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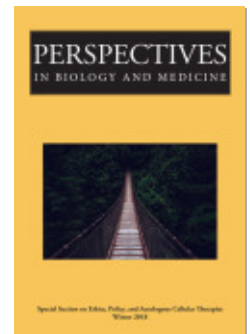
Off the Charts: Medical documentation and selective redaction in the age of transparency

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OFF THE CHARTS

medical documentation and selective redaction in the age of transparency

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ABSTRACT A growing demand for transparency in medicine has the potential to strain the doctor-patient relationship. While information can empower patients, unrestricted patient access to the electronic medical record may have unintended consequences. Medical documentation is often written in language that is inaccessible to people without medical training, and without guidance, patients have no way to interpret the constellation of acronyms, diagnoses, treatments, impressions, and arguments that appear throughout their own chart. Additionally, full transparency may not allow physicians the intellectual or clinical freedom they need to authentically express questions, problematic impressions, and concerns about the patient's clinical and psychosocial issues. This article examines the ethical challenges of transparency in the digital era and suggests that selective redaction may serve as a means to maintain transparency, affirm physician's discretion, and uphold the core values of the doctor-patient relationship amidst disruptive technological change.

A 47-year-old woman with a history of anxiety disorder is admitted to the hospital for shortness of breath. On the third day of hospitalization, she asks her physician for a copy of all documents pertaining to her care. What expectation should she have for full disclosure? Are there limits on her access to her medical records and do her physician's concerns about professional privilege matter?

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THE VIRTUES OF TRANSPARENCY IN MEDICINE HAVE been well described (Chimonas et al. 2017; Weinberg 2006; Zarin and Tse 2008). As proponents of transparency, we favor patient access to their medical records, but we are increasingly troubled by the ease and extent of disclosure in current practice as technology advances and restrictions on medical information are relaxed. While information can empower patients, it does not come without a cost. A growing demand for transparency has the potential to strain the doctor-patient relationship.

As physicians at a large academic medical center, we have tried to weigh open disclosure against professional privilege, balancing arguments for unconstrained transparency (such as respect for autonomy or the right to informed consent) and restricted access (such as the right not to be informed of medical information that would undermine self-esteem, employability, or insurability) (Fairweather and Rogerson 2001; Thomas 2009). In this article, we examine the ethical challenges of transparency in the digital era, and suggest that selective redaction may serve as a means to maintain transparency, affirm physician's discretion, and uphold the core values of the doctor-patient relationship amidst disruptive technological change.

Selective redaction is an editorial process that would allow physicians to place certain parts of the medical record out of reach in limited circumstances. We argue that selective redaction may mitigate some of the distress that stems from intemperately sharing a physician's thoughts and impressions during the evolution of a case that might be characterized by uncertainty, speculation, and even frustration. For example, a physician's musings on a broad differential diagnosis at the outset of a case might include devastating but low probability possibilities. A patient who read his or her chart would likely find the information disquieting, especially if these possibilities were not discussed and fully explained. We would contend that this information should not be disclosed or shared through a request for the medical record following what would occur in routine medical care. These remote possibilities would not likely be discussed with the patient unless they became more likely and needed to be ruled out with a diagnostic test. In that case, to justify the assumption of risk that might occur with a test, the patient would be informed that the test was being performed to evaluate him or her for a particular worrisome condition.

Curating such elements from the written chart, as is done in routine clinical interactions, would help provide useful information to the patient and, as importantly, it would enable physicians to communicate hypotheses with each other in the pursuit of better diagnoses and more appropriate treatments. Fears that this discourse might be compromised could constrain a vital workspace essential to the physician's craft and patient welfare, which depends on a delicate balance between transparency and the necessity of frank inter-professional conversation. By articulating the importance of selective redaction and suggesting specific ethical

rules for its implementation we hope to find a balance that promotes transparency and ensures a constructive doctor–patient relationship while also preserving the chart as a vehicle for communication between health-care practitioners and a place of intellectual freedom where the good work of medical practice can proceed.

