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Research and Applications

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A qualitative study of provider burnout: do medical scribes hinder or help?

Sky Corby[1], Joan S. Ash[2], Vishnu Mohan[2], James Becton[2], Nicholas Solberg[1], Robby Bergstrom[2], Benjamin Orwoll[2,3], Christopher Hoekstra[2], and Jeffrey A. Gold[1]

[1]Department of Pulmonary and Critical Care Medicine, School of Medicine, Oregon Health & Science University, Portland, Oregon, USA, [2]Department of Medical Informatics and Clinical Epidemiology, School of Medicine, Oregon Health & Science University, Portland, Oregon, USA and [3]Department of Pediatric Critical Care, School of Medicine, Oregon Health & Science University, Portland, Oregon, USA

Corresponding Author: Sky Corby, MS, Division of Pulmonary and Critical Care Medicine, School of Medicine, Oregon Health & Science University, 3181 SW Sam Jackson Park Rd, Portland, OR 97239-3098, USA; corby@ohsu.edu

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ABSTRACT

Objective: Provider burnout is a crisis in healthcare and leads to medical errors, a decrease in patient satisfaction, and provider turnover. Many feel that the increased use of electronic health records contributes to the rate of burnout. To avoid provider burnout, many organizations are hiring medical scribes. The goal of this study was to identify relevant elements of the provider–scribe relationship (like decreasing documentation burden, extending providers' careers, and preventing retirement) and describe how and to what extent they may influence provider burnout.

Materials and Methods: Qualitative methods were used to gain a broad view of the complex landscape surrounding scribes. Data were collected in 3 phases between late 2017 and early 2019. Data from 5 site visits, interviews with medical students who had experience as scribes, and discussions at an expert conference were analyzed utilizing an inductive approach.

Results: A total of 184 transcripts were analyzed to identify patterns and themes related to provider burnout. Provider burnout leads to increased provider frustration and exhaustion. Providers reported that medical scribes improve provider job satisfaction and reduce burnout because they reduce the documentation burden. Medical scribes extend providers' careers and may prevent early retirement. Unfortunately, medical scribes themselves may experience similar forms of burnout.

Conclusion: Our data from providers and managers suggest that medical scribes help to reduce provider burnout. However, scribes are not the only solution for reducing documentation burden and there may be potentially better options for preventing burnout. Interestingly, medical scribes sometimes suffer from burnout themselves, despite their temporary roles.

Key words: burnout, electronic health records, sociotechnical systems, medical scribes, qualitative research, patient safety

LAY SUMMARY

In part, because providers are now required to use electronic health records (EHRs), there has been an increased association in provider stress and burnout. Organizations have typically managed burnout by using medical scribes to aid in the documentation process, which helps with provider satisfaction. This study used qualitative methods to investigate whether the scribe–provider relationship aids in lessening provider burnout symptoms. Aided by NVivo, a qualitative analysis software, we analyzed 184 documents, consisting of transcripts, observation field notes, and notes from researchers from 3 research projects to investigate this phenomenon. Results demonstrated that scribes aid in improving provider satisfaction and lessening the symptoms of burnout. There are also alternatives to medical scribes that could also decrease provider burnout, like optimizing the use of teams and improving EHR usability. The data suggest that scribes may experience burnout themselves. Future studies should further investigate the idea of scribe burnout.

INTRODUCTION

Burnout

While helpful in many aspects of healthcare, the use of electronic health records (EHRs) has led to unintended consequences such as over-documentation,[1,2] stress,[3] and provider burnout.[4] We define providers as healthcare professionals with ordering authority, including physicians, nurse practitioners, and physician assistants. Burnout can be defined as, "a work-related syndrome involving emotional exhaustion, depersonalization, and a sense of reduced personal accomplishment."[5] In the United States, healthcare providers experience higher levels of burnout than individuals in many other careers.[6–11] A number of factors play a role in burnout, including computerized provider order entry, clerical burden, long work hours, after-hours charting, and insufficient documentation time,[3–5] These issues are linked with use of the EHR.[12,13] Because providers spend more time both creating and reading excessively lengthy notes, providers feel like they spend less time with patients,[4] experience EHR fatigue, and have issues with a lack of work-life balance.[12,13] Provider burnout has a significant impact on both provider and patient health with studies documenting increased prevalence of medical errors,[5] increased costs,[5] and increased substance abuse among providers.[14]

Medical scribes

Medical scribes are "paraprofessionals who transcribe clinic visit information into the EHRs in real-time under (provider) supervision."[15] Medical scribes are sometimes explicitly hired to prevent burnout.[4]

