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Workforce, Workload and Well-being: A Perspective from Junior Doctors on the Future of Postgraduate Medical Training in Europe

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Abstract

Background: Across Europe, postgraduate medical training is undergoing profound transformation due to workforce shortages, evolving competencies, and increasing healthcare demand. Three interconnected structural challenges threaten the sustainability of medical training systems: the demographic crisis of the medical workforce and its supervision consequences, persistent non-compliance with the European Working Time Directive (EWTD), and the growing prevalence of burnout among junior doctors.

Methods: Evidence from Spain illustrates how outdated training structures, excessive working hours, and insufficient supervision can compromise both learning and physician well-being. This commentary draws on recent nationwide surveys and European-level data.

Results: Over 80% of Spanish residents reported exceeding the 48-hour weekly EWTD limit, and 93.9% met criteria for at least one dimension of burnout according to the Maslach Burnout Inventory. These findings reflect systemic gaps with broader implications for postgraduate medical education across Europe.

Conclusions: Workforce planning, compliance with working time regulations, and prioritising physician well-being are essential to safeguard the European medical workforce. Entrustable Professional Activities (EPAs) and European Training Requirements (ETRs) emerge as a critical opportunity for ensuring clinical supervision, patient safety, and physician well-being.

Keywords: postgraduate medical training, burnout, European Working Time Directive, workforce shortages, entrustable professional activities, junior doctors

1. INTRODUCTION

Across Europe, postgraduate medical training stands at a crossroads. Healthcare systems are facing unprecedented pressures driven by demographic change, workforce shortages, and increasing complexity of care (1). At the same time, the expectations placed upon physicians in training have

expanded, requiring them to master new competencies while simultaneously contributing significantly to clinical service delivery (2).

From the perspective of junior doctors, three structural challenges are becoming increasingly evident across European training systems. First, the demographic crisis affecting the medical workforce is placing increasing pressure on healthcare systems, with shortages of specialists and an ageing workforce creating significant challenges for adequate supervision and training during residency (3). Second, working conditions during residency frequently exceed the regulatory limits established to protect both physicians and patients (4), largely due to staffing shortages, increasing clinical demand, and the reliance on residents to sustain service provision. Third, these structural pressures contribute to a growing prevalence of burnout among junior doctors (5), which in turn negatively affects professional satisfaction, retention within the workforce, and potentially the quality and safety of patient care.

Studies examining the demographic challenges affecting the medical workforce, compliance with the European Working Time Directive (EWTD), and burnout prevalence among junior doctors highlight systemic gaps that may have broader implications for postgraduate medical education across Europe. Together, these findings suggest that training capacity, working conditions, and physician well-being must be addressed as interconnected components of a sustainable health workforce strategy. These three dimensions interact dynamically: workforce shortages can undermine supervision and increase workload, excessive working hours may compromise both learning opportunities and well-being, and burnout further threatens workforce retention.

This perspective article reflects on these challenges and argues that modernising training models, ensuring compliance with labour regulations, and prioritising physician well-being are essential steps to safeguard the future of the European medical profession. In this context, the adoption of structured training frameworks, such as Entrustable Professional Activities (EPAs) and European Training Requirements (ETRs) developed within UEMS, may offer a pathway to strengthen supervision, clarify competencies, and ensure consistent training quality across Europe.

2. DEMOGRAPHIC PRESSURES AND WORKFORCE SHORTAGES

Over the past two decades, European healthcare systems have faced growing demographic pressures that increasingly affect the organization of medical training and the sustainability of the workforce (6). An aging population, rising healthcare demand, and the progressive retirement of large cohorts of physicians are creating significant shortages in several specialties and regions (7). At the same time, the number of training positions and the capacity of senior physicians to supervise residents have not always expanded at the same pace.

One of the most visible consequences of these trends is the emergence of so-called “medical deserts”, areas where access to healthcare professionals becomes limited due to workforce shortages (8). These shortages are particularly evident in rural and peripheral regions but are also increasingly observed in urban hospital services experiencing high workload and difficulties in recruiting specialists. For junior doctors, this situation often translates into heavier clinical responsibilities and reduced availability of experienced supervisors. The demographic imbalance within the medical workforce also has important implications for postgraduate medical education.

When healthcare systems depend heavily on residents to maintain service provision, the educational dimension of training can be compromised. Supervisors may have limited time for direct observation,

feedback, and structured teaching, while trainees may face pressure to assume responsibilities beyond their expected level of autonomy. Evidence suggests that addressing this demographic challenge requires coordinated workforce planning strategies. Increasing training capacity, improving retention of junior physicians, and creating incentives for practice in underserved areas are frequently proposed measures (9).

At the same time, strengthening supervision structures and ensuring protected educational time remain essential to preserve the quality of postgraduate medical training. For junior doctors, the demographic crisis therefore represents not only a workforce issue but also a training challenge. Ensuring adequate supervision, balanced workloads, and equitable distribution of professionals across regions will be critical to maintaining both patient safety and the quality of future specialist training in Europe.

3. WORKING TIME REGULATION AND THE TRAINING-SERVICE BALANCE

The organisation of postgraduate training cannot be separated from the working conditions experienced by residents. Physicians in training simultaneously occupy a dual role: they are learners acquiring specialised competencies, but also essential members of the healthcare workforce. European legislation limits average weekly working hours to 48 through the European Working Time Directive (EWTD). However, compliance remains inconsistent in several countries.

