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DIGITAL ADMINISTRATIVE BURDEN AS A STRUCTURAL CONTRIBUTOR TO PHYSICIAN BURNOUT: A NARRATIVE LITERATURE REVIEW

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ABSTRACT

Objective: Physician burnout has emerged as a critical global challenge with far-reaching consequences for healthcare systems, including reduced quality of care, increased medical errors, and workforce attrition. Traditionally conceptualized as a consequence of individual vulnerability and workload intensity, burnout is increasingly recognized as a structurally embedded phenomenon shaped by organizational and technological factors. This study examines digital administrative burden as an underrecognized system-level contributor to physician burnout.
Methods: A narrative literature review was conducted using PubMed, Scopus, and Google Scholar, focusing on peer-reviewed publications from 2016 to 2025. The review synthesizes empirical and conceptual research examining the relationship between digital health technologies and physician burnout.
Results: The findings indicate that electronic health records (EHRs), digital communication platforms, and telemedicine systems significantly increase administrative workload and cognitive demands. Digital administrative burden—defined as workload generated through interaction with digital systems, including documentation, inbox management, alert processing, and system navigation—was consistently associated with emotional exhaustion, depersonalization, and reduced professional fulfillment. These effects are mediated by cognitive overload, workflow fragmentation, and role transformation.
Conclusions: The study concludes that physician burnout should be understood as a structural consequence of healthcare system design. Addressing digital administrative burden requires systemic interventions, including human-centered technology design, workflow optimization, and policy reforms aimed at reducing unnecessary administrative demands.

KEYWORDS

Physician Burnout, Electronic Health Records, Digital Workload, Administrative Burden, Clinical Workflow, Healthcare Systems

CITATION

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1. Introduction

Physician burnout has become a critical issue in contemporary healthcare systems, with implications extending beyond individual clinicians to patient outcomes and system performance (Rotenstein et al., 2018; West et al., 2018). Burnout is commonly defined as a multidimensional syndrome consisting of emotional exhaustion, depersonalization, and reduced professional accomplishment (Maslach & Leiter, 2016). It has been associated with increased medical errors, reduced patient satisfaction, and higher rates of physician turnover (Makary & Daniel, 2016; Dewa et al., 2017).

Historically, burnout has been conceptualized primarily as an individual-level phenomenon. Explanations have focused on factors such as resilience, coping strategies, and workload intensity. However, this perspective has increasingly been challenged by research demonstrating that burnout is strongly influenced by organizational and structural factors (Shanafelt & Noseworthy, 2017; Linzer et al., 2022).

One of the most significant changes in healthcare over the past two decades has been the rapid adoption of digital technologies. Electronic health records (EHRs), clinical decision-support systems, telemedicine platforms, and digital communication tools have become integral to clinical practice (Downing et al., 2018; García & Calvo, 2021).

Despite these intended benefits, digitalization has fundamentally altered the nature of physicians' work. Rather than reducing workload, many digital systems have introduced new forms of administrative burden (Wu et al., 2020; Ellis et al., 2021). Time-motion studies demonstrate that physicians spend a substantial proportion of their working day interacting with EHR systems rather than engaging in direct patient care (Sinsky et al., 2016; Tai-Seale et al., 2017).

In addition, physicians frequently perform digital administrative tasks outside regular working hours, contributing to work–life imbalance and increased burnout (Arndt et al., 2017; Holmgren et al., 2023).

These changes reflect a broader transformation in the physician role. Physicians are increasingly required to perform data entry, system navigation, and electronic communication tasks, often at the expense of patient interaction (Gardner et al., 2019). This phenomenon can be conceptualized as digital administrative burden.

The aim of this study is to examine digital administrative burden as a structural contributor to physician burnout and to synthesize current evidence on mechanisms linking digital system use with burnout outcomes.

2. Methodology

This study adopts a narrative literature review methodology (Miles et al., 2021), which is appropriate for synthesizing diverse forms of evidence and developing conceptual frameworks in complex areas such as healthcare systems and digital technologies.