A number of studies have examined the impact of medical scribes on provider satisfaction and well-being. Specifically, studies have documented a reduction in after-hours documentation, improved billing, enhanced workflow, and overall provider satisfaction.[16–19]

While several studies have shown positive outcomes, there is also evidence that providers using scribes experience no difference in the rate of burnout compared to those without.[19,20] There are a number of postulated reasons for this discrepancy, including practice location and scribe implementation model.[21] Furthermore, recent data suggest that for scribes to be financially sustainable, providers must see between 2 and 4 (depending on visit type and specialty) additional patients per half or full day, thus increasing overall provider workload. However, little qualitative data exist on the reasons for varied impact of scribes on provider well-being. Finally, while scribes may have an impact on provider well-being, little is known about the impact this workflow has on scribes themselves. Scribes' transitory nature, with many using scribing as a steppingstone to other career opportunities, combined with the heterogeneity in the means in which scribes are recruited, trained, and integrated into practices, has made it difficult to assess this professional group.[17]

Goals of this study

There are contradictory opinions about scribes and provider burnout and there is a major gap in the literature about the scribe and provider relationship and its potential role in mitigating provider burnout. Therefore, the goal of this study was to identify relevant elements of the provider–scribe relationship and describe how and to what extent the use of scribes may influence provider burnout.

MATERIALS AND METHODS

To identify the perceptions of providers about the role of scribes and burnout, we used qualitative methods so we could gather nuanced, context-rich views.

Site and subject selection

Five site visits

Our parent project involved studying medical scribe utilization with the goal of creating lists of competencies and ultimately training tools for medical scribes.[17] We used purposive sampling, based on geographic diversity, model of scribing used, organization size and type, and EHR vendor. We selected 5 United States organizations to visit between October 2017 and January 2019. To investigate a variety of scribing models, we visited sites using medical assistants (MAs) or nurses as scribes, sites that contracted with traditional third-party scribe vendor companies, and sites using pre-health students they hire directly. The scribes at these sites entered structured data into problem lists and the medication history. Many sites allowed scribes to enter orders for later review and approval signature from the physician. Scribe oversight and review from providers varied and depended on many characteristics such as the rapport between providers and scribes.[22] Table 1 shows details about site visits.

Table 1. Attributes of sites visited

	Site A	Site B	Site C	Site D	Site E
Enter structured data	Yes	Yes	Yes	Yes	Yes
Pend orders	Yes	Yes	Yes	No	Yes
Enter orders	No	No	Yes	No	No
Virtual scribing	No	No	Yes	No	No
In-person scribing	Yes	Yes	No	Yes	Yes
Information retrieval	Yes	Yes	Yes	Yes	Yes

We used the Rapid Assessment Process (RAP), as previously described, for studying the organizations and their use of scribes.[17,23,24] Briefly, RAP is an established and validated qualitative model for evaluating EHR use, which utilizes several ethnographic methods to collect data, and is dependent on using a multidisciplinary team.[25] Analysis was achieved using a grounded theory approach, which utilized a sociotechnical multiple perspectives framework to study medical scribes. The sociotechnical model framework outlines 8 dimensions of complex healthcare systems and health information technology, provided guidance for assuring that we gathered a holistic view.[26]

Medical student cohort

In addition to gathering data during the site visits, we interviewed medical students at 1 site who had prior experience with scribing. We used the question of how being a medical scribe influenced a medical student's career with EHR use and documentation as our focus. We surveyed all medical students, ranging from first to fourth year students at a medical school in the northwest of the United States to identify those who had been scribes from each class. We then purposively selected from among those a representative group from each class based on a number of factors like how long they were scribes (less than 6 months to more than 12 months) and what EHR(s) they utilized when scribing Those purposively selected individuals participated in semi-structured interviews about their scribing experiences.

Consensus conference

A 2-day expert consensus conference was held to discuss results from the 5 site visits. We discussed important questions surrounding medical scribes, competencies, and some threats and opportunities for medical scribing in the future. Recordings of all sessions were transcribed.

OHSU's institutional review board (IRB) and the IRB at one of our sites approved this study. The other sites did not have IRBs but did have oversight committees or policies so we went through appropriate channels to receive permissions for the study.

Data collection methods

We collected both interview transcripts and observational field notes during the site visits.[17] We used the Sittig and Singh's 8-dimensional sociotechnical model as the framework to construct our interview guides for site visits and the medical student cohort project.[17,26] For the consensus conference, all sessions were recorded and later transcribed. We collected data until the team agreed that we had reached saturation of information. Data collection methods as shown in Figure 1.

