Illusions and Delusions of Cut, Pasted, and Cloned Notes

Ephemeral Reality and Pixel Prevarications

Most editorials accompanying medical journal articles are implicit rebuttals, attacks, or, occasionally, a springboard for the editorial writer’s presentation of his or her own research or passion, often one orthogonal to the stated focus of the editorial but dear to the editorial writer. Such strategies can be exciting, generating debate, rage, or insight. Alas, this editorial is only about the valuable article by Weis and Levy on cutting, pasting, and cloning from the electronic health record (EHR) in this issue of CHEST (see page [insert page number]). But that topic produces more than enough excitement, especially when one considers the technical and policy solutions enabled by the same software that makes cutting and pasting so easy and so dangerous.

One assumes the Weis and Levy article would be a straightforward question of balance. On the one side, cutting and pasting information within the EHR can be efficient and improve accuracy. Yesterday’s patient, a 71-year-old woman with a long medical history who presented to the ED at 2:00 am with X and Y symptoms, had a BP of A/B, and was previously taking medications L, M, N, O, and P is still probably best described as presenting in those words. On the other side of the argument, we know of many horrors of cut and paste: Old information is presented as new, context is lost, the information collected by a clerk appears to be the work of a skilled diagnostician, and the insights of a skilled diagnostician are presented as the guesses of an intern in early July. Ambiguity is (falsely) resolved. Old laboratory data are listed as new. Chronology is lost. A three-page chart balloons to 300 pages of legible gibberish. Critical information is buried in a sea of redundancies and misrepresentations and is unmoored from its supporting documentation.

With that said, one might ask whether we need another article on this topic. The answer is that Weis and Levy offer intriguing findings on the dangers of cut and paste that encompass many concerns heretofore largely unrecognized or at least not as well synthesized. They do this systematically and thoughtfully without bias. To be cute, I should say that their article is not what I expected: It was far more than I expected and far more useful.

The several benefits of cut and paste are obvious and listed in the article’s tables (reduced transcription error, faster documentation, etc). More interesting are the findings on errors and dangers and the technical and rule-based efforts to mitigate the dangers. Dangers include perpetuation of errors in medications, allergies, symptoms, and problem lists and stunning inconsistencies. Worse, irrelevant, superannuated, or just plain wrong information is found to produce incorrect treatments and misdiagnoses, sometimes with grave consequences. Such errors and their consequences, moreover, were rather common in many of the examined records. Studies Weis and Levy reference also found that copying or cloning templates and others’ information tends to usurp physicians’ judgments. Such errors were exacerbated when clinicians copied the wrong template for the current illness.

Copying and cloning generate (often massive) chart bloat, which in addition to being a horror in itself, can hide essential information, thus, leading to wrong diagnoses and duplicate tests and treatments. Cloned information and instructions then generate fraudulent billing and payments, around which regulators are increasingly concerned and active. As if that were not enough, the orders for the tests, drugs, or procedures often appear to (or actually) come from individuals not licensed to issue those orders—a double danger that adds insult to injury.

We found a case where a patient appeared to have the exact same foot BP for a month. When the senior physician investigated this extraordinary consistency, she found the patient had, in fact, had that foot amputated a month before; but the nurses were copying and pasting in the previous BP reading from earlier. Another case is reported of a patient who entered the hospital comatose after a car accident, and (happily) walked out 3 weeks later on his own feet. However, in the EHR notes he remained comatose until 10 min before he left. Physicians were copying and pasting the previous notes until it became essential to alter them definitively.

Many institutions prohibit several forms of cloning, for example, requiring previous subjective judgments
and narratives to be summarized afresh. Some institutions demand that imported data be relevant to the current encounter and needed for continued care. Such restrictions, however, conflict with the ethos of "more is better" progress notes and with the increasing requirements for extensive documentation to avoid liability and to maximize payments.

**Technology Bites Back but Can Help**

The same technology that allows, or perhaps encourages, cutting, pasting, and cloning of material can also help to control some of the problems it facilitates. For example, some EHRs use a different font to display material that has been copied. Even better, the repeated material appears with attribution to the original author and with the original time of entry. In contrast, some EHRs offer a function called "make me the author," which allows the most recent user to appear as the creator of the document, even though he or she may have only updated a number or made a quick note. Functions like these are just lethal. Not only deceptive, they provide an opportunity for an inexperienced clinician in training to alter the record made by others. The legal and medical consequences of this feature are mind-boggling, and yet, it is allowed. An unguarded terminal would even permit a passing janitor to gain control of patients' complex treatments with little protection save the possibility of expensive, post hoc, forensic computer analysis.

Some technological assistance is clearly needed. The marking of cloned texts and data noted here should be mandatory as should the requirement for annotating the time and author of original entries later inserted into new chart areas. As a programming effort, this is kindergarten-level work, but it is nevertheless rare in EHRs. If patient safety were a foremost concern of EHR vendors and federal regulators of health information technology, this would be a ubiquitous feature, not a requested recommendation.

There are two forms of protection for clinicians and medical facilities that are not demanded by Weis and Levy¹ but that I would argue should have been:

1. Audit trails. Protection from unauthorized alteration of the record necessitates a constant audit trail of who accesses and changes the patient record. This would address the "make me the author" dangers and many of the other issues that emerge in patient safety discussions and in medical liability cases. It is not hard to program and exists for some EHRs and computerized physician order entry systems.

2. See what I saw: the ephemera of pixels. It turns out that what the clinician saw when he or she made a judgment about a patient often is not reproducible from the current technology. In other words, when Dr X decided that her patient needed Y medication, the results of some tests may not have been available to her at the time. But, when a later reproduction of the system is requested, those test results may now appear on what is believed to be the screen. Such unintentional, but deeply deceptive "monkeying" with past reality is a common failing. It is not done to make physicians look like fools, but it can have that effect. A paper reproduction of the chart at 4:25 PM on August 7, 2013, is not at all what the physician saw at 4:25 PM that day, even if it is there for the judge and jury in black and white. This is certainly not part of cut and paste except by a fluke in the technology. Any set of recommendations addressing chart safety, however, should include a requirement that this computer-aided misrepresentation be mitigated by the technology. It can be done and is done by some vendors.

In summary, the article by Weis and Levy¹ is a serious and important contribution to our understanding of the issues of and solutions to the dangers of cutting, pasting, and cloning of medical records. I hope that more institutions and regulators act on their findings and these recommendations.

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REFERENCES