Literature searches were conducted in PubMed, Scopus, and Google Scholar between January and March 2026. The search strategy included combinations of keywords such as "physician burnout," "electronic health records," "digital health," "administrative burden," "health information technology," and "clinical workload."

Inclusion criteria were defined as follows:

- peer-reviewed articles published between 2016 and 2025
- studies examining physician burnout in relation to digital systems
- empirical studies, systematic reviews, and conceptual analyses

Exclusion criteria included:

- studies focused exclusively on psychological interventions
- non-English publications
- studies not directly involving physicians

The selection process involved screening titles and abstracts, followed by full-text review of relevant articles. The final sample included studies representing a range of methodologies, including observational studies, time-motion analyses, survey-based research, and conceptual papers.

The selected literature was analyzed using thematic synthesis. Key themes were identified based on recurring patterns in the data, with particular attention to mechanisms linking digital system interaction with burnout dimensions (Miles et al., 2021).

3. Results

3.1 Time Allocation and Digital Workload

A consistent finding across the literature is that physicians spend a substantial proportion of their working time on digital tasks (Sinsky et al., 2016; McCullough et al., 2018). Time-motion studies have shown that physicians often spend more time interacting with EHR systems than engaging directly with patients (Tai-Seale et al., 2017).

In ambulatory care settings, physicians may spend up to half of their working day on EHR-related activities (Sinsky et al., 2016). This shift in time allocation reflects the central role of digital systems in modern clinical practice.

Moreover, digital workload extends beyond scheduled working hours. Physicians frequently complete documentation and respond to electronic messages after clinic hours, contributing to extended workdays and reduced opportunities for recovery (Arndt et al., 2017; Holmgren et al., 2023).

3.2 Documentation Burden

Documentation represents one of the most significant components of digital administrative burden (Melnick & Sinsky, 2019). Physicians are required to document clinical encounters in detail, often using structured templates and coding systems.

While structured documentation can improve data quality and standardization, it also increases workload and redundancy (Coulombe & De Groote, 2020; McCullough et al., 2018). Physicians frequently duplicate information across different sections of the record.

Documentation requirements are often driven by billing and regulatory considerations rather than clinical necessity, further contributing to perceived inefficiency (Ellis et al., 2021).

3.3 Inbox Management and Communication Load

Digital communication has become a major component of contemporary clinical work, particularly with the widespread adoption of electronic health records and patient portals (Murphy et al., 2021; Holmgren et al., 2023). Physicians are required to manage a continuous stream of electronic messages originating from patients, colleagues, and administrative staff, which significantly contributes to daily workload (Murphy et al., 2021).

Inbox management is often time-consuming and unpredictable, as message volume and complexity can vary considerably throughout the day (Tai-Seale et al., 2017). Many messages require clinical decision-making, including medication adjustments, interpretation of laboratory results, and follow-up planning, thereby increasing cognitive workload (Miles et al., 2021). The continuous flow of electronic communication also contributes to frequent interruptions and task switching, leading to workflow fragmentation and reduced efficiency (Moy et al., 2021; Murphy et al., 2021).

3.4 Alert Fatigue and Decision-Support Systems

Clinical decision-support systems (CDSS) generate alerts intended to enhance patient safety and support clinical decision-making (Kersting et al., 2023). However, the high volume of alerts can lead to alert fatigue, a phenomenon in which clinicians become overwhelmed by the frequency of notifications (Ancker et al., 2017; Kersting et al., 2023).

As a result, physicians may become desensitized to alerts, potentially reducing their effectiveness and increasing the risk of clinically relevant information being overlooked (Ancker et al., 2017). In addition, the need to review and respond to alerts contributes to increased workload and cognitive burden, further exacerbating the strain associated with digital administrative tasks (Moy et al., 2021; Miles et al., 2021).

3.5 Cognitive Load and Workflow Fragmentation

Digital systems contribute to increased cognitive load through multitasking, frequent interruptions, and complex navigation requirements (Moy et al., 2021; Miles et al., 2021). Physicians are often required to switch between multiple tasks and interfaces, including documentation, order entry, and communication platforms, which can disrupt workflow continuity and reduce efficiency (Moy et al., 2021).