Data analysis

As previously described,[17] our team of 8 researchers with medical, informatics, social science, and scribe management backgrounds used an interpretive grounded theory approach to analyze each of the 3 data sets using NVivo12 to identify patterns and themes across the data.

RESULTS

We reviewed 184 documents (field notes, interview transcripts, group discussions, and interview notes) with approximately 2500 pages in all 3 data sets seeking anything related to burnout. We found 387 excerpts and performed further interpretive analysis on this subset of data.

Demographics

During the site visits, we conducted 76 interviews with 81 individuals (we had some interviews with scribes and providers at the same time), and we observed scribe–provider teams for 80 person-hours. Most organizations we visited used in-person scribes, either hired by the organizations or through third-party scribe companies. One organization used MAs and nurses as remote scribes.

For the medical student cohort, we interviewed 18 medical students with roughly 18 h of audio-recorded interviews. From the consensus conference, we had 48 documents (albeit some were duplicates) for roughly 48 h of audio-recorded breakout sessions shown in the demographics breakdown in Table 2 (adapted from ref.22).

Themes

We found 2 main themes: (1) provider burnout and (2) ways to alleviate provider burnout beyond scribing. The provider burnout theme includes 4 subthemes: the provider's emotional response, provider satisfaction, retirement, and scribe burnout (which is the notion that scribes may feel symptoms associated with burn out as well). The theme of ways to alleviate provider burnout beyond scribing includes subthemes of improving the EHR and utilizing team dynamics.

Provider burnout

Provider burnout appears to be evident in the healthcare community. At the consensus conference, 1 person shared a story about

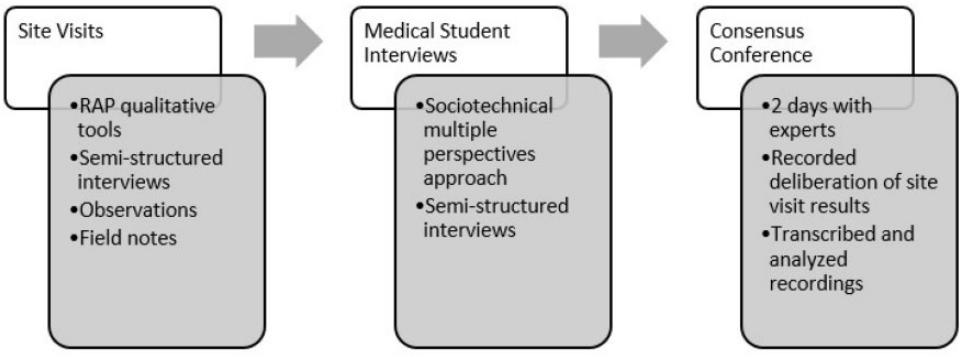

Figure 1. Flowchart of data collection methods.

Table 2. Demographics of scribe projects

Site visit study							Medical student study	Consensus conference
	Site A	Site B	Site C	Site D	Site E	Total	Total	Total
Geographic location	Northwest	Northwest	East	Midwest	Northwest	5 sites	Northwest	Northwest
Setting	Teaching hospital and clinics	Community health systems	Ear, Nose, and Throat clinic	Teaching hospitals and Emergency Departments	Urgent care and Ear, Nose, and Throat clinics	Info not available	Medical school	Retreat setting
Dates of site visits	October 17 to January 18	January 18 to February 18	August 20	October 20	December 18 to January 19	October 17 to January 19	April 18 to October 18	April 20
EHR used	Epic	Epic	Allscripts	Epic	Epic	4 Epic; 1 Allscripts	Epic	Info not available
Total interview time	12 h	7 h	11 h	12 h	5 h	47 h	16 h	14 h
Number of interviews	13 total (14 people: 4 providers; 4 scribes; 6 admin)	15 total (18 people: 6 providers; 5 scribes; 7 admin)	18 total (18 people: 8 providers; 6 scribes; 4 admin)	19 total (19 people: 6 providers; 7 scribes; 6 admin)	11 total (12 people: 6 providers; 5 scribes; 1 admin)	76 total (81 people: 30 providers; 27 scribes; 24 admin)	18 total	30 total 20 guests and 10 team members)
Number of clinics observed	2 clinics	3 clinics	1 clinic	3 clinics	3 clinics	12 clinics	Info not available	Info not available
Number of people observed	5 total (2 scribe/provider dyads; 1 provider with no scribe)	12 total (6 scribe/provider dyads)	8 total (4 scribe/provider dyads)	16 total 8 scribe/provider dyads)	11 total (5 scribe/provider dyads; 1 provider with no scribe)	52 total (25 scribe/provider dyads; 2 providers with no scribes)	Info not available	Info not available
Total observation time	17 h	20 h	6 h	25 h	12 h	80 h	Info not available	Info not available

