

Contents

Volume 3. Performance and Tools

Prologue: The Shift toward Performance and Tools

Margaret A. Keyes

Teamwork and Communication

TeamSTEPPS™: Team Strategies and Tools to Enhance Performance and Patient Safety

Heidi B. King, James Battles, David P. Baker, et al.

Understanding Quality and Safety Problems in the Ambulatory Environment:
Seeking Improvement with Promising Teamwork Tools and Strategies

John S. Webster, Heidi B. King, Lauren M. Toomey, et al.

Building Self-Empowered Teams for Improving Safety in Postoperative Pain
Management

Ranjit Singh, Bruce Naughton, Diana Anderson, et al.

Beyond Rapid Response Teams: Instituting a “Rover Team” Improves the
Management of At-Risk Patients, Facilitates Proactive Interventions, and Improves
Outcomes

Rémi M. Heuckel, Jennifer L. Turi, Ira M. Cheifetz, et al.

Improving Referral Communication Using a Referral Tool Within an Electronic
Medical Record

Tejal K. Gandhi, Nancy L. Keating, Matthew Ditmore, et al.

Improving Patient Safety Through Provider Communication Strategy
Enhancements

Catherine Dingley, Kay Daugherty, Mary K. Derieg, et al.

Improving Clinical Communication and Patient Safety: Clinician-Recommended
Solutions

Donna M. Woods, Jane L. Holl, Denise Angst, et al.

Simulation

In Situ Simulation: Challenges and Results

Mary D. Patterson, George T. Blike, Vinay M. Nadkarni.

The Nature, Characteristics and Patterns of Perinatal Critical Events Teams

William Riley, Helen Hansen, Ayse P. Gürses, et al.

Failure Modes and Effects Analysis Based on *In Situ* Simulations: A Methodology to Improve Understanding of Risks and Failures

Stanley Davis, William Riley, Ayse P. Gürses, et al.

The Mobile Mock Operating Room: Bringing Team Training to the Point of Care

John T. Paige, Valeriy Kozmenko, Tong Yang, et al.

Examining the Effectiveness of Debriefing at the Point of Care in Simulation-Based Operating Room Team Training

Ramnarayan Paragi Gururaja, Tong Yang, John T. Paige, et al.

Effect of Recent Refresher Training on *in Situ* Simulated Pediatric Tracheal Intubation Psychomotor Skill Performance

Akira Nishisaki, Louis Scrattish, John Boulet, et al.

Simulation-Based Education Improves Patient Safety in Ambulatory Care

Beth A. LaVelle, Joanne J. McLaughlin.

Human Factors

Pillars of a Smart, Safe Operating Room

F. Jacob Seagull, Gerald R. Moses, Adrian E. Park.

High-Hanging Fruit: Improving Transitions in Health Care

Shawn J. Perry, Robert L. Wears, Emily S. Patterson.

Minding the Gaps: Creating Resilience in Health Care

Christopher Nemeth, Robert Wears, David Woods, et al.

Error Producing Conditions in the Intensive Care Unit

Frank A. Drews, Adrian Musters, Matthew H. Samore.

Patient Monitors in Critical Care: Lessons for Improvement
Frank A. Drews.

Tools and Practices

Developing the Tools to Administer a Comprehensive Hospital Discharge Program: The ReEngineered Discharge (RED) Program
Brian Jack, Jeffrey Greenwald, Shaula Forsythe, et al.

Creating an Accurate Medication List in the Outpatient Setting Through a Patient-Centered Approach
Kathryn Kraft Leonhardt, Patti Pagel, Deborah Bonin, et al.

The Use of Modest Incentives to Boost Adoption of Safety Practices and Systems
Gregg S. Meyer, David F. Torchiana, Deborah Colton, et al.

Using Data Mining to Predict Errors in Chronic Disease Care
Ryan M. McCabe, Gediminas Adomavicius, Paul E. Johnson, et al.