Recent nationwide research among resident physicians in Spain illustrates the magnitude of this challenge. In a survey of more than two thousand residents, over 80% reported exceeding the 48-hour weekly working limit established by the EWTD. In addition, approximately 13% indicated that they did not receive the mandatory rest period following a 24-hour on-call shift.

Excessive working hours have several implications. From an educational perspective, heavy workloads can reduce opportunities for structured teaching, reflection, and supervision. From a safety perspective, fatigue associated with prolonged shifts has been linked to impaired cognitive performance and increased risk of medical errors. From a professional perspective, persistent violations of labour regulations may undermine trust in institutional commitments to safe working environments.

4. BURNOUT AMONG JUNIOR DOCTORS: A SYSTEMIC WARNING SIGNAL

The cumulative impact of intense workloads, emotional responsibility, and educational uncertainty places junior doctors at substantial risk of psychological distress. Burnout has therefore become a major concern within the global medical workforce. Burnout is characterised by emotional exhaustion, depersonalisation, and a reduced sense of professional accomplishment. Although individual resilience plays a role; burnout is increasingly recognised as a systemic phenomenon shaped by organisational factors.

Recent data from Spain (5) illustrate the scale of the problem. In a nationwide survey involving 1,419 physicians who began postgraduate training between 2015 and 2024, 93.9% met criteria for at least one dimension of burnout according to the Maslach Burnout Inventory, and more than half met criteria across all three dimensions. Burnout in this population was significantly associated with several work-related factors, including on-call duties, sleep disturbances, reduced perceived quality of life, and increased use of psychotropic medication. These findings suggest that burnout is closely linked to structural conditions within the training environment.

The implications extend beyond individual well-being. Burnout among physicians has been associated with decreased job satisfaction, increased turnover, and reduced empathy in patient care (14). In the long term, these effects may compromise both workforce sustainability and healthcare quality. For junior doctors, the high prevalence of burnout represents a warning signal that the current balance between training demands, working conditions, and personal well-being may be unsustainable.

5. ADDRESSING MEDICAL DESERTS AND WORKFORCE SHORTAGES

Addressing these challenges requires coordinated action at multiple levels of the healthcare system. From the perspective of junior physicians, several priorities should guide future reforms. First, strategic workforce planning is essential to anticipate demographic trends and ensure a sufficient number of trained specialists across Europe. Policies aimed at improving recruitment, retention, and equitable geographical distribution of physicians are necessary to prevent the expansion of medical deserts (15).

Second, incentives and supportive working conditions may help attract physicians to underserved areas, including rural regions and overstretched hospital services. These measures may include improved career opportunities, training pathways linked to underserved regions and strengthened supervision structures.

Finally, European training bodies and professional organisations could play a key role in promoting coordinated workforce strategies and sharing best practices to address physician shortages across countries. Strengthening collaboration at the European level may help mitigate regional imbalances and ensure equitable access to healthcare services (16).

6. ENSURING COMPLIANCE WITH WORKING TIME REGULATIONS

Effective monitoring and enforcement of the EWTD are essential to protect both physicians and patients. Transparent reporting systems and institutional accountability mechanisms should be implemented to ensure that working time limits and rest periods are respected.

However, regulatory compliance alone will not solve the underlying problem if healthcare systems continue to rely excessively on resident labour. Workforce planning and resource allocation must address structural staff shortages that contribute to excessive workloads (17)

7. INTEGRATING PHYSICIAN WELL-BEING INTO TARINING POLICIES

The challenges discussed in this article extend beyond individual countries. Across Europe, healthcare systems face increasing demand for medical services alongside persistent workforce

shortages. In this context, safeguarding the quality and safety of medical training becomes particularly important.

Structured frameworks such as Entrustable Professional Activities (EPAs) and clearly defined European Training Requirements (ETRs) offer a practical mechanism to maintain minimum training standards across different healthcare systems (18,19). By linking competencies to observable clinical tasks and clearly specifying the level of supervision required, these tools help ensure that trainees progressively acquire autonomy while maintaining appropriate oversight (20).

The implementation of EPAs and ETRs may therefore contribute not only to improving educational processes but also to strengthening patient safety, supervision quality, and accountability within clinical training environments. In the context of workforce shortages and increasing service pressures, such frameworks provide a structured way to preserve training quality while supporting the sustainable development of the European medical workforce (21).

8. CONCLUSION

Postgraduate medical training in Europe is facing a critical moment of transformation. From the perspective of junior doctors, three interconnected challenges require urgent attention: persistent medical workforce shortages, the lack of compliance of European labour regulations, and the high prevalence of burnout among junior physicians.

Evidence from Spain illustrates how these issues interact within contemporary training environments. Increasing service pressures driven by workforce shortages, combined with excessive workloads, traditional evaluation systems, and insufficient institutional support, risk undermining both training quality and physician well-being.

Addressing these challenges requires coordinated efforts to strengthen workforce planning, enforce labour protections, and modernise postgraduate training. In this context, the implementation of Entrustable Professional Activities (EPAs) through the European Training Requirements (ETRs) offers a practical pathway to safeguard minimum training standards, ensure appropriate supervision, and maintain patient safety despite increasing system pressures.

By aligning workforce sustainability with robust competency-based training frameworks, European healthcare systems can reinforce the foundations of their future medical workforce while ensuring safe, high-quality patient care.

DECLARATIONS

The authors have declared no conflicts of interest. The authors confirm that artificial intelligence tools were used exclusively as supportive resources for document organisation and literature consultation during the preparation of the manuscript. These tools did not generate, modify, or interpret the scientific content of the article. All analyses, arguments, and conclusions were developed independently by the authors, who take full responsibility for the accuracy and integrity of the work

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