"*one of the other partners who was a young doctor, obviously beloved by the community, he did a lot of pediatrics but he took his life. [This] made me question, what's going on here, what's wrong with the system, why is this happening, what can we do to prevent this? You know, even stretching as far to say, you know, if he had a scribe, would this have happened?*" Others noted that the EHR is increasing in provider burnout and that scribes are one of the many ways to reduce burnout.

One provider described how at times his usual scribe is unavailable and another scribe fills in. The temporary scribe is not as fast, but "*it's still a lot better to have a scribe that is not up to speed with everything but can still do the part during the visit so that I can focus on putting in the orders*." Others told us that having a scribe shortens documentation time.

Provider's emotional responses

Provider burnout can lead to emotional responses, including frustration. Our provider interviewees expressed some frustration with EHR updates. One researcher noted in their field notes that a provider was "*working on a refill on a patient's meds. She said doing meds was 'very frustrating' [because of recent EHR changes]*."

Provider burnout can manifest itself as frustration with the scribes themselves. We heard that providers get frustrated with scribes when their medical terminology and spelling are not adequate and when scribes do not write concise notes, especially in the assessment and plan sections.

One scribe reported that providers could be burned out from the emotional fatigue of seeing patients with complex issues. This scribe stated that providers who "*have the heavy case load . . . when they are seeing . . . cancer patients . . . and, I mean, even without the [providers using the] electronic system, it's just, it's something draining for somebody in the healthcare field to deal with*."

Provider satisfaction

Many people we interviewed and observed said that having medical scribes helped the providers feel less burned out and more satisfied. A provider said that having scribes allows him to keep a fast pace while still going home on time. This provider went on to say, "*Do I look burned out? I come here at 110 miles per hour. I see kids mainly . . . And at 4:30, I'm going to say, 'Everybody have a good day. Bye!' And I walk out the door. I mean, it's done. I've done my charts, I've done my notes*." Another provider noted that "*Having a scribe has so improved my quality of life and I don't think I would be seeing as many patients still if I didn't have a scribe. I think I would have crashed and burned long ago. I think they fill my bucket that way, and conversely, I want to fill their bucket*."

Having a scribe may also increases efficiency for providers because "*They get their charts closed earlier. They get their in-basket done quicker. They have actually a higher level of coding reimbursement because they are collecting a more accurate picture of the clinical encounter by having . . . that scribe*."

Retirement

Premature retirement can serve as a marker for burnout.[27] At the consensus conference, 1 participant noted, "*the biggest threat is that we have talented healthcare professionals who are retiring before they want to, or they are choosing not to go into a field where they help people through medicine.*"

Losing providers because of disabilities or injuries that hamper their use of the EHR is an issue as well. During the consensus conference, an attendee noted that medical scribes allow "*Providers who are temporarily disabled to continue to practice with injuries to the arms since they can't type.*"

Scribe burnout

Interviewees strongly believe that scribes help prevent provider burnout and allow providers to stay in their careers longer with more satisfaction. However, scribes themselves told us they may experience symptoms consistent with burnout, despite their typically short tenure as scribes.

Scribes working in emergency departments may experience burn out more than scribes working in other departments. We were told that working as a scribe causes people to become "jaded," and it has stopped some scribes from pursuing medicine altogether. One scribe told us, "*you see a lot of patients and you can actually, even in my three years, you can become a little jaded about medicine because you spend so much time in the system. And the way that emergency care in the United States work it's very frustrating and you jump into it all blissful and you're like, 'oh, I get to see so many people and I'm going to see so many miracles and all this stuff', and then you come into it and you're like, 'wow, this is . . . the way that things are working is not fun. Like it's not good'.*"