A CULTURAL EVOLUTION

For most of history, medical practice was characterized by an asymmetric flow of information, as Jay Katz (1984) observed in his classic volume *The Silent World of Doctor and Patient*. In a not-so-distant past, doctors routinely withheld bad news, and prescriptions were written in Latin to protect patients from the names of, and indications for prescribed drugs (Kurer, Zekra, and Zekrim 2008; Schiff, Seoane-Vasquez, and Wright 2016). Until the late 1970s, it was common for lawyers to advise physicians to write medical orders in pencil and to erase them after they were implemented, a practice that could shield doctors from repercussions of medical errors (Jonsen 1998).

The culture of medical order documentation began to change in 1976, when Massachusetts General Hospital and Beth Israel Hospital of Boston jointly published the first guidelines for the “do not resuscitate” order (Rabkin, Gillerman, and Rice 1976). Other hospitals quickly followed, “writing policies that described the situations in which resuscitation was inappropriate and requiring physicians to record their reasons” in the chart (Jonsen 1998, 253). These policies represented a major shift towards transparency and clearly contrasted with prior customs. Promptly thereafter, a more reflexive examination of how medical orders were both written and preserved ensued. The advent of informed consent and truth-telling led to further disclosure, creating challenges and opportunities for the doctor–patient relationship (Fins 2001).

In the decades that followed, major technological and legal advances strengthened the progressive push toward medical transparency (Anwer and Abu-Zaid 2014; Feldman et al. 2013). The Health Insurance Privacy and Portability Act (HIPPA), which was passed in 1996, stipulated that patients must be permitted to review and amend their medical records. Since 2016, federal law enables patients to have far greater access to their own records (Fioriglio and Szolovits 2005). Today, hospital documentation practices are increasingly computer-based and continue to adapt to changes in technology and information systems, as well as to the medical and legal systems and patient expectations (Hripecsak et al. 2011; Jackson et al. 2014; Matthys et al. 2009). The technical feasibility of making medical records more patient-accessible will undoubtedly affect legal and normative trends. We argue that insufficient attention has been paid to these processes, which have the potential to harm the doctor–patient relationship and, ultimately, to impair the delivery of medical care.

PEARLS AND PITFALLS OF TRANSPARENCY

Greater access to information has historically been a good thing. Advocates of transparency have defended the “free, uninhibited sharing of information” as the most important element in health-care safety (Leape et al. 2009). Pioneering this movement, Shenkin and Warner foresaw in 1973 that providing a “complete and unexpurgated copy of all medical records . . . to patients as soon as the services are recorded” could enhance patient education, empower patient participation in care, increase their compliance with treatment, and improve patient trust and physician satisfaction, and thus strengthen their relationship (688). These predictions have been subsequently supported by modest evidence from interventional and non-interventional studies (Ross and Lin 2003).

More recently, the Committee on the Quality of Healthcare in America of the Institute of Medicine (IOM) suggested in their report “Crossing the Quality Chasm: A New Health System for the 21st Century” that enhancing the flow of information among patients and medical providers could help reduce errors and improve quality of care, especially if this improvement was framed among other initiatives, such as distance education, remote monitoring of chronic conditions, or remote support systems with alerts to ensure better treatment compliance (Washburn 2001).

However, unrestricted access to the electronic medical record (EMR) may also have unintended consequences. The EMR is often written in language that is inaccessible to people without medical training, and without guidance, patients have no way to interpret the constellation of acronyms, diagnoses, treatments, impressions, and arguments sprinkled throughout their own chart.

Almost half of Americans read at or below the eighth-grade level, which many institutional review boards (IRBs) regard as the standard for informed consent forms (Paasche-Orlow, Taylor, and Grancati 2003). How can physicians reasonably be expected to address their notes to both patients with no professional background and colleagues with years of advanced medical training? As technological innovation is implemented into clinical practice, we must pause to examine how patients with variable health literacy might interpret these advances. Otherwise, signals will get lost amidst the noise.

