Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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INDIVIDUAL ACHIEVEMENT

2019 John M. Eisenberg Patient Safety and Quality Awards: An Interview with Gordon D. Schiff

Interviewed by Mark L. Graber, MD

Did you know John Eisenberg personally?

We did cross paths in the early 1980s in the Society for Medical Decision Making (SMDM), one of the organizational streams that fed the nascent Society to Improve Diagnosis in Medicine (SIDM), which later hosted the early "Diagnostic Error in Medicine" conferences. I vividly recall discussing two of his little-known articles with John. These buried treasures are worth recalling because of their significance to me, as well as what I believe they represent for quality improvement (QI). The first was a 1983 article on what John dubbed "derived thresholds."[1] Instead of approaching so-called test-treat thresholds (how likely a disease should be for a clinician to consider ordering a diagnostic test or treatment) as something mandated from above, he showed it was possible and worthwhile to study frontline clinicians' *actual* ordering practices to infer best practices (in other words, to derive the thresholds from observing practice patterns)—a very radical idea, when you think about it. The second article was his 1988 commentary titled "Clinical Scholars and Their Program: Children of the Sixties in the Eighties."[2] Here he traces the contribution of 1960s activism, including his own, to informing and motivating a generation of health services researchers and QI scholars.

You've been working in the field of patient safety since its beginnings. How did you become interested in patient safety in the first place, and what were your earliest projects?

Just as it drove John Eisenberg, a '60s activist vision propelled our generation of medical students to do our residencies at public hospitals, including Cook County Hospital, Chicago's large public hospital serving predominantly uninsured, poorer, African American patients from Chicago's west and south sides (where I grew up). It was there that it became obvious to me that our struggle to provide access and quality for our patients was about the need to improve *systems*—there was clearly no point in blaming dedicated staff, doing their best in an underresourced setting, for all the quality shortfalls.

In addition, it was clear that medication prescribing could and should be considerably safer. It was a time when there was liberal prescribing of drugs such as benzodiazepines (to treat everyday anxiety, relax muscles, or deal with ulcers or MI [myocardial infarction] stresses) and estrogens (the number one drug prescribed to women, promoted as helping women prevent cancer and MIs and remain "feminine forever"), and widespread use of potent cardiac antiarrhythmic drugs (which had serious adverse effects but minimal evidence to support their efficacy, and were found to actually increase mortality).[3–6] It led us, as medical students and later as residents and attendings, to question the overpromotion, overuse, and safety of such prescriptions and seek ways to make prescribing safer. The Joint Commission recognized this safety need and mandated that each hospital review it's use of medications with an eye to safer prescribing. Cook County Hospital set up a Drug Utilization Review Committee, and I became its first chair. We examined prescribing patterns by downloading data from the Cook County pharmacy's comprehensive dispensing database (because County's indigent patients obtained virtually all of their medications for free from the hospital's outpatient pharmacy, this provided a comprehensive look at their drug prescriptions) and found many improvement opportunities. We also linked lab data (manually at first; later electronically) to the pharmacy data; one finding was that more than half of the theophylline-toxic patients continued to receive intravenous (IV) infusions more than 10 hours after the toxic sample was drawn, and many patients were experiencing gastrointestinal, neuro-psychiatric, and cardiac symptoms that were not recognized as being caused by theophylline toxicity.[7]

What individuals have been the most influential in stimulating your interest in patient safety?

Most readers are familiar with Donabedian's triad of structure, process, and outcomes, but I'd say I was influenced by the Donabedian-led triad: Avedis Donabedian, Lucian Leape, and Don Berwick. I have had the privilege to personally learn from each of them, and all three demonstrate the veracity of what I refer to as Schiff's paradox: The bigger and busier they are, the *more* time they will take to extend a hand to support a little guy like me, especially when I was just learning about quality and safety. To walk in their

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footsteps in receiving this award is an enormous, humbling honor.

Of your many patient safety endeavors, which ones have given you the greatest pride? Which ones will have the highest impact on patient safety? What are your current projects?