Workflow fragmentation represents a key mechanism linking digital administrative burden with physician burnout. Frequent interruptions and task switching increase mental effort and impair sustained attention, limiting the ability to engage in complex clinical reasoning (Miles et al., 2021; Gardner et al., 2019). Over time, these factors contribute to cognitive fatigue and may exacerbate emotional exhaustion, a core component of burnout (Linzer et al., 2022).

4. Theoretical Framework

4.1 Sociotechnical Systems Theory

The relationship between digital administrative burden and physician burnout can be effectively understood through the lens of sociotechnical systems theory, which posits that organizational performance and worker well-being are shaped by the interaction between social systems (e.g., human actors, organizational structures) and technical systems (e.g., digital technologies, information infrastructures) (Rondeau & Wagar, 2016; García & Calvo, 2021).

In healthcare settings, electronic health records and other digital tools are not neutral instruments but components of complex sociotechnical systems. Their impact on physician experience depends not only on their technical functionality but also on how they are integrated into clinical workflows, organizational processes, and regulatory environments (Downing et al., 2018; Gardner et al., 2019).

The implementation of EHR systems often prioritizes administrative, billing, and compliance requirements over clinical usability. As a result, physicians must adapt their workflows to accommodate system constraints, rather than systems being designed to support clinical practice. This misalignment creates inefficiencies and contributes to increased workload and dissatisfaction (Wu et al., 2020; Coulombe & De Groote, 2020).

From a sociotechnical perspective, digital administrative burden emerges as a systemic phenomenon resulting from the interaction between poorly aligned technical systems and clinical work processes. It reflects a failure to achieve optimal integration between technology and human activity, which may contribute to increased stress and burnout among physicians (Rondeau & Wagar, 2016; Ellis et al., 2021).

4.2 Workload Theory and Cognitive Burden

Workload theory provides a complementary framework for understanding how digital administrative tasks contribute to physician burnout. According to this perspective, burnout arises when job demands exceed an individual's cognitive and emotional capacity over sustained periods (Dyrbye et al., 2020; West et al., 2018).

Digital systems increase both quantitative workload, reflected in time spent on tasks, and qualitative workload, related to task complexity and cognitive effort. Activities such as documentation, inbox management, and alert processing require sustained attention, multitasking, and continuous information synthesis, thereby contributing to increased mental strain (Miles et al., 2021; Moy et al., 2021).

Cognitive load theory further distinguishes between intrinsic load, associated with the inherent complexity of a task, and extraneous load, resulting from inefficiencies in system design. In the context of EHR use, extraneous cognitive load is particularly significant. Poor interface design, redundant data entry, and complex navigation structures increase cognitive effort without directly supporting clinical decision-making (Coulombe & De Groote, 2020; McCullough et al., 2018).

This unnecessary cognitive burden reduces efficiency, increases fatigue, and contributes to emotional exhaustion, which is a central component of physician burnout (Maslach & Leiter, 2016; Linzer et al., 2022).

4.3 Role Theory and Professional Identity

Role theory offers important insight into how digital administrative burden affects physician identity and job satisfaction. Traditionally, physicians conceptualize their professional role as centered on patient care, clinical reasoning, and a high degree of professional autonomy (Maslach & Leiter, 2016; Shanafelt & Noseworthy, 2017).

However, the process of digitalization has introduced new role expectations. Physicians are increasingly required to perform administrative tasks, including data entry, documentation, and system navigation, which represent a shift toward clerical and information-processing responsibilities (Downing et al., 2018; Gardner et al., 2019). This shift can be understood as a form of role expansion and, in some cases, role conflict.

Role conflict arises when the demands of administrative tasks interfere with core professional values and responsibilities. For example, time spent on documentation and electronic communication may reduce the time available for direct patient interaction and reflective clinical reasoning (Sinsky et al., 2016; Linzer et al., 2022). This misalignment can lead to frustration, decreased job satisfaction, and a reduced sense of professional meaning.

