrating workload-related, psychosocial, reward-based, and system-level dimensions, the framework enables a comprehensive management-oriented analysis. It also establishes a clear linkage between organizational design, management practices, and stress outcomes, thereby supporting the development of targeted management strategies in subsequent analysis.

5. Findings

Across the retained evidence, work stress and burnout are repeatedly reported among Chinese hospital doctors and nurses, but prevalence estimates vary substantially because populations, instruments, thresholds, and settings differ (Wang et al., 2025; Zheng et al., 2022). The synthesis therefore emphasizes convergent stress mechanisms rather than a single prevalence estimate.

For doctors, several studies identify workload, long hours, patient volume, performance requirements, and limited job control as correlates of burnout (Wang et al., 2025; Wu et al., 2013). Meta-analytic evidence supports the broad pattern but also reports marked heterogeneity, so these findings should not be interpreted as uniform across specialties or hospitals (Zheng et al., 2022).

Patient–physician conflict and workplace violence are additional psychosocial risks. Chinese survey evidence associates violence exposure with adverse occupational outcomes, while international reviews show that workplace violence also occurs across other healthcare systems (Chen et al., 2024; Rossi et al., 2023). The difference is therefore one of institutional salience and response context, not a claim that violence is exclusive to China.

For nurses, evidence consistently identifies staffing, shift length, workload distribution, and limited scheduling control as relevant correlates of burnout and turnover intention (Aiken et al., 2002; Dall'Ora et al., 2015; Zhang et al., 2014). However, most studies are observational; they support associations and management priorities, not definitive causal effects.

ERI-based evidence further associates insufficient reward, recognition, and advancement opportunity with fatigue or burnout among Chinese nurses, while perceived organizational support and resilience may qualify these relationships (Liu et al., 2020). Differences in instruments and hospital settings help explain variation in effect sizes across studies.

Evidence for administrative staff is much thinner. A recent hospital study found an association between job stress and burnout among administrative personnel, but it was conducted in Taiwan and does not by itself establish the pattern in mainland Chinese hospitals (Lin et al., 2025). Accordingly, administrative staff are retained as an important but under-researched group, and conclusions about their stressors remain provisional.

Regional evidence is also limited. A national study covering six provinces supports geographic heterogeneity, but the literature does not justify a fixed ranking of eastern, central, and western regions (Xiao et al., 2022). Regional interpretation should therefore consider hospital level, specialty, urban demand, staffing, and local resources rather than attribute differences to geography alone.

The most consistent cross-role pattern is an imbalance between high demands and insufficient organizational resources. Evidence is stronger for workload, staffing, work schedules, and support among doctors and nurses than for administrative staff or precise regional contrasts. This uneven evidence base is carried forward explicitly into the management recommendations.

6. International Comparison

The international comparison is deliberately bounded to Europe and North America because the retained cross-national and large-sample studies provide directly comparable information on staffing, shift length, burnout, and work environment (Aiken et al., 2012; Dall'Ora et al., 2015; Shanafelt et al., 2022). These settings are not treated as proxies for all high-income countries or for a single 'Western' system.

Comparison is based on four common criteria: workload and staffing, work-hour organization, psychosocial safety, and organizational resources. Across settings, high demands and weak resources are associated with burnout, but prevalence estimates cannot be compared directly when instruments, thresholds, occupations, and sampling strategies differ (Rotenstein et al., 2018).

Chinese studies place particular emphasis on patient volume, short consultation time, performance requirements, and patient–provider conflict (Wang et al., 2025; Wu et al., 2013). European and North American studies more often quantify staffing, shift length, work environment, and work–life integration (Aiken et al., 2012; Dall'Ora et al., 2015; Shanafelt et al., 2022). This is a difference in emphasis within the retained literature, not evidence that any stressor is absent elsewhere.

Workplace violence illustrates the need for caution. Chinese studies document violence against doctors, while an international umbrella review shows that violence affects healthcare workers across

countries and occupations (Chen et al., 2024; Rossi et al., 2023). Cross-system interpretation should therefore focus on exposure patterns, reporting, prevention, and institutional response rather than label violence as uniquely Chinese.