We do have a current diagnostic error learning network project called PRIDE (Primary-Care Research in Diagnosis Errors).[8] So I guess you can say that project is an important source of pride! But seriously, this project (funded by the Moore Foundation), like several others, is a source of satisfaction because we are bringing together a broad multidisciplinary team of practitioners and stakeholders (especially non-MDs) to increase our understanding of diagnostic errors, their causes, and ways they can be prevented.

Of the 93 initial Agency for Healthcare Research and Quality (AHRQ) patient safety grants awarded in the early 2000s, only one project (which I was fortunate to lead with Chicago colleagues) was foolish enough to wade out into the swamp of diagnostic errors.[9] At the time, we didn't fully realize the challenges (defining, measuring, and agreeing on taxonomies for diagnostic errors), but we were glad to be there from the beginning of efforts to address what is now recognized as the leading type of medical error, according to patient surveys, malpractice claims, and the ECRI Institute's safety priority polls.[10–12] I also worked on early efforts to leverage health information technology (HIT) by linking lab and pharmacy data,[13,14] demonstrate the value of integrating drug *indication* into computerized provider order entry (CPOE),[15] identify safety vulnerabilities in current CPOE systems,[16,17] and conceptualize ways redesigning electronic clinical documentation redesign could prevent diagnostic errors.[18–20] We worked with primary care practices in Massachusetts—the PROMISES (Proactive Reduction of Outpatient Malpractice: Improving Safety, Efficiency, and Satisfaction) Project—and showed in a randomized controlled trial that we could improve diagnostic safety and malpractice risk though a multifaceted intervention.[21,22]

But less important than recalling these past efforts is looking forward to what needs to be done next.

I hope next efforts can build on our prior work as well as areas I sense are particularly important but are currently underdeveloped or entirely neglected. We recently published a list of areas for improvement related to electronic medication prescribing.[17] For this interview, I was moved and challenged to create a list of diagnosis safety improvement ideas. This list (Table 1), although a bit long, is not meant to be comprehensive. Rather, it is a personal vision regarding what sort of research and improvement projects are needed, a number of which we are currently working on. I encourage others to freely steal these ideas for your own research proposals and QI projects.

I pulled this list together just as the devastating impacts of the coronavirus crisis were beginning to be felt in the United States, upending our everyday work and lives and plans. As Bruce Springsteen said,

> *Now all them things that seemed so important Well, mister, they vanished right into the air*

(from the song "The River"). The question this unprecedented public health crisis poses is whether these diagnosis improvement ideas are now irrelevant (or at least a luxury we can't afford to think about) in the face of the more pressing realities of COVID-19. Or perhaps they are more important than ever.

Consider the need to close the loop on abnormal test results, referrals, and unexplained symptoms. Think about all the distracted, deferred, delayed diagnostic processes that are occurring related to ordering and following up of non-coronavirus tests, consults put on hold, symptoms that are being put on the back burner, along with physical-exam signs we may overlook entirely as we move to telemedicine and a single-minded focus on the novel coronavirus. Further, how do we better grapple with and communicate to patients all the uncertainties related to COVID-19 diagnosis and coronavirus test results with their imperfect sensitivity?[23] Thus it seems our generic diagnosis improvement efforts still have much to offer. And regardless of how pressing our worries are for pandemic viruses, cancer never sleeps. This leading cause of malpractice claims—missing cancer—will continue to haunt patients and clinicians until we have more robust processes for screening, assessing, and following patients.

You were a pioneer in studying medication safety, and you are still working actively in this area. What do you see as the most important advances in this area, and what are the most important problems to tackle moving forward?

There is a whole generation of younger physicians who have no idea what it was like to prescribe medications freehand with pen and paper. When John Eisenberg testified before Congress in 1999, Senator Arlen Specter asked him about the quality of his handwriting, and he answered, "It needs help."[24] Previously, John and I made many prescribing errors that are simply impossible to make in current CPOE systems.[25]

But we should not be complacent about the advantages of electronic prescribing. I believe we have squandered much of its potential to help us achieve the World Health Organization Global Patient Safety Challenge aim of "Medication Without Harm."[26] These areas of failure include poorly designed decision support, introduction of new types of errors associated with using CPOE systems, frustratingly inefficient workflows and screens that lead to dangerous workarounds, suboptimal linkages between prescribing systems and pharmacy dispensing databases result-