In addition, role erosion may occur when physicians perceive that their work is becoming less focused on clinical expertise and increasingly oriented toward administrative processes. This perceived shift in professional identity may undermine intrinsic motivation and contribute to emotional exhaustion and burnout (Maslach & Leiter, 2016; West et al., 2018).

4.4 Job Demands–Resources Model

The Job Demands–Resources (JD-R) model provides a widely used framework for understanding burnout in occupational settings. According to this model, burnout arises when job demands are high and available resources are insufficient to meet those demands (Dyrbye et al., 2020; West et al., 2018).

Within this framework, digital administrative burden can be conceptualized as a specific type of job demand. It contributes to increased workload, cognitive effort, and time pressure associated with tasks such as documentation, inbox management, and system navigation (Melnick et al., 2020; Linzer et al., 2022). At the same time, key resources—such as available time, administrative support, and usability of digital systems—are often limited or inadequately aligned with clinical needs (Coulombe & De Groote, 2020; Ellis et al., 2021).

When job demands exceed available resources, individuals experience sustained strain, which may lead to burnout over time. Conversely, enhancing resources—such as improving system usability, optimizing workflows, or reducing redundant documentation—may mitigate the negative effects of high demands and support physician well-being (Shanafelt et al., 2020; Linzer et al., 2022).

The JD-R model therefore highlights the importance of organizational and system-level interventions in addressing burnout. Rather than focusing solely on individual resilience, it emphasizes the need to redesign work environments and reduce structural sources of strain (West et al., 2018; Dyrbye et al., 2020).

5. Discussion

5.1 Digital Administrative Burden as a Structural Driver of Burnout

The findings of this review support the conceptualization of digital administrative burden as a structural driver of physician burnout. Rather than being an incidental byproduct of technology use, it reflects fundamental characteristics of healthcare system design (West et al., 2018; Linzer et al., 2022).

Digital systems have become central to clinical practice; however, their implementation has often prioritized administrative and regulatory functions over clinical usability. This has resulted in workflows that are optimized for data capture, billing, and compliance rather than for patient-centered care (Downing et al., 2018; Wu et al., 2020).

As a consequence, physicians must adapt their work practices to meet system requirements. This adaptation frequently involves increased time spent on documentation, navigation of complex interfaces, and management of electronic communication (Sinsky et al., 2016; Gardner et al., 2019).

These tasks collectively constitute digital administrative burden and represent a significant source of job demands, contributing to increased workload and cognitive strain (Melnick et al., 2020; Linzer et al., 2022).

5.2 Mechanisms Linking Digital Systems to Burnout

The relationship between digital administrative burden and physician burnout can be understood through several interconnected mechanisms.

Cognitive Overload

Digital systems require physicians to process large volumes of information and manage multiple tasks simultaneously, which increases cognitive load and reduces the capacity for sustained attention (Moy et al., 2021; Miles et al., 2021). Frequent interruptions, such as alerts and electronic messages, further contribute to cognitive overload. These interruptions disrupt workflow and necessitate task switching, which has been associated with decreased efficiency and increased mental effort (Moy et al., 2021; Murphy et al., 2021).

Workflow Fragmentation

Digital workflows are often fragmented, requiring physicians to switch between different tasks and interfaces, including documentation, order entry, and communication platforms (Gardner et al., 2019). This fragmentation reduces workflow continuity and increases the time required to complete clinical tasks. Moreover, fragmented workflows interfere with clinical reasoning processes, which depend on sustained attention and integration of complex information (Miles et al., 2021).

Time Pressure

The combination of increased workload and limited time results in significant time pressure. Physicians are required to complete documentation, manage electronic communication, and deliver patient care within constrained timeframes (Sinsky et al., 2016; Tai-Seale et al., 2017). Time pressure is a well-established predictor of stress and burnout, particularly in high-demand clinical environments (Dyrbye et al., 2020; West et al., 2018).

