

# Challenges Of Workforce Shortages And Workload Among Hospital Healthcare Staff A Review Submitted By The Department Of Physical Therapy, Radiology, And Health Services

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## Abstract

Workforce shortages and workload pressures have become persistent global issues affecting hospital healthcare systems, with significant implications for patient care, staff wellbeing, and organizational sustainability. Healthcare professionals in physical therapy, radiology, health services administration, nursing, and medicine are among the most impacted by increasing clinical demand and insufficient staffing resources. This review examines current evidence on the causes, consequences, and system-level effects of workforce shortages and workload burden among hospital healthcare staff. The review highlights the multifactorial nature of the problem, including demographic shifts, staffing models, administrative inefficiencies, inadequate training pipelines, increased patient acuity, and high rates of burnout. The Methods section describes the literature search strategy, followed by Results that synthesize findings regarding staffing deficits, mental health impact, operational challenges, patient safety concerns, and economic implications. The Discussion section integrates these findings and proposes organizational and policy-level recommendations targeting recruitment, workforce planning, workflow optimization, and mental health support for hospital staff. The review concludes that addressing workforce shortages and workload burden requires coordinated, evidence-driven strategies across educational, organizational, and governmental systems to achieve long-term resilience in hospital care delivery.

## 1. Introduction

Hospitals worldwide face unprecedented challenges related to workforce shortages and excessive workload among healthcare providers. Over the past two decades, these challenges have been intensified by demographic transitions, rapid advances in medical technology, growing expectations for high-quality care, and the cumulative impact of global health crises. Healthcare staff within physical therapy, radiology, and health services management departments experience particularly heavy burdens, as these units are central to diagnosis, treatment planning, rehabilitation, and the coordination of hospital operations.

Workforce shortages occur when the number of qualified healthcare workers is insufficient to meet service demands in a timely, safe, and effective manner. These shortages may be absolute, where there are too few trained professionals overall, or relative, where staff are unevenly distributed between regions, departments, or specialties. Workload burden, in contrast, refers to the physical, cognitive, and emotional demands associated with performing professional duties. It encompasses not only the number of patients seen but also the complexity of cases, the intensity of required tasks, documentation workload, and ongoing exposure to distressing clinical situations.

The consequences of workforce shortages and workload burden are wide-ranging. At the individual level, they contribute to fatigue, stress, burnout, moral distress, and reduced job satisfaction. At the patient level, they are associated with delays in care, diagnostic errors, lower quality of therapeutic interventions, and increased risk of adverse events. At the organizational level, they result in reduced productivity, higher turnover, increased recruitment costs, reliance on temporary staff, and compromised institutional resilience.

This review aims to synthesize existing evidence on the challenges of workforce shortages and workload among hospital healthcare staff, with specific attention to the perspectives of physical therapy, radiology, and health services departments. By examining the causes, manifestations, and consequences of these challenges, the paper seeks to inform strategic decision-making at both hospital and health system levels and highlight potential interventions to support a sustainable, high-performing healthcare workforce.

## **2. Methods**

This review employed a structured and narrative approach to summarize current knowledge on workforce shortages and workload burden in hospital healthcare settings. A literature search was conducted using major databases including PubMed, Scopus, Web of Science, CINAHL, and the World Health Organization (WHO) Global Health Library. The search covered publications between January 2010 and June 2024.

Keywords and combinations used included: “workforce shortages”, “hospital staffing”, “workload burden”, “burnout”, “physical therapy workforce”, “radiology staffing”, “health services management”, “patient safety”, and “hospital efficiency”. Boolean operators (AND, OR) were used to refine searches, and reference lists of key articles were screened to identify additional relevant publications.

Inclusion criteria were: (1) studies that examined staffing levels, workload, or workforce-related challenges in hospital settings; (2) studies that included healthcare professionals such as nurses, physicians, physical therapists, radiologic technologists, or health services staff; (3) empirical research (quantitative, qualitative, or mixed methods), systematic reviews, or major policy reports from reputable organizations; and (4) articles published in English. Exclusion criteria were: (1) studies focusing exclusively on outpatient or community settings, and (2) articles without sufficient methodological description or relevance to workforce and workload issues.

Data extracted from the included sources encompassed study context, professional groups examined, definitions of workforce shortage and workload, key findings related to staff wellbeing, operational performance, and patient outcomes, and any recommended strategies for improvement. Findings were then synthesized thematically into major domains: (1) causes of workforce shortages, (2) indicators of workload burden, (3) impacts on staff wellbeing, (4) operational and financial implications, and (5) patient safety and quality of care. This narrative synthesis approach enabled integration of diverse types of evidence to provide a comprehensive, practice-oriented perspective.