Even if the language and presentation of the chart could be translated for lay audiences, not a trivial task altogether, the EMR may still contain information that might be inappropriate to divulge *automatically* to a patient, without titrating its content or modulating its context (Fins 2001). Consider the example of communicating medical errors. In a recent survey, US and Canadian physicians confessed that disclosing adverse events to patients entailed substantial challenges with transparency as compared to disclosure to colleagues or their institutions (Bell et al. 2015). The implications for patients who might learn of these incidents from the EMR, before any explanation has been provided, are problematic and could lead to an erosion of trust and encouragement of defensive medicine.

Disagreements will undoubtedly arise about what concerns should be addressed immediately via electronic communication, and which could be best handled via routine visits or scheduled appointments. Will these new dynamics further distract doctors from the patient sitting or lying before them (Toll 2012)? The health-care system simply may not be designed to handle this growing consumer demand for access to information.

PROFESSIONAL PRIVILEGE AND SELECTIVE REDACTION

Practitioners see the medical chart as the vehicle through which they collectively think as a group. Physicians use daily progress notes, particularly the “impression and plan” section, as a sounding board in which they can voice questions, doubts, and concerns about problems in the patient’s diagnosis and management to colleagues and themselves. The process of differential diagnosis, considering a comprehensive range of probabilistic statements, has long been viewed a crucial aspect in physician development and patient care, and it might be likened to a quality improvement exercise that thoughtful clinicians would perform for themselves on a daily basis (Leung, Wong, and Barg 2017; Runser, Gauer, and Houser 2017). In fact, the EMR already serves as an invaluable tool for other quality improvement strategies. Shouldn’t it (or some of its contents) be privileged under similar protections to which formal quality improvement documents are subject?

The law recognizes the quality assurance (QA) privilege, which protects self-review activities from disclosure to others outside the organization (Infante 1997). Complete confidentiality of deliberations and assessment in the QA process is a critical element in developing an honest and effective internal review to improve quality of care. If the chart is similarly conceived, as it is the locus of so much care and thought, issues of privilege would seem to be relevant.

To this end we propose the principle of selective redaction as a documentation method that would allow individual physicians to exclude specific entries in the chart from the patient’s view in accordance with a redaction policy. These notes would remain an equal part of the EMR, readily accessible to other providers or ancillary staff. When a user wishes to selectively redact a chart, he or she identifies or tags an individual comment (for instance, parts of the “impression and plan” section). The computer system then determines which records comprise one or more tags—indicating which portions of the document are to be omitted—and dynamically displays those charts omitting the selected portions. Selective redaction and deletion of content are already frequent and essential tools in public websites, such as blogs or Wikipedia (Jirschitzka et al. 2017).

The process of determining which contents should be amenable to selective redaction needs to be open to debate, and appropriate policies and guidelines are needed to ensure a judicious use of this tool. We will propose here some initial rules of redaction, based on fictitious examples drawn from our clinical practice.

Case 1: Selective Redaction to Time the Delivery of Information

Consider a middle-aged patient with a prior history of tobacco use admitted with presumed community-acquired pneumonia. During the initial diagnostic workup, the patient is usually unaware that the team may be considering potentially life-threatening or worrisome conditions, such as tuberculosis, lung abscess, lung cancer, or autoimmune diseases. While clinicians may want to document all these possibilities in order to justify diagnostic tests or to share their clinical reasoning with other providers, only a fraction of these concerns will be discussed at the bedside. What if the patient asked for her chart in the midst of the workup, when scores of potential diagnoses were still in play?

Wielding the concept of “tolerable truth,” one might argue that even if disclosure would not cause direct harm, the physician’s duty to the patient relates to transparent disclosure of the options relevant to the decision at hand (Long and Shuman 2016). As information supporting some diagnoses above others accrues, the physician should revisit the information to be shared with the patient and discuss whether more specific testing is needed.

