Commentary

A 'Period of Maladjustment': Addressing the Novel Dilemmas Presented by the Modernization of Health Care

Catherine V. Caldicott, MD, FACP

ABSTRACT: Rapid changes in the medical practice environment pose novel ethical challenges for clinicians. As during any time of great innovation, unanticipated conflicts, problems, or ethical questions may arise, creating a "period of maladjustment" between the introduction of the innovation or technological advancement and the point at which society achieves consensus on the appropriate use of that innovation or advancement. This article reports examples of physicians and physician assistants who exercised poor judgment — often in the absence of systems or structural supports — when faced with novel ethical dilemmas involving advancements such as electronic health records, social media, medical marijuana certification, and access to an international marketplace for drugs and devices. It suggests areas for intervention for licensing boards, educators, and other oversight entities that may better equip licensees to address these novel ethical dilemmas. Finally, because the primacy of patient welfare cannot be the responsibility of individual providers alone, this article supports a call to action for organizations to develop structures to support a culture of professionalism dedicated to safeguarding patients, clinicians, and the profession of medicine itself in this new medical environment.

Introduction

The practice of medicine in the 21st century includes therapeutic options, ways of engaging with patients, clinical activities, and professional concerns that were unknown to most physicians and physician assistants (PAs) practicing even less than a generation ago. For example, in 2009, 16% of U.S. hospitals used an electronic health record (EHR), whereas by 2013, roughly 80% of hospitals and office-based practices had adopted some type of EHR.[1,2] Since 1996, it has become legal in 25 states and territories for physicians to certify their patients to use marijuana for multiple medical conditions or as an alternative to opioids.[3] Also since 1996, when the Health Insurance Portability and Accountability Act was signed into law, physicians have had to learn new standards of conduct concerning accessing medical records and using their electronic signatures.[4] The use of social media is growing: A QuantiaMD survey of more than 4,000 physicians reported that 87% use a social media website for personal use and 67% use social media for professional purposes.[5] Surveys show that 35% of practicing physicians have received "friend" requests from a patient or a member of their family, and 16% of practicing physicians have visited an online profile of a patient or patient's family member.[6] Patients' expectations of their physicians' use of social media for both clinical and non-clinical purposes can present challenges for maintaining confidentiality and appropriate boundaries while facilitating communication.[7]

Clearly, the practice environment for physicians and PAs is shifting. As during any time of great innovation, unanticipated conflicts, problems, or ethical questions can arise to create a "period of maladjustment." Sociologist William F. Ogburn[8] coined the term "cultural lag theory" to describe the period of adjustment between the introduction of an innovation or technological advancement and the point at which a society achieves consensus on the appropriate use of that innovation or advancement. Rapid changes occurring in medical practice, such as those noted above, pose novel ethical challenges for clinicians who function in their own "period of maladjustment." This article reports contemporary examples of unanticipated dilemmas faced by physicians and PAs who have presented to an ethics remediation program.*

* The PROBE Program, offered by the Center for Personalized Education for Physicians (Denver, CO), is the original ethics remediation program for healthcare professionals. Since 1993, over 2000 participants have been mandated to attend by licensing boards, hospitals, professional schools, and attorneys from 48 U.S. states and eight Canadian provinces.

These examples demonstrate areas in which organizational structural supports would have been helpful as those clinicians navigated novel dilemmas. Implications for state medical boards and other oversight entities include a call to action to better equip licensees to practice ethically in the context of today's rapidly changing clinical environment.

The following case examples are composites, based on actual referrals to an ethics remediation program. In order to preserve anonymity, identifying information has been changed or removed and names are fictitious.

Example: The Electronic Health Record, Part One

Dr. Aspen works one day a week in an outpatient setting that has just implemented an EHR system. Although she attended one EHR training session, her once-weekly schedule did not give her much opportunity to practice using the system. Because she did not want to burden her busy colleagues with her technical questions or give the practice administrator the impression she could not function independently, she decided to teach herself by examining how other providers wrote their patient records. Her unique access code allowed the practice administrator to discover her breach. When she arrived for work the following week, she was informed that she had been terminated from her job for violating the practice's HIPAA policy and would be reported to her state licensing board. The HIPAA violation was the basis for her disciplinary action.

