

**Enhancing the Culture of Quality in AAMC Member Organizations  
OPI Quality Project Selected Readings**

**LITERATURE ON PRACTICE**

**QUALITY OF CARE**

\*Allison, J., Catarina, I.K., et al. (2000). Relationship of Hospital Teaching Status with Quality of Care and Mortality for Medicare Patients with Acute MI. *JAMA*, 284, 1256-1262

Ayanian, J.Z. & Weissman, J.S. (2002). Teaching hospitals and quality of care: a review of the literature. *Milbank Q.*, 80(3), 569-93.

Review of peer-reviewed studies from 1985-2001 that compares the quality of care in teaching and non-teaching hospitals based on quality metrics and risk-adjusted mortality for elderly patients with common conditions such as AMI.

\*Berwick, D.M. (2002). A User's Manual for the IOM's 'Quality Chasm' Report. *Health Affairs*, 21(3), 80-90.

\*Bingham, J.W., et al. (2005). Using a Healthcare Matrix to Assess Patient Care in Terms of Aims for Improvement and Core Competencies. *Journal on Quality and Patient Safety*, 31(2), 98-105.

Bodenheimer, T. (2008). Coordinating Care – A Perilous Journey through the Health Care System. *NEJM*, 358(10), 1064-1071.

Discussion of the challenges facing coordination of care for patients, particularly due to shortages in primary care, lack of computerization, and lack of integrated systems of care. Also reviews successful models that have led to improved coordination between primary care and specialty care providers.

Bradley, E.H. (2003). The Roles of Senior Management in Quality Improvement Efforts: What are the Key Components? *Journal of Healthcare Management*, 48(1), 15-28.

Based on a qualitative study of 8 hospitals across the county, the authors developed a checklist for administrators to assess their own as well as other's efforts in institutional quality improvement efforts.

Brennan, T. (2002). Physicians' Professional Responsibility to Improve the Quality of Care. *Academic Medicine*, 77(10), 973-980.

As part of their professional responsibility, calls for physicians to more actively advocate for quality care based on the science of quality improvement, outcomes and process systems.

\*Chassin, M.R., Galvin, R. and the National Roundtable on Health Care Quality. (1998). The Urgent Need to Improve Health Care Quality. *JAMA*, 280, 1000-1005.

Chaudhry, B., et al. (2006). Systematic Review: Impact of Health Information Technology on Quality, Efficiency, and Costs of Medical Care. *Annals of Internal Medicine*, 144(10), 742-752.

A systematic review of the literature examining the impact of health information technology on improved outcomes in quality, efficiency, and healthcare costs.

Keroack, M.A., et al. (2007). Organizational Factors Associated with High Performance in Quality and Safety in Academic Medical Centers. *Academic Medicine*, 82(12), 1178-1186.

Identifies the key organizational factors associated with top performing AMC's in the areas of quality and safety, including shared sense of purpose, hands-on leadership, and accountability systems.

Khuri, S. F., Najjar, S.F., et al. (2001). Comparison of surgical outcomes between teaching and nonteaching hospitals in the Department of Veterans Affairs. *Annals of Surgery*, 234(3), 370-382; discussion 382-383.

An examination of surgical outcomes between teaching and non-teaching hospitals within the VHA.

Lukas, C.V., et al. (2007). Transformational Change in Health Care Systems: An organizational model. *Health Care Management Review*, 32(4), 309-320.

Using longitudinal comparative studies, the authors identify five key organizational factors that contribute to sustained, evidence-based quality improvement efforts in the patient care setting.

Maio, V., Goldfarb, N.I., et al. (2004). Outpatient quality improvement in academic faculty practice plans: does it exist? *American Journal of Medical Quality* 19(6), 235-41.

Results of a UHC survey of faculty practice plans to identify the extent to which these plans were involved in quality improvement efforts and the facilitators and barriers to implementing these initiatives.

