UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

GORDON SCHIFF and **CELESTE ROYCE**, *Plaintiffs*, v. **U.S. OFFICE OF PERSONNEL MANAGEMENT**; **CHARLES EZELL**, in his official capacity as Acting Director of the U.S. Office of Personnel Management; **U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES**; **ROBERT F. KENNEDY, JR.**, in his official capacity as Secretary of Health and Human Services; **AGENCY FOR HEALTHCARE RESEARCH AND QUALITY**; and **MAMATHA PANCHOLI**, in her official capacity as Acting Director of the Agency for Healthcare Research and Quality, *Defendants*.	Case No. 25-cv-10595-LTS

DECLARATION OF ATTORNEY JOHN LANGFORD

I, John Langford, declare under penalty of perjury that the following is true and correct:

1. I am a Visiting Associate Clinical Professor of Law at Yale Law School and an attorney for Plaintiffs in this action. I offer this declaration in support of Plaintiffs' Motion for a Preliminary Injunction.

2. Attached as Exhibit 1 is a true and correct copy of *About AHRQ*, AHRQ, https://www.ahrq.gov/cpi/about/index.html (last visited Mar. 30, 2025).

3. Attached as Exhibit 2 is a true and correct copy of AHRQ, *Diagnostic Errors*, PSNet (June 15, 2024), https://psnet.ahrq.gov/primer/diagnostic-errors.

4. Attached as Exhibit 3 is a true and correct copy of AHRQ, *Diagnostic Safety Research at the Agency for Healthcare Research and Quality*

https://www.ahrq.gov/sites/default/files/wysiwyg/diagnostic/DiagnosticSafety-flier.pdf (last visited Mar. 30, 2025).

5. Attached as Exhibit 4 is a true and correct copy of Robert Wachter et al., *AHRQ WebM&M—Online Medical Error Reporting and Analysis*, 4 Advances in Patient Safety: From Research to Implementation (K. Henriksen et al., eds., AHRQ) (2005).

6. Attached as Exhibit 5 is a true and correct copy of PSNet, *WebM&M Case Studies,* AHRQ, https://psnet.ahrq.gov/webmm-case-studies (last visited Mar. 30, 2025).

7. Attached as Exhibit 6 is a true and correct copy of Niraj L. Sehgal et al., *Development of a Web-Based Patient Safety Resource: AHRQ Patient Safety Network (PSNet)*, 3 Advances in Patient Safety: New Directions and Alternative Approaches, Performance and Tools (K. Henriksen et al., eds., AHRQ) (2008).

8. Attached as Exhibit 7 is a true and correct copy of Nadine Yehya, *Discover the Latest on Patient Safety and Get CME Credits on PSNet*, U.C. Davis Health (June 28, 2024), https://health.ucdavis.edu/chpr/news/Articles/2024/discover-the-latest-on-patient-safety.

9. Attached as Exhibit 8 is a true and correct copy of *Government Response to Questions (PSNet)*, AHRQ (2018), https://perma.cc/4P6C-KLKB.

10. Attached as Exhibit 9 is a true and correct copy of PSNet, *About*, AHRQ, https://psnet.ahrq.gov/Information (last visited Mar. 30, 2025).

11. Attached as Exhibit 10 is a true and correct copy of PSNet, *Meet PSNet's Editorial Team*, AHRQ, https://psnet.ahrq.gov/Information/Editor (last visited Mar. 30, 2025).

12. Attached as Exhibit 11 is a true and correct copy of PSNet, *Submit A Case*, AHRQ, https://psnet.ahrq.gov/webmm/submit-case (last visited Mar. 30, 2025).

13. Attached as Exhibit 12 is a true and correct copy of PSNet, *Selection Criteria and Honorarium Information*, AHRQ, https://psnet.ahrq.gov/Webmm/submit-case-info (last visited Mar. 30, 2025).

14. Attached as Exhibit 13 is a true and correct copy of PSNet, *Help*, AHRQ, https://psnet.ahrq.gov/Information/Faq (last visited Mar. 30, 2025).

15. Attached as Exhibit 14 is a true and correct copy of Robert M. Wachter, *Introducing the New AHRQ WebM&M and AHRQ Patient Safety Network (PSNet)*, AHRQ (Apr. 1, 2005), https://psnet.ahrq.gov/perspective/introducing-new-ahrq-webmm-and-ahrq-patient-safety-network-psnet.

16. Attached as Exhibit 15 is a true and correct copy of the standard disclaimer affixed to content hosted on PSNet. On March 21, 2025, I conducted a Google Search for the full standard disclaimer across PSNet, revealing 688 instances of the disclaimer on PSNet.[1]

17. Attached as Exhibit 16 is a true and correct copy of PSNet, *The PSNet Collection: All Content*, AHRQ, https://psnet.ahrq.gov/psnet-collection (last visited Mar. 30, 2025).

18. Attached as Exhibit 17 is a true and correct copy of Memorandum from Charles Ezell, Acting Director, U.S. Off. Pers. Mgmt. to Heads & Acting Heads of Dep'ts & Agencies (Jan. 29, 2025), https://www.opm.gov/media/yvlh1r3i/opm-memo-initial-guidance-regarding-trump-executive-order-defending-women-1-29-2025-final.pdf.

[1] To conduct the search on Google, I used the following query: site:https://psnet.ahrq.gov/ "This project was funded under contract number 75Q80119C00004 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. The authors are solely responsible for this report's contents, findings, and conclusions, which do not necessarily represent the views of AHRQ. Readers should not interpret any statement in this report as an official position of AHRQ or of the U.S. Department of Health and Human Services. None of the authors has any affiliation or financial involvement that conflicts with the material presented in this report."

19. On March 30, 2025, I reviewed all publications by Dr. Schiff and Dr. Royce on PSNet, and neither Dr. Schiff's commentary titled, *Multiple Missed Opportunities for Suicide Risk Assessment*, nor Dr. Royce's commentary titled, *Endometriosis: A Common and Commonly Missed and Delayed Diagnosis*, are available on PSNet.

20. Attached as Exhibit 18 is a true and correct copy of Christine Moutier, *Suicidal Ideation in the Family Medicine Clinic*, PSNet (Dec. 1, 2016), https://psnet.ahrq.gov/web-mm/suicidal-ideation-family-medicine-clinic.

* * *

I declare under penalty of perjury that the foregoing is true and correct.

Executed on March 31, 2025, in New Haven, CT.

John Langford

EXHIBIT 1

Agency for Healthcare Research and Quality (https://www.ahrq.gov/)

About AHRQ

The Agency for Healthcare Research and Quality (AHRQ) is the federal agency charged with improving the quality and safety of healthcare delivery.

The agency develops and disseminates scientific evidence, tools, and data to help patients and their families, healthcare professionals, and policymakers make informed decisions. AHRQ is a home for health services research (https://www.ahrq.gov/cpi/about/health-services-research.html) and is the nation's lead federal agency for patient safety research (https://www.ahrq.gov/patient-safety/index.html). AHRQ is not a regulatory agency.

AHRQ is one of 12 operating divisions (https://www.hhs.gov/about/agencies/hhs-agencies-and-offices/index.html) of the U.S. Department of Health and Human Services (HHS) (https://www.hhs.gov/). It was created under the Healthcare Research and Quality Act of 1999 (https://www.ahrq.gov/policymakers/hrqa99a.html). (Access more about AHRQ's history (https://www.ahrq.gov/cpi/about/brief-history.html).)

Mission and Core Competencies

AHRQ's mission (https://www.ahrq.gov/cpi/about/mission/index.html) is to enhance the quality, appropriateness, and effectiveness of health services, and access to such services through the establishment of a broad base of scientific research and through the promotion of improvements in clinical and health system practices, including the prevention of diseases and other health conditions.

The agency pursues its mission by employing three core competencies:

(https://www.ahrq.gov/healthsystemsresearch/index.html)

Health Systems Research (https://www.ahrq.gov/healthsystemsresearch/index.html)

AHRQ invests in research that generates evidence and actionable knowledge by funding health services research to understand how care is delivered and how it can be improved.

(https://www.ahrq.gov/practiceimprovement/index.html)

Practice Improvement (https://www.ahrq.gov/practiceimprovement/index.html)

AHRQ moves evidence into practice by developing tools, training, resources, and nonregulatory assistance, leading to strategies to help health systems and clinicians deliver safe, high-quality healthcare.

(https://www.ahrq.gov/data/index.html)

Data & Analytics (https://www.ahrq.gov/data/index.html)

AHRQ data and analyses help healthcare decision makers understand system performance and where opportunities for improvement exist. These resources allow for effective quality measurement and reporting for state and federal policymaking.

AHRQ's Unique Role

AHRQ's unique role in the U.S. health enterprise is threefold:

1. **Making 21st century care a reality for all.** AHRQ produces evidence and supporting tools that help spread the reach of biomedical research findings to improve healthcare for everyone and assesses the clinical utility of medical interventions to inform national coverage decisions.
2. **Focusing on healthcare improvement.** AHRQ focuses on improving the care delivered to patients.
3. **Disseminating and implementing actionable knowledge.** AHRQ draws upon the latest clinical, social, and behavioral science to encourage the adoption and delivery of innovative therapies.

How AHRQ Organizes Its Work

The agency's work is conducted by several offices and centers:

- The Office of the Director (https://www.ahrq.gov/cpi/centers/od/index.html) oversees the agency's activities.
- The Center for Evidence and Practice Improvement (https://www.ahrq.gov/cpi/centers/cepi/index.html) generates new knowledge, synthesizes evidence, translates science on what works in health and healthcare delivery, and catalyzes practice improvement.
- The Center for Financing, Access and Cost Trends (https://www.ahrq.gov/cpi/centers/cfact/index.html) conducts, supports, and manages studies of the cost and financing of healthcare, access to healthcare services, and related trends and develops data sets.
- The Center for Quality Improvement and Patient Safety (https://www.ahrq.gov/cpi/centers/cquips/index.html) develops research and implementation tools to improve the quality and safety of the healthcare system.
- The Office of Communications (https://www.ahrq.gov/cpi/centers/ockt/index.html) develops, implements, and manages programs for communicating and disseminating the results of agency activities.
- The Office of Extramural Research, Education and Priority Populations (https://www.ahrq.gov/cpi/centers/oerep/index.html) directs scientific review for grants and contracts, manages research training programs, evaluates the scientific contribution of research and demonstrations, and supports and conducts health services research on priority populations.
- The Office of Management Services (https://www.ahrq.gov/cpi/centers/oms/index.html) directs and coordinates the agency's administrative services and operational activities.

Real-World Impact

AHRQ's evidence-based tools and resources are used by organizations nationwide to improve the quality, safety, effectiveness, and efficiency of healthcare. Access AHRQ's impact case studies (https://www.ahrq.gov/news/newsroom/case-studies/index.html) to learn more about how AHRQ's products have advanced American healthcare. Access AHRQ's grantee profiles (https://www.ahrq.gov/funding/grantee-profiles/index.html) to learn more about the research, training, and career development grant awards that have helped emerging health services researchers understand, improve, and share knowledge about how healthcare is delivered in the United States.

In its role as the lead federal agency for patient safety research, AHRQ has, on behalf of HHS, established the National Action Alliance for Patient and Workforce Safety (https://www.ahrq.gov/action-alliance/index.html). The National Action Alliance is a partnership between HHS and its federal agencies and private stakeholders interested in recommitting our nation to move toward zero harm in healthcare.

Current Priorities

As the federal agency charged with improving the safety and quality of America's healthcare system, AHRQ remains steadfastly oriented toward a quality agenda. AHRQ defines quality healthcare (https://www.ahrq.gov/talkingquality/measures/six-domains.html) as care that is safe, timely, effective, efficient, equitable, and patient centered.

Because healthcare changes rapidly, AHRQ's agile research agenda responds to new opportunities for improving care. AHRQ's current priorities are listed on the Notice of Funding Opportunities (https://www.ahrq.gov/funding/fund-opps/index.html) page.

Engage With AHRQ

Want to learn more about the agency?

- Subscribe to the weekly AHRQ News Now (https://www.ahrq.gov/news/newsletters/e-newsletter/index.html) electronic newsletter.
- Follow us on social media, including X (https://x.com/ahrqnews) , Instagram (https://www.instagram.com/ahrqnews/) , Facebook (https://www.facebook.com/ahrq.gov/) , and LinkedIn (https://www.linkedin.com/company/agency-for-healthcare-research-and-quality/) .
- Access AHRQ Views blog posts (https://www.ahrq.gov/news/blog/ahrqviews/index.html) .

Researchers interested in funding opportunities should visit AHRQ's Notice of Funding Opportunities (https://www.ahrq.gov/funding/fund-opps/index.html) page to learn about requests for applications and program announcements, both of which are published in the National Institutes of Health Guide for Grants and Contracts (https://grants.nih.gov/funding/index.htm) . Access AHRQ's Research Priorities and Compliance Guidance (https://www.ahrq.gov/funding/policies/nofoguidance/index.html) for information on grant procedures.

Page last reviewed March 2025
Page originally created July 2014

EXHIBIT 2

PSNet
PATIENT SAFETY NETWORK

Diagnostic Errors

June 15, 2024
Diagnostic Errors. PSNet [internet]. 2019.
https://psnet.ahrq.gov/primer/diagnostic-errors

PSNet primers are regularly reviewed and updated by the UC Davis PSNet Editorial Team to ensure that they reflect current research and practice in the patient safety field. Last reviewed in 2024.

Background

The past decade's quest to improve patient safety has chiefly addressed quantifiable problems such as medication errors, health care–associated infections, and postsurgical complications. Diagnostic error has received comparatively less attention, despite the fact that landmark patient safety studies have consistently found that diagnostic error is common. In the Harvard Medical Practice Study, diagnostic error accounted for 17% of preventable errors in hospitalized patients, and a systematic review of autopsy studies covering four decades found that approximately 9% of patients experienced a major diagnostic error that went undetected while the patient was alive. Taken together, these studies imply that thousands of hospitalized patients die every year due to diagnostic errors.

An extensive body of research has examined the causes of diagnostic error at the individual clinician level. This work has been informed by the field of cognitive psychology, which studies how individuals process information and subsequently develop plans. As applied to health care, we have learned that clinicians frequently use heuristics (shortcuts or "rules of thumb") to come up with a provisional diagnosis, especially when faced with a patient with common symptoms. While heuristics are ubiquitous and useful, researchers have used categories developed in cognitive psychology to classify several types of errors that clinicians commonly make due to incorrect applications of heuristics:

Cognitive Bias	Definition	Example
Availability heuristic	Diagnosis of current patient biased by experience with past cases	A patient with crushing chest pain was incorrectly treated for a myocardial infarction, despite indications that an aortic dissection was present.

Cognitive Bias	Definition	Example
Anchoring heuristic (premature closure)	Relying on initial diagnostic impression, despite subsequent information to the contrary	Repeated positive blood cultures with *Corynebacterium* were dismissed as contaminants; the patient was eventually diagnosed with *Corynebacterium* endocarditis.
Framing effects	Diagnostic decision-making unduly biased by subtle cues and collateral information	A with opioid misuse disorder with abdominal pain was treated for opiate withdrawal, but proved to have a bowel perforation.
Blind obedience	Placing undue reliance on test results or "expert" opinion	A false-negative rapid test for *Streptococcus* pharyngitis resulted in a delay in diagnosis.

While cognitive biases on the part of individual clinicians play a role in many diagnostic errors, underlying health care system problems also contribute to missed and delayed diagnoses. Missed or delayed diagnoses (particularly cancer diagnoses) are a prominent reason for malpractice claims, and much of the research into systems causes of diagnostic error arises from studies of closed malpractice claims in primary care, pediatrics, emergency medicine, and surgery. Poor teamwork and communication between clinicians have been identified as predisposing factors for diagnostic error in emergency medicine and surgery. Lack of reliable systems for common outpatient clinical situations, such as triaging acutely ill patients by telephone and following up on test results, also increases the likelihood of diagnostic error.

Preventing Diagnostic Errors

Given that many diagnostic errors are caused by subtle biases in clinicians' thought processes, some diagnostic errors may be prevented by systems to mitigate the effect of these biases and provide physicians with objective information to assist with decision-making. Clinicians are frequently unaware of diagnostic errors that they have committed, particularly if they do not have an opportunity to see how their diagnoses turned out over time. Therefore, regular feedback to clinicians on their diagnostic performance is essential.

Unfortunately, reliable decision support or feedback systems do not yet exist. One of the earliest uses of information technology in medicine was decision support for clinical diagnosis, particularly for notoriously high-risk and difficult diagnoses such as acute myocardial infarction. However, computerized diagnostic decision support has not yet been proven to improve overall diagnostic accuracy, although active research continues in this area.

The autopsy has been the "gold standard" for diagnosis since medicine became a profession, but autopsy rates have progressively declined over the past few decades, to the point where a recent editorial raised concern over the "vanishing nonforensic autopsy." It is recommended that teaching institutions perform autopsies on 25% of inpatient deaths, but few academic hospitals reach this benchmark. The result: not only are clinicians not receiving feedback on their diagnoses, but pathologists are performing fewer and fewer autopsies during their training.

More progress has been made in addressing systems causes of diagnostic error. Information technology has improved clinicians' ability to follow up on diagnostic tests in a timely fashion, which should reduce the incidence of delayed diagnoses. Structured protocols for telephone triage, teamwork and communication training, and increased supervision of trainees may also lead to improved diagnostic performance. However, studies evaluating the effect of these interventions on diagnostic error rates are lacking.

Finally, there are aggressive efforts to teach clinicians and trainees about the relevant parts of cognitive psychology. The principal goal is to engage clinicians in "meta-cognition" (reflecting on their own thinking), with the hope that they will catch some of their own misuse of heuristics before they cause harm. A 2016 systematic review found evidence that these strategies can improve clinicians' diagnostic reasoning in simulated settings. Recent systematic reviews have assessed the evidence base of interventions to prevent cognitive errors and systems problems that can lead to diagnostic error.

Current Context

The National Academy of Medicine (formerly the Institute of Medicine) released a report in 2015 describing diagnostic error as a blind spot in the safety field. The committee made several recommendations to improve diagnosis, including promoting teamwork among interdisciplinary health care teams, enhancing patient engagement in the diagnostic process, implementing large-scale error reporting systems with feedback and corrective action, and improving health information technology. The report also recommended health care system reforms, including establishing a work system and safety culture that foster timely and accurate diagnosis, improving the medical liability system to foster learning from missed or delayed diagnoses, reforming the payment system to support better diagnosis, and increasing funding for research in diagnostic safety. Another challenge for addressing diagnostic error is the lack of measures of diagnostic accuracy. In fact, current quality measurements do not take diagnostic accuracy into account at all, meaning that organizations could score well on quality measures even if patients receive the correct treatment for an incorrect diagnosis.

EXHIBIT 3

Diagnostic Safety Research at the Agency for Healthcare Research and Quality

Diagnostic Error

Diagnostic error is a significant and underrecognized threat to patient safety.

Diagnostic errors are common, consequential, and costly and contribute to avoidable suffering and preventable deaths.

- Each year, 795,000 Americans die or are permanently disabled due to misdiagnosis.[1]
- Diagnostic errors disproportionately affect vulnerable populations based on race, ethnicity, gender, age, language, income, education, and location and add to inequities in health outcomes.[2-10]
- Delayed or missed diagnosis of cancer is a common error and allows cancers to progress to a less treatable stage, worsen prognosis, and decrease survival.[11-14]

Diagnostic errors create a significant economic burden on the U.S. healthcare system.

- The United States leads the world in medical science and technology yet ranks lowest in health outcomes among other high-income countries.[15] Diagnostic inefficiencies such as overtesting contribute to excessive healthcare costs, but the additional tests do not improve quality.[16]
- Based on paid malpractice claims, diagnostic errors are more than twice as likely to end in death and receive the greatest payouts, with a cost of $38.8 billion over 25 years.[17]

Diagnostic Safety Research Efforts

AHRQ has supported research to improve diagnostic safety since it first started supporting patient safety grants in 2000. This brief shares highlights of the extensive portfolio of AHRQ's diagnostic safety work.

- AHRQ has funded 10 Diagnostic Safety Centers of Excellence focusing on better characterizing sources of diagnostic error and developing and testing solutions to reduce harm. Selected work underway includes:
  - Engaging patients to codesign approaches to improve communication.
  - Designing better systems to follow up on abnormal test results.
  - Improving design of electronic medical records and using new technology to support diagnosis, such as using electronic triggers to identify and learn from errors.
  - Learning from patients to characterize missed opportunities for earlier cancer diagnosis.