Dr. Aspen explained that she did not mean to violate the confidentiality of the patients whose records she accessed. She simply wanted to learn how their physicians used this particular electronic documentation system. Her intentions were to respect her colleagues' time, to be a self-starter and self-learner, to be precise in her data entry, and to bill accurately. Even though her actions sprang from traits highly valued in physicians, her judgment was impaired. In effect, she was so intimidated by the new system, the practice administrator, and her colleagues' busy schedules, that she never even considered that she was violating patient confidentiality.

DR. ASPEN EXPLAINED THAT SHE DID NOT MEAN TO VIOLATE THE CONFIDENTIALITY OF THE PATIENTS WHOSE RECORDS SHE ACCESSED. SHE SIMPLY WANTED TO LEARN HOW THEIR PHYSICIANS USED THIS PARTICULAR ELECTRONIC DOCUMENTATION SYSTEM.

Example: The Electronic Health Record, Part Two

Dr. Birch is an early career physician, eager to please his new partners and patients. However, he is overwhelmed by the volume of patients, many of whom have multiple complex medical issues. He wants to please his new patients by spending ample time getting to know them, but also realizes he must keep up with his partners' expectations of productivity. These pressures cause Dr. Birch to take short cuts. The rejection of several insurance billings prompts an audit of Dr. Birch's charts, which reveals identical progress notes across multiple visits for several patients.

When questioned, Dr. Birch acknowledges cutting and pasting information from one progress note into another ("cloning"). He believes that cutting and pasting helps him complete his charts efficiently and submit billings on time, which meets the expectations of his practice partners and administrators. He has difficulty understanding the importance of a complete and accurate medical record in the responsible care of patients, as he views medical records as a formality to satisfy attorneys and bureaucrats. Moreover, he is certain he will remember the unique details about his patients when he sees them again.

Although physicians have been sanctioned for medical record-keeping inadequacies long before the adoption of EHRs, the electronic format offers additional conveniences that make violations of the integrity of the medical record possible and easy. Dr. Birch was sanctioned for a violation of his state medical practice act. Both Dr. Aspen and Dr. Birch exercised flawed reasoning when they found themselves in a dilemma. Both believed that, by virtue of being electronic, the medical record system they were expected to use created a solution to their dilemmas. Faced with competing priorities of being a team-player, being self-sufficient, and creating timely notes and billings, these two physicians repurposed the system in a way they felt was justified. Ultimately, and unfortunately, both physicians revealed that they had lost sight of other competing—yet more important—professional obligations.

Example: Medical Marijuana Certification

Dr. Evergreen is a family medicine physician who supervises a PA in a state where certification of patients for the medical use of marijuana is legal.

When the law passed, Dr. Evergreen found his office flooded with new patients seeking certification. The influx was so great that Dr. Evergreen was caught in a dilemma. He felt compassion for all

THE ACT OF WRITING ONE'S SIGNATURE HAS BECOME COMMONPLACE AND MUNDANE. OFTEN PHYSICIANS DO NOT FULLY APPRECIATE THAT BY SIGNING, EITHER IN INK OR ELECTRONICALLY, THEY BOTH FIGURATIVELY AND LITERALLY PUT THEMSELVES 'ON THE LINE.'

those patients who were in pain or for whom medical marijuana may be an alternative to opioids. He deemed them abandoned by their previous physicians and believed they deserved care. However, he also needed to continue to devote time and attention to his existing patients. Dr. Evergreen understood that, in his state, only physicians are authorized to certify patients for medical marijuana. Since he supervises his PA anyway, he reasoned that it would be acceptable to teach her how to assess patients for certification so that she could relieve some of the burden of the increased patient load. He felt he had a good relationship with her and trusted her. Thus, he decided to pre-sign blank certification forms for his PA to issue to patients who, in her judgment, were appropriate for medical marijuana use. For a while, Dr. Evergreen was very pleased, as the practice was thriving and the patients seemed happy. Eventually, Dr. Evergreen and his PA were contacted by their state licensing board as a result of a tip from the Drug Enforcement Agency. The physician was disciplined for violating his state medical board's rules regarding delegation.