Table 1. A Personal Vision for Improving Diagnosis

Diagnosis Improvement Domain	Description	Change Ideas Ways/How Might Better Approach
1. Assessing/improving the "Assessment"	Assessment component of clinical notes (SOAP) is the most tangible representation of diagnostic activity/thinking. We currently lack measures for evaluating, measuring, and improving the quality of the diagnostic assessment in EMR documentation.	• EMR/note reorganization to enhance ability to quickly locate clinical summary/assessment • Designing standardized, validated constructs and tools for assessing the assessment (both qualitatively and defined metrics) and best practices to model • Support for higher quality assessment documentation—time, IT tools (especially voice recognition and cognitive support)[1]
2. Diagnostic uncertainty	Recognizing, documenting, communicating diagnostic uncertainty, especially to patients	• Crafting tools to help clinicians delineate/convey to patient likely/probable/less likely diagnosis and uncertainties, along with follow-up contingencies/plans
3. Symptom follow-up	Closing the loop on symptoms to ensure that they are tracked to resolution, explanation, or prompt ongoing coordinated monitoring and actions[2]	• Proactive, automated surveillance systems, coupled with real-time ability of patients to discuss with clinicians when symptoms are not resolving or new red flags arise[3] • Streamlined communication systems for patients, clinicians, and other staff to efficiently monitor, track, and act
4. Test-ordering support	Decision support to assist clinicians in ordering the correct and most appropriate tests (blood, imaging, other)	• Context-aware decision support to help clinician select the most appropriate test based on clinical question/concern (indication-based ordering), prior tests/results, method for obtaining specimen or preparing patient, test availability/financial constraints
5. Test/referral follow-up	Significantly more reliable systems for closing the loop to ensure error-free follow-up on test results and referrals	• Closely coupled ordering-reporting-acknowledging-tracking systems that ensure that any "unclosed loops" are visible and (where warranted) action(s) reliably taken to follow up • Requires complement of HIT, coordinated interactions between clinicians and lab/radiology/specialists, consensus-based rules, leadership support and resources, and patient engagement.
6. Relationships	Enhancing clinician-patient continuity and personal relationships to ensure that clinicians know their patients (and vice versa), a prerequisite for good diagnosis	• Series of measures that overcome factors that pervade current system that disrupt/challenge continuity (for example, narrow or changing networks tied to private insurance, forced switches related to job changes, stresses on primary care) • Positive enhancements to better support primary care supply, efficiency, availability, joy, cultural connections, to strengthen longitudinal caring relationships[4]

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Table 1. (*continued*)

Diagnosis Improvement Domain	Description	Change Ideas Ways/How Might Better Approach
7. Time	Ensuring that both clinicians and patients feel they have adequate time during and between encounters to meaningfully perform diagnosis work	• Adequate encounter time for new and follow-up patients • Building in dedicated time/space between encounters for just-in-time charting, cognitive work, and, where needed, reviewing old records and online information resources • Design and implement formal inter-encounter "watchful waiting" systems and patient plans that leverage and optimize teamwork, HIT, patient engagement, and conservative diagnosis principles.[5]
8. Engaging clinicians	Reengaging clinicians in joy and fun of challenging diagnosis, and valuing their efforts to improve; countering alienation from practice production pressures/management	• Need top-down (system redesign, leadership commitment) and bottom-up (career-long professional commitment) approaches. • Discerning and designing countermeasures needed to convert current alienation from QI apparatus and "moral injury" sentiments,[6] to one of personal ownership where clinicians' hearts and minds are actively engaged and where they are encouraged, enjoy, and are rewarded for daily efforts to improve quality.
9. Speaking up	How to design, reinforce, operationalize, and reward a culture of speaking up when there are diagnostic uncertainties and questions about diagnostic assessments and course	• 180-degree turnaround in humility deficit/monopoly held by doctors as exclusive and unchallengeable source of diagnostic knowledge • Broaden to include nurses, pharmacists, lab, and especially patients and family members.
10. Shared decision-making support	Need for tools to better guide informed conversations about screening (for example, cancer) and other diagnostic evaluation conversations	• Enhanced graphic representations of screening benefits and harms to help guide clinicians and patients in understanding nature, magnitude, and relevance of tests[7]
11. EMR redesign to support cognition	Visual display, data visualization, workflow redesign to support more useful/institutive/integrated/efficient cognition	• Serious efforts to advance state of the art in the 10 domains for HIT to support diagnosis that we previously outlined and found paucity of efforts and evidence[8] • Key areas include aids to facilitate information gathering, enhanced display of information, differential diagnosis generation, Bayesian calculators, access to reference information and guidelines, screening reminders/trackers, and real-time consultation tools.[8]
12. Open notes	Leverage power of patients (and families) to review clinician notes and diagnostic assessments to better understand their diagnosis, clinicians' thinking, plan for follow-up, and contingencies, coupled with encouraging/facilitating patients in critically assessing these assessments.	• Formally incorporate patient review of open notes into post-visit follow-up steps for each clinical encounter. • Requires redesign of notes to optimize their readability/usability by patients. • Requires providing clinicians more time/efficiencies to optimally craft such redesigned notes (added time after each encounter to dictate/write), review patient feedback, and more meaningfully use these notes to enhance decision making on diagnosis and plans.