Venous Thromboembolism Safety Toolkit: A Systems Approach to Patient Safety
Brenda K. Zierler, Ann Wittkowsky, Gene Peterson, et al.

Using Process Measures to Improve Patient Safety Practices to Prevent Pulmonary Embolism
Ellen Flink, Harold Kilburn, Jr., Tong Wang, et al.

A Tool to Assess Compliance in Anticoagulation Management
Carla S. Huber, James M. Levett, Joan M. Atkinson.

Using Lean Six Sigma[®] Tools to Compare INR Measurements from Different Laboratories Within a Community
Brion Hurley, James M. Levett, Carla Huber, et al.

Using Six Sigma[®] Methodology to Improve Handoff Communication in High-Risk Patients
Kshitij P. Mistry, James Jagers, Andrew J. Lodge, et al.

10-Year Experience Integrating Strategic Performance Improvement Initiatives:
Can the Balanced Scorecard, Six Sigma[®], and Team Training All Thrive in a
Single Hospital?

Jon N. Meliones, Michael Alton, Jane Mericle, et al.

Impact of Staff-Led Safety Walk Rounds

Vicki L. Montgomery.

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

Niraj L. Sehgal, Sumant R. Ranji, Kaveh G. Shojania, et al.

Peer Reviewers

Additional Articles in this Publication

Volume 1. Assessment

Prologue: Laying the Foundation

Kerm Henriksen

Looking Forward, Benefiting from the Past

Envisioning Patient Safety in the Year 2025: Eight Perspectives

Kerm Henriksen, Caitlin Oppenheimer, Lucian Leape, et al.

What Exactly Is Patient Safety?

Linda Emanuel, Don Berwick, James Conway, et al.

Reporting Systems

Improving the Value of Patient Safety Reporting Systems

Peter J. Pronovost, Laura L. Morlock, J. Bryan Sexton, et al.

The Association Between Pharmacist Support and Voluntary Reporting of
Medication Errors: An Analysis of MEDMARX[®] Data

Katherine J. Jones, Gary L. Cochran, Liyan Xu, et al.

Proactive Postmarketing Surveillance: Overview and Lessons Learned from Medication Safety Research in the Veterans Health Administration
Robert R. Campbell, Andrea M. Spehar, Dustin D. French

Medical Product Safety Network (MedSun) Collaborates with Medical Product Users to Create Specialty Subnetworks
Donna Engleman, Suzanne Rich, Tina Powell, et al.

Physician-Reported Adverse Events and Medical Errors in Obstetrics and Gynecology
Martin November, Lucy Chie, Saul N. Weingart

26,000 Close Call Reports: Lessons from the University of Texas Close Call Reporting System
Debora Simmons, JoAnn Mick, Krisanne Graves, et al.

Using an Anonymous Web-Based Incident Reporting Tool to Embed the Principles of a High-Reliability Organization
Paul Conlon, Rebecca Havlisch, Narendra Kini, et al.

Voluntary Adverse Event Reporting in Rural Hospitals
Charles P. Schade, Patricia Ruddick, David R. Lomely, et al.

Improving Error Reporting in Ambulatory Pediatrics with a Team Approach
Daniel R. Neuspiel, Margo Guzman, Cari Harewood

Relationship Between Patient Harm and Reported Medical Errors in Primary Care: A Report from the ASIPS Collaborative
David R. West, Wilson D. Pace, L. Miriam Dickinson, et al.

Structure and Features of a Care Enhancement Model Implementing the Patient Safety and Quality Improvement Act
William Riley, Bryan A. Liang, William Rutherford, et al.

Taxonomies and Measurement

Development of a Comprehensive Medical Error Ontology
Pallavi Mokkarala, Julie Brixey, Todd R. Johnson, et al.

Mapping a Large Patient Safety Database to the 2005 Patient Safety Event Taxonomy

John R. Clarke, Janet Johnston, Monica Davis, et al.