Over the years and in a variety of ways, some physicians have ceded to others the power of their professional signatures. An example that is less novel than Dr. Evergreen's is the physician who pre-signs blank prescriptions for his or her staff to efficiently issue medication renewals in the physician's absence. The act of writing one's signature has become commonplace and mundane. Often physicians do not fully appreciate that by signing, either in ink or electronically, they both figuratively and literally put themselves "on the line."[9] In addition, some PAs have been known to accept inappropriate delegation. They may appreciate the trust shown by their supervising physician. They may (even correctly) consider themselves capable of performing the restricted activity. Nevertheless, our national urgency regarding opioid addiction, coupled with the legalization of marijuana for medical use, have created new circumstances where physicians and PAs must be especially scrupulous about practicing within their professional scope and legal authority, while also providing compassionate and efficient patient care. The integrity of our health care system depends on responsible adherence to one's scope of training and expertise as well as safeguarding the power conferred by one's professional signature.

Example: Obtaining Cheaper Drugs and Devices from Canada

Dr. Spruce is an obstetrician-gynecologist practicing in a community where many patients lack health insurance and struggle to make ends meet. She does whatever she can to provide cost-effective care. She was delighted to discover a new on-line Canadian vendor for a brand of intrauterine devices (IUDs) she has used for many years. The new

DR. SPRUCE WAS DUMBFOUNDED. SHE HAD NO IDEA SHE WAS BREAKING THE LAW. ALL SHE WANTED TO DO, SHE EXPLAINED, WAS TO HELP EASE WHATEVER FINANCIAL BURDENS SHE COULD FOR HER PATIENTS.

vendor offered the product at a significantly reduced price. After researching the product and the vendor, she became convinced that it was exactly the same IUD as the one she had been using. Dr. Spruce began ordering IUDs exclusively from the new vendor and was happy to pass the savings along to her patients. The products and their packaging looked identical to those provided by her former vendor. Eventually, the Food and Drug Administration (FDA) contacted Dr. Spruce's state licensing board regarding her violating the law by importing devices intended for foreign markets. The board, in turn, contacted Dr. Spruce regarding her criminal offense.

Dr. Spruce was dumbfounded. She had no idea she was breaking the law. All she wanted to do, she explained, was to help ease whatever financial burdens she could for her patients. She could not understand how what was meant to be a compassionate act could also be illegal. Other physicians have bent rules — either wittingly or unwittingly —

in order to save their patients money. For example, most physicians, PAs, and trainees know by now that writing a prescription in the name of an insured family member rather than in the name of the actual patient constitutes insurance fraud. It also is a falsification that can reverberate through multiple patient medical record errors. However, many clinicians are oblivious to FDA approval status. They are unaware that obtaining drugs and devices that are not FDA-approved for use in the United States constitutes a criminal offense. Further, if insurance companies are billed the U.S. price for a drug or device that was obtained by a physician elsewhere for a lower price, insurance fraud is added to the importing offense. Yet lower priced drugs and devices from other countries are advertised widely to health care providers and the general public. Patients may even ask their physicians about obtaining those items, and physicians may wish to assist them in this way. Physicians risk committing serious mistakes if they remain uninformed about the relevant laws.

Example: The Use of Electronic and Social Media, Part One

Dr. Maple is a trauma surgeon. He often takes intraoperative photographs on his cell phone for his own professional files or educational purposes. Sometimes he posts surgical photographs on his Facebook page with captions that his friends would find humorous or off-color. One day some members of the operating room staff, who are also Facebook friends of Dr. Maple, were observed laughing at his posts about a patient they operated on recently. The observer reported the incident. By the end of the day, Dr. Maple was summoned to the Chief of Staff's office to provide an explanation for those posts. Concerned about Dr. Maple's violation of the hospital's code of conduct, and his poor role modeling for the operating room staff and others, the Chief of Staff initiated the institutional disciplinary process.