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Table 1. (*continued*)

Diagnosis Improvement Domain	Description	Change Ideas Ways/How Might Better Approach
13. Linking symptoms-lab-pharmacy data	To ensure that lab signals of a potential medication-related adverse event or symptom(s) are recognized/diagnosed in more timely ways	• Automated flagging of any active symptoms or lab abnormalities that could be due to known or potential drug etiologies related to medications patients are taking
14. Failure to consider	Intelligent, automated prompts to support clinicians in generation of differential diagnosis and/or suggest diagnosis they may have overlooked	• Enhanced differential diagnosis generators that are more integrated in workflow and more helpful in prioritizing most likely and critical diagnoses (rather than display a long undifferentiated list)
15. Upstream feedback	Ensuring that individual clinicians who initially saw and assessed patients systematically receive feedback from "downstream" encounters, especially related to any missed/revised diagnoses	• Automated systems that permit prior encounters' clinicians to calibrate their diagnosis based on subsequent course/revisions • Features to allow downstream MDs to check a box when missed/misdiagnosis uncovered, that would automatically feed back
16. Sharing error/delay cases and lessons	Need to provide "safe spaces" to safely share and discuss diagnostic error cases. This includes methods for identifying such cases, productively reviewing and discussing opportunities for improvement, and widely sharing/aggregating in standardized/structured/protected ways across institutions.	• In Massachusetts, we have implemented protected discussions hosted by state public health safety agency (PRIDE Project, under aegis of the Betsy Lehman Center) to collect, review, and share cares.[9] • Creation of consensus guidelines for standardized interoperable ("synoptic") format for collecting and widely disseminating deidentified diagnostic error cases and lessons
17. Accessing/leveraging HIT data	Overcoming widespread frustrations of clinicians, clinic leaders, QI staff in easily obtaining data/reports/encounter notes for improvement	• Institutions need to radically streamline governance, technical capabilities and ease for clinician-driven reporting, trigger-based searches, tracking metrics, and facilitated chart review (see example of streamlined chart review tool)[10]
18. Diagnostic pitfalls	Creating awareness of diagnosis-specific pitfalls, we define as recurring patterns of, or vulnerabilities leading to, wrong or delayed diagnosis Need database/lists of common pitfalls, helping clinicians to be reminded, weigh their likelihood and risks, thereby building situational awareness of pitfalls into clinical workflows and patient education.	• Collation and curation of lists of diagnosis-specific, as well as generic pitfalls • Reminders in EMRs to consider/avoid these pitfalls at context-relevant points in workflow for specific diagnoses or symptoms • Iterative learning systems and refinement (using specialists' input, AI) to continuously evaluate lists of pitfalls as well as generate new ones that arise
19. Psychiatry-medicine interfaces Medically unexplained symptoms	How to achieve reliable, respectful, realistic, supportive, nondismissive diagnosis for patients with chronic mental health issues; that avoid overlooking medical diagnoses Addressing challenges of medically unexplained symptoms	• Systems to ensure supportive mutually knowledgeable and trusting relationships • More formal recognition of challenges of sorting signal (of missed/serious medical diagnosis) vs. noise from chronic suffering from other causes and stresses • Efforts to err on side of "hearing" rather than dismissing patient concerns, while avoiding unnecessary and potentially harmful testing