Without selective redaction, however, physicians may not be able to apply the principle of tolerable truth. Practitioners can no longer titrate how much information from the chart is to be conveyed, nor modulate how and at what point in the patient’s course this information is to be released (Fins 2001). However, if physicians believe that what is documented will be immediately disclosed, will they stick to the facts and keep their hypotheses to themselves, thereby potentially compromising the clinical process of analysis and discernment? Under-documenting these concerns may carry unintended consequences for patient care.

Furthermore, though omission is concerning, commission is equally worrisome. “Burying” controversial impressions in a plethora of detail or hiding ominous diagnostic possibilities amidst lengthy copy-and-pasted notes of voluminous repetitive text can also serve to disguise hard truths. Full disclosure and truth-telling are not necessarily synonymous. By the same token, documentation and disclosure are not necessarily synergistic.

As a solution to these extreme positions, we would suggest the use of selective redaction for those notes containing plans that are under preliminary consideration and not yet concrete. In our current case, a statement such as, “If chest CT confirms the suspicion of a pulmonary mass, we will pursue bronchoscopy” could exemplify the point. The purpose of the note is to serve as future guidance for the team, and to allow other practitioners to gain understanding of the team’s clinical reasoning. This helps promote continuity of care by making manifest the team’s current thinking. However, this concern, pending the results of a prior test or the patient’s clinical course, might never materialize and could be alarming. Here, the goal of selective redaction is to serve as a tool for physicians to deliver news in a modulated fashion, adapting effective communication to a tempo appropriate to the needs of the patient and physician.

Case 2: Selective Redaction of Subjective Impressions on Behaviors

Let's consider another patient, a construction worker with chronic back pain previously treated with a combination regimen of opioids and other analgesics, admitted because of inability to walk. The medical team orders the appropriate tests to rule out new conditions or complications. As the team tries to adjust the treatment to the patient's stated needs, the latter adamantly refuses, and demands to receive higher doses of his prior pain management treatment.

This case reveals a second aspect of the physician-patient relationship that might be adversely affected by unlimited access to the medical record: the physician's ability to document problematic impressions of patients' behavior. How likely will physicians be to document impressions such as "suspect secondary gain and drug-seeking behavior" or "symptoms might be related to anxiety"? Non-adherence to medical care, suspicion of secondary gain, somatization disorders, and disagreements about treatment and disposition plans are things that often need to be communicated among providers explicitly, even bluntly. In fact, mental health professionals appear to be divided about the effects of sharing their notes with patients, since some worry that "watered-down" notes might obscure important medical details.

Full transparency may not allow physicians the intellectual or clinical freedom they need to authentically express questions, problematic impressions, and concerns about the patient's clinical and psychosocial issues. In our current case, the content of a note such as "Team is reluctant to increase opioid dosing, because of concerns of secondary gain" needs to be discussed with patients and families with tactful diplomacy. Although the balance between professional privacy and disclosure is fragile, we believe selective redaction should defend professional discretion when it comes to disclosing subjective impressions noted in the chart.

Case 3: Selective Redaction to Cope with Diagnostic or Therapeutic Uncertainty

The 47-year-old woman with anxiety disorder who was presented in the hypothetical at the beginning of this paper has been admitted to the hospital for shortness of breath. However, during the initial encounter with the hospitalist, she mentions that she has also experienced two weeks of severe, rapid weight loss and night sweats. During this exchange, the patient nervously asks what is wrong with her. Although there are numerous ways of dealing with anxiety and communicating effectively in uncertain settings, the hard truth is that the physician in this case does not know. The differential diagnosis he or she might have written in the chart before meeting the patient is simply too broad and could overwhelm the patient. Moreover, what if the physician doubts the description of symptoms? If the note is automatically shared, how are doctors and patients to deal with uncertainty? Could transparency threaten the very foundations of the clinical relationship? On the other hand, patients may have a great deal of uncer-

tainty about their medical condition and the ability of the professionals they have consulted to restore their health.