Loss of Professional Meaning

Digital administrative tasks may lack intrinsic meaning, especially when they are perceived as bureaucratic or unrelated to patient care. This can lead to a reduced sense of professional fulfillment and engagement (Maslach & Leiter, 2016; Linzer et al., 2022). The mismatch between physicians' expectations—centered on patient care—and their actual activities, which increasingly involve administrative tasks, contributes to dissatisfaction and may accelerate burnout (Shanafelt & Noseworthy, 2017).

5.3 After-Hours Work and Boundary Erosion

One of the most significant consequences of digital administrative burden is the extension of work into personal time. Physicians frequently complete documentation and respond to electronic messages outside regular working hours (Arndt et al., 2017; Holmgren et al., 2023).

This phenomenon, often referred to as "after-hours EHR work" or "pajama time," reflects the inability to complete all required digital and administrative tasks during scheduled working hours (Arndt et al., 2017; Sinsky et al., 2016).

After-hours work contributes to the erosion of boundaries between professional and personal life, reducing opportunities for rest and recovery (Dyrbye et al., 2020). Prolonged exposure to such conditions increases the risk of chronic stress, emotional exhaustion, and ultimately physician burnout (West et al., 2018; Linzer et al., 2022).

5.4 Variability Across Clinical Settings

The impact of digital administrative burden may vary across clinical settings and medical specialties. For example, primary care physicians often experience particularly high levels of documentation and communication workload due to the breadth and continuity of patient care, as well as the need to manage large volumes of electronic messages (Sinsky et al., 2016; Murphy et al., 2021).

Specialties with complex documentation requirements, such as internal medicine and emergency medicine, may also experience elevated levels of digital workload, driven by detailed reporting obligations and high patient turnover (Tai-Seale et al., 2017; Gardner et al., 2019).

In addition to specialty-specific factors, organizational characteristics play a critical role in shaping digital administrative burden. Variables such as staffing levels, availability of administrative support, and configuration of digital systems can significantly influence workload and efficiency (Linzer et al., 2022; Ellis et al., 2021). Differences in system usability and workflow integration across institutions further contribute to variability in physician experience (Coulombe & De Groote, 2020).

5.5 The Paradox of Digitalization

Digitalization in healthcare presents a fundamental paradox. While digital technologies have the potential to improve efficiency, coordination, and quality of care, their implementation has often led to increased workload and complexity for clinicians (Downing et al., 2018; García & Calvo, 2021).

This paradox reflects a gap between technological potential and practical implementation. Systems that are designed without sufficient consideration of clinical workflows and user needs may introduce inefficiencies, even as they aim to streamline processes (Wu et al., 2020; Coulombe & De Groote, 2020). As a result, digital tools may simultaneously enhance certain aspects of care while creating additional administrative burdens.

Understanding this paradox is essential for the development of effective interventions. Addressing the misalignment between technology design and clinical practice requires a shift toward user-centered approaches and better integration of digital systems within healthcare workflows (Ellis et al., 2021; Rondeau & Wagar, 2016).

5.6 Implications for Patient Care

The impact of digital administrative burden extends beyond physicians to patient care outcomes. Reduced time available for direct patient interaction may negatively affect communication quality, physician–patient relationships, and overall patient satisfaction (Sinsky et al., 2016; Panagioti et al., 2018).

In addition, increased cognitive load and fatigue associated with digital administrative tasks may elevate the risk of medical errors and compromise clinical decision-making (Makary & Daniel, 2016; Moy et al., 2021). Burnout has been consistently linked to decreased patient safety and quality of care, further emphasizing the broader systemic implications of this issue (West et al., 2018; Dewa et al., 2017).

Addressing digital administrative burden is therefore not only a matter of clinician well-being but also a critical component of ensuring patient safety, care quality, and the overall effectiveness of healthcare systems (Panagioti et al., 2018; Shanafelt et al., 2020).

