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Rachel B. Ramoni, Muhammad F. Walji, Joel White, Denice Stewart, Ram Vaderhobli, Debora Simmons and Elsbeth Kalenderian

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GUEST EDITORIAL

From good to better

Toward a patient safety initiative in dentistry

Betterment is a perpetual labor. The world is chaotic, disorganized, and vexing, and medicine is nowhere spared that reality. To complicate matters, we in medicine are also only human ourselves. We are distractible, weak, and given to our own concerns. Yet still, to live as a doctor is to live so that one's life is bound up in others' and in science and in the messy, complicated connection between the two. It is to live a life of responsibility. The question, then, is not whether one accepts the responsibility. Just by doing this work, one has. The question is, having accepted the responsibility, how one does such work well.

Atul Gawande[1]

By committing to a dental patient safety initiative, we, as a profession, can make dental care safer and better.

Rachel B. Ramoni, DMD, ScD; Muhammad F. Walji, PhD; Joel White, DDS, MS; Denice Stewart, DDS, MHSA; Ram Vaderhobli, DDS; Debora Simmons, PhD, RN, CCRN, CCNS; Elsbeth Kalenderian, DDS, MPH

Dentists, like physicians, routinely perform highly technical and risky procedures in complex environments, work in teams and use a multitude of devices and tools.[2] Health care is considered one of the least safe industries—much less safe than the aviation and oil and gas industries[3]—and less safe than regulated activities such as driving.[4,5] Dentistry has seen several documented deaths,[6] including, late in 2011, the death of a 17-year-old whose heart rate and blood oxygen dropped to fatally low levels during third-molar extraction.[7] Furthermore, even less grave events, such as the extraction of the wrong tooth, affect the quality of care.[8] It is documented that reported errors in medicine are fewer than the actual occurrences[9]; this also may be true in dentistry.

Yet, the patient safety and quality revolution that has established itself worldwide in medicine has not yet taken hold in dentistry.[10] We must have the courage to commit to change. Our medical colleagues blazed this trail.[11-14] More than a decade ago, the Institute of Medicine's Committee on Quality of Health Care in America released two reports, To Err Is Human: Building a Safer Health System[4] and Crossing the Quality Chasm: A New Health System for the 21st Century,[15] which emphasized the importance of transformational reform in the health care system and that changes around the margin would be inadequate.

WHERE WE ARE TODAY: RISK MANAGEMENT, QUALITY ASSURANCE AND QUALITY IMPROVEMENT IN DENTISTRY

Risk management is the overwhelming focus of dental quality initiatives.[16] This focus is understandable, given that dentists are second only to physicians in terms of number of reports to the National Practitioner Data Bank, which collects malpractice and other disci-

plinary reports.[17] This defensive risk management approach, however, can obscure the opportunity for dental care providers to be proactively engaged in quality and safety initiatives. There are only a few published reports regarding quality assurance activities in dentistry.[16] Quality assurance involves the comparison of actual processes, outcomes or both with predefined criteria—for example, achieving 100 percent compliance with the logging of radiographs. Although it is important, quality assurance is status quo–oriented, ensuring that standard work is done consistently. By contrast, quality improvement focuses on betterment, designing systems to be safer, more efficient and more patient centered.

The Harvard Medical Practice Study involved the review of more than 30,000 patient hospital records of 51 acute care, nonpsychiatric hospitals in New York State in 1984.[18] This first large population-based study in which investigators explored the extent of serious medical injury caused by medical treatment showed that 3.7 percent of patients had an adverse event or injury caused by treatment—nearly two-thirds of which were caused by errors. As such, this study held a mirror up to the medical profession, demonstrating a "substantial amount of injury to patients from medical management."[18] This work was the catalyst for the patient safety and quality revolution in medicine. Twenty years have passed since the publication of this study. We should not allow another year to pass before dentistry follows in medicine's footsteps. As safety is the first step in quality improvement,[4] it will be the natural focus for dentistry's nascent quality improvement initiative.

THE ROAD AHEAD: A DENTAL PATIENT SAFETY INITIATIVE

Nearly 10 years ago, the Agency for Healthcare Research and Quality (AHRQ) of the U.S. Department of Health and Human Services proposed a four-element patient safety initiative to minimize patient safety hazards. This model provides a useful framework for dentistry to "identify, understand, and reduce the risk of harm associated with medical errors and health care system–related problems."[19] Each element of this model, described below, can be applied in dentistry.