Uncertainty is consubstantial with medical practice. Doctors constantly choose treatments on the basis of imperfect data and limited knowledge, which, if “coupled with the uncertainty that arises from unpredictable patient responses to treatment and from health care outcomes that are far from binary,” inextricably leads to uncertainty (Simpkin and Schwartzstein 2016, 1713). Acknowledgment of uncertainty in clinical practice might disclose vulnerability, and clinicians may be concerned with its effects on patients’ confidence in them (Bell et al. 2015).

This new framework calls for new types of communication skills and, potentially, new communication styles, which may vary widely from one practitioner to another (Feldman et al. 2013). In our case, the physician needs to better understand the source of the patient’s anguish and anxiety and interpret how uncertainty plays a role in the patient’s current condition. By selectively redacting his or her initial thoughts and concerns, the physician is given the opportunity to disclose his thoughts effectively and compassionately in a later moment.

Uncertainty will need to be shared by all stakeholders, including the patient. In our first example, despite working with different diagnostic possibilities, physicians in our first example dealt with a low level of uncertainty. The diagnostic steps and procedures pursuant to the initial results were clear. On the other hand, in our third example the degree of uncertainty is significantly higher. Precisely in cases of this high uncertainty, selective redaction upholds physician’s privacy of thought and allows practitioners to delay disclosure and adapt its extent to the patient’s individual preferences, thus approaching each patient with the communication style that may best suit these preferences.

LIMITATIONS OF THE CURRENT PROPOSAL

The process of selective redaction would generally apply to subjective information, such as problematic impressions, diagnostic and therapeutic uncertainties, and plans that are under preliminary consideration and not yet concrete. The suggested approach certainly has its limitations and challenges. Perhaps most importantly, there are no existing criteria as to what data are appropriate for selective redaction. The degree of subjectivity a comment needs to qualify for selective redaction is itself subjective, and potentially arbitrary. The fair and equitable application of selective redaction would therefore require work to avoid the risk of turning physicians into redaction fanatics, more concerned with the contents in the chart than with the actual patient.

We hope that our rules of redaction may serve as initial guidelines to avoid this trap and steer off the perennial fear of liability. It is not our intention to propose selective redaction as a mechanism to reassert physician paternalism, or to obscure the chart for liability purposes. Rather, we offer it as a helpful mechanism to fos-

ter effective communication between physicians and their patients. Selective redaction is not meant to alter or hide the contents of the chart, but merely to limit or delay the contents' display for one specific user's view of the EMR. Chart contents would remain readily available if subpoenaed by a court of competent jurisdiction or if requested by an authorized regulatory or law enforcement agency. Chart contents would also remain accessible for internal quality assurance audits and IRB-approved research.

Finally, we also foresee an important educational challenge. Dealing transparently with uncertainty should lead to relearning how to communicate effectively, and the educational process should involve seasoned physicians, trainees, and students alike. How will trainees and medical students know what should be documented and what should be disclosed, and how are we to understand the interrelationship of documentation and disclosure? Debating these decisions on rounds, and initiating discussions of disclosure, documentation, and physician communication will be essential, and the ensuing conversations may prove as vibrant as those pertaining to the clinical differential diagnosis. As technology allows for increased patient access to medical records these conversations between faculty and trainees will undoubtedly become more important (Simpkin and Schwartzstein 2016). Seemingly mundane decisions regarding documentation and disclosure of daily activities in the hospital can serve as teaching moments for trainees.

This added responsibility would likely increase the already growing burden on practicing physicians, however. Heavy patient load, high turnover, pressure to discharge, and clinical duties that span from the emergency room to the intensive care unit already take their toll (Wachter and Goldman 1996, 2002, 2016). Foisting yet another objective onto clinicians may be met with resistance, but we believe it can be woven into discussions of patient care on inpatient rounds and may actually improve workflow, if thought is given to the resources needed to support providers in this endeavor (Mudhavan et al. 2014).