"Gallows humor" in medicine has been studied and written about for decades.[10,11] Some contend that humor shared behind closed doors can serve as a safe mechanism for venting stress, coping with tragedies and adverse outcomes, and establishing professional solidarity. Even so, many stakeholders, from medical educators to ethicists to hospital administrators, are concerned that the use of humor among clinicians and trainees can be dehumanizing and unprofessional and taint patient-provider interactions.

Social media does have important and appropriate uses in medical care and practice.[12] However, the now ubiquitous use of social media and smart phones has allowed for rapid and broad dissemination of patient-related images and other information. The use of social media also provides supervisors and administrators with reproducible evidence of a licensee's inappropriate use of patient-related information. By thoughtlessly posting and sharing such material, clinicians risk eroding patient trust and damaging their own reputations and those of their profession and institution. Electronic media makes it easy to lose control over who has access to images and comments. In these situations, the ramifications are more far-reaching than those that existed when insensitive comments and jokes were shared only in real time and in real voices.

Example: The Use of Electronic and Social Media, Part Two

Dr. Oak is a psychiatrist who specializes in treating adolescents. Because teenagers can be forgetful, he reminds them of their upcoming appointments by sending text messages. Sometimes his patients text him when they are having difficulties between appointments. He values meeting his patients' needs and demonstrating his commitment to responsible patient care in this way. Occasionally, some patients text him with sensitive information, including disclosures that they do not want shared with their parents. Others text him frequently at any hour of the day or night. Dr. Oak believes he should respond promptly to all text messages; he is concerned that a lag in his response time may cause a patient to doubt his commitment or support. One day, a patient's mother picked up her daughter's phone and noticed multiple text messages between her and Dr. Oak that occurred very late over several nights. The mother seized her daughter's phone as evidence of an inappropriate relationship with her psychiatrist and reported this to Dr. Oak's state

ONE DAY SOME MEMBERS OF THE OPERATING ROOM STAFF, WHO ARE ALSO FACEBOOK FRIENDS OF DR. MAPLE, WERE OBSERVED LAUGHING AT HIS POSTS ABOUT A PATIENT THEY OPERATED ON RECENTLY. THE OBSERVER REPORTED THE INCIDENT.

licensing board. The board acted based on Dr. Oak's violation of his state medical practice act's provisions regarding the maintenance of appropriate professional physician-patient boundaries.

This scenario exemplifies Dr. Oak's poor understanding of professionalism, appropriate boundaries, and behaviors that threaten patient confidentiality. But

...A PATIENT'S MOTHER PICKED UP HER DAUGHTER'S PHONE AND NOTICED MULTIPLE TEXT MESSAGES BETWEEN HER AND DR. OAK THAT OCCURRED VERY LATE OVER SEVERAL NIGHTS. THE MOTHER SEIZED HER DAUGHTER'S PHONE AS EVIDENCE OF AN INAPPROPRIATE RELATIONSHIP...

the medium of text messages is a critical and integral component to this particular story. Many physicians, practices, and patients appreciate the immediacy of contact via text messages for multiple purposes, such as booking and confirming appointments.[13] And younger patients communicate largely via text messaging. Clinicians like Dr. Oak must remain vigilant and not succumb to the ease and timeliness of communicating with patients in this manner about issues that are more appropriately shared in the office during normal business hours. (Dr. Oak's patients must have a way to reach out and seek help in case of an emergency, which is a separate issue from the one in this scenario.)

Implications and Potential Remedies

This article presents examples of novel dilemmas faced by physicians and PAs that spring directly from some features of the modernization of health care in the United States. Although the issues inherent in the misuse of electronic media, certification for medical marijuana, and obtaining cheaper products from Canada reflect lapses in longstanding bedrock professional and ethical concepts in the practice of medicine, the contexts pose novel challenges that can result in board investigation and sanctions. Such missteps also fall under public scrutiny.