A System to Describe and Reduce Medical Errors in Primary Care

Victoria Kaprielian, Truls Østbye, Samuel Warburton, et al.

Beyond Nursing Quality Management: The Nation's First Regional Nursing Virtual Dashboard

Carolyn Aydin, Linda Burnes Bolton, Nancy Donaldson, et al.

Using ICD-9-CM Codes in Hospital Claims Data to Detect Adverse Events in Patient Safety Surveillance

Paul Hougland, Jonathan Nebeker, Steve Pickard, et al.

Adaption of AHRQ Patient Safety Indicators for Use in ICD-10 Administrative Data by an International Consortium

Hude Quan, Saskia Drösler, Vijaya Sundararajan, et al.

Racial Disparities in Patient Safety Indicator (PSI) Rates in the Veterans Health Administration

Stephenie L. Shimada, Maria E. Montez-Rath, Susan A. Loveland, et al.

Challenges and Lessons Learned

Patient Safety Learning Pilot: Narratives from the Frontlines

Shirley E. Kellie, James B. Battles, Nancy M. Dixon, et al.

A Visual Computer Interface Concept for Making Error Reporting Useful at the Point of Care

Ranjit Singh, Wilson Pace, Ashok Singh, et al.

Christiana Care Health System: Safety Mentor Program

Michele Campbell, Christine Carrico, Carol Kerrigan Moore, et al.

News Media and Health Care Providers at the Crossroads of Medical Adverse Events

Pamela Whitten, Mohan J. Dutta, Serena Carpenter, et al.

Risk Assessment

Risk-Based Patient Safety Metrics

Matthew C. Scanlon, Ben-Tzion Karsh, Kelly A. Saran

Leveraging Existing Assessments of Risk Now (LEARN) Safety Analysis: A Method for Extending Patient Safety Learning

Donna M. Woods, Jane L. Holl, Jon Young, et al.

A Model of Care Delivery to Reduce Falls in a Major Cancer Center

Nancy E. Kline, Bridgette Thom, Wayne Quashie, et al.

Using a Computerized Fall Risk Assessment Process to Tailor Interventions in Acute Care

Mary L. Hook, Elizabeth C. Devine, Norma M. Lang

Home Health Care Patients and Safety Hazards in the Home: Preliminary Findings

Robyn R.M. Gershon, Monika Pogorzelska, Kristine A. Qureshi, et al.

Cause Analysis

The New York Model: Root Cause Analysis Driving Patient Safety Initiative to Ensure Correct Surgical and Invasive Procedures

Lawrence L. Faltz, John N. Morley, Ellen Flink, et al.

Department of Veterans Affairs Emergency Airway Management Initiative

Erik J. Stalhandske, Michael J. Bishop, James P. Bagian

Using Root Cause Analysis to Reduce Falls in Rural Health Care Facilities

Patricia Ruddick, Karen Hannah, Charles P. Schade, et al.

Common Cause Analysis: Focus on Institutional Change

Anne Marie Browne, Robert Mullen, Jeanette Teets, et al.

Volume 2. Culture and Redesign

Prologue: Culture and Redesign for Improved Patient Safety

James B. Battles

Safety Culture and Organizational Issues

The AHRQ Hospital Survey on Patient Safety Culture: A Tool to Plan and Evaluate Patient Safety Programs

Katherine J. Jones, Anne Skinner, Liyan Xu, et al.

Hospital Administrative Staff vs. Nursing Staff Responses to the AHRQ Hospital Survey on Patient Safety Culture

Karen L. Hannah, Charles P. Schade, David R. Lomely

Using the AHRQ Hospital Survey on Patient Safety Culture as an Intervention Tool for Regional Clinical Improvement Collaboratives

Inga Adams-Pizarro, ZeAmma Walker, Janet Robinson, et al.

Measuring Safety Climate in Primary Care Offices

Gurdev Singh, Ranjit Singh, Eric J. Thomas, et al.