A former scribe said that "*at that time [there was] just a lot of frustration from providers . . . so it kind of just opened the door or window for me to see that there is a lot of change going on in the healthcare landscape and maybe, you know, [this] wasn't something I was ready to jump in and commit to by entering med school.*" Another former scribe told us that by being a scribe she was able to perceive the frustrations providers displayed and it made her realize that she did not like this profession and she did not want to pursue a medical career anymore. She said, "*I mean I thrived in this environment where I got to just work with doctors and prove myself, etcetera, I . . .loved it . . . the experience of being a scribe, the experience of working with different doctors, seeing different styles, seeing different specialties, understanding that patient relationship and some of the frustrations that doctors have and the burnout and kind of the frustrating patients. I was like, 'I kind of hate this'. That was just me, but it was a good way for me to not go through med school and then when I'm 32 decide, oh, maybe the wrong choice, and so it opened the door for me for administration.*"

One provider acknowledged that scribes could experience burn out too because of their workload and how the providers interact with their scribes. This provider said that "*scribes can get burned out [too]. Especially depending on how things are done by the provider. So, if they are staying a lot of hours afterwards, which some scribes do, I'm sure they are not going to stay very long because it takes too much energy. And they get paid so little. Honestly, they get paid so little.*"

Table 3 shows more quotes on the provider burnout theme.

Ways to alleviate provider burnout beyond scribing

Scribes are a workaround

While there is substantial evidence that medical scribes can alleviate provider burnout,[4] scribes are not the only answer. Improving the EHR and decreasing the documentation burden in other ways can also help alleviate burnout.

One person thought that template design could be contributing to burnout; "*there have been a couple of studies in the last couple of years that really focus on template and template design especially related to burnout.*" Several people noted that scribes are not the "magic bullet" for providers.

Teamwork

Teamwork can help prevent provider burnout as well. We were told that "*the goal is to provide good healthcare and not burnout the position and there's all this teamwork that needs to be [done] and if everybody's siloed . . . you don't have teamwork.*" However, given the narrow scope of scribe activities, integrating them into clinical care team can be challenging.

Table 4 shows more quotes on the theme of ways to alleviate provider burnout beyond scribing.

DISCUSSION

This study investigates perceptions of provider burnout from several perspectives: scribe users, scribes, former scribes who entered medical school, and subject matter experts. Overall, participants feel that medical scribes contribute to reducing provider burnout by improving work/life balance. Furthermore, scribes have kept providers from retiring early, allowed injured providers the option of staying in practice, and played an important role in improving provider and patient satisfaction. These observations have been verified by multiple prior studies.[16–18,28] This is accomplished by scribes removing the provider from some of the mechanics of documentation, which allows the providers to focus on the patient and be untethered from the EHR. Finally, having a scribe gives providers an opportunity to serve as mentors and help shape the next generation of providers.

To the best of our knowledge, this is the first study to suggest that scribes, in addition to providers, could be subject to burnout. Few studies have investigated the scribe's point of view at all. Scribes are usually short-term employees and working as a scribe is often a consideration for medical school admissions.[29] Unfortunately, the current system of healthcare could be burning out those who are there to prevent burnout. Our interviews with former scribes, who are now medical students, uncovered the potential of scribe burnout and the role it could play in recruiting future physicians. There are indications that scribes may experience burnout, but further investigations are necessary. Future studies could also investigate scribe burnout further by conducting interviews with former scribes who decided to pursue alternate careers outside of medicine.

There are many potential contributors to scribe related burnout. First, scribes are sometimes not treated as highly valued members of the healthcare team. Some scribes called themselves the, "*low man on the totem pole*" or an equivalent descriptor of their role in team-based clinical care delivery. This is likely magnified by the temporary nature of most scribes. Second is the failure of organizations to adhere to best practices in the selection, training, and supervision of scribes.[17] It is important that scribes, providers, and organizations follow these guidelines.[17] A third potential issue is the integration of scribes within the inter-professional team. Providers, nurses, MAs, and scribes all function together to make healthcare work. However, little is known about this dynamic. Future research should investigate the entire team dynamic and to identify what makes the relationships among all team members, including scribes, successful.