Perhaps the "period of maladjustment" is over for the kinds of advances exemplified here. Perhaps it is now time for licensing boards, educators, administrators, policy makers, professional organizations, and government offices to begin to develop measures to assist otherwise well-meaning and valuable clinicians to recognize and avoid the unique pitfalls of these modernizations. What kind of measures could these stakeholders take? A wide range of structural supports could be developed in several key areas, including education, assessment, licensure and professional/governmental partnerships. The following list offers suggestions.

Education: Widely available and improved educational interventions for trainees and licensees are always worthwhile. In addition to incorporating the kinds of professional ethical challenges described here into existing ethics curricula, there are other measures that may be effective:

- **Faculty role modeling:** Formal education in ethics and professionalism will be ineffective and undermined if trainees lack exemplary role modeling by faculty.[14] Medical colleges, professional programs, and hospitals could adopt a code of conduct for faculty, such as the one developed by the University of British Columbia College of Pharmacy,[15] and include assessment of adherence as a component of a faculty member's annual review. Such a step would underscore institutional and administrative commitment to professionalism, as described in one of the Elements of Performance in The Joint Commission's Leadership Standard to create and maintain a culture of safety and quality.[16]
- **Enrich training programs regarding use of EHR or certification of patients for medical marijuana:** Instruction on the mechanics of these modernizations falls short if it does not also present the ethical dilemmas that can occur and provide tools physicians and PAs can use to exercise sound judgment.
- **Modify continuing education:** Existing courses could be augmented by the inclusion of the complicated ethical dilemmas depicted in the examples above.
- **Employ more rehabilitative alternatives:** When licensees or trainees exercise poor judgment and commit ethical infractions, the default response is often one that resembles retributive justice. By contrast, an approach that regards the errant practitioner as "ethically impaired" could follow the model of physician health programs to treat and rehabilitate rather than punish the "impairment."[17]
- **Revise the language of consent decrees or Medical Practice Acts:** Many professional missteps represent inherent ethical lapses in addition to the more obvious clinical or legal lapses. However,

these ethical lapses typically are articulated in consent decrees as "unprofessional conduct," using the language of Medical Practice Acts. But "unprofessional conduct," an abstract umbrella term, fails to identify the act to be addressed in remediation.[17] Moreover, in the author's experience of working with more than 1,200 health care professionals referred for ethics remediation, many of them do not understand what was unprofessional about what they did to occasion board sanction. An example of alternative language can be found in the approach of some Canadian regulators. While referencing the applicable sections of their provincial Regulated Health Professions Act[18] violated by the licensee, they also provide reasons for their decisions by naming the specific action and the associated lapse in professional obligations (e.g., "an abuse of trust by submitting false or misleading claims"; "this demonstrated a lack of understanding of the principle of informed consent"). Changing the wording of practice acts and the way in which they are administered is an initiative that board members, counsel, and executive directors could take to reconceptualize professional wrongdoing in more useful ways and effect more successful targeted interventions.

Assessment: For more than 25 years, the Observed Structured Clinical Exam (OSCE) has been used to assess competence in addressing clinical ethical dilemmas,[19,20] including in the USMLE Step 2 Clinical Skills component.[21] Recently, the OSCE has been used to assess medical students' use of EHRs.[22] Just as ethical dilemmas have been incorporated into clinical OSCEs, so too can the ethical challenges of EHR use be built into the EHR OSCE scenarios for use by students, residents, and faculty in the context of continuing education.

...IN THE AUTHOR'S EXPERIENCE OF WORKING WITH MORE THAN 1,200 HEALTH CARE PROFESSIONALS REFERRED FOR ETHICS REMEDIATION, MANY OF THEM DO NOT UNDERSTAND WHAT WAS UNPROFESSIONAL ABOUT WHAT THEY DID TO OCCASION BOARD SANCTION.