Element 1: Identifying threats to patient safety. To satisfy this element, the profession must conduct the fundamental work of identifying errors and causes of patient injury associated with the delivery of dental care. Although errors in dentistry may overlap errors in medicine to some degree, our profession certainly has a set of errors unique to it. Existing resources—such as the U.S. Food and Drug Administration's (FDA's) Manufacturer and User Facility Device Experience database,[20] which contains reports of adverse events associated with medical devices—will provide some information. However, no existing resource captures the full breadth of the dental practice. Two approaches that have proven successful in medicine are adverse event reporting systems (AERSs)[21] and focused chart reviews.[22,23]

Collecting data regarding patient safety risks. *AERS.* An AERS provides the infrastructure for aggregating information about adverse events and near misses. One example of an AERS is MedWatch (www.fdable.com/basic_query/aers), a database maintained by the FDA to gather information related to pharmaceutical-associated adverse events. AERSs are useful for identifying errors that occur too rarely for individual practices to detect. Reporting to these systems often is done under the rubric of a patient safety organization, which protects against the use of this information in criminal, civil, administrative or disciplinary proceedings.[24] Most dentists (59.8 percent) work as solo practitioners[25] and therefore stand to benefit from knowledge sharing. In the absence of an infrastructure that facilitates sharing information about adverse events and near misses across practices, however, there still is great value in tracking adverse events and near misses within a practice of any size.

Focused chart reviews. In addition to prospective data reporting, a practice may benefit from retrospective chart review. One time-tested approach is to select charts randomly for review. However, our colleagues in medicine have found that a more focused review based on the presence of "triggers" is likely to yield more informative charts.[26] Triggers, such as a positive blood culture, are characteristics associated with the presence of an adverse event.[27] Dental practices could focus their efforts better if armed with a set of dental-specific triggers.

A culture of safety. One catalyst for this work might be a set of "never events"—that is, events that never should happen in a dental care setting. Within medicine, the National Quality Forum[28] defined a set of 28 such events that have formed the basis for mandatory reporting systems within some states.[10] Some of medicine's never events, such as wrong-site surgery, are generalizable, but

the dental profession would benefit from a list tailored to care provided in the dental setting.

Reporting adverse events and near misses that occur on our watch requires trust and an understanding that every team member should contribute to patient safety. Experience in a range of fields, from the nuclear industry[29] to medicine,[30] has demonstrated that effective reporting of errors will happen only if there is a robust culture of safety, which shifts the focus from blame to a commitment to improvement. It also is important that all team members feel empowered to speak up, as safety demands a culture in which communication does not depend on hierarchy. As noted by the Institute of Medicine, "For the leaders of health care teams, it requires learning leadership behavior that encourages and expects all members of the team to internalize the need to be alert to threats to patient safety and to feel that their contributions and concerns are respected."[4]

Thus, an important first step toward achieving Element 1 is to assess and strengthen the patient safety culture within one's own organization. AHRQ developed the Medical Office Survey on Patient Safety Culture (MSOPS) to address this need within outpatient settings. The MSOPS has been validated by means of an in-depth process[31] and has been adapted to the dental office setting.[32]

Element 2: Identifying and evaluating effective patient safety practices. Once information is gathered about an error, efforts should be made to identify its cause(s) so that evidence-based safety practices can be implemented. Again, dentistry is positioned to benefit from the work done in medicine. Two approaches that have been used in medicine are root-cause analysis and health care failure mode and effect analysis (HFMEA).

Root-cause analysis. Root-cause analysis[33] is a retrospective examination of an adverse event or near miss that has occurred; the investigator systematically attempts to identify what happened, why it happened and what can be done to prevent it from happening again. The objective is to find the root, or underlying, cause of the event or near miss. The results of a root-cause analysis guide and direct changes in processes, the environment and human behavior to reduce the probability of reoccurrence. Thus, an essential part of completion of the root-cause analysis is to determine whether these changes have led to a reduction in the associated adverse event or near misses.[34]

HFMEA. HFMEA is a prospective effort to evaluate a health care process to identify vulnerabilities.[35] The focus of the HFMEA is defined on the basis of information regarding the prevalence and severity of adverse events or patient risk factors[35]—for example, a patient reporting for implant surgery who requires presurgical medication and has not taken it.[36] A team then constructs the process that may lead to the event. Often, the target process will have to be specific, such as the step during which the clinical team records all of the patient's currently received medications.[36] Failure modes for this step might include the team's forgetting to ask the patient about medications, the patient's not recalling or misreporting his or her currently received medications, the team's failing to record the medication list in the patient's record and the team's recording the medication list in an incorrect patient record. Armed with this information, the health care team could prevent these failures before they happen.

Element 3: Educate, disseminate, implement and raise awareness. We, as a profession, must acknowledge that dental care is inherently risky and that each of us within the dental care community has a role to play in protecting his or her patients. Patients and the profession win when an individual or organization shares lessons learned about identifying and reducing risks to patient safety. From these experiences, we will be able to identify best patient safety practices and formulate guidelines, all of which we should bring into our practice settings.