Moore, C, et al. (2003). Medical Errors Related to Discontinuity of Care from an Inpatient to an Outpatient Setting. *Journal of General Internal Medicine*, 18(8), 646-651.

Examines the prevalence of medical errors resulting from the discontinuity of care from an inpatient to outpatient setting. Findings reveal a high prevalence of errors and greater risk for re-hospitalization.

Motwani, J., et al. (1999). Striving toward Continuous Quality Improvement: A Case Study of St. Mary's Hospital. *Health Care Manager*, 18(2), 33-40.

Case analysis examining the 5 key factors that contributed to successful implementation of a continuous quality improvement program at St. Mary's Hospital (Grand Rapids, MI).

\*Plsek PE. Quality improvement methods in clinical medicine. (1999). *Pediatrics*, 103, 203S-14S.

Prybil LD. (2006). Size, composition, and culture of high-performing hospital boards. *American Journal of Medical Quality*, 21(4), 224-9.

Identifies characteristics that distinguish high-performing non-profit hospital boards from boards at hospitals with midrange performance.

Schouten, L. et al. (2008). Evidence for the Impact of Quality Improvement Collaboratives: Systematic Review. *BMJ*, 336, 1491-1494.

Evaluates the effectiveness of quality improvement collaboratives through a systematic review of the literature. Recommends further research into the components of effectiveness and cost effectiveness in determining the value of such initiatives.

Shah, M. & Layman, E. (2005). Using a Multipronged Approach to Implement Organizational Performance Improvements. *The Health Care Manager*, 24(1), 48-54.

Presents a multipronged, systems approach to organizational performance improvement in health care that encourages leaders to focus more attention on managing change and the human reaction to change at all levels of the process.

\*Shojania KG, Showstack J, Wachter RM. (2001). Assessing hospital quality: a review for clinicians. *Eff Clin Pract*, 4, 82–90.

Spear, S.J. (2005). Fixing Health Care from the Inside, Today. *Harvard Business Review*, 83(9), 78-91.

Makes case for health care to improve cost, access and quality by adopting the Toyota model. Provides examples of hospitals that have achieved quality improvement through incremental change by fostering a learning environment.

The Academic Medical Center Working Group of the Institute for Healthcare Improvement (2003). The Imperative for Quality: A Call for Action to Medical Schools and Teaching Hospitals. *Academic Medicine*, 78(11), 1085-1089.

Medical schools and teaching hospitals are well-positioned to have an impact on quality improvement in healthcare. Trends such as increasing numbers of interdisciplinary centers of excellence and changes in leadership recruitment and development indicate a commitment to this area.

\*Wachter RM. (2006). Expected and unanticipated consequences of the quality and information technology revolutions. *JAMA*, 295, 2780–2783.

Webster, T., et al. (2008). Organizational Resiliency: How Top-Performing Hospitals Respond to Setbacks in Improving Quality of Cardiac Care. *Journal of Healthcare Management*, 53(3), 169-181.

Describes how top-performing hospitals have responded to setbacks in improving quality of cardiac care, and describes the cultural and leadership changes needed to address and sustain QI long-term.

## **QUALITY OF SERVICE**

Chassin, M. (2002). Achieving and Sustaining Improved Quality: Lessons from New York State and Cardiac Surgery. *Health Affairs*, 21(4), 40-51.

Review of New York State's reporting program for risk-adjusted mortality following CABG surgery, which started in 1989 and was the first of its kind nationwide. Discussion of how providers and the market have responded to this initiative as well as how this program might be applied more broadly.

\*\*Curtis JR, et al. (2006). Intensive care unit quality improvement: a "how-to" guide for the interdisciplinary team. *Critical Care Medicine*, 34(1), 211-8.

Identifies key concepts and approaches for the development, implementation, evaluation and maintenance of an interdisciplinary quality improvement program.