The comparative synthesis also identifies a shared management mechanism: staffing, scheduling, fairness, autonomy, and organizational support shape the balance between demands and resources. Nevertheless, most underlying studies are cross-sectional. Recommended practices should therefore be implemented as monitored organizational changes rather than presented as universally effective interventions.

Overall, the comparison contributes a bounded test of the integrated framework: common demand–resource and effort–reward mechanisms recur across systems, while their operational sources differ by institutional context. This section therefore interprets cross-system differences and does not repeat the occupation-specific prevalence findings.

7. Management Implications

Management recommendations are calibrated to the evidence summarized in Table 2. Recommendations supported by multiple studies or reviews are presented as priorities for local assessment and implementation; proposals based on sparse evidence are framed as pilots or research needs. None is described as causally effective without evaluative evidence.

First, workload and process redesign is a priority because workload, time pressure, and patient volume recur across doctor and nurse studies (Wang et al., 2025; Wu et al., 2013; Zheng et al., 2022). Hospitals should identify high-demand departments, map avoidable documentation and bottlenecks, and pilot workflow changes with pre-specified staff and service indicators.

Second, staffing and scheduling should be reviewed where local monitoring shows sustained overload. Multi-hospital evidence associates staffing and long shifts with burnout, dissatisfaction, or intention to leave (Aiken et al., 2002; Dall'Ora et al., 2015). Because these studies are mainly observational, hospitals should evaluate changes in staffing or shift design rather than assume universal effects.

Third, reward and performance systems should be audited for reciprocity and fairness. ERI evidence among nurses supports attention to recognition, career opportunity, compensation, and workload expectations (Liu et al., 2020). Role-specific consultation and transparent criteria are more defensible than a single hospital-wide reward intervention.

Fourth, organizational support and leadership practices should be strengthened through clear supervisory access, role clarification, participation, and recognition. The evidence supports an association between perceived support and better outcomes, but the administrative-staff evidence remains limited; interventions for that group should therefore be piloted and evaluated (Lin et al., 2025;

Liu et al., 2020).

Fifth, workplace-violence prevention requires reporting, rapid response, de-escalation support, security coordination, and post-incident follow-up. This recommendation is supported by Chinese survey evidence and international review evidence, although the optimal intervention mix depends on local exposure patterns and resources (Chen et al., 2024; Rossi et al., 2023).

Finally, regional adaptation should be based on hospital-level demand, staffing, specialty, and organizational capacity rather than broad geographic assumptions. Multi-region monitoring is needed before region-wide causal conclusions or uniform policy prescriptions are made (Xiao et al., 2022).

Hospitals should monitor validated stress and burnout measures alongside staffing, overtime, turnover, safety incidents, and service demand. This creates an evidence-to-management feedback loop: identify the local stressor, select a proportionate response, evaluate change, and revise the intervention.

8. Conclusion

This structured narrative review finds the strongest evidence for associations between work stress or burnout and workload, staffing, work schedules, effort–reward conditions, and organizational support among hospital doctors and nurses. Evidence concerning administrative staff and fixed regional patterns is substantially more limited. International comparison supports common demand–resource mechanisms but does not justify direct prevalence rankings across differently measured healthcare systems.

The theoretical contribution is an integrated evidence-to-management framework: JD–R classifies demands and resources, ERI identifies reciprocity problems, and organizational support theory specifies a potentially protective management context. The framework adds occupational role, institutional context, and evidence strength so that managerial recommendations remain proportionate to the underlying evidence.

For practice, hospitals should use local data to prioritize workflow, staffing, scheduling, reward fairness, support, and safety interventions, then evaluate their effects. Future research should use longitudinal and multi-region designs, adopt comparable measures, and directly study mainland Chinese administrative staff. These priorities address the main limitations of a heterogeneous, predominantly cross-sectional evidence base.

Accordingly, work stress should be treated as a manageable organizational risk, but not as a uniform condition with a single solution. The evidence supports targeted assessment and monitored organizational action rather than broad causal or effectiveness claims.

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Author contributions

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