- AHRQ has funded Patient Safety Learning Labs that use cross-disciplinary teams taking human factors approaches to engineer safety into practice. Selected projects related to diagnostic safety include those that:
  - Design highly reliable processes to improve the use of imaging tests and ensure closed-loop communication about diagnostic test results and referrals.
  - Develop a framework to improve communication across transitions of care known to create risk for delayed or missed diagnoses.
  - Identify contributing factors to diagnostic failure for cardiovascular disease in women.
- Other recent grants have:
  - Focused on specific areas known to experience the greatest harm from diagnostic errors, including stroke, pneumonia, pulmonary emboli, cancer, cardiovascular disease in women, and maternal health.
  - Funded an annual Diagnosis Error in Medicine conference hosted by the Society to Improve Diagnosis in Medicine, an event that brings together academic leaders, community partners, and patients to advance progress in diagnostic safety.
- AHRQ continues to support new diagnostic safety research with the following funding opportunities:
  - Understanding and Improving Diagnostic Safety in Ambulatory Care: Incidence and Contributing Factors (R01, PA-23-291)
  - Improving Diagnostic Safety in Ambulatory Care: Strategies and Interventions (R18, PA-23-290)

Tools and Resources

- AHRQ has developed resources to support patient engagement (Toolkit for Engaging Patients To Improve Diagnostic Safety), guide organizations to identify, analyze, and learn from diagnostic safety events (Measure Dx), help clinicians reflect and learn from cases (Calibrate Dx), and train multidisciplinary diagnostic teams (TeamSTEPPS Diagnosis Improvement Course)
- AHRQ has also developed and disseminated a series of issue briefs on diagnostic safety, including Current State of Diagnostic Safety: Implications for Research, Practice, and Policy and others focused on measurement of safety and education and training to improve clinical reasoning.

Practice Improvement

- AHRQ is providing technical assistance to implement its diagnostic safety tools in up to 150 healthcare organizations nationwide.

Measurement

- AHRQ has funded foundational work on understanding mechanisms and sources of diagnostic errors and development of a taxonomy for classifying errors.
- AHRQ has also funded work to estimate the burden of diagnostic errors across a variety of healthcare settings, specialties, medical conditions, patient populations, and phases of work (such as communicating test results and tracking abnormal results).
- AHRQ has developed and shared a public resource for standardized reporting of diagnostic errors (Common Formats for Diagnostic Safety).

Partnerships and Leadership

- AHRQ oversees a coordinating center for AHRQ-funded Diagnostic Safety Centers of Excellence to promote and encourage collaboration and capture and share lessons across sites.
- AHRQ is leading a National Academy workshop on Advancing Equity in Diagnostic Excellence To Reduce Health Disparities.
- AHRQ coordinates a Federal Interagency Workgroup to coordinate efforts across the Department of Health and Human Services on research related to diagnostic safety.

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All web pages were accessed October 18, 2024.

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AHRQ Pub. No. 24(25)-M006
November 2024
www.ahrq.gov

EXHIBIT 4

AHRQ WebM&M—Online Medical Error Reporting and Analysis

Robert M. Wachter, Kaveh G. Shojania, Tracy Minichiello, Scott A. Flanders, Erin E. Hartman

Abstract

The AHRQ WebM&M Web site represents an unprecedented effort to publish illustrative cases of confidentially-reported medical errors on the Internet, accompanied by straightforward evidence-based expert commentaries. Modeled on hospital morbidity and mortality conferences, five cases are posted each month to illustrate diverse patient safety issues. The Web site has become a popular source for medical error case information and has garnered positive feedback. As of March 11, 2005, 296 cases had been submitted, and 90 had been posted on the site. Twenty-four percent of the cases appearing on AHRQ WebM&M resulted in death or permanent disability. The site had 9,767 registered users and 663 unique visitors daily; the average visitor stayed for 121 minutes. Responses to a May 2004 user survey indicated that visitors were divided almost equally between providers (half nurses and half physicians) and nonproviders with an interest in safety. Seventy-five percent of users rated the educational value of the site as "excellent"; virtually all the others rated it as "good." Similar response rates were tallied for questions regarding practical value, patient safety content, cases, commentaries, and continuing education. These results demonstrate a willingness on the part of providers to report medical errors under favorable circumstances, as well as a strong demand among health care professionals for Internet-based information pertaining to patient safety. Thus, AHRQ WebM&M represents one of the modern era's most successful experiments in patient safety reporting and education.

Introduction

Hospitals, particularly teaching hospitals, have a long tradition of discussing complications of care and medical errors in a forum known as the morbidity and mortality (M&M) conference. The content of such conferences traditionally has been protected from legal disclosure to foster an environment in which providers can review their mistakes honestly and highlight general lessons learned from them.[1, 2] Although concerns over the adequacy of medicolegal protection linger,[3] the M&M conference, at its best, presents a unique opportunity for health care providers to learn from their errors.

As the focus on medical errors and patient safety expanded in the wake of the 2000 Institute of Medicine report, *To Err Is Human*,[4] the limitations of M&M conferences became more visible. First, relatively few nonteaching hospitals host them on a regular basis. Second, even in major teaching hospitals, such

conferences often are conducted by the larger clinical departments (e.g., medicine and surgery), while the participation of physicians in other specialties (e.g., radiology, psychiatry, pediatrics) has not been as great. Third, although many errors are caused by systemic failures or breakdowns in teamwork, nurses and other nonphysician providers and hospital administrators rarely participate in M&M conferences. Finally, when M&M conferences do take place, they often miss the mark—either failing to identify errors as such (more often a problem in internal medicine) or by focusing so narrowly on individual culpability that potential systems issues are not considered (more often in surgery).[5–7]

The growing interest in medical errors also has led to increasing public and professional demands for error reporting. With this push has come a challenge: How can error reporting be leveraged to provide general lessons for providers and institutions? Publications such as the Joint Commission on Accreditation of Healthcare Organizations' *Sentinel Event Alerts*[8] highlight lessons from commonly reported errors and serve a vital function at health care institutions. Publications from regulators, however, tend to target an audience of safety and quality professionals, rather than a general audience of clinicians. And while some medical journals do occasionally feature patient safety articles (including the case-based "Quality Grand Rounds" series that we [RMW, KGS] edit for the *Annals of Internal Medicine*[9]), those discussions are particularly comprehensive and the cases are generated by the editors, rather than readers. Moreover, the *Annals* is read mostly by internists, and is available only to paid subscribers.

In the late 1990s, the Agency for Healthcare Research and Quality (AHRQ), under the leadership of the late Dr. John Eisenberg, recognized in all of the above an opportunity to create a resource that would marry the best of the local M&M conference with a confidential national reporting system. In bringing this vision to reality, AHRQ appreciated that the World Wide Web could facilitate easy, anonymous reporting (by anyone, from anywhere) and the efficient production of a journal that could be made available worldwide at relatively low cost. This vision led to a Request for Applications (RFA) in February 2001, to "develop, implement, maintain, and assess a national Web-based morbidity and mortality conference site" under an AHRQ contract.

Our team—hospitalist physicians with a strong interest in patient safety and medical education—partnered with the health care quality/technology company, DoctorQuality, and were awarded the contract, with a start date of September 2001. Several months later, a managing editor (EEH) was recruited to supervise the editorial office and publication of the electronic journal.

The AHRQ WebM&M (www.webmm.ahrq.gov) has since developed into a national Web-based learning program for health care providers. Modeled after M&M conferences, the site represents an unprecedented effort to publish interesting and illustrative cases of confidentially-reported medical errors on the Web, accompanied by straightforward, evidence-based expert commentaries. It also represents an important element of the national movement to promote "blame-free" medical error reporting and stimulate open discussions of patient safety among practicing physicians, educators, and trainees. In this article, we will

describe the development and evolution of WebM&M, some of the key outcome measures, and a few related successes and challenges. Because WebM&M serves as both an educational vehicle and a reporting system, we hope that our experiences will impart some general lessons that can be applied across the entire field of patient safety.

The evolution of AHRQ WebM&M

Although the editors and AHRQ agreed in principal on the vision for the electronic publication, some of the RFA's original stipulations were modified after early discussions and experiences (Table 1). The original RFA, for example, called for posted cases to be limited to "near misses" (i.e., errors that are detected and corrected before causing patient harm), largely because of medicolegal concerns. These restrictions later were relaxed, and we began to include errors that may have reached the patient but caused no lasting harm (e.g., a medication error that led to an unanticipated intensive care unit [ICU] stay but ultimate recovery).[10–12] After a few months of anonymous submissions delivered through the site, the editorial leadership realized that about one-third of the submitted cases (many of them quite instructive) were being rejected because the error resulted in lasting harm or death to the patient. In light of the Web site's robust security, privacy, and anonymity protections, the selection criteria were further relaxed and the site began to host the full spectrum of medical errors, including those resulting in permanent harm.

The original vision called for the site to focus on five clinical specialties: medicine, surgery, obstetrics-gynecology, pediatrics, and psychiatry. In practice, we found that the overwhelming majority of case submissions came from the fields of medicine and surgery; fewer came from pediatrics and obstetrics-gynecology, and almost none concerned psychiatry. Certain other specialties, including emergency medicine and radiology, were also represented. Moreover, although the RFA initially targeted a physician audience (with consideration of a related nursing-targeted site to follow), we found that our readership included many nurses, pharmacists, and others. This discovery led us to broaden the specialty categories beginning with the publication of our July 2003 (fifth) issue, and the addition of one or two "swing slot" cases devoted to a variety of other medical specialties (e.g., laboratory medicine and radiology) and related topics (e.g., nursing and clinical ethics).

Cases are selected carefully to illustrate a compelling array of patient safety issues and clinical situations. The editors review each submission using criteria such as clinical interest, patient safety interest, systems focus, and novelty to select cases for publication. Members of the editorial board (including experts in clinical fields such as obstetrics-gynecology and safety disciplines such as human factors and informatics) are consulted with specific questions, for example, whether a given clinical scenario is credible or whether a particular patient safety issue is of great importance within a given specialty. One noteworthy case is selected each month for an extended learning module, named the "Spotlight

Table 1. Initial vision for AHRQ WebM&M, with challenges and modifications

Vision	Challenge or opportunity	Modifications
The site will be easy to use and graphically pleasing.	Ensuring full compliance with Federal regulations regarding Web sites.	Major focus on graphic appeal and functionality design and testing.
Cases will be of "near misses."	Ensuring confidentiality (in terms of patient, providers, and institution) while hosting interesting, illustrative cases.	Loosened restriction to include "no-harm events" and, ultimately, full spectrum of errors. Major focus on ensuring confidentiality.
Cases accompanied by detailed root cause analyses.	Balance between patient safety lessons and desire to recruit a nonexpert readership.	Choice to use brief case presentations, relatively brief (1000 word) commentaries; avoid jargon. Hope that readers learn principles of patient safety through an approach they are comfortable with. When new terms introduced, include in a glossary to promote learning.
Recruit a broad audience interested, but not expert, in patient safety.		Added CME function to accompany each monthly "Spotlight Case" (with a broader analysis and a downloadable slideshow). Significant marketing effort focused on relevant specialty societies. Easy and non-intrusive site registration informs readers of new issues. Promote media coverage of site.
Take advantage of the capability of the Web.	Hope to generate interactivity and a "users' community;" also use the multimedia potential.	The Web's ease of use and access has been a huge plus. We have begun to host videos (e.g., demonstrating a surgical simulation), in addition to the "Spotlight Cases" slideshow—these have been among our most popular features. Our attempt to create an active users' forum has been disappointing, with relatively few postings.
Generate a diverse, interesting array of cases illustrating the full range of patient safety problems.	We recognized early that too many cases focusing on medication errors, or "systems thinking," would get in the way of a growing, sustained readership.	To encourage reporting (since no academic credits or bylines are available), we pay a small honorarium to successful case submitters (through a third-party payer, to create an arms-length relationship and ensure anonymity). The number and breadth of submissions has been sufficient to fuel the site, but could be greater.

Cases." Spotlight cases are chosen on the basis of their broad appeal across specialties and their excellent teaching value. Keeping in mind the importance of diverse authorship, expertise, and institutional representation, the commentary authors for each of the cases are chosen on the basis of their publication track record in the relevant clinical or patient safety domains.

We recognized that the site could be only as good as the quality of the cases we received. With that in mind, we took several steps to encourage readers to submit cases. First, we ensure the confidentiality of all case summaries and their reporters, facilities, and patients. Second, we promote case submission widely, using notices in monthly e-mail messages sent to registered users, and through our advisory panel and editorial board. Third, those who submit cases accepted for publication are paid a small honorarium. Finally, the submission process is simple, allowing users to describe the events of the case in their own words, much as they might relate them to a colleague. In contrast to many incident reporting systems, we do not ask users to categorize the type of event, the severity of injury, or to supply other details related to incident taxonomies. Our decision to structure the reporting format in this manner was based on the concern that such detailed questions would represent a significant barrier to participation. The editors have the means to contact the individual submitting a case, in the event that clarifications are needed or key details have been omitted, while at the same time preserving the submitter's anonymity.

A second key feature of the site is the quality of the commentaries. We have been pleased with the commentators and their willingness to participate, given that WebM&M does not yet offer MEDLINE® citation (we are working on this) and the fact that we often require a very short turnaround time. Our commentators have included many of the world's foremost authorities on patient safety research and practice. The WebM&M editors line edit the commentaries, when necessary, to achieve a consistent length, style, and level of accessibility. In turn, the commentators receive a modest honorarium as compensation for their time.

Our efforts to promote interactivity include the development of an easy-to-use "Forum," in which readers can post their own comments regarding the cases. In addition, we have made the "Spotlight" slide presentations easy to download, and encourage their dissemination. Continuing medical education (CME) credit offerings also have served to attract readers to the site, and CME usership has grown steadily since our launch. Users read the Spotlight case, complete a CME quiz, and receive an annotated review of their answers. Individuals who complete the CME module with a passing grade receive one hour of credit, offered through the University of California, San Francisco (UCSF) Office of Continuing Medical Education.

Given the new Accreditation Council for Graduate Medical Education requirements that residents must demonstrate proficiency in systems-based learning (defined as "actions that demonstrate an awareness of, and responsiveness to, the larger context and system of health"),[13] and the challenges faced by program directors attempting to document these abilities, we added the option of trainee certification for the "Spotlight Cases." AHRQ WebM&M's

content is well suited to this purpose. Like CME users, medical residents read the "Spotlight Cases" and take the quiz. Those receiving a passing grade for the learning module can print out a certificate of participation for inclusion in their academic file.

Results

The AHRQ WebM&M site first hosted case profiles on November 18, 2002, and the first complete issue was published on February 3, 2003. As of March 2005, we have published 90 commentaries in 19 issues.

Case submissions

We have been pleased with the quality and breadth of the submitted cases, but their volume has been relatively modest. As of March 11, 2005, we had received 296 case submissions; approximately 37.5 percent of these were accepted for publication. The cases are culled from a variety of specialties, with the majority from medicine (47 percent), surgery/anesthesia (20 percent), pediatrics (8 percent), obstetrics-gynecology (6 percent), and other specialties (19, 10 percent). Just 1 percent of the cases came from the psychiatry field. The errors and issues described in the cases also were of a diverse nature. Among the published cases, the most common were diagnostic errors (27 percent), medication errors (25 percent), procedural complications (18 percent), and communication errors (18 percent) (Table 2). It is worth noting that the comparable percentages for diagnostic and medication errors reflect editorial decisions: we have received roughly twice as many medication error submissions, but many described the same types of errors.

Conversely, the cases involving diagnostic errors have been more diverse, and thus we have accepted a higher percentage of them for publication. Near misses comprise only about 7 percent of the published cases. Twenty-four percent of the cases ended in a patient death or permanent disability. The remaining 69 percent involved intermediate degrees of severity and harm. Thirty-seven errors (67 percent) occurred in hospital, while 8 errors (14.5 percent) occurred in emergency departments (without subsequent admission); 8 errors (14.5 percent) occurred in ambulatory practices; 1 error (2 percent) took place in a skilled nursing facility; and 1 (2 percent) transpired in an undetermined setting.

Readers

As of March 11, 2005, AHRQ WebM&M has 9,767 registered users. An average of 663 unique visitors come to the site daily (20,150 each month), and each one stays for an average of 12 minutes. Combining these figures, the site has had approximately 505,000 visit "sessions," and users have spent more than 6 million minutes on WebM&M. Very few other patient safety publications or resources have achieved similar levels of usage or impact.

Table 2. Adverse event/error types among published cases*

Delayed or missed diagnosis	15 (27%)
Adverse drug event or medication error	14 (25%)
Complications of a procedure	10 (18%)
Problem with teamwork / communication among providers	10 (18%)
Device related	9 (16%)
Identification error (wrong patient, procedure, medication, test)	9 (16%)
Training/learning curve issue	9 (16%)
Communication: provider-patient issue	5 (9%)
Difficult judgment calls	5 (9%)
Other†	14 (25%)

*Note: Cases include only the 55 published through our 11th issue (March 2004). The numbers don't add up to 55, because each of the 55 cases could have more than one type of error or adverse event. In fact, median was 2, with range from 1–4.
† Other included: staffing or other structural (4), discontinuity/transitions (3), miscellaneous others (7).

The anonymity of the Internet (and stringent federal guidelines prohibiting detailed collection of user information) prevents us from developing a comprehensive analysis of our readership. After tallying the extensions of e-mail addresses of registered users to given sites, we discovered that 35 percent hail from a "dot-com" domain, 23 percent from a "dot-org" domain, 15 percent from "dot-edu," 10 percent from "dot-net," and 3 percent from "dot-gov." The vast majority of our readers (91 percent) are from the United States, with the remaining (9 percent) from other countries (the most popular being Canada [2 percent], Australia [2 percent], and the United Kingdom [0.5 percent]).

A voluntary users' survey accompanied our May 2004 issue, and 542 users completed it. Seventy-seven percent of respondents were registered users of the site, and 85 percent had visited the site more than five times. Ninety-one percent of respondents indicated they had viewed more than more commentary when visiting the site. Interestingly, nurses and physicians were almost equally represented among survey respondents (24 percent and 21 percent, respectively). Four percent of the respondents were pharmacists. Of the remaining users, 11 percent selected "health care administrator" or "manager" from a drop-down menu of professions, and another 32 percent wrote in a category (a wide-ranging list, including risk managers, policy analysts, systems engineers, and ethicists).

The "Spotlight" slides are among the most popular features on the AHRQ WebM&M site. As of our 18th issue (and our most recent count on February 28, 2005), 24,400 copies of our "Spotlight" slideshows had been downloaded—an average of 1,355 per issue. Many of our readers tell us that they have used these slideshows in teaching conferences, patient safety or quality meetings, and attending rounds.

We currently have 2,200 registered CME users (a registration separate from general site registration, to further protect anonymity), and have awarded a total of 3,344 CME credit hours.

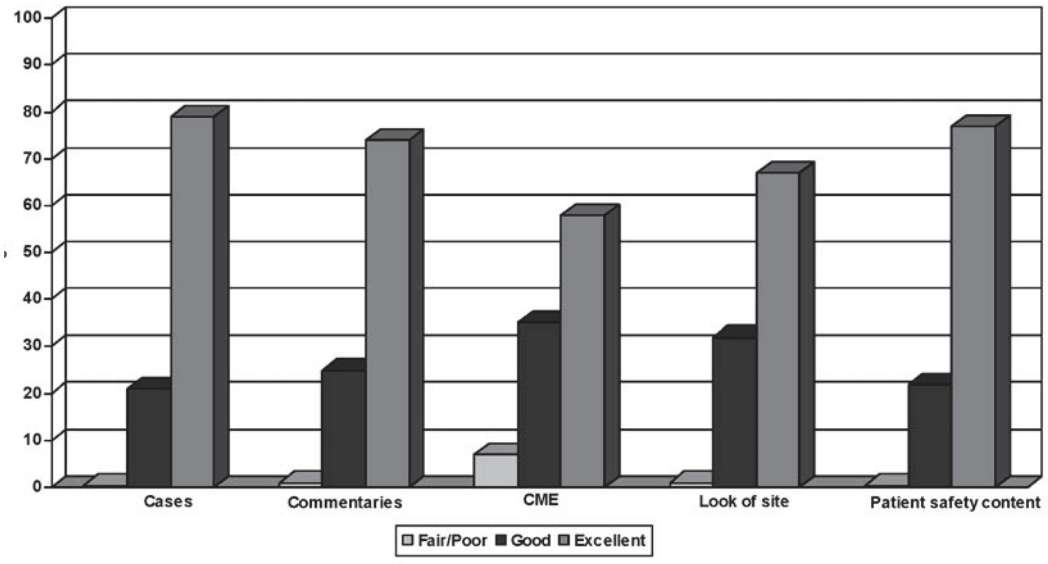
The "Forum" feature has been used infrequently (103 postings in the course of our first 18 issues, or about 1.2 postings per case, on average). The postings have been thoughtful and on point; any early concerns regarding personal attacks have not been realized. The cases that generated the greatest number of postings were "Patient Mix-Up," and "Too Tight Control" (9 postings each).

