OVERCOMING CLINICIAN BURNOUT WITH AI

HiMS Health Information Management Systems

By definition, work is hard, yet for health care providers, the job demands far more than an honest day's effort: their very well-being is on the line. Not only are they vulnerable to infections, they're emotionally exhausted, increasingly alienated from their patients, and lacking the sense of accomplishment that keeps workers doing their best.

Even prior to the pandemic, burnout had reached crisis levels with as many as 54% of nurses and physicians and 60% of medical students and residents reporting symptoms of burnout, according to the U.S. Surgeon General.

Burnout-inducing stress poses grave concerns for patients' welfare in the form of medical errors, hospital-acquired illness, staffing shortages, and reduced face time with one's provider. Ironically, burnout is similarly prevalent in behavioral health: As many as 67% of behavioral health workers may be experiencing high levels of burnout.

From the outset, the pandemic only added fuel to the burnout fire. "Fear, loneliness, and uncertainty were pervasive," writes Surgeon General Vivek Murthy. "The threat of targeted harassment and violence underscored many interactions. Some health workers were forced to wall themselves off from their loved ones. And too many served as the final comfort for patients walled off from theirs."

Such chronic work-related stress is associated with a range of physical and mental risks, including heart disease, diabetes, insomnia, anxiety, depression, and substance abuse. And the costs are immense: Researchers estimate it costs the U.S. up to $15 billion annually for burnout-related turnover. Population health suffers, and disparities widen.

PAPERWORK IS A PROBLEM

Myriad factors contribute to burnout, some having shockingly little to do with actually treating disease. The surgeon general's report cites "burdensome administrative paperwork" and "lack of human-centered technology" among them. "For every hour of direct patient care, physicians currently spend 2 hours on the Electronic Health Record (EHR) system," the report says. "Nurses spend up to 41% of their time on EHRs and documentation."

This concern echoes researchers, including those in behavioral health, who have long believed that the organization, rather than the individual, is the bigger factor. "Indeed, research on the correlation and antecedents of burnout suggest that a number of organizational-environmental variables are related to burnout, including an excessive workload, time pressure … [and] an absence of job resources…," researchers wrote in 2012[1]

Even when digitized, the data-hungry EHR is the elephant in the room when a doctor, therapist, or other clinician is conferring with a patient. Their data entry responsibilities distract them from the intimate conversation that is the core of the encounter. "Hands down, the one task doctors complain about most is filling out the electronic health record during and after patient visits," Casey Ross wrote in STAT in 2019. " It is disruptive and time-consuming, and patients don't like being talked to over the doctor's shoulder."

[1]Morse G, Salyers MP, Rollins AL, Monroe-DeVita M, Pfahler C. Burnout in mental health services: a review of the problem and its remediation. Adm Policy Ment Health. 2012 Sep;39(5):341-52. doi: 10.1007/s10488-011-0352-1. PMID: 21533847; PMCID: PMC3156844. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3156844/

HUMAN SCRIBES HINT AT RELIEF

One partial solution has been bringing a third person into the room, a “human scribe” to enter the data while the doctor and patient talk. It’s been somewhat effective. Human scribes cut physician documentation time in half in a 2017 pilot at Boston’s Brigham and Women’s Hospital.

The scribes shadowed physicians as they generated 695 encounters by documenting physician-patient interactions, submitted pathology requisitions, medications, and diagnoses for the doctors to approve. Documentation time went from 6.1 minutes per patient to 3.0, and revenue in scribe-supported sessions was 7.7% higher over two three-month study periods.

Those are nice gains, but there are obvious tradeoffs. One pitfall around using scribes includes having unqualified staff perform the documentation assistance. Practitioners are responsible for their scribe’s documentation, so lack of specific training in computerized provider order entry (CPOE) or unfamiliarity with HIPAA rules, billing, coding, reimbursement guidelines, or medical terminology are red flags.

A second tradeoff is that human scribes constitute personnel costs that a practice (and/or its patients) may not be able to bear. In the case of more affordable offshore scribes, a host of cultural, technical, and language issues arise, according to writer Brian Flaherty. There are also the routine personnel challenges of sick days, vacations, turnover, training, and varying performance levels. Then there’s the “weirdness factor,” as Flaherty put it, of having a third party in the room during a sensitive interaction, adding to the risk of misused personal health information.

INTRODUCING THE VIRTUAL SCRIBE

Offering the benefits of human scribes without the headaches, several EHR vendors offer scribe apps that employ voice recognition technology as part of their software packages. These apps move large data sets into notes fields to document encounters, a function that's especially helpful in the lengthy-narrative world of behavioral health care.

As artificial intelligence (AI) listens to a patient-provider conversation, it selects the important information that pertains to the discussion, and adds it to the progress notes – potentially saving the provider several hours per day on documentation. The ambient, intelligent device listens to conversations between clinician and patient, and puts the information where it needs to go to in the clinical record.

This is not standard dictation or voice control. In the best case, it's careful, purpose-built listening. "[These] technologies have advanced to the point where some of them can now produce clinical notes with near-perfect accuracy in real-time simply by listening to a practitioner converse with their patient," Flaherty writes. "This is a new type of technology that instead writes notes intelligently simply by listening to the natural flow of patient-physician conversation."

A 2019 study entitled. "The Case for Virtual Scribes" by Andrea Caliri lists the ways that virtual scribes can be advantageous. Cost is one: Human scribes can earn anywhere between $26,000 and $46,000 per year compared with about $1,200 per month, or $14,400 annually, for an AI scribe.

Although using virtual scribes requires the provider to edit voice-generated notes in the beginning, the AI platform will learn from the provider's input over time and get better at it. Organizations can jumpstart the machine-learning process by repurposing old models to use for a new task.

Better virtual scribes also filter extraneous information, capturing only what the practice needs and where it's needed. While a patient might tell a provider he has been taking 2mg of Abilify to help reduce his anxiety on plane trips, certain records just need to capture that the patient is taking 2mg of Abilify. So that's how the AI and EHR will be configured.

The accuracy of AI scribes is impressive. Even four years ago, the average error rate for clinical documentation generated through voice recognition tools was only 7.4% These rates plummeted to 0.3% after clinician review, according to a July 2018 JAMA study.

So while EHRs are capturing data for improved patient care, AI is beginning to alleviate some of the burnout-inducing administrative tasks that divert attention from the patients themselves. Although human scribes have tried to help, advanced AI technology addresses some of the shortcomings that introduce risk, cost too much money, and intrude on patient privacy.

Moreover, the human contact that really counts is the one with the clinician, which is enhanced when he or she can skip the manual data entry, and avoid the burnout.