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Table 1. (*continued*)

Diagnosis Improvement Domain	Description	Change Ideas Ways/How Might Better Approach
20. Access barriers	Ensuring timely access to care for phone and/or in-person encounters Countering effects of lack of insurance, high copays and deductibles in discouraging timely care/diagnosis and primary care continuity	• Patient empanelment[11] coupled with 24/7 phone and timely appointment access • Eliminating financial barriers to care; use of other more effective and equitable mechanisms to promote more appropriate utilization • Ensuring that continuity of care is not disrupted by job change, insurance plans
21. Conservative diagnosis	Ensuring that efforts to not miss diagnoses do not lead to unnecessary, harmful testing and overdiagnosis[3,12]	• Integrating a series of principles that demonstrate ways over- and underdiagnosis are not competing opposites but rather two sides of same coin • Strengthening primary care relationships, understanding testing harms, linkages between diagnosis and treatment[5]

SOAP, subjective, objective, assessment, plan; EMR, electronic medical record; IT, information technology; HIT, health information technology; QI, quality improvement; PRIDE, Primary-Care Research in Diagnosis Errors; AI, artificial intelligence.

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ing in prescribers not knowing what drugs have actually been dispensed by pharmacies and pharmacies not knowing when drugs are discontinued by physicians, inadequate monitoring of patients prescribed medications (including adverse effects and adherence), and failure of prescribing systems to help prescribers know the drug of choice for a particular indication.[17,27,28]

One change we have been advocating is indications-based prescribing. Instead of starting a CPOE prescription by ordering a drug as is currently done, we propose entering the indication and letting the computer help select the best drug and dose. The computer already knows the patient's age, renal status, prior drugs tried and failed, and insurance coverage. More important, the computer would know the evidence-based guidelines regarding drugs of choice. Thus starting a prescription by entering the indication would allow for true decision support to flexibly guide selection of the best drug regimen, and would also capture the indication so it could be printed on the medication bottle label—something pharmacists and patients have been requesting for decades.[29] We designed an indications-based prescribing system prototype and compared it with the two leading CPOE systems (Epic, Cerner) and demonstrated it was safer, faster, and greatly preferred by the prescribers.[15]

Much of your recent work has focused on the quality and safety of the diagnostic process. What was it about diagnostic errors that interested you? How would you compare and contrast efforts to improve diagnostic safety with efforts to improve medication safety?

We realized that, just like with medication errors, if you can delineate the steps in the diagnostic process you can begin to identify the vulnerabilities and failure modes at each step. This is what led to the DEER (Diagnostic Error Evaluation and Research) taxonomy.[30] In 1998 the Institute for Safe Medication Practices (ISMP) investigated a Denver hospital where newspaper headlines reported the hospital's nurses had "killed" a newborn by giving a 10-fold fatal overdose of IV penicillin in 1996. The local district attorney charged the three nurses involved in the error with criminally negligent homicide. Using their process-oriented taxonomy as a lens to understand the error, ISMP found a very different picture.[31] Examining each step (prescribing, transcribing [this was prior to CPOE], dispensing, and administering), they found dozens of process errors and system failures at each step, including that the treatment itself was not necessary in the first place! (The Spanish-speaking mother had already been treated with penicillin, thus there was no need to treat the infant.)

In the DEER project we decided to borrow ISMP's medication safety approach in evaluating potential diagnostic errors. We delineated the steps in the diagnostic process (access, history, physical exam, lab testing, assessment, referrals, follow-up) and examined what could go wrong at each step. Based on a review of hundreds of potential diagnostic error cases, we developed the DEER taxonomy. But, as proud as we are to have made this contribution, I must confess this taxonomy was actually (at least in its origins) more of a retreat than a confident step forward. When the DEER investigators met each week to review cases in an attempt to understand their causes and ways to prevent the errors, we faced real challenges. We had trouble agreeing whether there was an error, or even what the correct diagnosis was and whether/when it should have been made sooner.[9] So we decided to step back to at least try to localize what went wrong in the diagnostic process.