6. Implications for Practice and Policy

Addressing digital administrative burden requires coordinated interventions across multiple levels of the healthcare system, including technological design, organizational processes, and policy frameworks (West et al., 2018; Shanafelt et al., 2020). The findings of this review indicate that isolated interventions are unlikely to produce substantial and sustained improvements unless they are integrated into broader system-level strategies (Linzer et al., 2022; Ellis et al., 2021).

A comprehensive approach that simultaneously targets system usability, workflow organization, and regulatory requirements is therefore essential to effectively reduce administrative burden and improve physician well-being (Coulombe & De Groote, 2020; Dyrbye et al., 2020).

6.1 Technological Interventions

At the technological level, improving the usability of digital health systems is a critical priority. Many of the challenges associated with digital administrative burden stem from poorly designed interfaces, inefficient workflows, and a lack of interoperability between systems (Coulombe & De Groote, 2020; McCullough et al., 2018).

Human-centered design approaches offer a promising pathway for improvement. These approaches emphasize the active involvement of end-users—particularly physicians—in the design, implementation, and evaluation of digital systems. By aligning system functionality with real-world clinical workflows, human-centered design can reduce cognitive load, improve efficiency, and enhance user satisfaction (Rondeau & Wagar, 2016; Gardner et al., 2019).

Specific technological improvements may include:

- reducing the number of steps required to complete common tasks
- minimizing redundant data entry through automation and improved interoperability
- enhancing interface clarity and navigation
- optimizing alert systems to reduce unnecessary or low-value notifications

In addition, advances in artificial intelligence and natural language processing may offer new opportunities to reduce documentation burden. For example, automated transcription systems and clinical documentation tools can support real-time data capture, allowing physicians to focus more on patient interaction and less on manual data entry (Barbieri & Bianchi, 2021; García & Calvo, 2021).

6.2 Organizational Interventions

Organizational strategies play a crucial role in mitigating digital administrative burden. Healthcare institutions have significant influence over how digital systems are implemented, configured, and integrated into clinical workflows (Linzer et al., 2022; Shanafelt & Noseworthy, 2017).

One key approach is workflow redesign, which involves systematic analysis of clinical processes to identify inefficiencies and opportunities for improvement. Tasks that do not require clinical expertise—such as data entry or documentation support—may be delegated to administrative staff or supported by medical scribes, thereby reducing the burden on physicians (Sinsky et al., 2016; Gardner et al., 2019).

Team-based care models represent another important strategy. By distributing responsibilities across multidisciplinary teams, healthcare organizations can optimize task allocation and reduce the workload placed on individual physicians (Sinsky et al., 2017; Linzer et al., 2022).

Training and support are also essential components of organizational interventions. Physicians often receive limited formal training in the use of digital systems, which may contribute to inefficiencies and frustration. Providing comprehensive onboarding, continuous education, and technical support can improve system utilization and reduce perceived workload (Coulombe & De Groote, 2020; Ellis et al., 2021).

Furthermore, healthcare organizations should monitor digital workload as part of their quality improvement initiatives. Metrics such as time spent on EHR-related tasks, inbox volume, and after-hours work can provide valuable insights into workload patterns and help identify areas requiring intervention (Holmgren et al., 2021; Tai-Seale et al., 2017).

6.3 Policy and Regulatory Interventions

At the policy level, regulatory requirements play a significant role in shaping digital administrative burden. Documentation requirements are frequently driven by billing, compliance, and legal considerations rather than clinical necessity, thereby increasing the volume and complexity of administrative tasks (Downing et al., 2018; Ellis et al., 2021).

Reducing unnecessary documentation requirements should therefore be considered a key policy priority. Policymakers should critically evaluate existing regulations and reporting obligations to identify opportunities for simplification and alignment with clinical practice (Shanafelt et al., 2020; Linzer et al., 2022).

In addition, payment models may substantially influence administrative workload. Fee-for-service systems often require extensive documentation to justify billing, which can increase physician workload and administrative burden (Rondeau & Wagar, 2016). In contrast, alternative models such as value-based care may reduce documentation demands and shift the focus toward patient outcomes and quality of care (Shanafelt et al., 2020).