User ratings of the site

Judging by the responses to the May 2004 survey, AHRQ WebM&M users are very satisfied with the Web site. Seventy-five percent of the users rated the site's educational value as "excellent," and another 25 percent rated it as "good." Just one of the 542 survey respondents (0.2 percent) rated the educational value "fair" or "poor." Similarly, 75 percent rated the practical value as "excellent," 24 percent as "good;" only 8 of the 542 respondents (1.5 percent) rated it as "not very useful" or "not useful." Similarly positive results were seen in the ratings of the site's various content areas and functions (Figure 1).

Reader-suggested improvements or enhancements included a "lessons learned" section, continuing education credit modules for nurses and physician's assistants, an ethics forum, a printer-friendly version of the site, and an upgraded search function. However, the vast majority of the comments praised various aspects of the site (or the site as a whole).

Figure 1. Responses to May 2004 AHRQ WebM&M users' survey



Responses of "Don't know" or "never used" are excluded from the tallies.
CME = continuing medical education (included continuing education units and trainee certification).

Discussion

WebM&M is the culmination of a bold AHRQ experiment. At the time of its conception, many questions were raised: Would individuals report cases of medical errors to such a public forum? Could the value of the institution-based M&M conference be migrated to a national and international platform? Would the site draw nonexpert readers, particularly clinicians and trainees? And, if early marketing efforts were successful in creating an initial "buzz" of popularity for the product, would the Web site have staying power?

The answers to all of these questions have been surprisingly positive. Individuals have been willing to report interesting and illustrative cases of medical mistakes, and their confidentially has never been compromised. Commentators have articulated important and general safety lessons (including the concepts of root cause analysis, human factors engineering, forcing functions, etc.), and have done so in an straightforward manner with a relative absence of jargon. Discussions have been "systems focused," with practical "take-home points" for providers and quality leaders alike, while honestly identifying individual error where it occurred. Readership began strong, aided by a robust marketing effort by AHRQ and others, and has continued to grow steadily into the site's second year. The background of the readership is extremely broad: approximately half of our readers are clinicians (divided almost equally between physicians and nurses) and half are nonclinicians (including administrators, researchers, and individuals working in the safety field). Some of the site's innovative features, including the "Spotlight" slideshows, videos, and CME credit modules, have proven very popular. The site has generated considerable attention, in the lay press (e.g., the *Wall Street Journal*) and professional media alike. A Google search conducted on February 23, 2005, for the term "WebM&M" yielded 2,250 hits, indicating the site is linked widely and referenced across the Web.

The AHRQ WebM&M has yielded some disappointments, which we are working with the Agency to address. In the future, the relatively low number and breadth of case submissions may compromise our ability to generate five fresh, interesting cases each month. The relatively low level of activity on the "Forum" demonstrates that we have not yet discovered the best means with which to engage our readers in forward-thinking, interactive dialogues. Future plans for the site may include a decrease in the number of monthly case offerings, as well as new content additions, such as point-counterpoint debates and letters to the editor, and hosting "Reader Sound-Off" instant polls as a means of stimulating more direct user engagement with the site and its content. Finally, we plan to continue using videos and other presentation tools to leverage the growing multimedia capacity of the Internet.

Conclusion

In summary, AHRQ WebM&M represents an ambitious and unprecedented effort to publish illustrative cases of medical errors; to elicit reviews of such cases

from the top experts in their fields; to generate lively commentary and provoke thoughtful discussion on the application of evidence-based medicine to the reduction of medical errors; and to draw together a broad readership from the various disciplines that comprise the patient safety field. In addition, we sought to create a Web site that was attractive and user-friendly, and to bring credit to AHRQ for a very practical and popular addition to its critical efforts to improve the safety of patients.

Overall, the success of AHRQ WebM&M has shown that providers will report medical errors under favorable circumstances, that a strong demand exists among health care professionals for Web-based information on the topic of patient safety, and that readers from different disciplines with common interests will visit and return to a Web site that presents the information they seek in an accessible style and an easy-to-navigate format. The AHRQ WebM&M site represents one of the modern era's most successful experiments in both patient safety reporting and education.

Acknowledgments

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EXHIBIT 5

WebM&M: Case Studies

WebM&M (Morbidity & Mortality Rounds on the Web) features expert analysis of medical errors reported anonymously by our readers. Spotlight Cases include interactive learning modules available for CME/CPE. Commentaries are written by patient safety experts and published monthly.

Have you encountered medical errors or patient safety issues? Submit your case below to help the medical community and to prevent similar errors in the future.

Submit Your Case

This Month's WebM&Ms

Update Date: February 26, 2025

SPOTLIGHT CASE CME/MOC NEW

Misdiagnosis of Small Bowel Obstruction in the Setting of Previous Abdominal Operations

Samantha Brown, MD, Garth Utter, MD, MSc, and David K. Barnes, MD | February 26, 2025

A man with a history of prior umbilical hernia repair presented to the emergency department (ED) with abdominal... Read More

Take the Quiz

Have you encountered medical errors or patient safety issues?

Have you encountered medical errors or patient safety issues? Submit your case below to help the medical community and to prevent similar errors in the future.

Submit Your Case

All WebM&M: Case Studies (662)

Filters

Filter within Case Studies

PSNet Publication Date

- Any Date
- Past 6 months
- Past year
- Date Range

Continuing Education

- Contains CME/MOC (37)
- Contains CPE (2)

Additional Filters

- Approach to Improving Safety
- Clinical Area
- Error Types
- Safety Target
- Setting of Care

CME/MOC

Misdiagnosis of Small Bowel Obstruction in the Setting of Previous Abdominal Operations

Samantha Brown, MD, Garth Utter, MD, MSc, and David K. Barnes, MD | February 26, 2025

Save to Library Share

A man with a history of prior umbilical hernia repair presented to the emergency department (ED) with abdominal pain and was initially diagnosed with cholelithiasis before being discharged home. However, the next day he returned to another ED with similar symptoms and was diagnosed with a small bowel obstruction caused by adhesions from a ventral hernia. He underwent surgery but died three days later from multi-organ failure and sepsis caused by necrotic bowel and peritonitis. The commentary describes the appropriate evaluation for acute abdominal pain, the importance of imaging in patients with high-risk abdominal pain, and how to mitigate the influence of cognitive biases in the diagnostic process.

Take the Quiz

From Pain Relief to Risk: A Case of Suspected Opioid Overdose in a Pediatric Patient

Kristine Markham, PharmD, BCPPS and Maki Usui, PharmD, BCPPS, and Cady Smith BA | February 26, 2025

Save to Library Share

Following an uncomplicated urologic surgery for hypospadias repair, a previously healthy 2-year-old boy was discharged with a 5-day course of hydrocodone-acetaminophen 7.5-325 mg/15 mL solution. The child was brought to the emergency department due to inconsolable crying. The ED workup was unremarkable, and he was

sent home with a 4.6 day supply of oxycodone 1 mg/mL. Four days later, he became apneic, cyanotic, and unresponsive at home. Emergency first responders were called to the scene and the patient's cardiac rhythm was determined to be pulseless electrical activity. They began cardiopulmonary resuscitation and administered naloxone and two doses of epinephrine. Upon arrival at the ED, continued resuscitation was unsuccessful, and the child was declared deceased. Inadvertent dose stacking and opioid polypharmacy may have contributed to this patient's death.

CME/MOC CPE

Mismanagement of Acute Decompensated Heart Failure with Hypertensive Emergency

Jaenic Lee, MD, Josh Fernelius, MD and William Frick, MD | December 31, 2024

Save to Library Share A 55-year-old woman with a history of panic attacks, obesity, and untreated hypertension, experienced syncope after feeling flushed and lightheaded. On arrival at the emergency department, she had severely elevated blood pressure and hypoxemia. Diagnostic tests revealed acute heart failure exacerbation with pulmonary edema, marked elevation of brain natriuretic peptide (BNP), and elevated troponin-I. Despite treatment with diuretics and antihypertensives, her condition deteriorated, leading to intubation due to respiratory failure and subsequent cardiac arrest; cardiopulmonary resuscitation resulted in with return of spontaneous circulation. However, she suffered from ischemic stroke and intracranial hemorrhages, ultimately leading to a transition to comfort care and subsequent death. The commentary discusses the contraindications for beta-blockers in the setting of acute decompensated heart failure and appropriate treatment for hypertensive emergencies in the emergency department and intensive care unit.

Take the Quiz View Activity Announcement

CME/MOC CPE

A Fatal Twist in Pseudohyperkalemia

Justin L. Devera, MD, David K. Barnes, MD, FACEP, and William R. Lewis, MD | December 31, 2024

Save to Library Share A 54-year-old man with a history of tobacco use presented to the emergency department (ED) with acute chest pain. He was initially stable upon arrival, though with signs of fluid overload and electrolyte abnormalities including hyponatremia and hyperkalemia. Despite treatment including heparin, amiodarone, and metoprolol for atrial fibrillation, and interventions for hyperkalemia, the patient deteriorated rapidly into cardiac arrest characterized by Torsades de pointes, which was mistaken for ventricular fibrillation. Despite resuscitative efforts, he did not achieve return of spontaneous circulation and autopsy revealed sudden cardiac arrest without myocardial infarction as the cause of death. The commentary highlights how the misinterpretation of a common laboratory complication can lead to incorrect treatment and patient harm.

Take the Quiz View Activity Announcement

CME/MOC

Management of CSF Leaks After Elective Spine Surgery: Routine Laminectomy Leads to Fatal Discitis and Sepsis

Jose A Castillo Jr, MD, Richard Price, MD, PhD, Kee D Kim, MD | December 18, 2024

Save to Library Share

An older man underwent L4-5 decompressive lumbar laminectomy and discectomy, which was complicated by intraoperative durotomy. At a follow-up visit, he reported clear drainage from the surgical site and the surgeon suspected a cerebrospinal fluid (CSF) leak. Despite conservative management at home, his condition worsened over several weeks before being readmitted with discitis, osteomyelitis and sepsis, resulting in his death 50 days after the operation. The commentary provides an overview of the clinical manifestations of intraoperative durotomy, intra- and postoperative management strategies to address intraoperative durotomy and CSF leaks, and approaches to ensuring patient safety during spine surgery.

Take the Quiz

CME/MOC

Neurological Red Flags: A Missed Stroke after Intermittent Episodes of Dizziness and Headache

Jonathan A. Edlow, MD, FACEP | December 18, 2024

Save to Library Share

A patient in his mid-30s presented to the emergency department (ED) with three weeks of intermittent left-sided headaches, balance issues, and one brief episode of difficulty speaking and moving. On exam, the patient had normal vital signs, neurologic exam, and initial imaging; he was discharged from the ED without consultation from neurology. A few hours later, he suffered a stroke due to left posterior cerebral artery occlusion and vertebral artery dissection, leading to severe neurological deficits after delayed treatment. The commentary highlights the importance of thorough neurological investigation of patients presenting with dizziness and other simultaneous neurological symptoms, the challenges of diagnosing transient ischemic attack (TIA) – particularly in a young, healthy adult, and the limitations of non-contrast brain CT for identifying TIA or early ischemic strokes in patients presenting with dizziness.

Take the Quiz

Hypoxemia after Emergency Intubation

Christian Bohringer, MBBS and Hong Liu, MD | December 18, 2024

Save to Library Share

After drowning in a pool, a 19-month-old child arrived at the ED in respiratory distress, requiring intubation and mechanical ventilation. The patient's SpO2 did not improve after the first intubation attempt; after a second attempt, it was discovered that the mechanical ventilator had not been connected to an oxygen source. The commentary discusses approaches to improving safety during emergency intubation, such as capnography confirmation, standardized algorithms to assess post-intubation hypoxia, and simulation training to improve intubation skills.

Importance of Following Safe Practices for Infant Feeding and Handling Expressed Breast Milk

Marla Shauer, PhD, CNM, MSN, Diana Guzman Perez, MS, Brenda Chagolla, RN, PhD, CNS, FACHE | December 18, 2024

Save to Library Share Infant feeding presents an opportunity for hospital and community staff to review safety processes around feeding of expressed breast milk or the provision of infant formula. This commentary describes safe infant feeding practices and strategies to avoid breast milk feeding errors or the provision of expired feeding products.

CME/MOC

Delayed Symptomatic Subdural Hematoma Following an Initially Normal CT Head

Ryan Martin, MD, FCNS and Kiarash Shahlaie, MD, PhD, FAANS, FCNS | October 30, 2024

Save to Library Share A man in his mid-50s presented to the hospital with a persistent headache after a sledding injury. A head CT scan was read as normal and he was diagnosed with a minor head injury and discharged without any specific treatment. Three weeks later, he presented with ongoing symptoms including worsening cognition and increased headache and was diagnosed with post-concussive syndrome and discharged without specific treatment. He was later diagnosed with a large frontal subdural hematoma requiring urgent surgery. The commentary discusses risk factors for delayed acute subdural hematoma and the importance of repeat brain imaging in patients with risk factors and persistent symptoms.

Take the Quiz

CME/MOC

A Cognitive and Communication Blind Spot Contributes to Permanent Paralysis

Garth Utter, MD | October 30, 2024

Save to Library Share A 38-year-old man sustained multiple injuries in a motorcycle crash, including head trauma, chest injuries, and spinal fractures. Attempts to intubate him to manage his respiratory distress were unsuccessful and he underwent emergency cricothyroidotomy. Despite initial neurological evaluations indicating normal extremity movements, he developed progressive paralysis of his lower extremities over the hospital course. A delayed MRI revealed a significant epidural hematoma compressing his spinal cord from C3 to C7, prompting emergency surgery. Despite decompression, he suffered permanent paralysis. The commentary highlights the cognitive pitfalls associated with managing and processing large volumes of clinical information and the importance of effective communication and active engagement among all clinical team members.

Take the Quiz

A Tale of Two Falls

Victoria Jackson, DNP, RN, PHN, FNP-C, PA-C and Anna Satake, PhD, MSN, GCNS, RN | October 30, 2024

Save to Library Share These cases involve two elderly patients presenting to the emergency department (ED) who suffered falls during their care, despite recognition of risk factors including previous ground-level falls. The commentary summarizes risk factors for fall injuries

among high-risk populations (such as older adults), appropriate use of fall assessment and prevention strategies, and strategies to improve communication between healthcare team members to reduce the risk of patient falls.

CME/MOC

Errors in Managing an Open Wound of the Elbow Leading to Multiple Complications and Operations

David K. Barnes, MD, FACEP and Garth Utter, MD, MSc, FACS | September 25, 2024

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A man presented at the emergency department (ED) after a motorcycle crash. He had superficial lacerations on his left elbow, where wood chips were noted on exam and x-ray but were not fully removed before discharge. He was discharged with antibiotic prescriptions, but returned three days later with worsening symptoms, including pain, swelling, and pus, leading to additional foreign material being removed and further antibiotic treatment, but without repeat x-rays. Ultimately, he developed osteomyelitis, requiring multiple surgeries and a long hospital stay due to the retained foreign bodies. The commentary highlights the importance of evaluating patient risk of wound infection and poor wound healing, the role of imaging modalities to help identify foreign material in wounds, and diligent follow-up to prevent complications.

Take the Quiz

Hypoxic Gas Supply from Cross-Connected Pipelines

Christian Bohringer, MBBS, Adam Guemidjian, and Garth Utter, MD, MSc | September 25, 2024

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An 8-year-old boy undergoing a neck mass aspiration experienced a sudden drop in oxygen saturation and heart rate, requiring CPR and intubation, due to being administered nitrous oxide instead of oxygen following a maintenance error by an inadequately trained employee. The patient was transferred to the intensive care unit (ICU) on a ventilator but remained unresponsive and died. The commentary discusses several approaches to improving patient safety during anesthesia administration in the surgical suite, such as use of oxygen analyzers and considering hypoxic gas mixture as the cause for sudden deterioration.

Infection After Carpal Tunnel Surgery

Commentary by Robert M. Szabo, MD, MPH, FAOA | August 28, 2024

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A woman underwent surgery for carpal tunnel syndrome without complications and was discharged with instructions to avoid soaking her hand in water (to reduce infection risk) and return for suture removal in 10 days. Despite reporting symptoms such as warmth, redness, and pain in her wrist shortly after surgery, her concerns were not adequately addressed by the surgeon's office. The patient returned for suture removal and visit notes stated that the wound was not infected or swollen. However, the patient continued to report pain, swelling, redness and oozing at the incision site after suture removal. Two weeks later, she presented to the emergency department (ED) and diagnosed with a severe infection, leading to multiple hospitalizations and permanent impairment of her right hand. The commentary discusses the

importance of preoperative discussions about post-operative care, including sterile practices, and the use of protocol-based management strategies for medical office personnel to ensure that patient interactions and communication are appropriately documented and acted upon

Don't Wait to Collect an Accurate Weight: A Case of Subtherapeutic Insulin Therapy

Commentary by Brittany Newton, PharmD and Roslyn Seitz, MPH, MSN | August 28, 2024

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An adolescent with type 1 diabetes presented to the emergency department (ED) with dizziness, fatigue, and a "high" reading on her home blood glucose monitor. She was diagnosed with diabetic ketoacidosis (DKA) likely due to insulin pump malfunction. Despite initial treatment, her condition did not improve as expected. Later, it was discovered that an incorrect weight was used to calculate her insulin drip rate, based on a guessed weight provided by the patient upon admission. Once her actual weight was used to adjust treatment, her DKA resolved rapidly within 12 hours. The commentary discusses how human factors engineering and electronic health record (EHR) functionalities can optimize weight measurement during patient encounters and the role of clinical pharmacists in the ED to improve medication safety.

CME/MOC

Intraoperative Awareness during Rhinoplasty

Christian Bohringer, MBBS and Jaijeet Toor, MD | July 31, 2024

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During elective rhinoplasty, a patient became aware that she was awake. She heard the conversation among the surgical team members and felt that the breathing tube was pushed up against the inside of her throat, impeding her ability to breathe. She was unable to move but recalls making a "monumental effort" to utter a small groaning noise, which alerted the surgeon to the fact that she was awake. She heard the surgeon verbally acknowledge her condition and offer reassurance that the operation was almost over. During the first follow-up visit, the surgeon did not address the situation, so the patient brought it up at the end of the visit. The surgeon seemed surprised and embarrassed that the patient remembered waking up during the operation but could not explain what happened. The commentary discusses the risk factors for intraoperative awareness, approaches to prevent awareness, and the importance of validating and addressing the patient's experience, including addressing symptoms of post-traumatic stress syndrome.

Take the Quiz

Misplaced Vial: Medication Kit Variability Contributes to Medication Error During Patient Transport

Paul MacDowell, PharmD, BCPS and Eloh McGee, PharmD | July 31, 2024

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A 19-month-old boy was being transferred to a tertiary medical center from another emergency department after undergoing comprehensive resuscitation efforts due to cardiopulmonary arrest. The transport clinician intended to administer rocuronium (a neuromuscular blocking agent) to treat ventilator desynchrony, but

instead unintentionally administered flumazenil (a benzodiazepine antagonist). The clinician promptly corrected the error by administering the appropriate dose of rocuronium. The commentary highlights the importance of “double checks” during medication administration and how both technologic approaches and human factors engineering principles can support safe medication administration practices.

CME/MOC

Hemorrhagic Shock after Elective Spine Surgery: Failure to Rescue after Limited Response to Nursing Concerns.

Scott Zakaluzny, MD, FACS | July 10, 2024

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A 67-year-old man with severe low back pain was admitted to the hospital for anterior lumbar interbody fusion (ALIF) with bone autograft from the iliac crest. The surgical team had difficulty controlling bleeding and the patient left the operating room (OR) with the bone graft donor site open and oozing blood. In the postanesthesia care unit (PACU), the nurse called the attending physician three times to report hypotension and ongoing bleeding. Each time, the surgeon ordered hetastarch for volume expansion. Over the next 14 hours, the patient’s blood pressure remained at or below 90/60 with continued complaints of back and pelvic pain. The next morning, the patient was unresponsive and in severe hypovolemic shock. Electrocardiography confirmed a non-ST segment elevation myocardial infarction (NSTEMI). The patient was transferred to an intensive care unit and resuscitative efforts were initiated, but the patient expired from multiorgan failure resulting from hypovolemic shock. The commentary discusses appropriate management of ongoing intraoperative and postoperative bleeding and how a culture of safety can enable care team members to voice concerns about patient safety.