The PeaceHealth Ambulatory Medication Safety Culture Survey

Ronald Stock, Eldon R. Mahoney

Views of Emergency Medicine Trainees on Adverse Events and Negligence: Survey Results from an Emergency Medicine Training Program in a Regional Health Care System Following the National Standard of Care

Hardeek H. Shah, Annie Gjelsvik, Leo Kobayashi, et al.

Is There an Association Between Patient Safety Indicators and Hospital Teaching Status?

Peter E. Rivard, Cindy L. Christiansen, Shibe Zhao, et al.

Organizational Behavior Management in Health Care: Applications for Large-Scale Improvements in Patient Safety

Thomas R. Cunningham, E. Scott Geller

Confidential Performance Feedback and Organizational Capacity Building to Improve Hospital Patient Safety: Results of a Randomized Trial

Peter M. Layde, Linda N. Meurer, Clare E. Guse, et al.

Clinical Process Improvement

Resident Sign-Out: A Precarious Exchange of Critical Information in a Fast-Paced World

Stephen M. Borowitz, Linda A. Waggoner-Fountain, Ellen J. Bass, et al.

Documentation of Mandated Discharge Summary Components in Transitions from Acute to Subacute Care

Amy J.H. Kind, Maureen A. Smith

Challenges to Real-Time Decision Support in Health Care

Mark Fitzgerald, Nathan Farrow, Pamela Scicluna, et al.

Risk Reduction and Systematic Error Management: Standardization of the Pediatric Chemotherapy Process

Beverly Ann David, Ana Rodriguez, Stanley W. Marks

Analysis of Patient Safety: Converting Complex Pediatric Chemotherapy Ordering Processes from Paper to Electronic Systems

Donald K. Baker, James M. Hoffman, Gregory A. Hale, et al.

Promoting Best Practice and Safety Through Preprinted Physician Orders

George Ehringer, Barbara Duffy

The Impact of Standardized Order Sets on Quality and Financial Outcomes

David J. Ballard, Gerald Ogola, Neil S. Fleming, et al.

Clinical Impact of an Anticoagulation Screening Service at a Pediatric Tertiary Care Facility

Kathy M. Harney, Patricia A. Branowicki, Margaret McCabe, et al.

Creating Safety in the Testing Process in Primary Care Offices

Nancy C. Elder, Timothy R. McEwen, John M. Flach, et al.

Role of External Coach in Advancing Research Translation in Hospital-Based Performance Improvement

Nancy Donaldson, Dana Rutledge, Kristin Geiser

Strategies for Improving Patient Safety in Small Rural Hospitals

Judith Tupper, Andrew Coburn, Stephanie Loux, et al.

Systems Redesign

Systems-Based Practice: Improving the Safety and Quality of Patient Care by Recognizing and Improving the System in Which We Work

Julie K. Johnson, Stephen H. Miller, Sheldon D. Horowitz

Designing the Built Environment for a Culture and System of Patient Safety – A Conceptual, New Design Process

Kenneth N. Dickerman, Paul Barach

Implementation of Systems Redesign: Approaches to Spread and Sustain Adoption

Heather Woodward Hagg, Jamie Workman-Germann, Mindy Flanagan, et al.

Transforming the Morbidity and Mortality Conference into an Instrument for Systemwide Improvement

Jamie N. Deis, Keegan M. Smith, Michael D. Warren, et al.

Collaboratives and Patient Involvement

The Patient Safety Education Project: An International Collaboration

Linda Emanuel, Merrilyn Walton, Martin Hatlie, et al.

Harnessing the Potential of Health Care Collaboratives: Lessons from the Keystone ICU Project

Christine A. Goeschel, Peter J. Pronovost

VHA's National Falls Collaborative and Prevention Programs

Erik Stalhandske, Peter Mills, Pat Quigley, et al.

Hospital Language Services: Quality Improvement and Performance Measures

Marsha Regenstein, Jennifer Huang, Catherine West, et al.