Within medicine, there are examples of how a patient safety community can emerge. Since 1975, the Institute for Safe Medication Practices[37] (ISMP) has conducted a voluntary practitioner reporting program to help clinicians learn about medication errors, understand their causes and share lessons learned. The Institute publishes the ISMP Medication Safety Alert!, which is distributed to nearly 1 million readers. Medicine also has recognized the role policy can play in encouraging safer practices through entities like The Joint Commission, which accredits health care organizations and programs and the Accreditation Council for Graduate Medical Education, which limits residents' duty hours in an attempt to improve safety.[38]

Within dentistry, The Organization for Safety, Asepsis and Prevention distributes best-practice information in the area of infection control, including a checklist for dental offices based on the Centers for Disease Control and Prevention guidelines for infection control.[39,40] As part of a dental

patient safety initiative, we look forward to a future in which the dental profession is eager to share and implement a comprehensive set of patient safety best practices.

Element 4: Continually monitor and evaluate threats to patient safety to ensure that a positive safety culture is maintained and a safe environment continues. As our opening quote from Atul Gawande[1] states, betterment is indeed a perpetual labor. It is not a destination but a path with many attainable victories along its way. Vigilance in reporting adverse events and monitoring interventions is necessary to ensure that the profession is aware of emerging threats to patient safety and that interventions achieve their objectives.

CONCLUSIONS

Successful implementation of the patient safety initiative will take continuous commitment on the part of all members of the dental care team, iterative betterment, and the generation and sharing of best practices and evidence within our field. By committing to a dental patient safety initiative, we, as a profession, can make dental care safer and better. ■

Dr. Ramoni is an instructor in pediatrics and the executive director, Substitutable Medical Applications, Reusable Technologies (SMArt) Project, Center for Biomedical Informatics, Harvard Medical School, Boston.

Dr. Walji is an associate professor for diagnostic and biomedical sciences, School of Dentistry, University of Texas Health Science Center at Houston.

Dr. White is a professor, Department of Preventive and Restorative Dental Sciences, School of Dentistry, University of California San Francisco.

Dr. Stewart is the associate dean, Clinical Affairs, School of Dentistry, Oregon Health & Science University, Portland.

Dr. Vaderhobli is a clinical assistant professor and the assistant program director, University of California San Francisco/Lutheran Medical Center Advanced Education in General Dentistry Program, Department of Preventive and Restorative Dental Sciences, School of Dentistry, University of California San Francisco.

Dr. Simmons is the director, National Center for Cognitive Informatics and Decision Making, School of Biomedical Informatics, University of Texas Health Science Center at Houston.

Dr. Kalenderian is the chair, Oral Health Policy and Epidemiology, and the chief of quality, Office of Clinical Affairs, Harvard School of Dental Medicine, 188 Longwood Ave., Boston, Mass. 02115, e-mail Elsbeth_kalenderian@hsdm.harvard.edu. Address reprint requests to Dr. Kalenderian.

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LETTERS

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INCOME ANALYSIS

Dr. Marko Vujicic and colleagues' May JADA cover story, "An Analysis of Dentists' Incomes, 1996-2009" (Vujicic M, Lazar V, Wall TP, Munson B. JADA 2012;143[5]:452-460), proved to be focused and timely. The article mentioned many great points and did a great job in bringing the data into constant dollars.

The one area that needs to be more prominent and dealt with head-on is the lack of incorporation of insurance preferred provider organization (PPO) adjustments, maximum plan allowance discounts and the tens of thousands of dollars of pro bono care we all provide.

Those items will, or at least should, be a part of gross billings. In order to know the true impact of these adjustments, one must track them. The adjustments are made in normal accounting methods, and then the practitioner knows what is reality, the net charges.

Starting out of the blocks with "net income defined as gross billings minus total practice expenses" misses what goes on in the dental practice trenches during the present era. A false perception and, worse, inflated numbers result from this approach.

For example, a new dentist starts from scratch and has gross billings of $425,000 within a few years. However, after having to incorporate Medicaid, state children's health plans and all the deeply discounted PPOs in order for him or her to survive, this results in an adjustment of $135,000. Are those numbers going to give a "real" net income, regardless of the office expenses? Unfortunately, this is an all-too-common and true example from the discussions I have had with new colleagues.

I realize some locations around our country may not have to deal with such a dramatic impact of the PPO adjustment numbers or pro bono care, but the focus needs to be on gross collections that are possible. The impact is real, especially during an economic downturn that we are still navigating through.

I feel we need to tighten up this analysis for it to become more relevant, especially for the new dentists. The two simple concepts we might reflect on as a profession and as small businesses are "dollars in" and "dollars out," and if you continually get paid less than what you have to expense and spend to provide that service or treatment, you cannot make it up in volume.

Cal Utke, DDS
President-Elect
Colorado Dental Association
Past Co-Chair
CDA Council on Membership
Colorado Springs, Colo.

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