CONCLUSIONS AND FUTURE DIRECTIONS

We have undergone a revolution in the way medical information is accessed and shared (Crotty et al. 2016). There was once only a single copy of the medical record, and a patient had to obtain explicit permission to look at it (Stearns 2000). Today, patients can access personal data from a handheld device immediately after it has been created (Ehrler et al. 2017). This has created a remarkable opportunity to improve patient engagement and care, but it has also presented challenges (Ross and Lin 2003).

We consider our daily progress notes to be a zone of partial professional privilege, a workspace where physicians can communicate, speculate, and articulate incomplete and burgeoning ideas. Allowing patients a window into this world

has the potential to engage and empower, but it may also wreak havoc on vital professional communication and create a factually correct but inauthentic story. Physicians must be forthright with patients, but they should also have a modicum of professional discretion to formulate ideas with colleagues and themselves. To this end, we have offered the tentative solution of selective redaction. This procedure would serve to protect clinicians' privacy of thought and could be used for notes with a substantive subjective component, such as differential diagnoses or subjective assessments.

Determining how this should be done will likely vary between medical centers, but it should become a priority to establish a procedural and technological mechanisms for preserving professional communication amidst the inexorable trend of greater patient access to medical information. Despite the numerous concerns raised here, we ultimately believe medical transparency is a good thing. We have an opportunity to make it greater still by establishing some prudent limits.

REFERENCES

- Anwer, L. A., and A. Abu-Zaid A. 2014. "Transparency in Medical Error Disclosure: The Need for Formal Teaching in Undergraduate Medical Education Curriculum." *Med Educ Online* 19: 23542.
- Bell, S. K., et al. 2017. "Transparency When Things Go Wrong: Physician Attitudes About Reporting Medical Errors to Patients, Peers, and Institutions." *J Patient Saf* 13 (4): 243–48.
- Chimonas, S., N. J. DeVito, and D. J. Rothman. 2017. "Bringing Transparency to Medicine: Exploring Physicians' Views and Experiences of the Sunshine Act." *Am J Bioeth* 17 (6): 4–18.
- Crotty, B. H., et al. 2016. "Opening Residents' Notes to Patients: A Qualitative Study of Resident and Faculty Physician Attitudes on Open Notes Implementation in Graduate Medical Education." *Acad Med* 91 (3): 418–26.
- Ehrler, F., et al. 2017. "Smartphones to Access to Patient Data in Hospital Settings: Authentication Solutions for Shared Devices." *Stud Health Technol Inform* 237: 73–78.
- Fairweather, N. B., and S. Rogerson. 2001. "A Moral Approach to Electronic Patient Records." *Med Inform Internet Med* 26 (3): 219–34.
- Feldman, H. J., et al. 2013. "OpenNotes: Hospitalists' Challenge and Opportunity." *J Hosp Med* 8 (7): 414–17.
- Fins, J. 2001. "Truth-Telling and Reciprocity in the Doctor-Patient Relationship: A North American Perspective." In *Topics in Palliative Care* 5, ed. E. R. P. Bruera, 81–94. Oxford: Oxford University Press.
- Fioriglio, G., and P. Szolovits. 2005. "Copy Fees and Patients' Rights to Obtain a Copy of Their Medical Records: From Law to Reality." *AMIA Annu Symp Proc* 251–15.
- Hripcsak, G., et al. 2011. "Use of Electronic Clinical Documentation: Time Spent and Team Interactions." *J Am Med Inform Assoc* 18 (2): 112–17.
- Infante, M. C. 1997. "Some Reassurance on Quality Assurance Privilege." *Contemp Longterm Care* 20 (8): 71.