Using Patient Complaints to Promote Patient Safety

James W. Pichert, Gerald Hickson, Ilene Moore

From Public Testimony to Vehicle for Statewide Action: Experience of the Michigan State Commission on Patient Safety

Diane Valade, Ruth Mohr, Vicky Debold, et al.

The Rural Physician Peer Review Model[®]: A Virtual Solution

Josie R. Williams, Kathy K. Mechler, John R. Holcomb, et al.

Volume 4. Technology and Medication Safety

Prologue: Technology and Medication Safety

Mary L. Grady

Health Information Technology

“Safeware”: Safety-Critical Computing and Health Care Information Technology

Robert L. Wears, Nancy G. Leveson

Improving Perioperative Patient Safety Through the Use of Information
Technology

Paul J. St. Jacques, Michael N. Minear

The Impact of Health Information Technology on Work Process and Patient Care
in Labor and Delivery

Emily M. Campbell, Hong Li, Tomi Mori, et al.

Consolidated Imaging: Implementing a Regional Health Information Exchange
System for Radiology in Southern Maine

Stephanie Loux, Robert Coleman, Matthew Ralston, et al.

Personal Health Records to Improve Health Information Exchange and Patient
Safety

James R. Fricton, Diane Davies

Improving Patient Safety Using ATHENA-Decision Support System Technology:
The Opioid Therapy for Chronic Pain Experience

Martha Michel, Jodie Trafton, Susana Martins, et al.

Implementing an Ambulatory e-Prescribing System: Strategies Employed and
Lessons Learned to Minimize Unintended Consequences

Emily B. Devine, Jennifer L. Wilson-Norton, Nathan M. Lawless, et al.

Measuring IT Sophistication in Nursing Homes

Gregory L. Alexander, Dick Madsen, Stephanie Herrick, et al.

The Potential of Hand-held Assistive Technology to Improve Safety for Elder
Adults Aging in Place

Shirley Ann Becker, Frank M. Webbe

Efficiency Gains with Computerized Provider Order Entry
Andrew M. Steele, Mical DeBrow

Medication Safety

Clinical Pharmacists in Emergency Medicine
Rollin J. Fairbanks, Erik A. Rueckmann, Karen E. Kolstee, et al.

Intravenous Infusion Safety Initiative: Collaboration, Evidence-Based Best Practices, and “Smart” Technology Help Avert High-Risk Adverse Drug Events and Improve Patient Outcomes
Ray R. Maddox, Sherry Danello, Carolyn K. Williams, et al.

Continuous Respiratory Monitoring and a “Smart” Infusion System Improve Safety of Patient-Controlled Analgesia in the Postoperative Period
Ray R. Maddox, Harold Oglesby, Carolyn K. Williams, et al.

Evaluation of a Medication Therapy Management Program in Medicare Beneficiaries at High Risk of Adverse Drug Events: Study Methods
Andrew L. Masica, Daniel R. Touchette, Rowena J. Dolor, et al.

Medication Management Transactions and Errors in Family Medicine Offices: A Pilot Study
John Lynch, Jonathan Rosen, Andrew Selinger, et al.

Evaluation of Medications Removed from Automated Dispensing Machines Using the Override Function Leading to Multiple System Changes
Karla Miller, Manisha Shah, Laura Hitchcock, et al.

Imbedding Research in Practice to Improve Medication Safety
Marsha A. Raebel, Elizabeth A. Chester, David W. Brand, et al.

Risk of Concurrent Use of Prescription Drugs with Herbal and Dietary Supplements in Ambulatory Care
Robert E. Graham, Tejal K. Gandhi, Joshua Borus, et al.

Using Home Visits to Understand Medication Errors in Children
Kathleen E. Walsh, Christopher J. Stille, Kathleen M. Mazor, et al.

Developing a Community-Wide Electronic Shared Medication List
Ron Stock, Eldon R. Mahoney, Dawn Gauthier, et al.