Conditions for licensure or hire: Coursework or training in certain subjects beyond professional education — such as child abuse and infection control — are requirements for licensure in some states.[23] Similarly, training modules in the responsible use of EHR and social media, a jurisprudence module that incorporates content on the legal complexities of contemporary practice, such as FDA approval of drugs and devices, insurance claims, and certification authority for medical marijuana (where legal), could also be mandated for licensure or hire. Alternatively, states could mandate the achievement of a certain number of continuing education credits in these areas as conditions of license renewal.

Professional-Government partnership: The Coalition for Physician Accountability, which comprises various professional, regulatory, and oversight entities, has approached the Office of the National Coordinator (ONC) for Health Information Technology regarding how the Coalition might help advise the ONC about standards and educational objectives for medical educators implementing EHR in their curricula.[24] The ONC has issued a formal invitation to clinicians, hospitals, and other stakeholders to partner with them to achieve an interoperable health information technology infrastructure by 2024.[25] Taking their lead from the Coalition, other entities, such as professional societies, academic medical centers, and professional education programs, could provide critical contributions to this endeavor.

Reflections and Conclusion

To be sure, other periods of maladjustment have occurred in the past. For example, at one time the iconic little black bag was sufficient to contain all a physician's tools. But after War II, the development of antibiotics, intensive care units, and new clinical subspecialties with their own tools and instruments created new diagnostic and therapeutic possibilities — conditions where patients and clinicians had many choices. Determining the right thing to do could often be challenging. Eventually, in response to this environment, the field of bioethics emerged and offered clinicians and the public ways to examine and reason through the questions about rights and responsibilities presented by those modernizations.

Today, despite educational efforts directed towards the delivery of ethical medical care, many physicians and PAs are stymied by novel challenges. The case examples above are emblematic of how the increasing complexities of modern health care require proportionally more reflection, discernment, and exercising of professional judgment. It may sound paradoxical, but now that the pace of medical care has become so

rapid, it is even more imperative that clinicians take time to reflect, deliberate, double-check, and focus on their professional obligations. Just as the speed-governor on a truck prevents it from traveling too fast, healthcare professionals must govern themselves.

To self-govern is particularly difficult in the modern medical environment, with its cost-consciousness, clinician shortages, and patient illnesses resulting from social problems and inadequate access to basic health care. As depicted in some of the cases above, physicians are socialized to be self-reliant, independent problem-solvers. Thus, when faced with increasing productivity demands, or lacking adequate resources, some are tempted to devise work-arounds and shortcuts. They look to themselves to puzzle-out solutions, many of which are born of social, market, and political forces. It is little wonder that more than half of physicians report at least one symptom of professional burnout.[26] When physicians and PAs commit professional missteps, typically they are held solely responsible for going astray. Although individuals must be held accountable, the system of practice ought to be expected to keep up with the pace of changes and provide an environment in which providers can function well.

TO SELF-GOVERN IS PARTICULARLY DIFFICULT IN THE MODERN MEDICAL ENVIRONMENT, WITH ITS COST-CONSCIOUSNESS, CLINICIAN SHORTAGES, AND PATIENT ILLNESSES RESULTING FROM SOCIAL PROBLEMS AND INADEQUATE ACCESS TO BASIC HEALTH CARE.

Two recent articles suggest that institutional culture and organizational systems are instrumental in physician behavior, particularly in response to the modernization of health care delivery. The first article, by Shanafelt and Noseworthy, points out that "most institutions operate under the erroneous framework that burnout and professional satisfaction are solely the responsibility of the individual physician."[27] By contrast, physician burnout is actually a manifestation of system failures that impede the professional from effectively managing the demands of modern medical practice. It is more accurate and realistic to recognize that individual practitioners and the systems in which they function share responsibility for the integrity of the health care delivered. Moreover, after the publication of the Physician Charter on Medical Professionalism,[28] individual physicians found themselves unable to live up to professional expectations because of structural factors in the health care system. Thus, The Charter on Professionalism for Health Care Organizations was developed in recognition that the primacy of patient welfare is not simply the responsibility of individual providers, but depends on an organizational culture of professionalism.[29]