Take the Quiz

Missed Compartment Syndrome after Steep Lithotomy Position for Laparoscopic Gynecological Surgery

Christian Bohringer, MB BS and Gustavo Chavez, MD | July 10, 2024

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A 36-year-old woman with class 2 obesity underwent a difficult laparoscopic hysterectomy, performed in the lithotomy position with a steep head down (Trendelenburg) position. Intermittent pneumatic compression devices were placed on both calves to prevent venous thrombosis (DVT), but on awakening from general anesthesia, the patient complained of severe pain in the right leg. The gynecologist made a presumptive diagnosis of DVT and put her on subcutaneous dalteparin at therapeutic dosing and acetaminophen and oral morphine for pain relief. The patient continued to complain of severe pain and paresthesias in her right calf and doppler ultrasound scan was negative for DVT. The next day the orthopedic on-call team was consulted and diagnosed compartment syndrome of the right leg. The patient required fasciectomy of the right leg and excision of necrotic muscle tissue, with a prolonged hospital stay. The commentary discusses how patient positioning during surgery can increase the risk for surgical complications, the role of interdisciplinary teamwork to achieve optimal positioning, and the importance of early identification of compartment syndrome to prevent permanent injury.

CME/MOC

Managing Complexity in Diagnosis: Life-threatening Complications after Gastric Bypass Surgery.

Andrew P.J. Olson, MD, FACP, FAAP | May 29, 2024

Five weeks after gastric bypass surgery, a woman experienced persistent nausea and vomiting, leading to dehydration and multiple outpatient treatments. Despite visiting an outpatient clinic and emergency department (ED) for ongoing symptoms and significant weight loss, the nausea and vomiting persisted. Eventually, she was admitted to the ICU with pancreatitis and dehydration. Subsequently, she exhibited neurological symptoms including difficulty walking, tingling sensations, and cognitive impairment. She was discharged with orders for total parenteral nutrition (TPN). Three days after discharge, she was readmitted for worsening confusion and profound motor weakness, which progressed to respiratory failure requiring mechanical ventilation. Laboratory tests revealed an extremely low thiamine level, and the patient was diagnosed with advanced Wernicke-Korsakoff Syndrome, exacerbated by a lack of proper nutrition, and resulting in permanent brain damage, necessitating ongoing care. The commentary discusses how biases associated with medical conditions, such as obesity and its treatment, can lead to poorer outcomes, as well as strategies to continually re-evaluate diagnostic reasoning in light of ongoing, intensive management and management reasoning

Take the Quiz

EXHIBIT 6

Development of a Web-Based Patient Safety Resource: AHRQ Patient Safety Network (PSNet)

Niraj L. Sehgal, MD, MPH; Sumant R. Ranji, MD; Kaveh G. Shojania, MD;
Russ J. Cucina, MD, MS; Erin E. Hartman, MS; Lorri Zipperer, MA; Robert M. Wachter, MD

Abstract

Since the Institute of Medicine released its *To Err Is Human* report, published research and other activities related to patient safety have increased substantially. Interested stakeholders now require a resource to stay abreast of the latest news and findings. Under contract with the Agency for Healthcare Research and Quality (AHRQ), we developed a comprehensive and continuously updated Web-based portal to address this need. The AHRQ Patient Safety Network (AHRQ PSNet), launched in April 2005, features weekly updates of annotated resources, a collection of patient safety "classics," and opportunities for users to receive weekly updates and create their own "My PSNet" option. As of July 2007, the site has more than 6,500 subscribers to the weekly newsletter and receives approximately 1.5 million yearly visits. We anticipate that the AHRQ PSNet will continue to provide important and updated safety information to a diverse array of users and to leverage the reach and scalability of the Internet.

Introduction

The landmark Institute of Medicine report, *To Err Is Human,* increased public awareness about patient safety and catalyzed efforts to reduce medical errors.[1] The number of stakeholders—providers, administrators, legislators, regulators, payers, and patients—continues to grow. Advances are also evidenced by the rapid growth of published research,[2] the development of practical toolkits and educational curricula, the creation of safety-specific journals, and the availability of dedicated patient safety conferences.

A resulting challenge is to stay abreast of the latest patient safety literature and news. Whereas certain fields (e.g., cardiology or critical care) allow their "experts" to remain updated through a relatively narrow set of journals and conferences, patient safety experts span a variety of disparate fields. A clinician, researcher, educator, administrator, or policymaker trying to stay updated in the field might need to read a wide range of general and specialty journals in medicine, nursing, and pharmacy, as well as human factors, informatics, health policy, and law.

Recognizing the need for a comprehensive information resource for those working in patient safety, the Agency for Healthcare Research and Quality (AHRQ) issued a Request for Proposals (RFP) in July 2004 to create a "one-stop" Web-based resource for the patient safety community. Our editorial team—which comprised physicians with a strong interest and track record in patient safety and medical education, the managing editor for AHRQ Morbidity & Mortality Rounds on the Web (AHRQ WebM&M), and a library scientist and cybrarian with expertise in

patient safety—partnered with a technical contractor, Silverchair (Charlottesville, VA), and we were awarded the contract.

In particular, we aimed to leverage our experience and success with AHRQ WebM&M,[3] the Web-based safety journal that first combined anonymous reporting with case-based presentations and expert commentaries.[4] Our goal was to build a new and innovative patient safety portal that would allow delivery of timely and highly accessible information, evidence, education, and insight to improve health care systems and patient care and create a partnership and linkage with AHRQ WebM&M to permit users to benefit from both sites' resources.

Launched in April 2005, AHRQ's Patient Safety Network (AHRQ PSNet) features weekly updates of annotated resources, a collection of patient safety "classics," and opportunities for users to receive weekly e-mail updates and create their own "My PSNet" option.[5, 6] In this article, we describe the development of AHRQ PSNet, summarize a number of key outcome measures based on site-user data, and discuss future directions. We hope our experiences provide useful lessons that can be applied by others dedicated to patient safety and those who may be considering the use of the Internet as a tool to disseminate health-related content to a widely dispersed, worldwide audience.

Site Development

The contract called for a creative and engaging patient safety portal that linked to existing resources (everything from toolkits on the AHRQ Web site to resources from the Joint Commission), could generate both passive content (i.e., posted on the site) and active alerts for new content (i.e., e-mailed to registered users), and had a fully searchable set of resources.

In addition to these requirements, our goals were to develop an intuitive and attractive user experience, ensure a seamless interface with AHRQ WebM&M, create a powerful taxonomy for organizing a large number of resources, and allow extensive customization. Next, we describe the major issues and challenges in site development, including choosing content for inclusion, refining our editorial workflow, creating specific site attributes, and developing our taxonomy.

Content Selection and Editorial Workflow

To create timely and high-quality weekly AHRQ PSNet issues, we needed a system that was fluid and dependable, could function as a content management tool, and would alert different members of the editorial team when their tasks were ready for assignment. Our technical contractor helped develop an online authoring tool that provided the necessary structure and organization to help publish our new issue every Wednesday.

Each week, our library scientist and editorial team identify potentially relevant content via systematic searches of bibliographic databases (e.g., PubMed) and also several other clinical, health care administration, business, legal, and lay press publications (e.g., newspapers and magazines). We also closely follow industry and consumer dialogue on patient safety issues via blogs, LISTSERV™ applications, and Web-facilitated news and site update alerts. Finally, our managing editor is able to anticipate inclusion of important resources in a timely manner through media access to upcoming, embargoed publications.

One of our first editorial decisions during site development focused on the number of new resources we could reliably add in a given week. We decided to choose quality over quantity, opting to provide users with editorial input into new content, rather than simply including all relevant content and potentially overwhelming users. After agreeing on a starting set of resources prior to launch (with larger input from our expert Editorial Board), we targeted inclusion of 20 to 25 new resources each week (~1,000/year) spanning journal articles, newspaper stories, conference proceedings, toolkits, and reports.

Our editorial team spotlights certain items each week by accompanying the resource with an annotated summary. These summaries (approximately 100 to 150 words) aim to highlight important information from the resource and lead users to related content, glossary items, or AHRQ WebM&M commentaries via hyperlinks. Thus, while reading an annotated summary, a user is also directed to other relevant literature elsewhere on AHRQ PSNet, a feature that enhances the user experience (Figure 1). The remaining resources receive shorter summaries with the same linking principles to create similar depth to each resource description. Evaluation of past user behavior (discussed in more detail in the Results section) has allowed us to tailor our editorial decisionmaking over time. During the last steps of our process, the "What's New" home page is designed, with resources chosen, prioritized, and highlighted for publication.

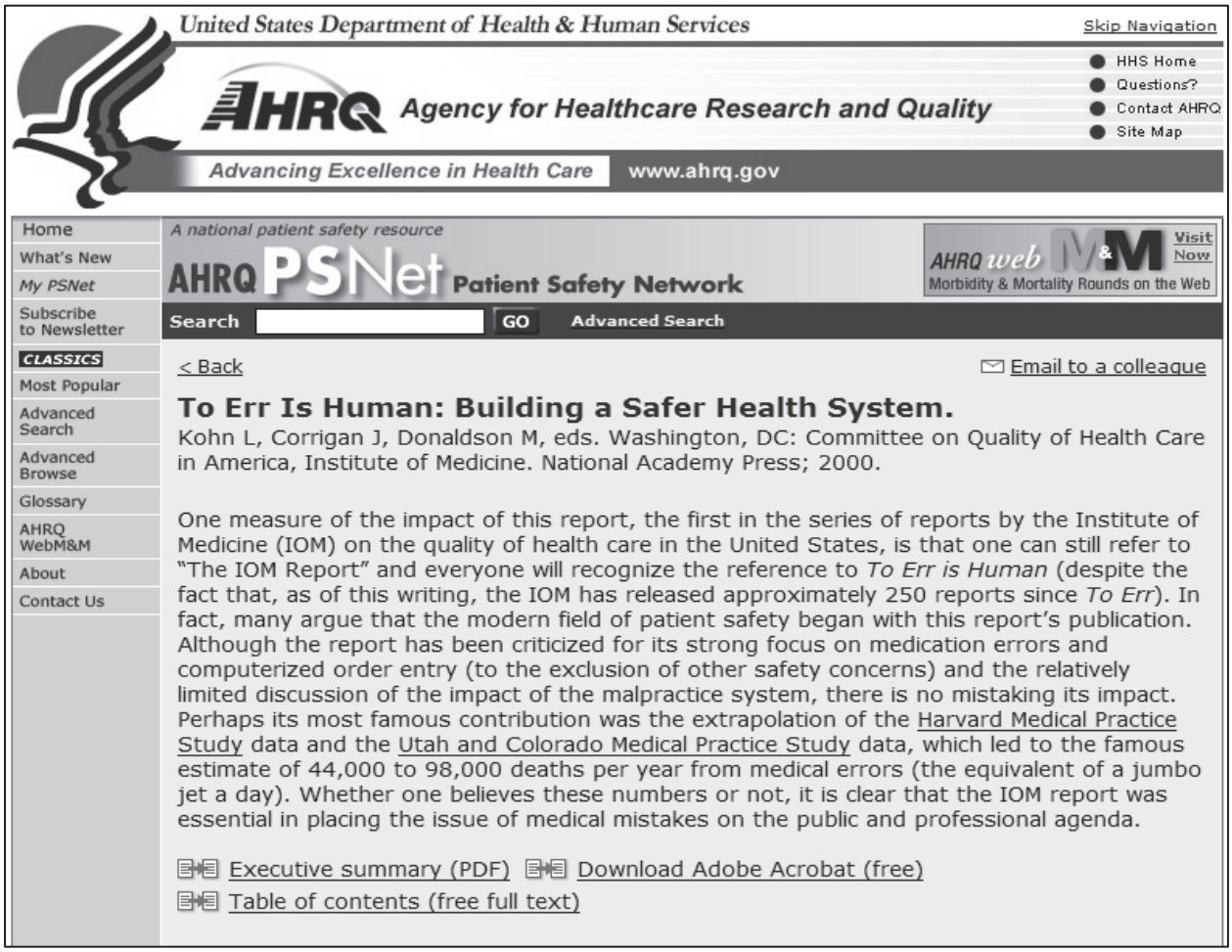

Figure 1. AHRQ PSNet sample annotation.

One recurring challenge of our content selection process comes as we try to determine whether a resource is about "safety" (our mandated scope) or "quality" (generally, outside our scope). The distinction between "patient safety" and "health care quality" is by no means clear and is, to some extent, purely academic.[7] Although our charge is to focus on patient safety, we do not want to inappropriately exclude quality-focused resources that are also relevant to a safety-oriented audience. For example, a study on the use of information technology (e.g., computerized provider order entry, CPOE) that improved the quality of care delivered to patients with diabetes might be excluded as quality-focused. On the other hand, a similar study demonstrating the role CPOE played in improving beta-blocker use in the perioperative setting might warrant inclusion, given that perioperative beta-blocker use was identified as an important patient safety intervention in an AHRQ technical review (e.g., that defined one aspect of safety practices as cross-cutting).[8] The balance here remains challenging and generally defies fixed rules for inclusion and exclusion.

The broader issue involves defining the "market" for patient safety information. Does every black box warning about a medication or device require inclusion? Does an article focused on quality but relating to safety published in a marquee journal trump a safety-specific article in a lower impact journal? These sorts of discussions are resolved through consensus and with an eye toward past user feedback, while keeping in mind our overarching mission: to err on the side of high-quality resources, rather than aiming for an inclusiveness that would likely generate an overwhelming amount of content and a poor user experience.

Site Attributes

During site development, we identified the chief site attributes as:

- Timely sharing of new information.
- An attractive, usable, and intuitive user interface.
- A customized and searchable set of resources using a taxonomy that offered multiple axes.
- A balance between dynamic content (e.g., literature, meetings, and news) and resource content (e.g., toolkits, conference proceedings, and legislation).

Below, we highlight a few specific features that have been popular with our users and demonstrate the efforts to create a particular user experience on AHRQ PSNet.

What's New and AHRQ PSNet Newsletter

We designed an interface on the site to highlight new content—i.e., "What's New"—and an active way to alert users of the new content: the electronic newsletter. With 20 to 25 carefully chosen resources each week, we still felt the number could potentially overwhelm users on the home page. Instead, we produced a dynamic left side of the home page for "What's New" and a static right side of the home page for existing content (Figure 2).

In "What's New," we select the top 10 to 12 resources each week, organized by resource type (i.e., journal article, newspaper/magazine article, Web resource), and prioritize them based on desired connection between the two sites.

Figure 2. AHRQ PSNet home page.

To cue users to explore new content, we provide an opportunity to receive an AHRQ PSNet newsletter that is electronically delivered to subscribers. The email displays the "What's New" content and allows users to link directly to the individual resources on AHRQ PSNet. We believe this feature is vital for keeping our users easily updated, a primary objective during our site development.

My PSNet

The "My PSNet" option allows users to view the latest resources available in their self-designated areas of interest. When a new resource matching their specifications is added to AHRQ PSNet, they receive e-mail alerts up to once weekly. The process begins by walking users through a series of check boxes to highlight their interests—e.g., choosing a safety target, an approach to improving safety, a setting of care, a clinical area, a target audience, and an error type. Each of these categories drills down to more specific areas, so each user can customize preferences as broadly as "All Approaches to Improving Safety," or simply "Teamwork

Training." We believed that by helping users define their areas of interest, matched with our custom developed taxonomy (described below), the user experience would be optimized.

Classics

Given the volume of content on AHRQ PSNet, we wanted to highlight enduring and influential resources in patient safety—i.e., our "Classics." After agreeing on an initial list of classics at site launch (with input from our Editorial Board), our editorial team reviews resources every 6 months to designate new "Classics." Typically, we start with a list of potential resources—all of our selected "key" articles (i.e., those with longer annotation summaries), those highlighted on the "What's New" home page, and the most frequently viewed and cited resources. The editorial team convenes, chooses a target of approximately 50 new classics per year, and then seeks input from the Editorial Board and Advisory Panel. Once final selections are made, these resources receive the "Classic" designation, increasing its weight and importance in our searching algorithms. We believe this feature provides users, particularly those new to the field, with an easy method to identify landmark resources. A few times a year, we will also designate a particularly noteworthy new resource as an "Instant Classic."

Glossary

Building on the success of the AHRQ WebM&M glossary, we reproduced and expanded the glossary on AHRQ PSNet. The glossary terms have grown in number and depth, as many contain links (similar to our annotations) and important references. Given the breadth of the field, a comprehensive glossary helps explain commonly used terms (e.g., "safety culture") and activities (e.g., root cause analysis) in patient safety. Adding or modifying glossary terms is part of the editorial workflow; new terms are identified or raised by editorial members, often while writing weekly annotations for new resources. AHRQ PSNet and AHRQ WebM&M glossaries are shared, and searching for a phrase on AHRQ PSNet, such as "safety culture," will provide both the glossary term and the available resources matching the search term.

Taxonomy

A good user experience on AHRQ PSNet requires sensitive and specific methods for visitors to locate resources. A simple text search (e.g., "culture") across the site's resources would be inadequately specific, whereas an unstructured keyword list would quickly become unmanageable due to size and internally redundant. Therefore, we designed a structured categorization of descriptive terms—i.e., a taxonomy—to label resources on AHRQ PSNet. The taxonomy was designed by consensus and iterative review by our editorial team. Taxonomies composed by such expert groups tend to be large; they balance high specificity when describing complex domains at the cost of complexity and decreased usability. We tried to minimize these limitations by carefully restricting the taxonomy to the minimum degree of specificity necessary to support a user experience on a Web site, rather than by attempting to exhaustively describe either the breadth of the field or the distinctions possible within it.

For example, our list of "Medical Complications" is limited to five items—nosocomial infections, pressure ulcers, delirium, venous thrombosis, and falls—rather than an enumeration of every possible medical complication. These five items were selected based on their prominence in the field and the existing literature. While we do sacrifice some specificity in the

labeling, we avoid creating the unusable user experience that would result from an attempt to list every possible medical complication.

The taxonomy is organized along 7 descriptive axes: (1) Setting of Care, (2) Target Audience, (3) Clinical Area, (4) Safety Target, (5) Error Types, (6) Approach to Improving Safety, and (7) Resource Origin. Each axis is a hierarchy of terms, ranging from the very general (e.g., Setting of Care > Hospitals) to the very specific (e.g., Safety Target > Medication Safety > Medication Errors > Transcription Errors). Each AHRQ PSNet resource is tagged by professional indexers with zero or more taxonomy terms from each of the seven axes and could be tagged with very specific "leaf" terms, or more general "trunk" terms as appropriate. The tagging drives the site's "Browse" user experience, where users can conceptually traverse the resource collection along a descriptive axis, or define a targeted search that intersects terms from two or more of the descriptive axes.

In the initial design, the optimum level of specificity was determined subjectively by the editors, with a prejudice toward avoiding an overly complex user experience. As AHRQ PSNet has accumulated content and visitor usage data, we have used statistical methods to identify places in the taxonomy to increase specificity or add new topic areas (e.g., "medication reconciliation" and "red rules" were added after site launch). We anticipate ongoing revisions to the taxonomy, based on statistical analysis, editorial assessment of the trends in the literature, and subjective feedback from the site's visitors.

Results

Site Usage and User Satisfaction

We have monitored the impact of AHRQ PSNet by three mechanisms:

- Site usage—measured by unique visits per month.
- User content selection—measured by analysis of user search behavior and resources accessed.
- User demographics and satisfaction—measured by voluntary survey responses.

As shown in Figure 3, the site has steadily attracted more users since its launch, with an increase from approximately 30,000 visits per month in April 2005 to more than 110,000 in July 2007. Additional data from July 2007 indicate more than 3,600 site visits daily, more than 6,500 subscribers receiving the weekly "What's New" e-mail newsletter, and more than 3,200 subscribers with established "My PSNet" accounts. At the launch of AHRQ PSNet, the number of visits to it and to AHRQ's WebM&M were roughly equal. By way of comparison, AHRQ PSNet now has approximately 33 percent more daily visits than AHRQ WebM&M; combined, the two sites are trending toward approximately 2.5 million unique visits per year.