Feldman, A.M., et.al. (2006). The Physician–Hospital Team: A Successful Approach To Improving Care in a Large Academic Medical Center. *Academic Medicine*, 81, 35–41.

Describes the successes and challenges of implementing a multidisciplinary quality improvement program in a large academic teaching center.

Greer, A.L. Embracing Accountability: Physician Leadership, Public Reporting, and Teamwork in the Wisconsin Collaborative for Healthcare Quality. The Commonwealth Fund, Volume 95, June 2008.

Discusses how the Wisconsin Collaborative for Healthcare Quality (WCHQ) has been successful in engaging physicians in voluntarily reporting comparative performance improvement data.

\*Kizer, K., Demakis, J., Feussner, J. (2000). Reinventing VA Health Care: Systematizing Quality Improvement and Quality Innovation. *Medical Care*, 38(6), VA QUERI Supplement: VA's Quality Enhancement Research Initiative, I7-I16.

Nelson, E.C., et al. (2002). Microsystems in Healthcare: Part 1 – Learning from High-Performing Front-Line Clinical Units. *Journal on Quality Improvement*, 28(9), 472-493.

Pham, H.H., et al. (2007). Redesigning Care Delivery in Response to a High-Performance Network: The Virginia Mason Medical Center. *Health Affairs*, 26(4).

Identifies some of the challenges, including financial, associated with quality initiatives.

Pronovost, P., Berenholtz, S. & Needham, D. (2008). Translating Evidence Into Practice: A Model for Large Scale Knowledge Translation. *BMJ*, 337, 1714.

Safran, Dana, et al. (2006). Organizational Dimensions of Relationship-Centered Care: Theory, Evidence and Practice. *Journal of General Internal Medicine*, 21 Suppl, S9-15.

Discusses the relationship-centered healthcare model and presents scenarios that demonstrate the importance of clinician-colleague relationships in delivering high quality, patient-centered care and in organizational performance.

Sexton, J., Thomas, E. and Helmreich, R. (2000). Error, Stress, and Teamwork in Medicine and Aviation: Cross Sectional Surveys. *British Medical Journal*, 320, 745-749.

Survey of operating room and intensive care clinicians on their attitudes regarding error, stress and teamwork as compared to airline cockpit crews. The results show differences in ability to easily report errors within these fields, and differing perceptions of teamwork by various clinician groups.

Shulkin, D. (2008). Like Night and Day – Shedding Light on Off-Hours Care. *NEJM*, 358(20), 2091-2093.

Provides an executive's perspective on the major discrepancies between the quality of inpatient care delivered during daytime and nighttime shifts.

Turnipseed, W.D., et al. (2007). Product Line Development: A strategy for clinical success in academic centers. *Annals of Surgery*, 246(4), 585-590.

Examination of the University of Wisconsin Hospital and Clinics success in utilizing product line matrix to increase efficiencies and improve quality of care across several service lines.

## **PATIENT SAFETY**

Bagian, J.P., et al. (2001). Developing and Deploying a Patient Safety Program in a Large Health Care System: You can't fix what you don't know about. *Journal on Quality Improvement*, 27(10), 522-532.

Bates, D.W. (2000). Using Information Technology to Reduce Rates of Medication Errors in Hospitals. *British Medical Journal*, 320(7237), 788-791.

Review of the impact different medical technologies can have on reducing medication errors in hospitals.

Blumenthal D. & Ferris TG. (2006). Safety in the academic medical center: Transforming challenges into ingredients for improvement. *Academic Medicine*, 81(9), 817-22.

Discussion of how the mission of academic medical centers poses both opportunities and challenges to playing a key role in improving quality of care.

Classen, D. & Kilbridge, P. (2002). The Roles and Responsibility of Physicians to Improve Patient Safety Within Health Care Delivery Systems. *Academic Medicine*, 107(10), 963-972.

Presents a model for how the health care system can better bring together physicians and delivery organizations to achieve improved safety and outcomes.

