

Not the Last Word: 500 Words of Solitude

Joseph Bernstein MD¹ 

For those of us still terrorized by tall tales of residents sent to the gallows for losing preoperative radiographs—to say nothing of true stories of lethal medication errors caused by sloppy handwriting [3]—the electronic medical record (EMR) is a godsend. The EMR loses no films and won't let you confuse Celebrex with Celexa. Poor penmanship is hidden and has been neutralized.

Still, those of us who have grown habituated to the EMR—to say nothing of those young ones born into it [10]—are all too aware of its shortcomings.

A note from the Editor-in-Chief: We are pleased to present to readers of Clinical Orthopaedics and Related Research® the next Not the Last Word. The goal of this section is to explore timely and controversial issues that affect how orthopaedic surgery is taught, learned, and practiced. We welcome reader feedback on all of our columns and articles; please send your comments to eic@clinorthop.org.

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I have three main complaints about EMRs. The first is mundane. Most EMR systems cannot communicate freely with rival programs. Thus, a patient arriving at an ambulatory surgery center, for example, can only hope that the ancient fax machines there are working that day. Without them, the outpatient clinic notes, the lab test results, and the preoperative clearance letter—all coming from distinct EMR systems—will not make it into the chart.

The second problem with the EMR is more philosophical: Collecting information and entering it in the EMR has become intrusive. Dr. Danielle Ofri described it this way: “There are actually three of us in the room now: the patient, me, and [the EMR]. What started out as a tool ... has inserted itself as a member of the medical team. What used to be a tango between the doctor and patient is now a troika” [7].

Optimists imagine that these problems will be solved by emerging technology. One day, they say, EMR systems will send files to and from each other with a simple click. One day, they further muse, physicians will be able to effortlessly record a medical visit with a wearable device, add some commentary, and then upload the entire megillah to the cloud—all without

ever turning their gaze away from the patient.

Fixing these first two problems with more technology won't be enough—and such a solution might even set us back—as there is a third problem: Most EMRs are distinctly incomprehensible. And as computer connections get faster and cloud storage gets cheaper, the urge to heap on ever-increasing amounts of disorganized information will make it all but impossible for the reader to make sense of things. It's hard enough already. Today's medical record might give up its secrets, but only in response to a special effort, such as preparing for an examination or conducting a legal review. Routine reading will glaze the eyes over. There is too much noise and not enough signal.

The incomprehensibility of medical notes is our choice. We, the chart writers, in our lack of empathy for the chart reader (which indeed may be ourselves the next day), lard the record with too many words. Simply put: The EMR is not simply put.

The EMR has gotten overloaded by a variety of factors (Table 1), and I don't see these factors going away. Thus, building a more comprehensible record will require the affirmative step of adding something more rather than trying to legislate away the harmful excess.

To that end, I propose that all medical encounters be supplemented with an additional abstract of 500 words or fewer. (Pictures can be added, at a 90% discount off their proverbial

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Not the Last Word

Table 1. Common causes of excessively wordy medical notes

Cause	What should be written	What appears in the chart
Medical billing rules require inclusion of certain items to qualify for a level of payment	Mrs. Smith is a 65-year-old female presenting with arthritic knee pain. She has a BMI of 32.	Mrs. Smith is a 65-year-old female presenting with arthritic knee pain. She has the following vital signs: Pulse 72. Blood pressure 120/70. Respiratory rate 16. Temp 98.6. Height 5'5" 192 pounds.
Boilerplate text macros	I obtained informed consent for total knee replacement.	I had a lengthy discussion with Mrs. Smith about the nature of her diagnosis of knee arthritis, the alternatives to treatment, and the risks and benefits of all approaches including oral medication, therapy, use of braces, walking aids, and injections. I discussed total knee replacement, informing her that the operation will consist of replacing the joint surfaces of the tibia (leg bone) and femur (thigh bone) with artificial components that will be cemented into place and separated by a polyethylene insert. I noted a partial list of potential complications, including deep vein thrombosis, hemorrhage, infection, limb length discrepancy, loosening of the prosthesis, nerve injury, postoperative pain, pulmonary embolism, scarring, stiffness, stroke, vascular injury ...
Copy and paste	Mrs. Smith returns in follow up after her right knee cortisone injection for arthritis last month.	Mrs. Smith returns. She was seen last month <recursive insertion of entire chart to date here...turtles all the way down>.
Excessive documentation (often due to "defensive medicine" practice)	There was no sign of impending compartment syndrome. The leg was soft and the neurovascular exam was normal.	There was no sign of impending compartment syndrome. The leg was soft. The anterior compartment was assessed. The tibialis anterior, extensor hallucis longus, and extensor digitorum longus were functional. The deep peroneal nerve sensation was preserved. The lateral compartment was assessed and the peroneus longus and brevis muscles and the superficial peroneal nerve were intact. The superficial posterior compartment was assessed and the gastrocnemius, soleus, and plantaris muscles, along with the sural nerve, were tested and seen to be normal. The deep posterior compartment was assessed and the tibialis posterior, flexor hallucis longus, and flexor digitorum longus were intact. The tibial nerve sensation on the plantar surface of the foot was normal.

price: Each image included will count 100 words toward the limit.) This abstract would ideally be modeled on the SOAP note ("subjective, objective,

assessment, and plan") [11], but no rigid form will be enforced. The only requirement would be that enough of the history, exam findings, and studies

is included that the abstract in isolation—500 words of solitude—offers a reasonable gestalt of what transpired.