Each time a user accesses the site and views a specific resource, Silverchair's Web server logs a "hit" for the individual resource item, as well as for the taxonomy terms used to classify that item. For example, if a user viewed an annotation of a journal article on the subject of "medication reconciliation," it would be recorded as a "hit" for the taxon "Medication Safety." When a user searches the site, the server also logs the exact search string used. We use monthly

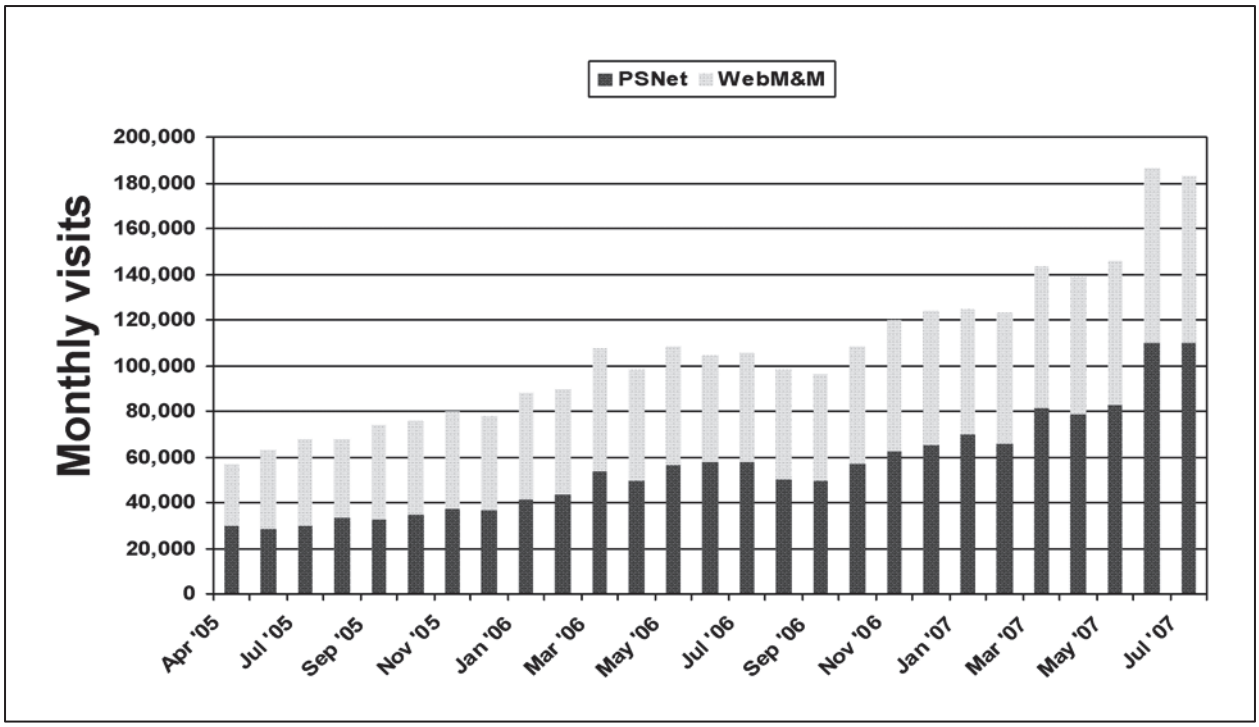

Figure 3. Visits per month to AHRQ PSNet: April 2005 to July 2007.

summary reports of these data to analyze our user's content interests. Table 1 shows the most commonly accessed taxons over the past year; they represent the patient safety topics of greatest interest to our users. The diversity of topics, ranging from specific errors and interventions (e.g., "medication errors" and "teamwork training") to systems and organizational issues (e.g., "nurse staffing ratios" and "culture of safety") speaks to the varied interests of our

Table 1. Most common search strings and taxonomy areas: July 2006 – July 2007

Top 10 search strings	Top 10 taxonomy areas
"SBAR" (Situation/Background/Assessment/Recommendation)	Nurse staffing ratios
"Falls"	Medication errors/preventable adverse drug events
"Medication reconciliation"	Culture of safety
"Communication"	Look-alike, sound-alike drugs
"Medication errors"	Human factors engineering
"Patient falls"	Patient falls
"CPOE" (computerized provider order entry)	Nosocomial infections
"Patient safety"	Critical care nursing
"Disclosure"	Approach to improving safety
"Culture"	Teamwork training

readers. Last summer, we conducted a voluntary user survey, gathering data on user satisfaction with the site and user demographic data. Most respondents identified their primary institutional affiliation as a hospital or health care system (60 percent) or academic institution (16 percent). The respondents came from a variety of professions and institutional roles, including nurses, physicians, and quality improvement (QI) and patient safety professionals, indicating that AHRQ PSNet is meeting our goal of providing resources for a diverse array of users (Table 2). Overall, users were very satisfied with the content, features, and ease of use of AHRQ PSNet; 92 percent of respondents stated they would recommend the site to a colleague.

Table 2. Characteristics of AHRQ PSNet users

Respondent role	Proportion of respondents (%)
Nurse/nurse practitioner	20
Quality improvement professional	19
Physician	14
Risk management professional	11
Patient safety officer	9
Administrator/manager of hospital, health plan, or medical group	6
Pharmacist	5
Others (e.g., librarians, Federal/State policymakers, students, writers/editors, and researchers)	<5

Future Directions

In May 2007, responding to the user survey, feedback, and site experiences, we launched an upgraded version of AHRQ PSNet. The improved user interface included easy-to-access navigation on the left and preserved the usability of the site. The upgrade augmented users' search capabilities using more sophisticated search algorithms. A new "Most Popular" feature highlights the most frequently viewed resources on the site.

Moving forward, we anticipate further upgrades with two specific features in the advanced planning phase: Podcasts and Patient Safety Primers. Podcasts—which are digital media files that can be automatically delivered through subscription feeds—have become a popular method for individuals to stay abreast of their favorite topics by listening at their convenience. Medical journals began offering such features recently, and the interest in developing podcasts for AHRQ WebM&M and AHRQ PSNet seemed natural and was fully supported by AHRQ. Once the technical capacity is built, we will provide podcasts for AHRQ WebM&M and AHRQ PSNet content.

With more than 3,000 content items on AHRQ PSNet, and 20 to 25 new resources added each week, novice users may find it difficult to become familiar with basic patient safety concepts.

For example, searching on "medication reconciliation" (the third most common search term as of fall 2006) yields 42 resources, displayed on three different screens. Since only 39 percent of users in the 2006 AHRQ PSNet user survey identified themselves as patient safety officers or QI/risk management professionals, it is likely that many of our users are relatively new to the field of patient safety and thus, could benefit from editorial guidance in accessing content. Therefore, in the near future we plan to introduce "Patient Safety Primers," individual pages within AHRQ PSNet written by our editors on important patient safety topics.

The Patient Safety Primers will be organized clearly and will serve four key functions; they will:

1. Provide an introduction to the topic, including its definition, importance, and epidemiology.
2. Direct readers to the content items most relevant to the topic.
3. Improve integration of AHRQ PSNet content with AHRQ WebM&M content.
4. Improve access to both research-oriented and application-oriented content items.

In order to integrate the latest, most relevant content, the Patient Safety Primers will be continuously updated by the editorial team. Introduction of Patient Safety Primers will help move AHRQ PSNet from being a repository and library of patient safety resources toward becoming an even more comprehensive resource for the patient safety community.

Conclusion

In the past, we have described our first effort at bringing patient safety education to the Internet via AHRQ WebM&M as the "culmination of a bold AHRQ experiment." AHRQ PSNet represents an extension of that experiment—to become the world's premier resource for materials related to patient safety—and it appears (according to user response and visit statistics) to have been successful in this regard. In the fields of safety and quality, no comparable products, services, or Web sites provide a one-stop portal that captures important information from diverse sources, organizes the information with careful editorial input, and presents a product with a customized and attractive user interface.

AHRQ PSNet demonstrates the capacity for and value in delivering continuously updated patient safety news and literature to interested stakeholders. We hope these will aid providers, researchers, administrators, and policymakers in preventing medical errors, redesigning safer health care systems, teaching the principles of safety, and collaborating across disciplines and institutions.

Acknowledgments

We thank Marge Keyes, our AHRQ project officer, for her ongoing and active support; our colleagues at Silverchair for their collaboration and technical assistance; and Kristen Fitzhenry for her invaluable assistance on the project. We also thank all of our dedicated users for their praise and feedback of the site, as their input drives our improvement efforts. Funding for AHRQ PSNet and this article was provided by AHRQ Contract 290-04-0021.

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EXHIBIT 7

Discover the latest on patient safety and get CME credits on PSNet

June 28, 2024

By Nadine Yehya

The UC Davis **Center for Healthcare Policy and Research (** <https://health.ucdavis.edu/chpr/>CHPR) recently won a $4 million award to continue editing and developing content for **the U.S. Agency for Healthcare Research and Quality's (AHRQ) Patient Safety Network (PSNet)** <https://psnet.ahrq.gov/> for another five years.

PSNet is a federal website featuring the latest news and resources to improve patient safety and prevent medical errors. It is a great resource for patients, educators, researchers, clinicians, consumers and policymakers worldwide. The website receives over 3.3 million page views annually.

The center assumed its editorial leadership role for PSNet in 2019. The co-editors in chief are UC Davis Professors **Patrick Romano** <https://health.ucdavis.edu/pediatrics/team/122/patrick-romano---internal-medicine---pediatrics-general-sacramento/> and **Deb Bakerjian** <https://health.ucdavis.edu/nursing/ourteam/faculty/Bakerjian_bio.html>, and Sarah Mossburg of the American Institute for Research.

"We are very proud at UC Davis Health to be entrusted with providing quality patient safety content and editing PSNet," said Romano. Romano is a professor in the Departments of **Internal Medicine** <http://www.ucdmc.ucdavis.edu/internalmedicine/> and **Pediatrics** <http://www.ucdmc.ucdavis.edu/pediatrics/> and member of the CHPR leadership team. "Our editorial team of faculty from many clinical departments brings a wealth of experience and deep expertise, ensuring the content is accurate, reliable and relevant."

> "Our editorial team of faculty from many clinical departments brings a wealth of experience and deep expertise, ensuring the content is accurate, reliable and relevant."
>
> — Patrick Romano, a professor in the UC Davis School of Medicine, is a co-editor in chief of PSNet.

What is Patient Safety Network?

PSNet offers resources on patient safety research, innovations, toolkits and training. PSNet resources include:

- **Weekly updates** <https://psnet.ahrq.gov/issues>: the latest information on patient safety literature, news, tools and events.
- **Morbidity & Mortality on the Web (WebM&M) cases and commentaries** <https://psnet.ahrq.gov/webmm>: expert analysis of medical errors reported by readers. They include interactive learning modules with free Continuing Medical Education (CME) and Maintenance of Certification (MOC) credit.
- **Perspectives on safety** <https://psnet.ahrq.gov/perspectives>: expert viewpoints on current themes in patient safety, including interviews and essays published monthly.
- **Patient safety primers** <https://psnet.ahrq.gov/primers>: guides for key topics in patient safety.

PSNet also includes a **curated library** <https://psnet.ahrq.gov/curated-library/patient-team-member-clinical-care> that highlights the many ways **patients can be partners in medical safety** <https://psnet.ahrq.gov/curated-library/patient-team-member-clinical-care> to prevent errors and advocate for better health care.

Contributing content and certified Continuing Medical Education

The **editorial team** <https://psnet.ahrq.gov/Information/Editor> writes, updates and maintains the website's content. UC Davis Health faculty and staff have contributed extensively to PSNet content. "PSNet has provided a fabulous opportunity for UC Davis clinical providers and faculty to contribute their knowledge and expertise to improving patient safety, while also expanding their own scholarship," said Bakerjian. She is a professor in the **Family Caregiving Institute** <https://health.ucdavis.edu/family-caregiving/> at the **Betty Irene Moore School of Nursing at UC Davis** <https://health.ucdavis.edu/nursing/>.

In the last five years, more than 200 authors from the Schools of Medicine and Nursing, and from Pharmacy, wrote WebM&M and Spotlight Case commentaries. Of these, 35 were residents, fellows and medical students. Also, 23 authors wrote primers on topics such as **telehealth and patient safety** <https://psnet.ahrq.gov/primer/telehealth-and-patient-safety> and **burnout** <https://psnet.ahrq.gov/primer/burnout>.

The editors welcome case submissions and other contributions from UC Davis Health students, trainees, staff and faculty. Cases can be submitted at **https://psnet.ahrq.gov/submit-case-landing** <https://psnet.ahrq.gov/submit-case-landing>.

EXHIBIT 8

Government Response to Questions:
RFP: AHRQ-19-10002 (PSNet)

Note: "No solicitation amendment necessary" – This response is used when the solicitation as originally written is clearly articulated, when the response would be dependent on the offerors proposed approach, and/or when the Government does not have any additional information to provide.

Technical Questions:

1. **Question: Task 1: (Page 9)** Is the current site hosted at an AHRQ facility or FedRamp compliant environment?

   Government Response: **The current website is housed within a Federal Risk and Authorization Management Program (FedRAMP) compliant cloud service provider (CSP) and adheres to the requirements of the Federal Information Security Modernization Act (FISMA) of 2014.**

2. **Question: Task 1: (Page 9)** The SOW states "The website must also be hosted at an AHRQ facility..." does this imply the contractor will be given access to an AHRQ facility?

   Government Response: **Please see solicitation amendment.**

3. **Question: Task 1:** What are the underlying technologies (e.g. Linux, Apache, mySql, Php, MS .Net, IIS, MS-Sql) used by the existing site?

   Government Response: **The PSNet website needs to meet requirements of the Office of Management and Budget (OMB) memorandum M-16-21 "Federal Source Code Policy: Achieving Efficiency, Transparency, and Innovation through Reusable and Open Source Software". Any technologies that support this requirement are acceptable.**

4. **Question: Task 1:** What is the current technology being used for PSNet?

   Government Response: **See question 3.**

5. **Question: Task 1:** If migration is part of the contract, how many site pages will be moved to the new PSNet site?

   Government Response: **No solicitation amendment necessary.**

6. **Question: Task 1: Develop Web Platform that Houses PSNet (Page 9)** Will AHRQ leverage their existing GovCloud instance for hosting, or would the contractor need to maintain and operate our own FISMA compliant hosting environment?

   Government Response: **No solicitation amendment necessary.**

7. **Question: Task 1: Develop Web Platform that Houses PSNet (Page 9)** Related to content searching and content organization, what is the current taxonomy approach and is AHRQ open to evaluating expanding or refining taxonomy?

   Government Response: **Please see solicitation amendment.**

8. **Question: Task 1: Develop Web Platform that Houses PSNet (Page 9)** Is AHRQ or the incumbent using analytics to identify what types of content should be (1) recommended for specific users, (2) what content may or may not be retired and (3) used to help influence or determine other forms of marketing and outreach to PSNet users?

   Government Response: **No solicitation amendment necessary.**

9. **Question: Task 1: Develop Web Platform that Houses PSNet (Page 9)** On average, how many cases for consideration submitted on a monthly and annual basis?

   Government Response: **No solicitation amendment necessary.**

10. **Question: Task 1: Develop Web Platform that Houses PSNet (Page 9):** Is the $300 compensation for selected cases paid for by separate budget/contract?

    Government Response: **No solicitation amendment necessary.**

11. **Question: Task 1: Develop Web Platform that Houses PSNet (Page 9):** Should logged-in users be able to view cases that they have submitted somewhere in the account profile section of the site?

    Government Response: **No solicitation amendment necessary.**

12. **Question: Task 1: Develop Web Platform that Houses PSNet (Page 9):** Does AHRQ have metrics on the number of users accessing the site? Are there analytics reports available on the pages accessed and frequency?

Government Response:

AHRQ PSNet	Month of August 2018	Total as of 8/31/18
WebM&M cases received	1	959
Total visits	108,314	
Total page views	174,256	
Avg. daily visits	3,494	
Avg. time on site	2 min	
Avg. pg. views per visit	2	
GovDelivery subscriptions		52,408
CME quizzes passed	412	
Primer page views	39,914	
PSNet accounts		27,766
Education & Training Catalog page views	623	

13. **Question: Task 2: Content Development, Production and Coordination (Page 10)** Are there specific requirements for hosting video stories and video technologies? Will links to AHRQ's YouTube channel or Vimeo videos be allowed, or other external content housed elsewhere? We are thinking about video stories such as Josie King.

Government Response: **Please see solicitation amendment.**

14. **Question: Task 2:** Is the contractor expected to write articles and content OR just research and provide expert review of existing articles?

Government Response: **No solicitation amendment necessary.**

15. **Question: Task 2.2: (Page 11)** The requirement for the PSNet Classics Collection on the PSNet website updates is at least every 3 months or as directed by the COR based on AHRQ's need / requirements. Is there flexibility in the frequency of updates, such as monthly or bimonthly?

Government Response: **Please see solicitation amendment.**

16. **Question: Task(s) – Multiple, (Page - Multiple)** Are there established review timelines or service level agreements (SLAs) for the COR approval process? There are many deliverables in the project and understanding the approval process would be helpful in developing a schedule and work plan.

    Government Response: **No solicitation amendment necessary.**

17. **Question: Task 2.1: PSNet Collection** How are weekly updates to be sent/shared?

    Government Response: **Please see solicitation amendment.**

18. **Question: Task 2.1, 2.2, and 2.3: (Page 10-12)** Should all scholarly articles presented on the site be open or public access (e.g., available through PubMed Central, NCBI Bookshelf, Public Library of Science); or, are all relevant article citations desired, regardless of licensing (e.g., licensed university resources behind publisher paywalls)?

    Government Response: **Please see solicitation amendment.**

19. **Question: Task 2.1, 2.2, and 2.3: (Page 10-12)** For content queries related to licensed resources, does AHRQ have its own licensed resources to query for content or is it expected that public/open access (e.g., available through PubMed Central, NCBI Bookshelf, Public Library of Science) or other resources be utilized? If the latter, what will be the steps for negotiating potential licensing issues?

    Government Response: **See question 18.**

20. **Question: Task 2.4: PSNet Safety Primers** What is the expected format of the primers? How long are they expected to be?

    Government Response: **Please see solicitation amendment.**

21. **Question: Task 2.8: (Page 14)** Does AHRQ have specific requirements for the peer review process of the Spotlight Cases and Commentaries? Is the expectation that the vendor will recommend a process or will the vendor confirm to an existing peer review process approved by AHRQ?

    Government Response: **No solicitation amendment necessary.**

22. **Question: Task 2.9: (Page 14)** Does AHRQ have an estimate of the number of CE credits that PSNet users may apply for annually. Is the expectation that the costs for all credits be incurred by the contractor or that some or all of these costs will be incurred by persons requesting the credits?

    Government Response: **Please see solicitation amendment.**

23. **Question: Task 2.9: (Page 14)** Please clarify the anticipated workload and potential revenue sources related to providing CE/CME/CEU credits. Specifically, will the contractor have the ability to charge users nominal fees for obtaining CME credits and maintaining appropriate documentation thereof? Is the expectation that the costs for all credits be incurred by the contractor or that some or all of these costs will be incurred by persons requesting the credits? If not, what is the anticipated volume of requests for CE/CME/CEU credits? What is the estimated number of CE credits that PSNet users may apply for annually. Is the contractor expected to install verification tools to support CE/CME/CEU credit requests, such as elapsed time measurements and post-activity quizzes?

    Government Response: **See question 22.**

24. **Question: Task 3.1: (Page 15)** Is there a defined schedule for releasing enhancements, new features and issue resolution?

    Government Response: **No solicitation amendment necessary.**

25. **Question: Task 3.1: (Page 15)** Will existing monitoring, security and privacy tools that AHRQ has selected be used in the future? What are the current tools being used?

    Government Response: **No solicitation amendment necessary.**

26. **Question: Task 3.2: (Page 16)** Are the inquiries required to be maintained in an external tool or database outside of the AHRQ e-mail mailbox? Can a tool or process be recommended to AHRQ?

    Government Response: **Please see solicitation amendment.**

27. **Question: Task 4: Marketing and Promotional Plan (Page 16-17)** Can AHRQ provide current user statistics for PSNet, including a breakdown of user types by setting of care, if this information is available?

    Government Response: **No solicitation amendment necessary.**

28. **Question: Task 5: Support for Evaluation Activities (Page 18)** Please describe the type of external evaluation team that should be used to evaluate the impact of the PSNet content. Can the evaluation be performed by specific individuals and or users or are there other requirements of what the external evaluation team should consist of?

    Government Response: **Please see solicitation amendment.**

29. **Question: Task 5: Support for Evaluation Activities (Page 18)** Has there been an evaluation of PSNet already performed and is it publicly available to potential bidders. This evaluation would provide useful background regarding opportunities to improve PSNet.

    Government Response: **Please see solicitation amendment. The evaluations of PSNet show that overall satisfaction with the site is higher than average and the fixes to improve performance are minor.**

30. **Question: Task 6: Technical Expert Panel (Page 18)** Do panelists receive an honorarium payment on a reoccurring frequency? If yes, what is the amount and frequency?

    Government Response: **No solicitation amendment necessary.**

31. **Question: Task 6: Technical Expert Panel (Page 18)** Are there existing panelists that should be considered for the new contract year?

    Government Response: **No solicitation amendment necessary.**

32. **Question: Task 6: Technical Expert Panel (Page 18)** Please clarify the expected size of the required TEP, the expected number of TEP meetings annually, whether all of the meeting will be virtual or how many will be in person, and whether bidders should budget for TEP member travel or honoraria.

    Government Response: **Please see solicitation amendment.**

33. **Question: Section L7: Technical Proposal Instructions (Page 85)** We would request that the cover page, table of contents and bibliography be excluded from the 35 page limit

    Government Response: **Please see solicitation amendment.**

34. **Question: Section L7: Technical Proposal Instructions (Page 85)** Are there specific requirements or format for the bibliography? Is there specific content or evidence that AHRQ is seeking?

