The introduction of the electronic health record (EHR) was hailed as an opportunity to improve the quality of care by providing physicians and other clinicians with up-to-date patient information, increase patient engagement and access, reduce medical errors, and increase both cost savings and efficiency, all of which would lead to improved shared decision-making and more effective medical care. As the EHR has become universally adopted across the US, the time physicians spend interacting with the EHR during and outside work hours is increasingly being studied as a source of burnout. Indeed, a recent cross-sectional study performed at Massachusetts General and Brigham and Women’s Hospital found that despite being scheduled for 30-minute encounters, primary care physicians spend 36.3 minutes on the EHR per visit, which includes 6.2 minutes of “pajama time” (defined as 5:30 PM to 7:00 AM) per visit and 7.8 minutes on the EHR inbox for each visit. Whether these findings are generalizable to surgeons remains unknown.

In this issue of JAMA Network Open, the study by Malacon et al examines gender differences in EHR use among surgeons of different specialties at a single academic institution. While there was no difference in time spent overall in Epic Signal, the EHR system used in this study, female surgeons saw fewer patients and spent more time logged into the EHR outside of work and clinic hours per month. Additionally, female surgeons spent more time per note and wrote longer notes both in the inpatient and outpatient settings. Female surgeons also manually wrote more of their notes than their male colleagues. Given that EHR work is largely uncompensated, gender-based differences in practices may contribute to burnout and also to disparities in pay.

This work adds to the growing body of work evaluating gender-based differences in EHR use, which has only recently started to evaluate patterns of EHR use among surgeons. A recent study examining EHR usage among surgeons also found that female surgeons spent significantly more time in the EHR (female: 73.6 minutes vs male: 53.3 minutes; \( P = .046 \)), time in visit navigator (female: 5.3 minutes vs male: 3.6 minutes; \( P = .05 \)), and time in the basket (female: 4.5 minutes vs male: 3.4 minutes; \( P = .02 \)). These authors also found that female surgeons spent significantly more time on unscheduled days in the EHR (female: 23.4 minutes vs male: 17.2 minutes; \( P = .02 \)). The time burden on surgeons, as with primary care physicians, is only now beginning to be recognized as a source of burnout. Unlike primary care physicians, surgeons must document inpatient and outpatient notes and for surgical encounters, are responsible for documenting a preoperative history and physical in addition to an operative report and discharge summary. This does not include documenting medication reconciliations and all of the preoperative orders, pathology requisitions, surgical orders, and postoperative orders that may be required. As patients become increasingly comfortable with EHRs, they are using them increasingly to communicate with the surgeon and their team instead of making a phone call to the physician’s office, generating additional EHR documentation burden.

Nevertheless, these differences highlight the concern for wage disparities and the risk of burnout. While the authors note that female surgeons had higher rates of level 5 new patients, if the surgeons work on a relative value unit (RVU) basis, the difference of 3.5 work relative value units (wRVUs) for a level 5 new visit (E and M code 99205) compared with 1.6 wRVUs for a level 3 new visit (E and M code 99203), it is implausible that this could fully correct for the difference in reimbursement that results from male surgeons seeing more patients in the same amount of time (43.0 vs 29.1 medical records closed in a month; \( P = .006 \)), given the downstream effect of many of those patient visits generating surgical procedure encounters which translates into higher RVU
production as the majority of surgeons’ wRVUs are generated from surgical procedures rather than from office visits.

In a review of burnout related to EHR use among primary care physicians, 75% of physicians with burnout pinpoint the EHR as a stressor. Physicians have become responsible for entering diagnoses, orders, visit notes, and administrative data of low clinical value. Clinicians may need as many as 2 additional hours in electronic data entry for every hour of direct patient contact. That would be a considerable feat for a surgeon. Thus, physicians with insufficient time for documentation are 2.8 times more likely to report symptoms of burnout and, in some cases, shorten clinic schedules to allow sufficient time.

One of the limitations the authors acknowledge is that they were unable to determine whether clinical notes included work performed by advanced practice practitioners (APP). Consistent with reports in the trauma and orthopedic literature, Chao et al found that the integration of a physician assistant (PA) into an academic breast reconstruction practice resulted in significant time savings for surgeons, which translated to significant improvements in productivity. The primary benefit was seen in the clinic, where PAs shortened the clinical encounter from 13 to 6 minutes in the global follow-up period (P = .002), from 20 to 7 minutes for nonglobal follow-ups (P = .02), and from 20 to 9 minutes for preoperative visits (P = .02). New consultations were not statistically significantly shortened (32 to 30 minutes; P = .76). While EHR documentation was not reported, one can infer that additional time savings would be expected with PA contributions to that endeavor. In this study, the total time savings translated into the plastic surgeons being able to see 9 additional patients during an 8-hour clinic day and wRVUs increased from 536 to 641 per month with the addition of a PA. Because access to APPs is often tied to high productivity and patient volumes, based on the data presented in the study by Malacon et al, female surgeons will likely face barriers to implementing APPs into their practice.

As Malacon and colleagues point out, the reasons for the disparities in patient volume and charting between male and female surgeons and whether personal preference and patient expectations play a role remain unclear. Further work is needed to better understand the contributing factors so that thoughtful, actionable solutions can be put forth. At this point, identifying best practices with optimizing their templates, preference lists, and smart phrases may help some surgeons improve efficiency as well as sitting down with billers and coders to understand what documentation is required for each note type they are generating to eliminate unnecessary work. Finally, institutions need to consider supporting surgeons with APPs and scribes using metrics other than productivity and patient volumes to help address this growing problem of EHR-related stress and its impact on burnout.

ARTICLE INFORMATION
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REFERENCES