Table 3. Provider burnout theme and subtheme quotes

Ways to alleviate provider burnout beyond scribing theme	
Subthemes	Quotes
Emotional response	"*If I'm saying things and I'm giving [the scribe] a long list of things that we need to do, or an exam . . . and I'm not hearing noise in the background, or I am not hearing [the scribe] typing.*" *It is frustrating.* One provider reported that she felt "*like there are a few of our scribes who don't have the great medical terminology background so their spelling isn't great. It gets a little frustrating.*" "*Everybody is different, you know? There are some that are good and there are some that are not as good . . . but, you're coming in that morning, that's who you've got, and that's what you deal with, and you try to not compare them to [the top scribe] who you can fly through a day with.*"
Provider satisfaction	"*I can maintain eye contact with the patients instead of like before I had a scribe, I would have to type and talk at the same time, multi-tasking and not having my full attention on them. I am more relaxed, so I can find out what kind of work they do and that type of thing because if you're behind all the time and have a million charts that you have to finish after you're done seeing the patients, you're just not in as good of a mood. So, it's helped a lot with that. I think it's helped a lot with patient satisfaction in general as a result, too.*"
Retirement	"*he was feeling burned out and not really enjoying medicine as much, but he was hoping I would be able to . . . help him get away from doing the charts and . . . the busy work side of medicine and get back to like focusing on what he enjoyed which was seeing patients.*" "*when we knew that we needed to switch to electronic medical records and a lot of the older guys were starting to get very scared and concerned and you would here these rumblings about them maybe retiring early*"
Scribe burnout	"*you don't want to burn out the scribe either because it's very easy to do that and because you could say, well gosh, it's efficient, let's add three more patients at the end of the day and so you know the scribes have their lifestyles too.*"

Table 4. Ways to alleviate provider burnout beyond scribing theme and subthemes

Ways to alleviate provider burnout beyond scribing theme	
Subthemes	Quotes
Scribes are a workaround	"*we know that the scribes are very, very effective in some clinical scenarios, and some clinical scenarios an AI engine or an interactive voice response . . . [would be] more effective.*"
Teamwork	"*I've really had trouble when we talked about the scribe couldn't help the patient onto the table and I understand the problems with insurance and things, but if that was my clinic and the nurse saw that the scribe wouldn't touch a patient it would be like, 'we all kind of work together here'.*"

Scribes are not a panacea for provider burnout because scribes may actually cause providers to feel more burned out. Some providers are frustrated with scribes who lack skills in medical terminology and spelling or are unable to write concise notes, especially when it comes to the assessment and plan part of the note. The high turnover rate of scribes could lead providers to becoming frustrated because of the need to constantly train new scribes.

The commonality of burnout among provider and scribes suggests a common thread of the role of the EHR and the current documentation requirements and workflow in leading to burnout among all users of the EHR system. This is not unexpected due to the role current Center for Medicare & Medicaid Evaluation and Management coding guidelines play in note length in the United States. It will be important to ascertain how the changes in these coding requirements affects both scribe burnout and the need for scribes in general. To mitigate burnout, there is a need for continued work on improving usability of EHRs and their effective integration into documentation.

Limitations

There are some limitations to this study. All of our subjects volunteered to participate in the study, with a resultant potential bias toward the types of responses to questions. Participants currently working as scribes may have been hesitant to be candid with us about both the healthcare organization and the third-party scribing company for whom they work for. Another limitation is the use of purposive sampling of a small, non-random sample of people in several roles. Additionally, we were not able to study off-site virtual scribing. We have tried to combat the lack of generalizability by using rigorous qualitative research techniques, like RAP, consisting of semi-structured interviews, observations, and having a multidisciplinary team. Finally, it is important to note that subjects were not explicitly answering questions about provider burnout, rather the interviews focused on the broader question about the benefits of having a scribe. Therefore, it is possible that other relevant elements that might contribute to burnout for both the provider and the scribe were not elucidated due to the nature of the interviews.

Despite these limitations, our results provide a new perspective on contributors to provider burnout and the impact of scribes. Agreement on this impact across the multiple perspectives included in our study strengthens the inferences drawn from this work.

CONCLUSION

While our study participants believe that scribes reduce provider burnout, concern still exists that the causes for burnout have not been eliminated. It is possible that some causes of burnout have been transferred from provider to scribes. This not only has implications for their ability to work as scribes, but also given the high percentage of scribes who pursue careers as physicians, this may negatively impact their decision to pursue careers as medical providers, further exaggerating a looming provider shortage. This work further highlights the need for continued work to minimize the burden of EHR use in the context of current workflow requirements for all providers.

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AUTHOR CONTRIBUTIONS

SC, JAG, VM, and JSA developed the study design. All authors created the data gathering tools. JSA, SC, NS, JB, RB, CH, and BO collected the data. All authors helped with the data analysis, interpretations, and all reviewed and edited the final draft and have approved it for submission.

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CONFLICT OF INTEREST STATEMENT

None declared.

DATA AVAILABILITY STATEMENT

The data underlying this article cannot be shared publicly due to the privacy of individuals who participated in the study. The data will be shared on reasonable request to the corresponding author.

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