The Burden and Burnout in Documenting Patient Care: An Integrative Literature Review

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Abstract

The implementation of the electronic health record (EHR) across the globe has increased significantly in the last decade. Motivations for this trend include patient safety, regulatory requirements, and healthcare cost containment. However, the impact of regulatory requirements and new EHRs on clinicians has increased the incidence of documentation burden and may lead to burnout syndrome. It is important to understand the extent of documentation burden and potential solutions such as EHR user-interface redesign and the use of scribes to assist healthcare providers across the world.

Keywords:
Occupational Burnout, Electronic Health Records, Healthcare Providers

Introduction

The adoption of the electronic health record (EHR) in developed countries across the world has increased to almost 95% [1-3]. The motivation for health policies to implement the EHR is to improve the quality of care and reduce healthcare costs [4]. An example of a health policy that encourages EHR implementation is the Health Information Technology for Economic and Clinical Health (HITECH) Act in the United States (U.S.) [5]. One of the more significant programs within HITECH is the Promoting Interoperability (PI) Program which was formerly known as the Meaningful Use Program. The HITECH financial incentives and punitive measures were motivators for healthcare organizations to adopt EHR [5]. In addition, the World Health Organization (WHO) has encouraged the implementation of EHR in developing countries because of studies that show the improvement of patient outcomes [6].

The incidence of burnout syndrome in nurses in the U.S. ranges from 10% to 70% [7]. Also, more than half of physicians in the U.S. are reporting symptoms of burnout [8]. Studies have shown that the incidence of burnout syndrome is inversely proportional to patient outcomes [9]. Nursing and physicians are particularly vulnerable to burnout syndrome due to decreased job satisfaction, emotional, and physical exhaustion [10-12]. Clinicians report that they spend more than half of their day documenting patient care [13]. Studies also have found that when clinicians spend more time on clerical tasks, they have a decreased rate of job satisfaction which correlates to increased symptoms of burnout [11]. The purpose of this integrative review is to synthesize research evidence related to the extent of the documentation burden of healthcare providers and the potential solutions.

Methods

Using the strategies outlined by Whittemore & Knafl [14], four databases, (CINAHL, PubMed, ScienceDirect, and Web of Science) were searched as well as bibliographies of relevant articles and a broad internet search of the topic. The keywords used alone or in combination were "EHR documentation", "electronic documentation", "burden", "nursing", "nurse burnout", "physician burnout" and "clinician burnout", subject headings in CINAHL such as "burnout" were also used to broaden the search. All duplicate articles in the search were removed. Inclusion criteria included the following: Nursing and physician providers including Physician Assistants and Nurse Practitioners, EHR/electronic documentation of patient care, all healthcare settings. Due to the rapid change of technology and health policies throughout the world, we included research articles published between the years of 2013 and 2018. The types of studies included were experimental, quasi-experimental, descriptive, mixed-methods and qualitative. The exclusion criteria included any articles that focused on the process of transition from paper documentation to an EHR or from a legacy EHR to a new EHR system. Also excluded were non-physician/nursing providers (e.g. Chiropractors), news articles, articles not published in English and non-peer reviewed manuscripts.

Results

The initial search yielded 106 articles. After the inclusion/exclusion criteria were applied and duplicates removed, 26 articles remained. After the full-text articles were reviewed, a total of 10 articles [6; 11; 12; 15-21] were included in the final review (Figure 1). Common themes were identified from each article and tabulated (Table 1). A common theme identified in the articles is time pressure for documentation which relates to the increased stress clinicians experience when completing the time-consuming patient care documentation [11; 12; 15-20]. The main population found in the literature was physicians [6; 11; 12; 15-18; 20; 21]. Other populations identified in articles were advanced practice registered nurses (APRNs), ancillary care professionals in outpatient clinics and one article identified patients [6; 19; 21]. The solutions to documentation burnout identified were the use of clerical support or scribes to perform the documentation for clinicians [11; 12; 15-19], optimization of the EHR to enhance workflows [6; 12; 20] and additional training to improve documentation efficiency and quality [20].

Time Pressure for Documentation

All included articles [6; 11; 12; 15-21] discussed a possible link between the pressure or increased stress to document combined with the lack of time allocated for documentation and clinician burnout. Ehrenfeld & Wanderer [16] identified some evidence linking burnout to time pressure for documentation but not enough to characterize a strong link between the two. Most of the articles discussed the linkage between increased stress (e.g., documentation as one contributing factor to that stress) and the high rate of clinician burnout [11; 12; 15-19]. A common theme was that the requirements for data entry in the EHR took time away from patient care which led to poor job satisfaction [11; 12; 16-18]. Guo, Chen, & Mehta [20] discussed how decreasing "click-burden" or the amount of mouse clicks required in the EHR led to increased job satisfaction due to the decreased amount of time required to document.