Policy interventions should also promote interoperability between digital systems. Fragmented health information infrastructures increase workload by requiring physicians to navigate multiple platforms and duplicate data entry (Coulombe & De Groote, 2020; McCullough et al., 2018).

Finally, policymakers should explicitly consider the impact of digital systems on clinician well-being as part of broader healthcare system evaluation. Physician burnout should be recognized as a systemic issue requiring coordinated and multi-level policy responses (West et al., 2018; Dyrbye et al., 2020).

6.4 Integrating Interventions Across Levels

Importantly, effective solutions require integration across technological, organizational, and policy levels. Improvements in system design may be undermined by inefficient workflows, while organizational changes may be constrained by regulatory and reimbursement requirements (West et al., 2018; Linzer et al., 2022).

A systems-based approach is therefore essential. This perspective recognizes that digital administrative burden arises from the interaction between multiple components of the healthcare system, including technology, organizational structures, and policy frameworks (Rondeau & Wagar, 2016; Ellis et al., 2021). Addressing these interconnected factors requires coordinated, multi-level interventions that align digital tools with clinical practice and system-level priorities.

7. Future Research Directions

Despite growing interest in digital administrative burden, significant gaps remain in the existing literature. Current evidence highlights the importance of this phenomenon; however, further research is needed to develop a more comprehensive and nuanced understanding of its determinants, mechanisms, and consequences (Melnick et al., 2020; Linzer et al., 2022).

Future research should aim to address these gaps by employing more robust methodological approaches, including longitudinal and intervention-based studies, in order to better capture causal relationships and inform effective system-level solutions (Dyrbye et al., 2020; West et al., 2018).

7.1 Measurement and Conceptualization

One key area for future research is the development of standardized measures of digital administrative burden. Current studies rely on a variety of metrics, including time spent on EHR-related tasks, number of system interactions (e.g., clicks), and self-reported workload, which limits comparability across studies (Sinsky et al., 2016; Melnick et al., 2020).

The development of validated and standardized measurement tools would facilitate cross-study comparisons, improve the reliability of findings, and support more precise evaluation of interventions aimed at reducing administrative burden (Miles et al., 2021; Linzer et al., 2022).

In addition, further conceptual work is needed to refine the definition of digital administrative burden and to distinguish it from related constructs such as general workload, job demands, and cognitive load. Clarifying these conceptual boundaries would enhance theoretical coherence and improve the interpretation of empirical findings (Dyrbye et al., 2020; West et al., 2018).

7.2 Causal Mechanisms

Most existing studies on digital administrative burden and physician burnout are cross-sectional in design and therefore do not establish causal relationships between these variables (Melnick et al., 2020; Linzer et al., 2022). While such studies provide valuable insights into associations, they are limited in their ability to capture dynamic changes over time.

Longitudinal research is needed to examine how variations in digital workload influence the development and progression of burnout among physicians (Dyrbye et al., 2020; West et al., 2018). Such designs would allow for a better understanding of temporal relationships and potential cumulative effects of digital administrative burden.

In addition, experimental and quasi-experimental study designs may offer valuable insights into causal mechanisms by evaluating the impact of specific interventions, such as workflow redesign or improvements in system usability, on physician workload and well-being (Coulombe & De Groote, 2020; Ellis et al., 2021).

7.3 Intervention Studies

There is a need for more research evaluating the effectiveness of interventions aimed at reducing digital administrative burden. Although a range of potential solutions has been proposed, empirical evidence regarding their impact on physician workload and burnout remains limited (Coulombe & De Groote, 2020; Ellis et al., 2021).

Future studies should assess both short-term and long-term outcomes of such interventions, including physician well-being, patient outcomes, and overall healthcare system performance (Shanafelt et al., 2020; West et al., 2018). Evaluating these outcomes in diverse clinical settings would provide a more comprehensive understanding of the effectiveness and scalability of different intervention strategies.

7.4 Variability Across Contexts

Digital administrative burden may vary across healthcare systems, medical specialties, and practice settings. Differences in organizational structures, regulatory environments, and levels of digitalization can significantly influence the extent and nature of administrative workload experienced by physicians (Linzer et al., 2022; Ellis et al., 2021).