    Government Response: **No solicitation amendment necessary.**

35. **Question:** Beyond hospitals, what are the intended audiences/user groups for PSNet (e.g., community health center, private practices, public health departments)?

    Government Response: **No solicitation amendment necessary.**

36. **Question:** How will AHRQ define success on this project? Where and at what level of detail should proposals specify activities for defining and gathering process metrics (e.g., number of clicks or page visits), impact/uptake metrics (e.g., number best/recommended practices implemented), and outcome measures (e.g., reductions in adverse safety events, improvement in safety reporting)?

    Government Response: **No solicitation amendment necessary.**

Business Questions:

1. **Question:**
   Could AHRQ provide an expected level of effort or annual budget for the required work

   Government Response: **No solicitation amendment necessary.**

2. **Question:**
   We understand that a cost reimbursement contract (i.e., cost plus fixed fee) is contemplated for this project. Is AHRQ willing to consider a fixed price contract instead?

   Government Response: **No solicitation amendment necessary. The Government will award the contract as a cost reimbursement type contract.**

EXHIBIT 9

About

AHRQ Patient Safety Network (PSNet) is a national web-based resource featuring the latest news and essential resources on patient safety. The site offers weekly updates of patient safety literature, news, tools, and meetings ("Current Issue"), and a vast set of carefully annotated links to important research and other information on patient safety ("The Collection").

As of September 2015, AHRQ PSNet also hosts all previous AHRQ WebM&M (Morbidity and Mortality Rounds on the Web) content, including Cases and Commentaries as well as Perspectives on Safety. We have combined the two sites to streamline the user experience, since all content relates to patient safety. AHRQ WebM&M content will continue to be published monthly and feature expert analysis of medical errors reported anonymously by our readers and interactive learning modules on patient safety ("Spotlight Cases"). CME and MOC credit are available.

Supported by a robust patient safety taxonomy and web architecture, AHRQ PSNet provides powerful searching and browsing capability, as well as the ability for diverse users to customize the site around their interests.

An Introduction to AHRQ PSNet

AHRQ WebM&M (Morbidity and Mortality Rounds on the Web) was launched in February 2003. AHRQ WebM&M is dedicated to the memory of the late AHRQ Director, Dr. John Eisenberg, who originally envisioned it.

AHRQ PSNet was launched in April 2005. AHRQ PSNet is dedicated to the memory of Dr. Daniel Stryer, the Director of AHRQ's Center for Quality Improvement and Patient Safety, who died at age 41 in May 2005.

AHRQ PSNet and AHRQ WebM&M are funded by the Agency for Healthcare Research and Quality and edited by a team at the University of California, Davis, and IMPAQ International, LLC., with the technical support of Pantheon. A Technical Expert Panel, comprised of experts in patient safety, health care quality, and clinical disciplines, guide the editorial team.

AHRQ PSNet Collection

The AHRQ PSNet Collection comprises an extensive selection of resources relevant to the patient safety community. These resources come in a variety of formats, including literature,

research, tools, and Web sites. Resources are identified using the National Library of Medicine's Medline database, various news and content aggregators, and the expertise of the AHRQ PSNet editorial and technical teams. Items are selected for inclusion on the site according to the following criteria:
They support a multidisciplinary, "systems" approach to minimizing errors in health care.
They come from a wide range of disciplines and sources, including clinical medicine, health care administration, engineering, general sciences, psychology, equipment and facility design, policy, law, and lay press.
They have been authored and/or sponsored by a credible source. The organization is an established entity and individuals have credentials that illustrate appropriate background.
They are of interest to the patient safety community at large, both expert and novice.
They are of value for gaining insight into and supporting patient safety.

AHRQ PSNet Classics Selection

To aid our readers in navigating through the tremendous breadth of literature, the AHRQ PSNet editors have selected a set of "Classics": review articles, empirical studies, reports, and books that have special relevance to our readers.
Although the selection of these "Classics" is subjective, and we welcome user input into the selection process, the editors, in conjunction with the Editorial Board, used the following criteria in making the selections:
The selection should be drawn from the peer-reviewed literature or from other reputable sources.
The selection should be regularly cited as a reference in other literature.
Theoretical pieces should articulate foundational concepts that help readers understand the methods and philosophies of patient safety.
Empirical studies should report results that materially advance the field of patient safety by creating new knowledge that influences the fundamental understanding of the field and/or results in significant changes in practice.
Review articles or books should present particularly eloquent or unique discussions of an issue (or issues) pertaining to patient safety.

Contributions by key figures (e.g., researchers, policymakers) in the patient safety field, if well executed, may be of particular impact, and thus are more likely to be included.
Selections may be designated as an "Instant Classic" in those (very unusual) circumstances in which a relatively new article, book, or report has a profound impact on understanding and practice, and which the editors believe will "stand the test of time."

Results Ranking in PSNet

Resources listed on AHRQ PSNet are sorted and displayed according to two specialized algorithms, one for "Topics" and one for "Search." These algorithms give display priority according to their relevance to the topic you have browsed or searched, and the importance of the resource as determined by our team of editors.

Browse the Collection

Four criteria determine how results are ranked when you browse AHRQ PSNet: (1) significance of the resource, as determined by the AHRQ PSNet editorial team, (2) relevance of the resource to the topic you are browsing, and (3) publication date, with more recent resources weighted higher. The combined score determines how results are displayed.

Search

When you type a term into the Search function of AHRQ PSNet, the search algorithm searches resource titles, subject words, annotations, the author or publisher, and the full text of resources. The algorithm generates a score for each result based on where in the text a search term match is found. Matches to title words are given the highest score, followed by the annotations, subject categorization, and author or publisher. In the special case where your search term matches a topic in the PSNet categorization scheme (the taxonomy), you are taken directly to the page in the collection corresponding to that categorization.

Disclaimer

AHRQ Patient Safety Network has links to other Federal agencies and Web sites. We also have selected links to other organizations, publications, and Web resources. The inclusion of external hyperlinks does not constitute endorsement by HHS or AHRQ of the linked Web resources or the information, products, or services contained therein. The Agency does not exercise any control over the content on external sites. Once you visit another site, you are

subject to the privacy policy of that site. For more information, click here.

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EXHIBIT 10

Meet PSNet's Editorial Team

The PSNet editorial team is committed to producing the highest quality patient safety content. The team brings a wealth of experience and deep subject matter expertise in the field, ensuring that PSNet content is accurate, reliable, and relevant.

Patrick Romano, MD, MPH
Co-Editor in Chief
View Bio

Deb Bakerjian, PhD, APRN, FAAN, FAANP, FGSA
Co-Editor in Chief
View Bio

Sarah Mossburg, BSN, MS, PhD
Co-Editor in Chief
View Bio

David K. Barnes, MD, FACEP
Consulting Editor, Emergency Medicine
View Bio

Kristen Bettega
Assistant Managing Editor

View Bio

Noelle Boctor, MD
Consulting Editor, Hospital Medicine
View Bio

Christian Bohringer, MBBS, FANZCA, FFICANZCA
Consulting Editor, Anesthesiology
View Bio

James A. Bourgeois, OD, MD
Consulting Editor, Psychiatry
View Bio

Tennille Daniels, MPH, PMP
Project Manager/Content Editor
View Bio

Bryan Gale, MA
Content Editor
View Bio

Domini M. Hood, PharmD
Associate Editor
View Bio

Courtney Klopfenstein, MPH
Content Editor
View Bio

Merton Lee, PhD, PharmD
Content Editor
View Bio

Lauren Roygardner, LMSW, PhD
Content Editor
View Bio

Roslyn Seitz, MSN, FNP-C, ENP-C, MPH
Associate Editor
View Bio

Ulfat Shaikh, MD, MPH, MS, FAAP
Associate Editor
View Bio

Garth H. Utter, MD MSc
Consulting Editor, Surgery
View Bio

Cindy Manaoat Van, MHSA, CPPS
Content Editor
View Bio

Meghan Weyrich, MPH
Project Director/Managing Editor
View Bio

Lorri Zipperer
Cybrarian
View Bio

EXHIBIT 11

Submit a Case

Note that your name will **not** be publicly associated with the case

- The content of case submissions is anonymous. **Do not** provide any personally identifiable (patient or provider) information, and do not use institution names or locations.
- If you would like to contact the editors, send a question, comment, or suggestion, or provide feedback on this website, please contact us.
- **HIPAA Warning**: Do NOT include any information in your submission that could identify the individuals involved or reveal Personal Health Information (PHI), which is a violation of HIPAA privacy rules. *Any submission with such information relating to PHI is not the responsibility of AHRQ WebM&M this nor should be or any of its affiliates.*
- AHRQ's PSNet is not a confidential patient safety reporting system or a patient safety organization. Information that is privileged and confidential under the Patient Safety and Quality Improvement Act of 2005 (information that is "patient safety work product") should NOT be submitted to AHRQ PSNet WebM&M.
- The information submitted to WebM&M is subject to the Freedom of Information Act, 5 U.S.C. § 552. AHRQ may decline to review or accept a submission for any reason in its sole discretion. PSNet does not provide expert witness services or adjudicate claims of medical error.

Title *

Please recommend an appropriate title for the case. (20 words maximum)

20 word(s) remaining

Patient Description *

Briefly describe the patient (much as you would in a case summary) at the time of the event of interest. (500 words maximum)

500 word(s) remaining

Nature of Error *

Describe the nature of the error and any relevant events or contributing factors. (500 words maximum)

500 word(s) remaining

Impact/Effects *

Briefly describe the impact of the error on the patient and state whether or not the patient was harmed at all or required increased level of care, even if only temporary. (500 words maximum)

500 word(s) remaining

How Error was Recognized *

If not noted above, briefly describe how the error was recognized. (500 words maximum)

500 word(s) remaining

Recommendations *

Briefly, describe your suggestions for how providers or systems might prevent similar errors from happening in the future. (500 words maximum)

500 word(s) remaining

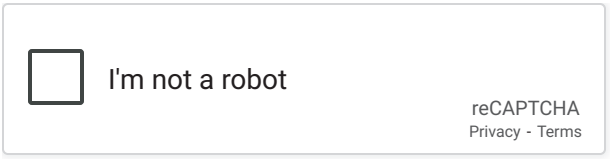
Follow Up Email

Enter your email so that we can contact you in the event that your submitted case is selected.

Email *

The email address you provide to us is used only for contacting you in the event your case is selected, and no other use is permitted.

Verify Email *



AHRQ WebM&M is an educational journal. Please note that cases submitted to our site are not forwarded to any other reporting systems. If you believe it would be desirable (or, in the case of mandatory reporting systems, required) to report your case to another site, please do so independent of your submission to AHRQ WebM&M.

Submit Now

Once the case has been submitted, you will not be able to further edit the case.

EXHIBIT 12

Selection Criteria and Honorarium Information

How it works

Health care professionals may submit de-identified cases that highlight medical errors or other patient safety/quality issues. Note that you can choose to submit cases either **as a guest** or **while logged in** to a PSNet account. Either way, **your name will not be publicly associated with the case.** Submitters of selected cases will receive $300.

1. Write your case

This form should only be used to submit de-identified factual cases of medical errors or patient safety issues. Do not use this form to submit an article.

2. Review

You case will be reviewed by the PSNet editors team. You should expect an email reply regarding your submission (selected or not) within **10–12 weeks.**

3. Decision

When a case is selected, the editors invite **an expert author** to write a commentary based on the case.

- If you would like to contact the editors, send a question, comment, or suggestion, or provide feedback on this website, please contact us.
- The content of case submissions is anonymous. **Do not** provide any personally identifiable (patient or provider) information, and do not use institution names or locations.
- **HIPAA Warning**: Do NOT include any information in your submission that could identify the individuals involved or reveal Personal Health Information (PHI), which is a violation of HIPAA privacy rules. *Any submission with such information relating to PHI is not the responsibility of AHRQ WebM&M this nor should be or any of its affiliates.*
- AHRQ's PSNet is not a confidential patient safety reporting system or a patient safety organization. Information that is privileged and confidential under the Patient Safety and Quality Improvement Act of 2005 (information that is "patient safety work product") should NOT be submitted to AHRQ PSNet WebM&M.
- The information submitted to WebM&M is subject to the Freedom of Information Act, 5 U.S.C. § 552. AHRQ may decline to review or accept a submission for any reason in its sole discretion. PSNet does not provide expert witness services or adjudicate claims of medical error.

— Selection criteria

We are looking for interesting, provocative cases that illustrate key issues in patient safety and quality. Cases including complete information can be processed more quickly (but note the word limit for each section of the submission form).

When a case is selected, the editors invite an expert author to write a commentary based on the case. Note that if your case is selected, you will not receive any "authorship" because case submissions are anonymous, in order to protect the privacy of subjects. (Do not provide any personally identifiable information, and do not use institution names or locations.)

In general, case submitters should expect an email reply regarding their submission (selected or not) within 10–12 weeks.

How a case is selected

How a case is selected

The editors review submitted cases regularly and judge cases using the following criteria:

- How interesting is the case clinically?
- How applicable is the case from a medical error/patient safety standpoint?
- Is the case an important example of a common error, or is it unique but nevertheless raises some key issues of general interest?
- Does the case have major educational value?
- Does the case highlight important systems issues?
- You may be contacted if further information is needed to judge your case submission.

Common reasons a case is not selected:

- Does not meet any of the criteria above.
- Violates patient and/or provider privacy.
- No error occurred, or it is unclear whether an error occurred.
- Incident is not related to patient safety, as defined in the PSNet Glossary.
- Insufficient clinical detail is available to assess what happened or to identify opportunities for prevention or mitigation.
- The subject matter/issue closely relates to a current case.

Who can submit a case? Must I be a physician or practitioner to submit a case?

Health care providers may anonymously submit de-identified cases that highlight medical errors or other patient safety/quality issues. It is preferred for case submitters to be physicians or practitioners to ensure that there is a depth of knowledge about medicine when they describe the case and the patient safety issue involved in the case.

Can I submit a commentary?

When a case is selected, the editors typically invite an expert author to write a commentary based on the case. Although commentaries are generally invitation-only, our editors may consider your commentary if you contact us.

Do I receive authorship for my case submission?

You do not receive any "authorship" because case submissions are anonymous. Do not provide any personally identifiable (patient or provider) information, and do not use institution names or locations when submitting a case.

Do I receive any benefits for submitting a case?

Submitters of selected cases will receive a $300 honorarium paid anonymously through PayPal. If your case is selected, you will receive detailed instructions via email on how to collect payment.

How do I get paid through PayPal?

To receive your honorarium, you will need an account with PayPal. Signing up is free, quick, and easy, and all necessary steps will be included in instructions that PayPal sends you via email. AHRQ WebM&M will pay any fees assessed for you to accept our payment, so the net payment to you will be $300. If you have an existing PayPal account with the same email address, please make sure you have, or upgrade to, an account. This is necessary because an account allows you to receive our payment.

If you have an existing PayPal account with a different email address, note that the email from PayPal contains a link whereby you can add another email address. Click on that link, sign in to your account, and add the email address you used to submit the case to AHRQ WebM&M.

How is the payment anonymous?

Payments are processed anonymously. Our system processes awards confidentially; that is, we cannot in any way connect your name with the case you submitted. Once your payment is processed, we may be able to see the name associated with the PayPal account. Our payments are generated in a separate office and neither the editors nor the funder of AHRQ WebM&M have access to that information.

Go Back to Submit a Case to WebM&Ms

EXHIBIT 13

Help

To contact us with your questions, email us at psnetsupport@ahrq.hhs.gov

Frequently Asked Questions

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How do I subscribe to the AHRQ PSNet/WebM&M newsletter?
How do I unsubscribe from the newsletter?
How do I update my email address for the newsletter?
What is the difference between creating a PSNet account and just subscribing to the newsletter?
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UCDH CE/MOC created in November 2019 and later

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Will I receive a separate MOC certificate?
How can I change my CE/MOC email address or mailing address?
What should I do if I am unable to log in to CE/MOC?
Why is credit not available for my degree?
Do these modules qualify for Pennsylvania patient safety credit (or ethics credit, or any other type of state board-specific credit)?
Can I apply the certificate to my state's licensure program, and how do I find out if I can?

UCFS CE/MOC created before November 2019

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Can I apply the certificate to my state's licensure program, and how do I find out if I can?
Is trainee certification available for all Spotlight cases?

General Information

What are AHRQ PSNet and AHRQ WebM&M?

AHRQ PSNet (Patient Safety Network) offers weekly updates of patient safety literature, news, tools, and meetings ("Current Issue"), and a vast set of carefully annotated links to important research and other information on patient safety ("The Collection").

As of September 2015, AHRQ PSNet also hosts all previous AHRQ WebM&M (Morbidity and Mortality Rounds on the Web) content, including Cases and Commentaries as well as Perspectives on Safety. We have combined AHRQ PSNet and AHRQ WebM&M to streamline the user experience, since all content relates to patient safety

AHRQ PSNet is published weekly. AHRQ WebM&M Cases and Commentaries are published monthly and feature expert analysis of medical errors reported anonymously by our readers and interactive learning modules on patient safety ("Spotlight Cases"). Perspectives on Safety are published monthly on AHRQ PSNet.

How do I contact AHRQ PSNet?

You can contact the editors of AHRQ PSNet by visiting the "Contact Us" page. (This link is also available in the "Info" tab on the homepage and is labeled "Contact PSNet.") You may also send the editors an email directly.

How do I subscribe to the AHRQ PSNet/WebM&M newsletter?

Select "Email Updates" in the "Info" on the homepage or visit the AHRQ PSNet subscriptions page.

Enter your email address where indicated.

How do I unsubscribe from the newsletter?

Select "Email Updates" in the "Info" tab on the homepage or visit the AHRQ PSNet subscriptions page.

Enter your email address where indicated.

Select "Subscriber Preferences."

The resulting "Subscriptions" page will show you the AHRQ newsletters to which you are subscribed. You can check the box for the newsletters you would like to delete and then select "Submit."

How do I update my email address for the newsletter?

Select "Email Updates" in the "Info" on the homepage or visit the AHRQ PSNet subscriptions page.

Enter your email address where indicated.

Select "Subscriber Preferences." then select "Preferences." In that tab, you can update your email address in the provided field and click on "Submit."

What is the difference between creating a PSNet account and just subscribing to the newsletter?

Creating a PSNet account allows you to view the latest resources available in your areas of interest. Once you have selected your

topics of interest, you may access them each time you visit AHRQ PSNet by logging in. You may choose to receive the weekly AHRQ PSNet newsletter, or you may request email alerts when new content matching your areas of interest is added to the site. If you subscribe to the newsletter rather than creating a PSNet account, you will only receive the weekly newsletter.

How do I update my email address for topic alerts?

If you have a PSNet account, you can update your email address by logging in.

How do I update my topics of interest on the PSNet website?

Log into PSNet.

Go the Topics page.

Expand each topic areas and click the "Subscribe " or "Unsubscribe" button to add or remove topics.

This will update your topics of interest in PSNet.

How do I unsubscribe from topic alerts?

Log into PSNet.

Go to the "My Account" page by clicking on your name at the top right corner.

On this page, uncheck the box that says - "Alert me by email when annotation published that match my topic of Interest".

This will stop PSNet from sending weekly updates.

What should I do if I cannot sign in to my PSNet account?

Check your Caps Lock and Number Lock.

Double-check the email address used when registering for AHRQ PSNet.

If there is a server error, the server may be overloaded. Please wait a few moments and try again. If there is still an error, contact us.

Redesign of AHRQ PSNet/WebM&M

Why did AHRQ merge/redesign the PSNet and WebM&M sites?

AHRQ decided to merge the AHRQ PSNet (Patient Safety Network) and AHRQ WebM&M (Morbidity and Mortality Rounds on the Web) sites to streamline the user experience and unite our readership, since all content relates to patient safety. The site is called AHRQ PSNet and combines all the features of both sites including: PSNet weekly updates, The PSNet Collection, WebM&M Cases and Commentaries, continuing education credit, Perspectives on Safety, Patient Safety Primers, and more. The name "WebM&M" will

live on as a feature on AHRQ PSNet, referring to just the Cases and Commentaries—both regular and Spotlight.

Are the same features of AHRQ PSNet and AHRQ WebM&M still available?

All the features of AHRQ PSNet and WebM&M are still available.

How do I directly access WebM&M Cases and Perspectives on Safety?

Previous and new WebM&M content can be accessed directly through the WebM&M Cases and Perspectives on Safety navigation links from the main menu on the home page.

Can I still submit cases to WebM&M anonymously?

Yes, please do! You can submit a case by selecting the Submit Case navigation from the main menu on the home page.

Who do I contact if I need more information on the redesigned site?

Contact the editors of AHRQ PSNet by visiting the "Contact Us" page. You may also send us an email directly.