So, for me, the origins and connections between medication safety and diagnosis safety run deep. Being able to work in both areas, cross-fertilize what we learned, and see the interactions between drugs and diagnosis has been a real privilege (Appendix 1, available in online article). One of the commonalities was the power—I'd say magic—of what you can learn and do when you remove blame. Instead of people being defensive or pointing fingers at someone else, everyone can roll up their sleeves and try to learn as much as possible about what happened, why, and how it can be prevented. Another powerful connection is the role of health informatics in causing and preventing both types of errors.

Many of your recent papers have focused on the electronic medical record (EMR) and HIT issues. Do you think HIT has improved patient safety to this point? How do you see this evolving? If you could wave your magic safety wand, what three things about your EMR would you change?

Electronic prescribing has definitely made prescribing safer. Likewise, electronic clinical documentation has great potential to help us make better diagnoses.[18–20] But in both cases we have fallen far short of realizing HIT's potential. So I would say is it a work in progress.[16] Back in 2010, David Bates and I listed 15 ways the EMR should be redesigned to better support diagnosis.[18] There has been relatively little progress in either transforming the EMR in the ways we described or modifying screens and workflows to be better able to use these potentially high-leverage features.[20]

One definition of a magic wand is a simple solution to a difficult problem. I want to be on record in acknowledging that many of these seemingly simple redesign solutions we offer are not that simple. Indications-based prescribing requires an up-front consensus about drugs of choice (though that's better than millions of prescribers concocting their own ad hoc choices every day) and disentangling the subtle conceptual and coding thickets related to the difference between a "diagnosis" and an "indication."[29] And leveraging the diagnosis-enhancing potential of electronic documentation will require coming to grips with the widespread use of scribes and the resulting changes in the ways physicians do, or do not, interact with the computer during the clinical encounter.

But there is one magic wand I would wave—real-time IT support for clinicians. Akin to Toyota's "stop the line" practices, any time a clinician is confused, is frustrated, gets an erroneous or troublesome alert, or has difficulty carrying out a task in his or her EMR, someone should be instantly on the line (by phone, or ideally on the screen) to help. The way this help should work is that the user would first show the support person what he or she had done to try to make the EMR behave to accomplish the desired task. No more "all you had to do is xyz," (rarely obvious in our nonintuitive systems). Rather the support person should record those attempted steps to take back to the organization and vendors' human factors engineers to continuously analyze, collate, and learn from the collective frustrations of EMR users. Aggregated data from these help desk calls should be made publicly available, transparent, and accountable for researchers, regulators, and consumers. We collected help desk data and safety reports related to electronic prescribing and found a wealth of questions and frustrations that had safety implications.[32] The purpose of this type of transparent, accountable learning system isn't just to make doctors happier or less frustrated; it is to redesign the systems to make them safer and more efficient for everyone. Done

right, this magic wand multiplies to 3 or even 3,000 magic wands.

What do you see as the most encouraging progress made in the field of patient safety? And what aspects of trying to improve safety have proved to be the most frustrating for you personally?

The most encouraging, and I would like to think enduring, accomplishment of the patient safety movement is creating greater transparency, legitimacy, and institutionalization of safety. In the early days, raising problems was generally met with resistance, defensiveness, secrecy, and even finger-pointing back at the messengers for rocking the boat or unnecessarily exposing the organization to malpractice claims. There was a culture of burying rather than sharing our mistakes. A turning point came in 2001 when The Joint Commission began to require disclosure of unanticipated outcomes of care.[33] People like Lucian Leape, Tom Gallagher, Steve Kraman, Rick Boothman, and, in Massachussets, Ken Sands and our PROMISES team helped hospitals and offices operationalize apology and disclosure programs.[34–36] There is no turning back. We are currently working with AHRQ to develop a tool physicians' offices can use to self-measure their outpatient diagnosis safety practices and culture, something I believe is an important and needed step forward.[37,38]