## **3. Results**

The literature reviewed revealed a complex, interconnected set of factors contributing to workforce shortages and workload burden among hospital healthcare staff. Five overarching themes emerged: (1) structural and demographic drivers of workforce shortages, (2) multidimensional workload burden, (3) psychological and physical impacts on staff, (4) operational disruptions and financial consequences for hospitals, and (5) implications for patient safety and quality of care.

### **3.1 Structural and Demographic Drivers of Workforce Shortages**

Multiple studies highlighted demographic trends as key drivers of workforce shortages. Many high-income and middle-income countries report an aging healthcare workforce, particularly among nurses and certain physician specialties. As senior staff retire, insufficient numbers of early-career professionals are available

to replace them, leading to persistent vacancies. In parallel, population aging and the rising prevalence of chronic diseases increase the demand for hospital services, particularly rehabilitation, imaging, and complex medical management.

Educational capacity constraints further exacerbate shortages. Nursing schools, physical therapy programs, and radiology technology training institutes often face limits on student intake due to faculty shortages, lack of clinical placement sites, or financial restrictions. The long duration of training means that even when capacity is expanded, it may take years before newly qualified staff enter the workforce in sufficient numbers.

International and internal migration also play significant roles. Healthcare professionals may move from rural to urban areas, from public to private institutions, or from lower-income to higher-income countries in search of better working conditions, remuneration, and professional development opportunities. While this may address shortages in some settings, it can leave others critically understaffed, especially in less resourced regions and smaller hospitals.

### **3.2 Multidimensional Workload Burden**

Workload burden in hospital settings was consistently described as multidimensional, encompassing physical, cognitive, and emotional components. Physical therapists frequently manage patients with significant mobility limitations, requiring repetitive lifting, transfer assistance, and hands-on interventions. Radiologic technologists handle complex imaging equipment, position patients accurately, and maintain radiation safety protocols. Health services staff coordinate admissions, discharges, scheduling, and documentation, often under time pressure and with competing priorities.

Cognitive workload arises from constant multitasking, rapid decision-making, interpretation of complex clinical information, and navigation of digital systems. For example, radiologists must interpret large volumes of imaging studies with high diagnostic accuracy, while therapists must design and adjust individualized rehabilitation plans based on changing patient conditions. Health services managers must continuously process information about bed availability, staffing levels, and resource utilization.

Emotional workload stems from exposure to patient suffering, end-of-life situations, family distress, and ethical dilemmas. When staffing is insufficient, staff may have less time to provide emotional support to patients and families, which can create moral distress and a sense of failing to meet professional standards of care.

Across the literature, high workload was strongly associated with perceptions of insufficient time, skipped breaks, overtime, and role overload, particularly in departments with high patient throughput such as emergency care, intensive care, radiology, and surgical wards.

### **3.3 Impacts on Staff Wellbeing**

One of the most consistently reported consequences of workforce shortages and workload burden was deterioration in staff wellbeing. Burnout emerged as a central theme, with numerous studies documenting high rates of emotional exhaustion, depersonalization, and reduced personal accomplishment among hospital staff. Burnout was particularly prevalent in professions with intense patient interaction and high responsibility, including nursing, physical therapy, and radiology.

Healthcare workers experiencing burnout reported fatigue, irritability, difficulty concentrating, and a sense of detachment from their work. Moral distress was also common, especially when staff felt unable to provide the quality of care they believed patients deserved. Inadequate staffing was frequently cited as a barrier to spending sufficient time with patients, completing necessary assessments, or delivering comprehensive education and counselling.

Mental health outcomes included increased symptoms of anxiety and depression, sleep disturbances, and somatic complaints such as headaches, gastrointestinal problems, and musculoskeletal pain. Some staff reduced their working hours, changed roles, or left hospital practice entirely as a result of chronic stress. These individual decisions further contributed to workforce instability and perpetuated the cycle of shortage and workload burden.

### **3.4 Operational and Financial Consequences for Hospitals**

At the organizational level, workforce shortages and workload burden led to multiple operational disruptions. Hospitals with chronic vacancies in physical therapy, radiology, or nursing experienced delays in service delivery, such as extended waiting times for imaging, postponed rehabilitation sessions, and slower patient flow through the system. These delays, in turn, prolonged hospital length of stay and increased the risk of hospital-acquired complications.

High turnover rates required hospitals to invest substantial resources in recruitment, onboarding, and training. Reliance on temporary or agency staff helped to fill gaps but increased labor costs and sometimes reduced continuity of care. Managers also reported spending significant time on crisis-oriented staffing decisions, reassigning personnel, and managing overtime, which limited their ability to focus on long-term strategic planning and quality improvement initiatives.