Thinking about a call to action for health systems and organizations allows us to imagine environments in which positive role modeling will be supported, time for educational interventions will be allocated, and ethical missteps will be treated as impairments appropriate for rehabilitation, as proposed above. Perhaps the use of an incident decision tree model, such as that employed by the National Health Service in the UK,[30] could assist institutional leaders to identify structural supports that would enable clinicians to anticipate untoward consequences of particular actions and develop a range of more professionally defensible, substitute alternatives. In our new medical environment, increasingly impacted by novel and unanticipated conflicts, problems and ethical questions, individual practitioners and the systems in which they function must join together to hold themselves accountable in the interest of safeguarding patients, clinicians, and the profession of medicine itself. ■

THINKING ABOUT A CALL TO ACTION FOR HEALTH SYSTEMS AND ORGANIZATIONS ALLOWS US TO IMAGINE ENVIRONMENTS IN WHICH POSITIVE ROLE MODELING WILL BE SUPPORTED, TIME FOR EDUCATIONAL INTERVENTIONS WILL BE ALLOCATED, AND ETHICAL MISSTEPS WILL BE TREATED AS IMPAIRMENTS APPROPRIATE FOR REHABILITATION.

About the Author

Catherine V. Caldicott, MD, FACP, is a faculty member and consultant with Professional Boundaries, Inc. (PBI), which provides educational programs to numerous professions, regulatory agencies and licensing boards, medical facilities and practices, governmental agencies, and the military.

Note: This manuscript was prepared largely while Dr. Caldicott was the Program Director of the Professional/Problem-Based Ethics (PROBE) Program offered by the Center for Personalized Education (CPEP) in Denver, CO.