AHRQ PSNet General Information

What is AHRQ PSNet?

AHRQ PSNet (Patient Safety Network) is a national Web-based resource featuring the latest news and essential resources on patient safety. The site offers weekly updates of patient safety literature, news, tools, and meetings ("Current Issue"), and a vast set of carefully annotated links to important research and other information on patient safety ("The Collection"). Supported by a robust patient safety taxonomy and Web architecture, AHRQ PSNet provides powerful searching and browsing capability, as well as the ability for diverse users to customize the site around their interests.

Who do I ask for permission to use a resource that I read on AHRQ PSNet?

The AHRQ PSNet Collection provides information and links to resources, reports, and journal articles on patient safety. Most of the time, we are not the publishers and cannot give permission to reprint or use articles or materials that are summarized on AHRQ PSNet. For permission, please contact the publisher or journal directly. (If you have any questions, contact us and we will help you find the publisher.)

How do I obtain permission to reprint a Patient Safety Primer, Perspective, or WebM&M Commentary?

To obtain permission to reprint AHRQ PSNet/WebM&M original content, such as WebM&M Cases and Commentaries, Perspectives on Safety, Patient Safety Primers, Annual Perspectives, or the Glossary, please contact us at psnetsupport@hhs.ahrq.gov.

To grant permission, we will ask for three pieces of information: (1) which content you would like to use; (2) how you would like to use this material; and (3) whether you plan to use the piece in its entirety or an excerpt. We are happy to support your work, but require these details to provide reprint permission.

How do I recommend content for you to add to AHRQ PSNet?

Please contact us at psnetsupport@hhs.ahrq.gov.

AHRQ PSNet Resources and Content

What kind of content is available on AHRQ PSNet?

There are several types of content available on AHRQ PSNet. Since the two sites have been combined, all previous content from both AHRQ PSNet (Patient Safety Network) and AHRQ WebM&M (Morbidity and Mortality Rounds on the Web) is now available in one place. Content includes: WebM&M Cases and Commentaries, Perspectives on Safety, Patient Safety Primers, Annual Perspectives, and The PSNet Collection.

What comprises the AHRQ PSNet Collection? How do you determine what is relevant?

The AHRQ PSNet Collection comprises an extensive selection of resources relevant to the patient safety community. These resources come in a variety of formats, including literature, research, tools, news, reports, and Web sites. Resources are identified using the National Library of Medicine's Medline database, various news vendors and content aggregators, and the expertise of the AHRQ PSNet editorial and technical teams. Items are selected for inclusion on the site according to the following criteria:

They support a multidisciplinary, "systems" approach to minimizing errors in health care.

They come from a wide range of disciplines and sources, including clinical medicine, health care administration, engineering, general sciences, psychology, equipment and facility design, policy, law, and lay press.

They have been authored and/or sponsored by a credible source. The organization is an established entity and individuals have credentials that illustrate appropriate background.

They are of interest to the patient safety community at large, both expert and novice.
They are of value for gaining insight into and supporting patient safety.

What are "Classics"? What makes them different from the other resources?

To aid our readers in navigating through the tremendous breadth of literature, the AHRQ PSNet editors have selected a set of Classics. Classics include: review articles, empirical studies, reports, and books that have special relevance to our readers.
Although the selection of these Classics is subjective, and user input into the selection process is welcome, the editors, in conjunction with the Technical Expert Panel, use the following criteria in making the selections:
The selection should be drawn from the peer-reviewed literature or from other reputable sources.
The selection should be regularly cited as a reference in other literature.
Theoretical pieces should articulate foundational concepts that help readers understand the methods and philosophies of patient safety.
Empirical studies should report results that materially advance the field of patient safety by creating new knowledge that influences the fundamental understanding of the field and/or results in significant changes in practice.
Review articles or books should present particularly eloquent or unique discussions of an issue (or issues) pertaining to patient safety.
Contributions by key figures (e.g., researchers, policymakers) in the patient safety field, if well executed, may be of particular impact, and thus are more likely to be included.
Selections may be designated as an "Instant Classic" in those (very unusual) circumstances in which a relatively new article, book, or report has a profound impact on understanding and practice, and which the editors believe will stand the test of time.

What are "Patient Safety Primers"?

Patient Safety Primers guide readers through key concepts in patient safety. Each Primer defines a topic, offers background information on its epidemiology and context, and highlights relevant content from both AHRQ PSNet and AHRQ WebM&M.

How was the glossary assembled?

Definitions abound in the medical error and patient safety literature, with subtle and not-so-subtle variations in the meanings of important terms. An effort was made to adopt the most straightforward terminology, with definitions that enjoy the widest use.

What are "Perspectives on Safety"?

Perspectives on Safety pieces address one topic per month. This topic is viewed as one of the most pressing issues in patient safety. The editors pick two of the most forward-thinking and respected experts on the topic, and one of these experts is interviewed with an edited transcript published. Another expert writes an essay on the topic. The site contains an archive where readers can find all perspectives paired by topic and arranged in reverse chronological order.

Finding Content on AHRQ PSNet

How does the search feature work?

When you type a term into the Search function of AHRQ PSNet, the search algorithm searches resource titles, subject words, annotations, the author or publisher, and the full text of resources. The algorithm generates a score for each result based on where in the text a search term match is found. Matches to title words are given the highest score, followed by the annotations, subject categorization, and author or publisher. In the special case where your search term matches a topic in the AHRQ PSNet categorization scheme (the taxonomy), you are taken directly to the page in the collection corresponding to that topic.

How does the browse feature work?

Three criteria determine how results are ranked when you browse AHRQ PSNet: (1) the significance of the resource as determined by the AHRQ PSNet editorial team; (2) the relevance of the resource to the topic you are browsing; and (3) the publication date, with more recent resources weighted higher. The combined score determines how results are displayed.

How are the rankings of search results determined?

Resources listed on AHRQ PSNet are sorted and displayed according to two specialized algorithms: one for "Browse the Collection" and one for "Search." These algorithms give display priority according to their relevance to the topic you have browsed or searched, and the importance of the resource as determined by the team of editors.

Why do many of your links point to content that requires a subscription? Why don't more links have free full text?

The AHRQ PSNet Web site contains links to other agencies, organizations, and publications. We strive to provide our users with the best links available, but unfortunately not all vendors provide free full text. Even though many resources do not offer free full texts, most members of hospital or university faculty, staff, or students have access to the full texts since hospitals and campuses generally have subscriptions to these online journals. If so, you should be able to access these articles while you are using hospital or campus Internet access.

How can I gain access to articles that require a subscription?

First, always ask your hospital/school librarian how to gain access. If your hospital or school does not have a library, a public librarian can order materials for you from any library in the world. If the public library is not financially capable of fulfilling this request, you may also ask a librarian to help you identify the best local resource.

You may also contact university or medical school libraries in your area. In addition, you may have access to services via libraries at the college or university from which you graduated. There are also "resource libraries," which are a part of the National Network of Libraries of Medicine (NNLM), that help health practitioners obtain the resources they need. Visiting the NNLM Web site may help you find the most appropriate local resource library.

I cannot find a journal online, but there should be access to it from your site. How do I find it?

You can almost always purchase directly from the publisher through an "Available at" link. Although the cost may seem high, you will receive access right away as opposed to having to wait for the article to get to you through the library system.

Another option is to utilize document delivery services. They are typically faster than the library process, but not necessarily cheaper than purchasing via the publisher's site.

AHRQ WebM&M

What is AHRQ WebM&M?

AHRQ WebM&M (Morbidity and Mortality Rounds on the Web) is an online journal on patient safety and health care quality founded in 2003. The journal features expert analysis of medical errors reported anonymously by our readers and interactive learning modules on

patient safety ("Spotlight Cases"). Continuing Medical Education (CME) and Continuing Education Unit (CEU) credit are available.

What is a "Spotlight Case"?

Each month, the editors select one particularly interesting and illustrative case to be the "Spotlight Case"—an interactive learning module featuring an expanded case and commentary, a PowerPoint presentation and a quiz. Continuing Medical Education (CME), Continuing Education Unit (CEU) credits, Maintenance of Certification (MOC) credit, and trainee certification are available by reading the Spotlight case and taking the quiz. An electronic presentation version is also available to download for educational use, such as in student teaching conferences or residents' reports.

How do I obtain permission to reprint AHRQ WebM&M materials?

Please contact us, to obtain permission to reprint AHRQ WebM&M materials. To grant permission, we will ask for three pieces of information: (1) which Cases and Commentaries you would like to use; (2) how you would like to use this material; and (3) whether you plan to use the whole case or an excerpt. We are happy to support your work, but require these details to provide reprint permission.

AHRQ WebM&M Case Submission

Who can submit a case? Must I be a physician or practitioner to submit a case?

Health care providers may anonymously submit cases that highlight medical errors or other patient safety/quality issues. It is preferred for case submitters to be physicians or practitioners to ensure that there is a depth of knowledge about medicine when they describe the case and the patient safety issue involved in the case.

How is a case selected?

Editors review submitted cases regularly and judge cases using the following criteria:

How interesting is the case clinically?

How interesting is the case from a medical error/patient safety standpoint?

Is the case an important example of a common error, or is it unique but nevertheless raises some key issues of general interest in patient safety?

Does the case have major educational value?

Does the case highlight important systems issues?

I submitted a case. How long until I know if my case has been accepted?

Case submitters should expect a response within 10–12 weeks.

Can I submit a commentary?

When a case is selected, the editors typically invite an expert author to write a commentary based on the case. Although commentaries are generally invitation-only, our editors may consider your commentary if you contact us.

Do I receive authorship for my case submission?

You do not receive any "authorship" because case submissions are anonymous. Do not provide any personally identifiable (patient or provider) information, and do not use institution names or locations when submitting a case.

Do I receive any benefits for submitting a case?

Submitters of selected cases will receive a $300 honorarium paid anonymously through PayPal. If your case is selected, you will receive detailed instructions via email on how to collect payment.

How do I get paid through PayPal?

To receive your honorarium, you will need an account with PayPal . Signing up is free, quick, and easy, and all necessary steps will be included in instructions that PayPal sends you via email. AHRQ WebM&M will pay any fees assessed for you to accept our payment, so the net payment to you will be $300. If you have an existing PayPal account with the same email address, please make sure you have, or upgrade to, an account. This is necessary because an account allows you to receive our payment.

If you have an existing PayPal account with a different email address, note that the email from PayPal contains a link whereby you can add another email address. Click on that link , sign in to your account, and add the email address you used to submit the case to AHRQ WebM&M.

How is the payment anonymous?

Payments are processed anonymously. Our system processes awards confidentially; that is, we cannot in any way connect your name with the case you submitted. Once your payment is processed, we may be able to see the name associated with the PayPal account. Our payments are generated in a separate office and neither the editors nor the funder of AHRQ WebM&M have access to that information.

Continuing Education (CE)/Maintenance of Certification (MOC) Credit for AHRQ WebM&M Spotlight Cases

UCDH CE/MOC created in November 2019 and later

Are credits available for all Spotlight cases?

All AHRQ Web M&M CME/MOC courses currently available for credit are listed in the CE/MOC area of AHRQ PSNet.

How many credits do I earn per Spotlight case?

Each Spotlight Case and Commentary is worth one CME/MOC credit upon successful completion.

What is the fee for participating in the AHRQ Web M&M CME program?

There is no fee for participating in AHRQ Web M&M CME activities. Spotlight Case and Commentaries after November 1st, 2019 are certified for credit by the University of California, Davis Health (UCDH) Office of Continuing Medical Education and are funded by the Agency for Healthcare Research and Quality.

Are CME, MOC, and CEU the same for the AHRQ Web M&M cases?

Yes, and in many cases the *AMA PRA Category 1™* credit meets CEU requirements in other disciplines. Please check with your respective accrediting board. Maintenance of certification (MOC) credit is also available for Spotlight Case and Commentaries through the American Board of Internal Medicine (ABIM).

The University of California, Davis, Health is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians (*AMA PRA Category 1™ Credit*) through its Office of Continuing Medical Education (OCME). For the purpose of recertification, the American Nurses Credentialing Center (ANCC) accepts *AMA PRA Category 1 Credit* issued by organizations accredited by the ACCME. Nursing professionals can submit our certificates directly to their respective board for inclusion in their credit requirements. The CME credits are one-to-one (i.e., if you earn 1.0 CME credit you will have exactly 1.0 CEU). The National Commission on Certification of Physician Assistants (NCCPA) accepts for Category 1 CME credit activities designated for Category 1 credit the *AMA PRA Category 1 credit™* from organizations accredited by ACCME.

Are MOC credits available for all Spotlight cases?

Successful completion of each AHRQ Web M&M CME activity and quiz allows you to earn Medical Knowledge/Patient Safety credit in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. One ABIM MOC point is awarded for each CME credit.

Can CEU/MOC credit be emailed to users?

CME/MOC credits are made available via certificate to the user upon successfully completing a Spotlight Case and Commentary that offers credit. UCDH OCME uses an automated system so the user can independently print their certificate and download their transcript. OCME does not send certificates or transcripts by email.

What should I do if I have not yet received my certificate for the CE/MOC quizzes that I took online?

Credits typically post in UCDH's CME Registration System within minutes after successful completion of the course and data transfer from the PSNet system to UCDH's system. If you have successfully completed the Spotlight Case and Commentary and do not see the ability to print/download your certificate/transcript, please contact UCDH's OCME at (916) 734-5352.

To access your transcript and certification information from OCME at a later time, or to view a complete summary of Web M&M and other UCDH CME activities you have taken, go to https://chtreg.ucdmc.ucdavis.edu . If you have not used UCDH's CME Registration System in the past use the same email address as you used to register in PSNet and select "Forgot password" to create a new password and log in. Once logged in you will see the "Registration History" page which summarizes the courses you've completed and associated CME and/or MOC credit. You may print a certificate by selecting the "Certificate" button to the right of each course listing. To download your transcript, select the "Download Transcript" button in the upper hand right corner of the page.

I am an ABIM Diplomate. When will my MOC points be reported to the ABIM?

MOC credits are reported to the ABIM on a routine basis. Please allow **4 weeks** for credits to post within your ABIM portal. If you do not receive your credits within 4 weeks, please contact us at psnetsupport@hhs.ahrq.gov.

Will I receive a separate MOC certificate?

No, the UCDH OCME will report MOC points using your ABIM diplomate ID and day of birth on a routine basis. The ABIM will

update your diplomate profile and also send you an email notifying you that your points were added.

How can I change my CE/MOC email address or mailing address?

Email and mailing address changes are to be made through the PSNet system. The next time you take a course for credit, this information will be transferred to the UCDH CME Registration System.

What should I do if I am unable to log in to CE/MOC?

Please make sure that you are trying to login to the CE/MOC portion of the site. If you have forgotten your password, you can also request that your password be sent to you by clicking "Forgot your password?" If you are still having problems, please contact us at psnetsupport@hhs.ahrq.gov.

Why is credit not available for my degree?

Credit is available for nurses, physicians, and physician assistants. Currently, our commentaries are not designated for other discipline credit, however, several organizations accept the *AMA PRA Category 1™ credit*. Please check with your individual board directly.

Do these modules qualify for Pennsylvania patient safety credit (or ethics credit, or any other type of state board-specific credit)?

CME qualifies for California-specific requirements. Please check with your state licensing organization for CME that qualifies for your state's specific requirements.

Can I apply the certificate to my state's licensure program, and how do I find out if I can?

Please check with your state's program to see if they will accept UCDH CME credits, which are approved by the American Medical Association (AMA) for *PRA Category 1 Credit*. Ask your state's program manager or director if your state accepts AMA-approved credits.

UCFS CE/MOC created before November 2019

Are credits available for all Spotlight cases?

All AHRQ WebM&M CE/MOC courses currently available for credit are listed in the CE/MOC area of AHRQ PSNet. As a new course is posted, an older one expires.

How many credits do I earn per Spotlight case?

Each Spotlight case is worth one CE/MOC credit.

What is the fee for participating in the AHRQ WebM&M CME program?

There is no fee for participating in the program. AHRQ WebM&M CME activities are certified and accredited by the University of California, San Francisco, Office of Continuing Medical Education and are funded by the Agency for Healthcare Research and Quality.

Are CME, MOC, and CEU the same for the AHRQ WebM&M cases?

Yes. In most instances, CME credits are transferable for CEU credit requirements for multiple disciplines Maintenance of certification (MOC) credit is also available. . University of California, San Francisco is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians (AMA Credit). For the purpose of recertification, the American Nurses Credentialing Center (ANCC) accepts *AMA PRA Category 1 Credit* issued by organizations accredited by the ACCME. Nursing professionals can submit our certificates directly to their respective board for inclusion in their credit requirements. The CME credits are one-to-one (i.e., if you earn 17.25 CMEs you will have one-to-one exactly 17.25 CEUs) acceptable by the CEU commission, the American Medical Association, and the American Nurses Association. The American Academy of Physician Assistants (AAPA) accepts Category 1 credit from AOACCME, prescribed credit from AAFP, and *AMA Category 1 credit* for the PRA for organizations accredited by the ACCME.

Are MOC credits available for all Spotlight cases?

Successful completion of each AHRQ WebM&M CME activity and quiz allows you to earn Medical Knowledge/Patient Safety credit (up to 45 MOC points) in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. One ABIM MOC point is awarded for each CME credit.

For more information about applying AHRQ WebM&M activity to MOC for the ABIM and other member boards, click here.

Can CE/MOC credit be emailed to users?

You may request a copy of your certificates, from regemail@ucsf.edu and they will be mailed to you, but it may take up to 8 weeks (our downloading process for individual certificates is currently under maintenance)

What should I do if I have not yet received my certificate for the CE/MOC quizzes that I took online?

If you have just completed quiz, your credits will post in 3-4 weeks.

You may request a copy of your certificates, from regemail@ucsf.edu and they will be mailed to you, but it may take up to 8 weeks (our downloading process for individual certificates is currently under maintenance)

When will my MOC points be reported to the ABIM?

CME credits are reported as MOC points to the ABIM twice during the year. Your accumulated MOC points for modules completed from January to June are reported by July 31. Additionally, MOC points earned during July to December will be reported by December 31. Please make sure your ABIM ID and Date of Birth are updated in your PSNet CME/CEU profile (please log in to PSNet first to make changes).

For more information on ABIM MOC, please visit this link: https://meded.ucsf.edu/cme/resources-participants/cme-moc

Will I receive a separate MOC certificate?

No, the UCSF Office of CME will report MOC points using your ABIM diplomate ID and day of birth twice during the year (see above). The ABIM will update your diplomate profile and also send you an email notifying you that your points were added.

What should I do if I am unable to log in to CE/MOC?

Please make sure that you are trying to login to the CE/MOC portion of the site. If you have forgotten your password, you can also request that your password be sent to you by clicking "Forgot your password?" If you are still having problems, please contact us at psnetsupport@hhs.ahrq.gov.

Why is credit available for my degree?

Credit is available for nurses, physicians, and physician assistants. Currently, our commentaries are not designated for pharmacy credit. However, we may add this option in the future.

Do these modules qualify for Pennsylvania patient safety credit (or ethics credit, or any other type of state board-specific credit)?

CME qualifies for California-specific requirements, so we do not know if we qualify for all states specific requirements. Please check with your state licensing organization for CME that qualifies for your state's specific requirements.

Can I apply the certificate to my state's licensure program, and how do I find out if I can?

Please check with your state's program to see if they will accept UCSF CME credits, which are approved by the American Medical

Association (AMA) for PRA Category 1 Credit. Ask your state's program manager or director if your state accepts AMA-approved credits.

Is trainee certification available for all Spotlight cases?

Trainee certification is available for all Spotlight cases. Trainees may print out a certificate verifying successful completion of each module.

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EXHIBIT 14

PSNet
PATIENT SAFETY NETWORK

Introducing the New AHRQ WebM&M and AHRQ Patient Safety Network (PSNet)

April 1, 2005
Wachter R. Introducing the New AHRQ WebM&M and AHRQ Patient Safety Network (PSNet). PSNet [internet]. 2005.
https://psnet.ahrq.gov/perspective/introducing-new-ahrq-webmm-and-ahrq-patient-safety-network-psnet

Editorial

Five years ago, the Institute of Medicine report, To Err is Human, placed the issue of medical errors squarely in the public eye.(1) The report led to many calls for action, including increased reporting of medical errors and improved education for both clinicians and administrators about patient safety.

It soon became clear that cases of medical errors, if mined correctly, could play an essential role in educating providers and developing safer systems of care. Yet clinicians and institutions are understandably reluctant to report their errors, fearing both adverse public relations and medicolegal consequences.

Our vision was that AHRQ WebM&M would help bridge the gap between reporting and education—a gap that most other reporting systems have not managed to close.(2) By creating a confidential, easy-to-use reporting system, the Web site allowed clinicians from around the country (and the world) to safely submit reports of errors. Armed with such cases, our role as editors was simply to choose the most illustrative among them and then enlist the nation's (and often, the world's) top experts in safety to comment on them in a thoughtful, evidence-based, and engaging manner.