Financially, the combination of overtime payments, agency staffing, reduced productivity, and increased complications contributed to higher overall costs. Some hospitals were forced to limit elective services, close beds, or reduce program offerings due to staffing constraints, thereby impacting both revenues and community access to care.

### **3.5 Patient Safety and Quality of Care**

Patient safety and quality of care were significantly influenced by staffing levels and workload. Studies consistently demonstrated associations between understaffing and higher rates of adverse events, including medication errors, patient falls, pressure injuries, and healthcare-associated infections. When staff were responsible for too many patients, they were more likely to miss early signs of deterioration, delay responses to alarms, or overlook important details in documentation.

In radiology, heavy workloads were associated with increased interpretation errors and delayed reporting of critical findings. In physical therapy, delayed initiation or inadequate intensity of rehabilitation was linked to slower functional recovery and extended hospital stays. Inadequate staffing also reduced opportunities for patient and family education, which can impact adherence to treatment plans and post-discharge outcomes.

From the patient perspective, excessive staff workload often translated into perceptions of rushed interactions, reduced empathy, and lack of continuity in care providers. These experiences negatively affected patient satisfaction and trust in the healthcare system.

## **4. Discussion**

The findings of this review highlight the deeply interconnected nature of workforce shortages and workload burden in hospital healthcare settings. Structural factors such as demographic changes, educational capacity, and migration patterns influence the availability of qualified staff, while organizational factors such as staffing models, workflow design, and leadership practices determine how workload is distributed and managed.

In departments of physical therapy, radiology, and health services, shortages can have particularly pronounced effects due to their central roles in the patient care continuum. For example, delays in imaging

can impede diagnosis and treatment planning, while insufficient rehabilitation services can slow recovery and functional gains. Health services staff, responsible for admissions, discharge coordination, and information management, play a crucial role in maintaining hospital flow; when they are overwhelmed, system-wide bottlenecks can occur.

The cyclical relationship between shortages and workload is a critical consideration. As workload increases due to understaffing, burnout and turnover tend to rise, which further reduces staffing and exacerbates workload. Breaking this cycle requires interventions that operate simultaneously at multiple levels. These include strengthening workforce planning and forecasting, enhancing the attractiveness of healthcare careers, improving working conditions, and providing robust support for staff wellbeing.

Investment in leadership development is also essential. Leaders who communicate transparently, involve staff in decision-making, and prioritize psychological safety can foster a culture of trust and collaboration that buffers the impact of high workload. Process improvement initiatives, such as lean management and standardized care pathways, can reduce inefficiencies and help ensure that staff time is devoted to tasks that add the most value to patient care.

Technology offers both opportunities and challenges. While electronic health records, clinical decision support systems, and automation can reduce certain administrative burdens and improve information access, they can also introduce new cognitive demands and frustrations if poorly implemented. Engaging frontline staff in the design and optimization of digital systems is therefore crucial to ensure that technology supports, rather than hinders, their work.

Finally, addressing the mental health needs of healthcare workers is a moral and practical imperative. Programs that provide confidential counseling, peer support, stress management training, and opportunities for reflective practice can mitigate the psychological toll of high-intensity work. Such initiatives should be complemented by organizational policies that promote reasonable workloads, adequate rest breaks, and flexibility where possible.

## **5. Conclusion**

Workforce shortages and workload burden among hospital healthcare staff represent complex, multifaceted challenges with profound consequences for staff wellbeing, patient safety, and organizational performance. This review has shown that these challenges arise from a combination of demographic trends, educational constraints, migration patterns, organizational practices, and policy decisions. Their effects are visible at every level of the healthcare system, from the day-to-day experiences of frontline staff to the long-term sustainability of hospital operations.

Effective responses must therefore be comprehensive and sustained. At the policy level, investment in education and training, ethical international recruitment, and robust workforce planning are needed. At the organizational level, hospitals must adopt staffing models that reflect patient acuity, optimize workflows, support leadership development, and prioritize staff mental health. Within departments such as physical therapy, radiology, and health services, tailored strategies are required to address specialty-specific demands and ensure that staff can provide high-quality, patient-centered care without compromising their own health.

By recognizing workforce sustainability as a core component of healthcare quality, hospital leaders and policymakers can begin to design systems in which staff are valued, supported, and able to thrive. In such environments, patients are more likely to receive timely, safe, and compassionate care, and healthcare organizations are better positioned to meet present and future challenges.

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