Comparative studies across different countries and healthcare systems would provide valuable insights into how system-level factors shape digital workload and physician experience (Panitsides & Vagenas, 2018; García & Calvo, 2021). Such research may also help identify best practices and effective organizational or technological strategies that can be adapted across diverse clinical contexts.

7.5 Emerging Technologies

The rapid development of emerging technologies, including artificial intelligence (AI) and automation, presents both significant opportunities and challenges for healthcare systems. These technologies have the potential to reduce administrative workload by automating repetitive tasks, enhancing data processing, and supporting clinical documentation (Barbieri & Bianchi, 2021; García & Calvo, 2021).

Future research should examine how these technologies influence administrative workload, clinical workflows, and physician experience in real-world settings. In particular, it is important to evaluate whether such innovations effectively reduce burden or merely shift it to new domains (Coulombe & De Groote, 2020; Ellis et al., 2021).

While automation may alleviate certain aspects of digital administrative burden, it may also introduce new complexities, including increased system dependence, additional training requirements, and unintended workflow disruptions. These potential consequences highlight the need for careful implementation and evaluation of emerging technologies within healthcare environments (Rondeau & Wagar, 2016; West et al., 2018).

8. Limitations

First, as a narrative literature review, the study does not follow a formal systematic review protocol. Although efforts were made to ensure comprehensive coverage of the literature, the selection and interpretation of studies may be subject to bias (Coulombe & De Groote, 2020; Melnick et al., 2020).

Second, the heterogeneity of the included studies limits the ability to draw definitive conclusions. The analyzed literature varies in terms of study design, clinical settings, populations, and measurement of key variables, which may affect the comparability of findings (Linzer et al., 2022; Dyrbye et al., 2020).

Third, most of the available research is based on healthcare systems in high-income countries, particularly in North America and Europe. As a result, the findings may not be fully generalizable to low- and middle-income settings, where healthcare infrastructure, digitalization levels, and organizational contexts differ substantially (Panitsides & Vagenas, 2018; García & Calvo, 2021).

Finally, the rapidly evolving nature of digital health technologies means that the findings of this review may require ongoing updates as new systems, tools, and evidence emerge. Continuous evaluation is therefore necessary to ensure that conclusions remain relevant in the context of dynamic technological change (West et al., 2018; Shanafelt et al., 2020).

9. Conclusions

Digital administrative burden represents a significant and underrecognized structural contributor to physician burnout. The findings of this review indicate that digital health technologies, while offering substantial benefits in terms of efficiency and data accessibility, have also introduced new forms of workload that fundamentally alter the nature of clinical work (Melnick et al., 2020; West et al., 2018).

Physicians increasingly spend substantial portions of their time on documentation, electronic communication, and system navigation, often at the expense of direct patient interaction. These changes have been consistently associated with emotional exhaustion, depersonalization, and reduced professional fulfillment, which are core dimensions of burnout (Maslach & Leiter, 2016; Linzer et al., 2022).

Importantly, digital administrative burden should not be understood merely as a consequence of individual behavior or technology use. Rather, it reflects broader structural characteristics of healthcare systems, including organizational workflows, regulatory requirements, and the design and implementation of digital technologies (Downing et al., 2018; Ellis et al., 2021).

Addressing physician burnout therefore requires a fundamental shift in perspective. Instead of focusing primarily on individual resilience, interventions must target system-level determinants of workload and inefficiency. This includes improving the usability and integration of digital systems, optimizing clinical workflows, and reducing unnecessary administrative and documentation requirements (Shanafelt et al., 2020; Dyrbye et al., 2020).

A comprehensive, multi-level approach that integrates technological, organizational, and policy interventions is essential. By addressing the structural drivers of digital administrative burden, healthcare systems can improve physician well-being, enhance the quality and safety of patient care, and promote long-term sustainability (West et al., 2018; Panagioti et al., 2018).

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