- Jackson, S. L., et al. 2014. "Patients Who Share Transparent Visit Notes with Others: Characteristics, Risks, and Benefits." *J Med Internet Res* 16 (11): e247.
- Jirschitzka, J., et al. 2017. "A Productive Clash of Perspectives? The Interplay Between Articles' and Authors' Perspectives and Their Impact on Wikipedia Edits in a Controversial Domain." *PLoS One* 12 (6): e0178985.
- Jonsen, A. R. 1998. *The Birth of Bioethics*. Oxford: Oxford University Press.
- Katz, J. 1984. *The Silent World of Doctor and Patient*. New York: Free Press.
- Kurer, M. A., J. M. Zekri, and J. Zekrim. 2008. "Breaking Bad News: Can We Get It Right?" *Libyan J Med* 3 (4): 200–203.
- Leape, L., et al. 2009. "Transforming Healthcare: A Safety Imperative." *Qual Saf Health Care* 18 (6): 424–28.
- Leung, A. K., A. H. Wong, and S. S. Barg. 2017. "Proteinuria in Children: Evaluation and Differential Diagnosis." *Am Fam Physician* 95 (4): 248–54.
- Long, B. D., and A. G. Shuman. 2016. "Could Good Care Mean Withholding Information from Patients?" *AMA J Ethics* 18 (1): 6–11.
- Madhavan, R., et al. 2014. "Evaluation of Documentation Patterns of Trainees and Supervising Physicians Using Data Mining." *J Grad Med Educ* 6 (3): 577–80.
- Matthys, J., et al. 2009. "Patients' Ideas, Concerns, and Expectations (ICE) in General Practice: Impact on Prescribing." *Br J Gen Pract* 59 (558): 29–36.
- Paasche-Orlow, M. K., H. A. Taylor, and F. L. Brancati. 2003. "Readability Standards for Informed-Consent Forms as Compared with Actual Readability." *N Engl J Med* 348 (8): 721–26.
- Rabkin, M. T., G. Gillerman, and N. R. Rice. 1976. "Orders Not to Resuscitate." *N Engl J Med* 295 (7): 364–66.
- Ross, S. E., and C. T. Lin. 2003. "The Effects of Promoting Patient Access to Medical Records: A Review." *J Am Med Inform Assoc* 10 (2): 129–38.
- Runser, L. A., R. L. Gauer, and A. Houser. 2017. "Syncope: Evaluation and Differential Diagnosis." *Am Fam Physician* 95 (5): 303–12.
- Schiff, G. D., E. Seoane-Vazquez, and A. Wright. 2016. "Incorporating Indications into Medication Ordering: Time to Enter the Age of Reason." *N Engl J Med* 375 (4): 306–9.
- Shenkin, B. N., and D. C. Warner. 1973. "Giving the Patient His Medical Record: A Proposal to Improve the System." Sounding Board. *N Engl J Med* 289 (13): 688–92.
- Simpkin, A. L., and R. M. Schwartzstein. 2016. "Tolerating Uncertainty: The Next Medical Revolution?" *N Engl J Med* 375 (18): 1713–15.
- Stearns, P. V. 2000. "Access to and Cost of Reproduction of Patient Medical Records. A Comparison of State Laws." *J Leg Med* 21 (1): 79–108.
- Thomas, J. 2009. "Medical Records and Issues in Negligence." *Indian J Urol* 25 (3): 384–88.
- Toll, E. 2012. "A Piece of My Mind: The Cost of Technology." *JAMA* 307 (23): 2497–98.
- Wachter, R. M., and L. Goldman. 1996. "The Emerging Role of 'Hospitalists' in the American Health Care System." *N Engl J Med* 335 (7): 514–17.
- Wachter, R. M., and L. Goldman. 2002. "The Hospitalist Movement 5 Years Later." *JAMA* 287 (4): 487–94.

- Wachter, R. M., and L. Goldman. 2016. "Zero to 50,000: The 20th Anniversary of the Hospitalist." *N Engl J Med* 375 (11): 1009–11.
- Washburn, E. R. 2001. "Fast Forward: A Blueprint for the Future from the Institute of Medicine." *Physician Exec* 27 (3): 8–14.
- Weinberg, S. L. 2006. "Transparency in Medicine: Fact, Fiction, or Mission Impossible?" *Am Heart Hosp J* 4 (4): 249–51.
- Zarin, D. A., and T. Tse. 2008. "Medicine: Moving Toward Transparency of Clinical Trials." *Science* 319 (5868): 1340–42.