The most discouraging thing about our safety efforts is the failure to more meaningfully engage frontline staff (such as physicians, nurses, pharmacists, and others). Many perceive quality and safety activities as perfunctory, box checking, additional burdens, and mindless annual certifications, rather than what should be the most joyful, rewarding, and strongly supported part of their work. Why isn't there as much, if not more, satisfaction in and support for taking care of the system and our future patients as there is in caring for the individual patient in front of us today? It is this alienation from the QI enterprise that so bothered Avedis Donabedian, who deplored "managerial" rather than "participatory" approaches to quality.[39] This was also recently highlighted by Don Berwick, who describes how he changed his mind about quality programs that place metrics at the center of quality activities, rather than in their rightful place as tools to empower those working in the system to learn and improve their own work.[40] The cynicism-breeding effects of managerial approaches ultimately corrupt the QI mission and squander its most valuable asset—the hearts and minds of health care workers.

What does winning the Eisenberg Award mean to you personally, and what do you feel it says about your efforts to improve health care quality and patient safety?

It has been a special privilege for me to bring the three decades of learning, insights, and experience I had at Cook County Hospital to Harvard. I realize this is the reverse of the usual academic construct! Yet I learned so much from my patients, the dedicated staff, and quality advocates at County about system errors, engagement, compassion, advocacy, humility, and personally connecting with our patients, that I felt I had a lifetime of knowledge and relationships to draw on. Coming to Boston (the Center for Patient Safety Research at Brigham and Women's Hospital; Harvard Medical School Center for Primary Care) to work for the past decade with many of my lifelong heroes in quality, safety, and health reform, likewise has been a privilege for which I am grateful.

Although some might consider me a political radical (I am a longtime supporter of single-payer health insurance,[41] which is now needed more than ever), I am proud to have helped stake out fundamental principles of what it means to be more *conservative* in the way we use medications and diagnostic testing.[42,43] Nobel prizes are given annually for breakthrough discoveries in basic sciences. However, preventing widespread indiscriminate misuse of the "latest and greatest" technologies that lack evidence of benefit and/or are harming patients can potentially save many more lives. It is nice to have an award recognizing this. We are also pleased that the IHI [Institute for Healthcare Improvement] Open School has recognized the importance of conservative prescribing and has just gone live with an Open School course that we helped prepare devoted to teaching conservative prescribing principles.

Many of your colleagues describe you as being passionate about providing health care that is highly personal and say that your relationships with your patients are unique. At a time when health care seems to be moving inexorably in the direction of dehumanizing patient care relationships, how can we reestablish the human connection?

Thank you for this question, which feels like a perfect way to conclude our conversation. I had not planned to have clinician-patient relationships as one my areas of quality and safety research; it was thrust on me by a series of events calling into question my own behavior and care for my primary care patients.[44] I had assumed that applying QI principles in very personal ways to my everyday care was part of putting into practice the type of patient-centered care the Institute of Medicine (IOM) advocated in their landmark *Crossing the Quality Chasm* report.[45,46] The IOM proposed 10 new rules to guide patient-clinician relationships that emphasize care based on continuous healing relationships and responding to patients' preferences, values, and needs. For me, that meant genuinely knowing my patients and, where needed, going the extra mile to help them, even if that meant stepping out of the traditional doctor role of making diagnoses or writing prescriptions. It means on rare occasions helping them pay for medicines or a ride home; visiting them at their homes; helping them get a job; sharing music; attending weddings, graduations, bar-mitzvahs, or funerals. Although it's necessary to be mindful of bound-

ary issues and power disparities, such human relationships would seem to be an essential part of good-quality care. Yet it turns out this touches a raw nerve in medicine related to real controversies, which we have explored in recently published research.[47] There is a clash between rules that rigidly proscribe certain behaviors, and what I would argue is a more ethical, commonsense approach that weighs risks and benefits and takes into consideration the context of our actions. To rehumanize medicine, we will need to put the patients, not the rules, at the center. If we are guided by a sense of social solidarity,[48] this can bring us closer to our patients, while giving more meaning to and energizing our work. I believe John Eisenberg wouldn't want it any other way.

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SUPPLEMENTARY MATERIAL

Supplementary material associated with this article can be 490 found, in the online version, at doi:10.1016/j.jcjq.2020.04.008.

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