Use of Clerical Support as a Solution

A proposed solution to increasing face-time and job satisfaction is the use of clerical support or "scribes" to perform the documentation for the clinician [11; 12; 15-19]. Four articles discussed how the increased amount of time required to document patient care could be relieved by simply assigning the task of documenting the care to another person who would observe the patient care along with the clinician [11; 15]. The use of scribes was identified only to assist physicians. Nurses were suggested as a possible staff member that could take the role of a scribe for the physicians [11; 16; 18]. There were no solutions offered in the articles related to assisting nurses with documentation burden.

Optimizing EHR Workflow through Education and Technical Enhancements

Jawhari et al. [6] discussed how lack of standardization increased documentation time which implied an increase in documentation burden. However, several articles [11; 12; 17; 22] suggested that education combined with technical enhancements in the EHR would improve the efficiency and quality of documentation. Robinson and Kersey [17] provided an educational intervention that improved the clinicians EHR workflow while also improving job satisfaction. Guo, Chen, & Mehta [20] provided a multi-faceted intervention which included technological options and EHR enhancements combined with a structured educational program. Studies that included interventions to improve the user-interface in combination with education showed significant improvement to an end user's documentation efficiency, quality of documentation and job satisfaction [17; 20].

Discussion

The main theme of the articles included in this review relates to how EHR documentation can contribute to burnout, and the potential solutions to mitigate this problem. Central to this theme was the discussion that increased documentation time takes away from providing direct patient care [6; 11; 12; 15-19; 22]. Solutions included the use of scribes, reconfiguration of the EHR, increased education about the EHR including education to improve clinician workflows, and utilizing technology in the EHR to assist with the completion of documentation.

Nurses at the Point of Patient Care

In terms of solutions for documentation burden, several articles discussed how nurses could be used as the scribes for the physicians [11; 16; 18] but this presents a greater problem [11].

Nurses must have the time to document their own care and would not have time to do documentation for the physicians. Nurses spend up to 60% of their shift documenting patient care and it is a considerable source of stress [10; 13; 23]. A recent study states that nurses have been shown to document up to 875 times per 12-hour shift which equates to documenting 1 data point per minute [24]. It is not feasible to add additional documentation responsibilities. Nurses are highly educated and over skilled for conducting only clerical work. Considering that the literature does suggest that higher amounts of required documentation increase the rate of burnout, it can be hypothesized that the rate of burnout syndrome in nursing would increase if their documentation requirements included documenting both nursing and medical care. The use of scribes may also affect the clinician-patient relationship by adding another person to listen and document during a patient's visit or in the patient's hospital room. Instead of adding more staff to fix the problem, the solutions may have to come from a modification of both regulatory requirements (e.g., lessen documentation requirements) and optimization of the EHR.

Emerging Technology to Decrease Burden

Another potential solution to the documentation burden presented in the literature was optimization of the EHR and education [20]. Emerging technology should be included in this category because of how innovations such as natural language processing (NLP) or artificial intelligence (AI) could address this growing problem (i.e., using NLP to integrate free text into clinical decision support). Though NLP has been used in various capacities in medicine, the application to clinical notes is still limited [24]. NLP could decrease documentation burden by allowing nurses or physicians to write a quick note which NLP would scan for information needed for clinical decision support (CDS) and convert unstructured data to structured data adequate for reporting to government agencies [25]. Artificial intelligence is currently being used to recognize progressions of disease in imaging but the possibilities to use AI in other capacities through machine learning to understand how the clinician documents and provide suggestions through algorithms or automate some documentation is conceivable [26; 27]. While AI or NLP may be possible interventions in the future, presently they may not be feasible for wide use due to software or financial constraints [28]. Based on this review, it is more feasible at this stage to optimize the EHR configuration to increase usability by decreasing the number of clicks and find low-technological ways to reduce documentation demand. Any reconfiguration of the EHR requires a well planned and structured education program for clinicians. The structured education program can provide communication regarding the changes to the EHR which may impact clinician workflows. The impacts may not be negative and provide a means to improve the quality and efficiency of documentation. The drive to implement the EHR and collect data has global implications which should be considered because it is these policies that have driven the EHR implementation for some of the major countries (e.g. China, France, Denmark, etc.) for the last decade [4].

International Health Policies surrounding EHR Documentation

The WHO identified that health outcomes and care efficiency are significantly impacted when an EHR is not implemented in a healthcare facility. They encouraged the implementation of the EHR in developed and developing countries. The motivation of the WHO to raise this topic on the global political agenda is to improve patient outcomes [22]. However, the downstream effect of this act may be that there is increased

pressure to perform more patient care documentation [11; 12; 15-20]. Health policies regarding the EHR and patient care documentation requirements vary. The articles reviewed did not discuss policies that may influence the type and amount of required patient documentation. The Commonwealth Fund profile on healthcare systems in nineteen countries discuss what policies influence the implementation of EHR documentation in each country but did not address the regulatory requirements surrounding documentation [4]. Studies evaluating international policies that encourage EHR implementation were not found during this literature review. However, that does not mean that they do not exist. It would be beneficial to analyze these policies for downstream effects especially as interoperability continues to expand into international space.