Not the Last Word

I do not expect physicians to embrace this at once. A well-constructed encounter abstract will demand time and effort. It's harder to write a pithy synopsis than to regurgitate every known fact. (This is consistent with the observation of Pascal, who noted: "I have made this letter longer than usual because I have not had time to make it shorter") [2].

A larger source of resistance is that an encounter abstract would force individuals to write clearly and directly, even when they don't want to. When I am not sure what is going on, it's nice to hide my ignorance with imprecise language. Also, Federal law allows patients to obtain their records. Knowing that my patient might one day read what I wrote, I may prefer using a meandering paragraph to describe belligerence and non-compliance, for instance, rather than those very words themselves. (These may be arguments for deeming encounter abstracts to be "quality improvement documents" not to be shared when patients request access to the chart.)

Readers may think I am too blinkered in my thinking or lacking in imagination. Technology, my critics may say, will not only give us effortless recording of medical encounters, but artificial intelligence programs to parse these recordings and produce a summary of the encounter. I am not so sure. (I did not foresee that my skills at hoarding prep films would become a lost and useless art, so maybe I am the wrong person to make technology predictions.) Regardless, until we have a better answer in hand, the problem of incomprehensible medical notes requires an easily implemented solution. An encounter abstract may do the trick.

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First author of the study, "The Growing Gap in Electronic Medical

Record Satisfaction Between Clinicians and Information Technology Professionals" [9]

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In his column, Dr. Bernstein highlights the challenges of the "distinctly incomprehensible" bloated EMR. To rectify this wordy dilemma, he recommends an abstract of 500 words or less be added to all medical documentation.

I applaud the suggestion. But to strengthen the case, let's look at some root causes. One is the increased legal exposure given how much documentation is so easily discoverable [8]. We've all seen notes or comments in the EMR that paint a different (and potentially damaging or untrue) version of a patient's story. The possible legal ramifications of these errors are obvious. In fact, 72% of malpractice claims are related to documentation in the EMR, including failing to update information or a missed or incorrect diagnosis [5]. These problems are unsurprising, given the lack of a succinct and consistent location for pertinent medical records. I agree with Dr. Bernstein: Sometimes, we use too many words when we're trying to hedge our bets about an unclear clinical picture. It's a wordy, ineffective form of defensive medicine.

Any approaches to addressing the challenges of the EMR should include a focus on empowering the physician to feel safe from predatory legal practices. But finding a solution is challenging [1, 4]. Previous efforts—including comparative fault reform, clinical practice guidelines, apology laws, and reducing plaintiff attorney fees—though well-intentioned, have not solved the problem.

Given the failure of prior efforts, perhaps the addition of a succinct

statement with some level of legal protection could improve the current situation. Saying less but saying it safely, and with peace of mind, should improve communication among clinicians. It would help patients, too.

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Before I begin my commentary, I would like to note that the opinions expressed in this space are my own and do not reflect the opinion or policy of the American Board of Orthopaedic Surgeons.

The column by Dr. Bernstein successfully identifies three major issues in how physicians record interactions with their patients: (1) the difficulties with interoperability, (2) the obtrusive interactions of the EMR, and (3) the overwhelming amount of nonsensical information that is heaped upon the encounter in a haphazard fashion.

The EMR promised to connect patients and doctors in a similar fashion to how telemedicine connects patients and doctors from different locations today [6]. But the EMR failed to accomplish that goal because of the many legal obstacles, firewalls, and other technological burdens that still limit its use today. I also agree with Dr. Bernstein that the EMR is now an interloper in the room with the patient and doctor, reeling in volumes of superfluous information that is not relevant to patient care.

The essay talks around a relevant issue: the poor writing and verbal skills of the current generation of doctors from primary care physicians to surgeons and psychiatrists. My personal observation during the last 20 years is

Not the Last Word

that communication is suffering among medical students, residents, post-doctoral fellows, research fellows, and most beginning practitioners. This is more than a lack of clarity, it is a lack of intent to communicate reliable information concerning the patient, including their condition, the need for treatment, the choice of treatment, treatment expectations, and next steps should treatment not produce a good outcome or even cause harm.

I understand that it seems as though I am blaming the generation of doctors that have come after me. That is not my intent. I believe that the younger generation of doctors, particularly trainees, are very conscious of the socioeconomic determinants of health, access, and affordability of treatment, all of which are important in obtaining desired healthcare outcomes. But most important is the medical model of accurate history, physical exam, confirmatory testing, and accurate diagnoses before initiating the best available treatment. We must emphasize the fundamentals when we discuss the collection of pertinent patient information. Physicians must collect relevant healthcare information, analyze the information, confirm or refute preliminary causes with further examination and testing, propose a diagnosis and have awareness of the prognosis, intervene and assess an intervention, and support the decision-making of the patient along the way. Then there is the

need to follow with assessment, establish a timeline for ongoing evaluation and treatment, and if possible, determine an endpoint to treatment and the need for the patient-doctor relationship to end. Without these fundamentals, our patients' outcomes will not meet their expectations, and our workload, which the EMR was intended to reduce, will only increase.

Dr. Bernstein's suggestion that doctors write a brief abstract does have merit, if only for the possibility of reversing the poor state of communication between patients and physicians and their colleagues (nurses, therapists, or consultants). Likely, though, too many practicing doctors will object to the additional work required to generate a meaningful abstract.

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