References

1. Furukawa MF, et al. Despite Substantial Progress in EHR Adoption, Health Information Exchange and Patient Engagement Remain Low in Office Settings. Health Aff. August 2014, doi 10.1377/hlthaff.2014.0445
2. Jayanthi A. 10 Biggest Technological Advancements for Health Care in the Last Decade. *Becker's Hospital Review*. January 28, 2014. http://www.beckershospitalreview.com/healthcare-information-technology/10-biggest-technological-advancements-for-healthcare-in-the-last-decade.html Accessed September 2, 2016.
3. FSMB Workgroup on Marijuana and Medical Regulation. Model Guidelines for the Recommendation of Marijuana in Patient Care. Policy adopted April 2016. https://www.fsmb.org/Media/Default/PDF/BRD_RPT_16-2_Marijuana_Model_Guidelines.pdf. Accessed November 1, 2016.
4. HIPAA History. http://www.hipaajournal.com/hipaa-history/ Accessed September 2, 2016
5. Modahl M, Tompsett L, Moorhead T. Doctors, patients, and social media. 2011. www.quantiamd.com/q-qcp/DoctorsPatientSocialMedia.pdf. Accessed February 15, 2017.
6. Bosslet GT, Torke AM, Hickman SE, Terry CL, Helft PR. The patient-doctor relationship and online social networks: results of a national survey. *J Gen Intern Med.* 2011;26(10):1168-74.
7. Farnan JM, et al. Online Medical Professionalism: Patient and Public Relationships: Policy Statement From the American College of Physicians and the Federation of State Medical Boards. *Ann Intern Med.* 2013;158(8):620-627. doi:10.7326/0003-4819-158-8-201304160-00100. Accessed September 2, 2016.
8. Ogburn William F. Social change with respect to cultural and original nature. New York NY: B. W. Huebsch, Inc.; 1922.
9. Vedantam S. Do E-Signatures Change How People Think of Documents? National Public Radio broadcast October 22, 2015. http://www.npr.org/2015/10/22/450769874/do-e-signatures-change-how-people-think-of-documents. Accessed November 1, 2016.
10. Caldicott CV, Stern DT. "Turfing" Narratives and the Ideology of Residency. *Acad Med.* 1997;72(10):S54-6.
11. Berk R. Derogatory and cynical humour in clinical teaching and the workplace: the need for professionalism. *Med Educ.* 2009;43:7-9.
12. Ventola CL. Social Media and Health Care Professionals: Benefits, Risks, and Best Practices. *P&T.* 2014;39(7):4991-9, 520.
13. Honigman B. 24 Outstanding Statistics on How Social Media Has Impacted Health Care. https://getreferralmd.com/2013/09/healthcare-social-media-statistics/. Accessed November 1, 2016.
14. Cederberg RA, Valenza JA. Ethics and Electronic Health Record in Dental School Clinics. *J Dent Educ.* 2012;76(5):584-9.
15. University of British Columbia Faculty of Pharmaceutical Sciences Code of Conduct (rev 2013-08-28). https://pharmsci.ubc.ca/sites/pharmsci.ubc.ca/files/Web_UBCPS%20Code%20of%20Conduct_0.pdf. Accessed January 11, 2017.
16. The Governance Institute. Leadership in Healthcare Organizations: A Guide to Joint Commission Leadership Standards. Winter 2009. https://www.jointcommission.org/assets/1/18/WP_Leadership_Standards.pdf. Accessed January 11, 2017.
17. Caldicott CV, d'Oronozio JC. Ethics Remediation, Rehabilitation, and Recommitment to Medical Professionalism: A Programmatic Approach. *Ethics Behav.* 2015;25(4):279-96.
18. Regulated Health Professions Act, 1991, S.O. 1991, c. 18. www.ontario.ca/laws/statute/91r18. Accessed January 12, 2017.
19. Cohen R, Singer PA, Rothman AI, Robb A. Assessing competency to address ethical issues in medicine. *Acad Med.* 1991;66:14-5.
20. Singer PA, Robb AK. The Ethics OSCE: Standardized Patient Scenarios for Teaching and Evaluating Bioethics. Produced by EFPO (Educating Future Physicians for Ontario) 1994. http://www.spp.utoronto.ca/sites/default/files/resources/ethics_osce.pdf. Accessed January 9, 2017.
21. USMLE Step 2 Clinical Skills (CS) Content Description and General Information. March 2016. http://www.usmle.org/pdfs/step-2-cs/cs-info-manual.pdf. Accessed January 9, 2017.
22. Biagioli FE, *et al.* The Electronic Health Record Objective Structured Clinical Examination: Assessing Student Competency in Patient Interactions While Using the Electronic Health Record. *Acad Med.* 2017;92(1):87-91.
23. Office of the Professions License Requirements. http://www.op.nysed.gov/prof/med/medlic.htm. Accessed January 11, 2017.
24. Chaudhry HJ. Federation of State Medical Boards. http://www.physicianaccountability.org/pdf/Signed_HIT_letter.pdf. Accessed January 11, 2017.
25. The Office of the National Coordinator for Health Information Technology. Connecting Health and Care for the Nation: A 10-Year Vision to Achieve an Interoperable Health IT Infrastructure. https://www.healthit.gov/sites/default/files/ONC10yearInteroperabilityConceptPaper.pdf. Accessed January 11, 2017.
26. Shanafelt TD, Hasan O, Dyrbye LN, et al. Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. *Mayo Clin Proc.* 2015;90(12):1600-13.
27. Shanafelt TD, Noseworthy JH. Executive Leadership and Physician Well-being: Nine Organizational Strategies to Promote Engagement and Reduce Burnout. *Mayo Clin Proc.* 2017;(92)1:129-46.
28. American Board of Internal Medicine Foundation; American College of Physicians-American Society of Internal Medicine Foundation; European Federation of Internal Medicine. Medical professionalism in the new millennium: A Physician Charter. *Ann Intern Med.* 2002;136:243-6.
29. Egener BE, Mason DJ, McDonald WJ, et al. The Charter on Professionalism for Health Care Organizations. *Acad Med.* 2017. doi: 10.1097/ACM.0000000000001561
30. Meadows S, Baker K, Butler J. The Incident Decision Tree: Guidelines for Action Following Patient Safety Incidents. https://www.ahrq.gov/downloads/pub/advances/vol4/meadows.pdf. Accessed November 21, 2017.