Conclusions

The studies included in this review have discussed the theme of documentation time pressure as a possible cause of clinician burnout syndrome. The possible solutions to relieve this pressure included the use of clerical support, EHR optimization and education. The focus of most of the studies to date involved physicians or APRNs. The evidence supports a link between documentation time pressure and burnout syndrome among all clinicians. The solution of using nurses as scribes may not be feasible due to their own documentation demands. It may be more reasonable to assess the EHR itself and possible technological innovations that can decrease documentation time burden. Despite any policies that may be in place across the globe, the problem of documentation burden is something that must be taken seriously as we continue to advance technology and monitor the incidence of clinician burnout syndrome.

Recommendations for Future Study

Future studies should include physicians and nurses in inpatient and outpatient settings. It should identify factors that can influence patient care documentation. It is important to discover if regulations and other health policies surrounding required documentation influence clinician burn out syndrome. Also, studies should include new technological interventions such as AI and NLP to understand if they make a positive or negative impact on the clinician's workflow and documentation time demands.

Tables

Table 1 – Articles reviewed

Author(s)/ year	Participants	Themes Identified	Proposed Solutions
Adnt, Beasley, Watkinson, & et al., (2017).	142 physicians in a single system in Wisconsin	Time required to use and document in the EMR; clerical burden	Use of Scribes Additional training for EHR documentation

Author(s)/ year	Participants	Themes Identified	Proposed Solutions
Ehrenfeld & Wanderer (2018)	6 articles discussion the relationship between clinician burnout and the EHR	Clerical burden (e.g. burden of data entry)	Use of Scribes
Golob, Como, & Claridge (2015)	Trauma surgeons, orthopedic surgeons and neurosurgeons at a level 1 trauma center over the year of 2014	Time pressure for documentation	Clerical assistance for documentation (e.g. scribes), changes in workflow
Guo, Chen, & Mehta (2017)	Physicians at New York Presbyterian Hospital	EHR optimization	CDS (safety alerts) Use of EHR technology to optimize clinician workflow
Harris, Haskell, Cooper, Crouse, & Gardner (2018)	371 APRN's across Rhode Island	Time pressure for documentation	Use of clerical support staff (e.g. scribes).
Jawhari, J., Keenan, L., Zakus, D et al., (2016)	Outpatient clinic staff (physicians, nurses, etc.) in clinic in Kibera	Lack of EHR optimization	Optimize EHR; Providing training
Linzer, Poplau, Bobbit, et al., (2016)	Inpatient and outpatient physicians, nurse practitioners	Shorter visits, documentation time pressure, insufficient support staff	Use of Scribes IT Support and training
McMurray, Hicks, et al., (2013)	Outpatient clinic staff and 3 patients	Lack of EHR interoperability; Documentation burden	EHR optimization

| Author(s)/ year	Participants	Themes Identified	Proposed Solutions
Robinson, Kersey (2018)	3500 physicians from 35 specialties	Lack of EHR optimization; education to improve documentation	Provide training for documentation best practice Optimize EHR workflow
Shanafelt, Dyrbye, Sinskey, et al, (2016)	Physicians in the U.S. across all specialties and settings	Time required to use and document in an EMR; clerical burden (e.g. data entry requirements)	Use Scribes Optimize EHR workflow Increase staff training

Figures and Graphs
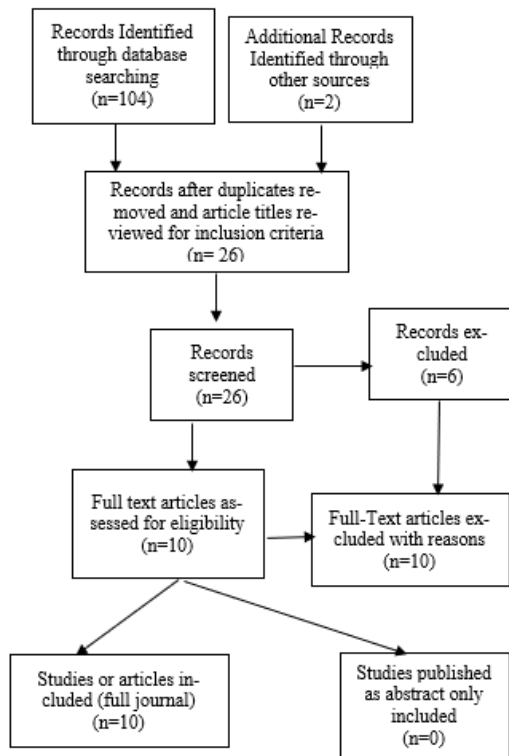
Figure 1- Documentation Search Strategy

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