It worked. We recently posted the wonderful feedback we received from last year's users survey. We have been pleased by this response and gratified that our community of users has grown steadily (we now have 10,000 registered users). Yet, as AHRQ asked my colleagues and me to work with them to produce WebM&M for the next few years, it was clear that certain changes could make the site even better.

First and foremost, because we wanted to highlight some key issues in patient safety that might not specifically be raised by case submissions, we've added a section called "Perspectives on Safety." This month, we interview Dr. Chris Landrigan, lead author of the influential AHRQ-supported New England Journal of Medicine study on housestaff sleep deprivation and medical mistakes. In the next few months,

you'll see other interviews and essays covering topics such as how hospitals change in response to highly public errors, challenges in performing and interpreting patient safety research, and the role of nurses in improving safety. The goal of these Perspectives remains the same: to be lively, engaging, and a bit provocative. We hope you like the pieces and invite you to suggest topics and authors or even submit a Perspective of your own.

You'll also see more subtle enhancements to AHRQ WebM&M: a topic index, a printable view, enhanced archives, and more. We really hope you like it and continue to read the site, submit cases, and tell your friends and colleagues about it.

Three years ago, I was privileged to help edit an AHRQ evidence report on patient safety practices.(3) Although we did find a number of practices well supported by high-quality research, my colleagues and I were struck by the relative immaturity of the research underpinnings of the patient safety field. Given the consequences in cost, time, and change management of many proposed patient safety interventions (eg, installing computerized provider order entry or bar coding systems, implementing teamwork or simulator training, maintaining certain nurse-to-patient ratios or resident duty-hour limits), it was remarkable how little high-quality research there was to inform decisions or a rich understanding of the outcomes and consequences of these changes.

Luckily, that has changed over the past few years. Now, in large part through AHRQ support, dozens of studies on patient safety are published every month, along with books, tools, surveys, and reports of individual experiences. There are also scores of conferences, proposed pieces of legislation, grant opportunities, and more.

In other words, the challenge has shifted from making decisions with an insufficient amount of information to managing a growing but messy treasure trove of data and tools. This process is made more difficult by the remarkable breadth of the patient safety field. The "consumers" of safety information range from CEOs to practicing nurses and from university researchers to patients. Patient safety information might be found in a standard medical journal, a lay-oriented book, a conference on aviation and human factors engineering, or a local newspaper.

In response to this challenge, we are pleased that this month also marks the launch of AHRQ Patient Safety Network (PSNet), a "one-stop" patient safety portal. On the left side of the AHRQ PSNet home page, you'll find "What's New": an annotated, carefully selected compilation of the most recent and important news, research, tools, and conferences in patient safety. The right side of the page is "The Collection": your front door to thousands of patient safety resources, all easily retrievable via either browsing or searching. If you're new to the field and want to see the most enduringly important articles and books in the patient safety, you'll find them under "Classics." And, if you have a particular area of interest, "My PSNet" allows you to customize the site based on your own interests (perhaps you're a nurse interested in research on preventing falls in nursing homes, or a physician interested in strategies to prevent wrong-site surgery). "My PSNet" will even alert you when a new resource on the site matches your selected criteria.

Your registration for AHRQ WebM&M, which allows you to submit cases and receive the email alert for each new issue, does not automatically register you for AHRQ PSNet. To do that, go to "Subscribe to Newsletter" and give us your email address. It's that simple. We'll notify you when new content has been posted. If you're interested in customized alerts, you can do that by clicking on "My PSNet" on the AHRQ PSNet home page.

Through these sites—AHRQ WebM&M and AHRQ PSNet—our aim is to provide a rich exposure to cases, commentaries, and the world's literature and tools in patient safety. We hope you enjoy the sites and find them useful in your vital work of keeping patients safe from harm.

Robert M. Wachter, MD Editor, AHRQ WebM&M and AHRQ Patient Safety Network

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EXHIBIT 15

This project was funded under contract number 75Q80119C00004 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. The authors are solely responsible for this report's contents, findings, and conclusions, which do not necessarily represent the views of AHRQ. Readers should not interpret any statement in this report as an official position of AHRQ or of the U.S. Department of Health and Human Services. None of the authors has any affiliation or financial involvement that conflicts with the material presented in this report. View AHRQ Disclaimers

EXHIBIT 16

The PSNet Collection: All Content

The AHRQ PSNet Collection comprises an extensive selection of resources relevant to the patient safety community. These resources come in a variety of formats, including literature, research, tools, and Web sites. Resources are identified using the National Library of Medicine's Medline database, various news and content aggregators, and the expertise of the AHRQ PSNet editorial and technical teams.

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Date Ranges

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International Conference on Emerging Surgery Trends 2025: Redefining Surgical Excellence Conference

Save to Library Share

Organization: Organization The Research Gate (TRG)

Event Description: Innovations in surgical practices, procedures, and technology.

Event Location: Online and in-person in Paris, France

Date: October 1-2, 2025

Event Fee: Fee Associated (for some)

CE or CME Offered? Yes

Weblink: Weblink
https://theresearchgate.com/conferences/emerging-surgery-trends-2025/

TRAINING CATALOG

Artificial Intelligence and Human Factors in Health Care Quality & Safety Conference

Save to Library Share

Organization: Organization Penn State College of Medicine

Event Description: The conference will focus on the issues at the intersection of Human Factors Engineering, patient satey, Quality and Value enhancement and Artificial Intelligence (AI) and will bring together recognized academic, clinical and industry experts to provide state-of-the-art knowledge. They will also attempt to define future directions in this field and propose an agenda for future research over the next 5 to 7 years.

Event Location: Hershey, PA and Online

Date: April 10-11, 2025

Event Fee: Fee Associated

CE or CME Offered? Yes

Weblink: Weblink https://research.med.psu.edu/ei-human

EXHIBIT 17

UNITED STATES OFFICE OF PERSONNEL MANAGEMENT
Washington, DC 20415

The Director

MEMORANDUM

TO:	Heads and Acting Heads of Departments and Agencies
FROM:	Charles Ezell, Acting Director, U.S. Office of Personnel Management
DATE:	January 29, 2025
RE:	Initial Guidance Regarding President Trump's Executive Order *Defending Women*.

Pursuant to its authority under 5 U.S.C. § 1103(a)(1) and (a)(5), the U.S. Office of Personnel Management (OPM) is providing the following initial guidance to agencies regarding the President's Executive Order entitled *Defending Women from Gender Ideology Extremism and Restoring Biological Truth to the Federal Government* (*Defending Women*).

Steps to End Federal Funding of Gender Ideology: In light of *Defending Women*, each agency should take prompt actions to end all agency programs that use taxpayer money to promote or reflect gender ideology as defined in Section 2(f) of *Defending Women*. Specifically, agency heads should take the following steps:

1. No later than **5:00 p.m. EST on Friday, January 31, 2025**

    a. Send an email to all agency employees announcing that the agency will be complying with *Defending Women* and this guidance.

    b. Review all agency programs, contracts, and grants, and terminate any that promote or inculcate gender ideology.

    c. Review all agency position descriptions and send a notification to all employees whose position description involves inculcating or promoting gender ideology that they are being placed on paid administrative leave effective immediately as the agency takes steps to close/end all initiatives, offices, and programs that inculcate or promote gender ideology.

    d. Take down all outward facing media (websites, social media accounts, etc.) that inculcate or promote gender ideology.

    e. Review agency email systems such as Outlook and turn off features that prompt users for their pronouns.

f. Withdraw any final or pending documents, directives, orders, regulations, materials, forms, communications, statements, and plans that inculcate or promote gender ideology.

g. Cancel any trainings that inculcate or promote gender ideology or have done so in the past.

h. Disband or cancel any employee resource groups or special emphasis programs that inculcate or promote gender ideology or have done so in the past.

i. Review all agency forms that require entry of an individual's sex and ensure that all list male or female only, and not gender identity. Remove requests for "gender" and substitute requests for "sex."

j. Ensure that all applicable agency policies and documents, including forms, use the term "sex" and not "gender."

k. Ensure that intimate spaces designated for women, girls, or females (or for men, boys, or males) are designated by biological sex and not gender identity.

2. No later than **12:00 p.m. EST on Friday, February 7, 2025**, report to OPM on all steps taken to implement this guidance, including:

a. a complete list of actions taken in response to this guidance and *Defending Women*; and

b. any agency plans to fully comply with this guidance and *Defending Women*.

Please contact OPM at defendingwomen@opm.gov if you have any questions regarding this guidance. Please send any reports requested by this guidance to defendingwomen@opm.gov.

cc: Chief Human Capital Officers (CHCOs), Deputy CHCOs, Human Resources Directors, and Chiefs of Staff

EXHIBIT 18

PSNet
PATIENT SAFETY NETWORK

Suicidal Ideation in the Family Medicine Clinic

December 1, 2016
Moutier C. Suicidal Ideation in the Family Medicine Clinic. PSNet [internet]. 2016.
https://psnet.ahrq.gov/web-mm/suicidal-ideation-family-medicine-clinic

Case Objectives

- Recognize suicide as a major public health problem and the critical role of primary care in preventing suicide.
- Describe risk factors associated with increased risk of suicide.
- Be familiar with The Joint Commission recommendations regarding the management of suicide risk across health care settings.
- Understand how to assess suicide risk in the primary care setting and how to triage high-risk patients.
- Recognize the importance of a systems approach to suicide prevention.

The Case

A 20-year-old woman with bipolar disorder, borderline personality disorder, and a history of multiple inpatient psychiatric hospitalizations for prior suicide attempts called her primary care doctor's office at 10:30 AM stating that she had been "cutting her wrists" and had taken "extra doses of medication."

A front office staff member who did not have any clinical training answered the patient's phone call. He informed the patient that the next available appointment was at 3:00 PM that afternoon. The primary care doctor was not notified of the patient's behavior at the time of the phone call.

During the patient's office visit that afternoon, she was noted to have multiple cuts on both her wrists and stated that she "did not care" if she harmed herself. She stated that in addition to cutting herself, she had ingested several lithium pills. Recognizing that the patient was at high risk for suicide based on her behavior and medical history, the evaluating physician called security to escort the patient to the emergency department for a formal psychiatric assessment and inpatient admission. However, the patient was unintentionally left unattended for a brief period and eloped before providers could evaluate her.

The emergency department physician notified the local police who found the patient at her apartment later that evening. Luckily, she had not engaged in additional self-destructive behavior. She was brought back to

the emergency department and ultimately admitted to an inpatient psychiatry unit for further treatment.

The Commentary

by Christine Moutier, MD

Suicide is one of the world's leading preventable causes of death. In 1999, United States Surgeon General David Satcher drew attention to suicide as national public health crisis and called upon policy and community leaders, researchers, and health care systems to act to reduce the national suicide rates.(1) In 2002, the Institute of Medicine issued a similar call to action.(2)

Suicide prevention has traditionally been viewed as the primary responsibility of mental health providers. Unfortunately, many who might benefit from dedicated mental health treatment are unable to access it for at least two reasons. First, there remains a significant shortage of psychiatrists and other mental health professionals. Second, there continues to be significant stigma associated with seeking care from such providers, although thankfully this is diminishing. In fact, the majority of those who die by suicide have never seen a mental health professional (62%), but they do visit primary care, often in the weeks before death.(3)

Although the US Preventive Services Task Force deemed the evidence supporting screening for suicide risk insufficient in 2014 (4), 2 years later The Joint Commission issued Sentinel Event Alert 56 regarding the detection and care of suicide risk.(5) In it, they recommend formal screening for suicide risk as well as a series of action steps for all health care settings (Table 1).(5) This has prompted a newfound interest in suicide prevention and highlighted the need for training and implementation of care protocols in ambulatory settings.

This case presents a patient who is clearly at very high risk for suicide based on the presence of multiple risk factors, including self-harm behavior, history of suicide attempts, history of psychiatric hospitalizations, and concurrent diagnoses of bipolar disorder and borderline personality disorder. Primary care providers need to be able to quickly recognize the presence of suicide risk factors, including those that may be less readily apparent, such as a family history of psychiatric illness (Table 2). A rich body of research demonstrates that a diagnosable psychiatric condition contributes to death in more than 90% of suicide cases (6), but the condition had been untreated in about half of those cases. Thus, it is critical to routinely screen for mental health problems in the primary care setting. This can be accomplished by using validated instruments (such as the PHQ-9, a publicly available depression screening tool) (7) and by asking patients about changes in behavior, mood, and physical symptoms of depression.

This case represents a missed opportunity to provide high quality care to a patient at high risk for suicide. When the patient called the office and stated that she had cut her wrists and taken some pills, the staff member treated the call as routine and scheduled an appointment without recognizing the urgency of the situation. The reaction highlights the importance of training all staff, even nonclinical staff members, on the basics of suicide prevention, including the recognition of risk factors. Such brief education for nonclinical staff can be provided during a short training session and includes teaching on suicide risk factors, warning signs to watch for, and how to converse with suicidal individuals in a supportive manner.(8) Longer

trainings, such as Mental Health First Aid, are also available and teach lay individuals how to recognize mental health issues and what to do to help.(9) In this case, the staff member should have had a clinician speak with the patient by phone immediately. If that was not possible, the staff member taking the call should have triaged the patient to the emergency department (ED) for emergent evaluation.

When the primary care physician eventually evaluated the patient, her decision to have the patient escorted to the ED by security was appropriate. However, the fact that the patient eloped reveals a major gap in care, in that this patient who warranted urgent psychiatric and medical evaluation lacked a failsafe plan for 1:1 observation until evaluation by an ED provider was possible. This highlights the critical need for protocols to safely transition high-risk patients between care settings and involves careful coordination among all providers to ensure safe handoffs. The details vary, but states have developed processes for holding patients involuntarily pending formal psychiatric evaluation if there is concern for "dangerousness to self."(10)

Determining a patient's current level of suicide risk and triaging the patient appropriately are two of the most challenging aspects of mental health care in any setting, but this can be particularly difficult in the ambulatory setting. The two levels of risk to be considered in outpatients are (i) acute risk and (ii) all other nonacute, lower levels of risk. An algorithm that is sometimes helpful in making this assessment is available: https://www.sprc.org/settings/primary-care/toolkit.(11,12) Importantly, suicidal ideation (defined as thinking about or considering suicide) by itself does not amount to acute risk. In fact, among primary care patients, 2%–3% report experiencing suicidal ideation in the preceding month. Although suicidal ideation indicates possible psychopathology and need for mental health treatment, its presence does not predict progression to suicide.(13)

However, suicidal ideation can evolve into a higher risk scenario. When a patient expresses intent and articulates a viable plan for lethal self-harm, that patient should be considered at acute and high risk for suicide. However, outside of this clearly defined scenario, there are many factors to consider in determining risk level. The most important thing to keep in mind is that suicide risk is highest when multiple risk factors coexist in one patient, such as the patient in this case. If a patient expresses suicidal thoughts but the nature of the intent and plan is not clear, asking about several other risk factors can be very helpful to appropriately determine risk and triage the patient accordingly. Key risk factors to be considered include: prior history of suicide attempt; family history of suicide or mental illness; the presence of agitation, anxiety, or insomnia; sense of being a burden; and the escalating use of alcohol or other substances. If the patient's suicidal ideation has been coming and going for some time with no prior history of attempt and no other risk factors, and protective factors such as a strong sense of connection to others are present, the patient is not likely to be at imminent risk of suicide. Because suicide risk is dynamic and may change over time, providers should document these findings in detail along with their rationale for risk determination at the time they assess the patient. In addition, documentation is closely examined if litigation ensues. Courts will usually respect a medical decision if a rationale that falls within a reasonable range of standard practice is documented, even if a bad outcome occurs.(14,15)

Sometimes providers "contract" with patients to ensure their safety by asking patients to promise that they won't self-harm and will follow up as planned at the next scheduled visit. There is no empirical evidence to support this practice of "contracting for safety." Moreover, it does not afford medicolegal protection in the

case of an adverse outcome.(16) The current recommendation is to use a simple process referred to as *safety planning* (Table 3). Safety planning empowers patients to recognize their own triggers and warning signs. It involves developing a step-wise plan to remain safe and can be kept in writing or via mobile application.(17) Safety planning can be facilitated by trained clinic staff in 10–20 minutes. It has been adopted in a wide variety of settings such as the Veterans Affairs, military bases, college campuses, and high schools.

Another best practice is counseling patients specifically on *lethal means,* methods for suicide with high fatality rates such as firearms, toxic chemicals, and medications.(18,19) Providers should ask patients and involved family members if there are guns, weapons, dangerous medications, or other potential sources of lethal harm in the home environment. If the answer is yes, the provider should strongly advise the patient and family when possible that they be stored securely to further mitigate the risk of harm.

The electronic health record can play a key role in flagging patients who are at high suicide risk and facilitates tracking of missed appointments, unfilled medications, and dispensing of potentially lethal or harmful medications. A framework called Zero Suicide is one example of a comprehensive systems approach to mitigating suicide risk and involves implementing policies, training, and better care for patients at risk for suicide.(20) It was launched in 2012 by the Suicide Prevention Resource Center following the US Surgeon General's 2012 National Strategy for Suicide Prevention. It focuses on training, practice, and policy in order to better identify patients at risk for suicide, provide suicide-specific care, ensure closer follow-up, and track patient outcomes. It leverages the electronic health record by including suicide risk as part of the patient dashboard so that patients with particular levels of risk don't get lost to follow-up. This allows concerning events, such as missed appointments or refills, to be noted and communicated to the primary provider.

Many of the strategies described above are consistent with recommendations from The Joint Commission, the American Academy of Family Physicians, and the American Academy of Pediatrics.(5,21,22) Mitigating suicide risk in ambulatory care is challenging. However, keeping patients safe is possible if ambulatory practices put systems in place to identify high-risk patients and triage them safely to the appropriate site of care.

Take-Home Points

- Triaging suicide risk is a common problem in primary care settings.
- All clinic staff should be trained to identify suicide risk factors and to appropriately triage high-risk patients.
- Determination of suicide risk involves assessing suicidal ideation, intent, planning, and access to lethal means, such as weapons and medications.
- Acutely high-risk patients warrant emergent psychiatric evaluation and possible hospitalization.
- The electronic health record can be leveraged to identify and monitor patients at risk for suicide.

Christine Moutier, MD Chief Medical Officer American Foundation for Suicide Prevention New York, NY

Faculty Disclosure: *Dr. Moutier has declared that neither she, nor any immediate members of her family, have a financial arrangement or other relationship with the manufacturers of any commercial products discussed in this continuing medical education activity. In addition, the commentary does not include information regarding investigational or off-label use of pharmaceutical products or medical devices.*

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Tables

Table 1. Joint Commission SEA 56 Recommendations for All Health Care Settings.(5)

1. Review each patient's history and family history for suicide risk factors
2. Use a standardized tool to screen all patients for deterioration in mental health and suicidal ideation (e.g., PHQ-9, ED-SAFE Screen)
3. Review these screening tool results before patient leaves appointment
4. For suicidal crisis, keep patient safe via 1:1 observation and emergent evaluation in ED or psychiatric unit

5. For lower risk states and for all patients with suicidal ideation:

   a. Provide patient and family the National Suicide Prevention Lifeline: 1-800-273-TALK
   b. Conduct safety planning
   c. Restrict access to lethal means
   d. Remember at subsequent visits to reevaluate suicide risk in an ongoing manner
   e. Consider suicide-specific treatment interventions/referrals
   f. Follow up closely

6. Educate all staff in patient care settings how to identify and respond to patients with suicidal ideation

7. Document decisions regarding detection, care and referral

Table 2. Risk Factors for Suicide.

Psychiatric condition (major depressive disorder, bipolar disorder, substance use disorder, borderline personality disorder, schizophrenia, posttraumatic stress disorder, anxiety disorder)

Prior suicide attempt

Family history of suicide

Family history of psychiatric condition

Chronic medical conditions/chronic pain

Childhood abuse

Recent stressful event, loss, shaming rejection, humiliating event

Suicide exposure (peer or celebrity)

Access to lethal means

Cognitive rigidity (perfectionistic, black or white thinking)

Feeling like a burden

Symptoms including agitation, hopelessness, insomnia, anxiety, command hallucinations

For youth: neglect, parental discord, rejection, LGBT, bullying

Table 3. Safety Planning Intervention.(23)

Patients (with doctor/staff/therapist/peer specialist) develop and document a stepped series of actions to prevent or abort crisis. Available as a printable plan or mobile application.

- Warning signs (thoughts, behaviors, situations)
- Internal coping mechanisms
- People/social settings that provide good distraction

- People whom I can ask for help
- Professionals/agencies I can contact during a crisis
- Making the environment safe

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