Coles, G., et al. (2005). Using Failure Mode Effects and Criticality Analysis for High-Risk Processes at Three Community Hospitals. *Journal on Quality and Patient Safety*, 31(3), 132-140.

Discusses the benefits and challenges, required resources, and outcomes of implementing an FMECA program at three community hospitals.

\*Gerberding, J.L. (2002). Hospital-Onset Infections: A Patient Safety Issue. *Annals of Internal Medicine*, 137(8), 665-670.

Goode, L., et al. (2002). When is Good Enough? The Role and Responsibility of Physicians to Improve Patient Safety. *Academic Medicine*, 77(10), 947-952.

Presents ten recurring themes from a review of cases in which physicians have successfully used short-term and long-term strategies to improve quality and safety in their organizations

Hoff, T. J. (2008). How work context shapes physician approach to safety and error. *Quality Management in Health Care*, 17(2), 140-53.

Study measured how physicians in different hospital settings responded to safety and error issues in their unit and how these responses varied by work context. Results raise questions about the ability to successfully use a single solution to improve quality organization-wide.

Horak, B. et al. (2004). Patient Safety: A Case Study in Team Building and Interdisciplinary Collaboration. *Journal for Healthcare Quality*, 26(2), 6-12.

Examines George Washington University's Hospital's approach to improving patient safety through building effective interdisciplinary teams as well as the lessons learned from this initiative.

Kaldjian, L. C., E. W. Jones, et al. (2008). Reporting medical errors to improve patient safety: a survey of physicians in teaching hospitals. *Archives of Internal Medicine*, 168(1), 40-46.

Presents survey data in an effort to understand what affects physicians' reporting of medical errors, their likelihood of reporting hypothetical errors, and their attitudes towards reporting.

Leonard, M. and Frankel, A. (2006). Create and Maintain a Culture of Patient Safety. *Healthcare Executive*, Mar/April, 12-18.

Describes key components of integrating patient safety into a healthcare organization's culture, including studying and reacting to system errors, establishing a system of accountability, involving senior leadership and physicians in change, and fostering teamwork between administration and clinical staff.

Longo, D., et al. (2005). The Long Road to Patient Safety: A status report on patient safety systems. *JAMA*, 294, 2858-2865.

Discusses the findings of a survey of Missouri and Utah acute care hospitals participating in an AHRQ project geared towards implementing patient safety programs.

McCarthy, D. & Blumenthal, D. (2006). Stories from the sharp end: case studies in safety improvement. *Milbank Quarterly*, 84(1), 165-200.

Examines six safety programs that use different methods to integrate safety into their hospitals' cultures. Makes recommendations for policymakers to help organizations stimulate building cultures of safety through regulatory and policy changes.

Nolan, T. (2000). System Changes to Improve Patient Safety. *British Medical Journal*, 320(7237), 771-773.

Presents a model for accomplishing a patient safety system using the work of human factor experts and reliability engineers.

Paine, L.A., et al. (2004). The Johns Hopkins Hospital: Identifying and Addressing Risks and Safety Issues. *Joint Commission Journal on Quality and Safety*, 30(10), 543-550.

Describes a systems approach to developing a culture of quality at all levels of the organization, from strategic planning to regular board review of quality issues. Also highlights the challenges and lessons learned from this process.

Pauker, S., et al. (2005). Creating a Safer Health Care System. *JAMA*, 294, 2906-2908.

Describe six steps necessary for effective change in creating safer health care systems.

Personett, M., et al. (2008). Modernization of Patient Safety Event Reporting: Surveillance and Benchmarking. *Journal of Healthcare Risk Management*, 27(4): 39.

Pronovost, P. and Sexton, B. (2005). Assessing Safety Culture: Guidelines and recommendations. *Quality and Safety in Health Care*, 14, 231-233.

Presents a tool for measuring the safety culture of a unit, and makes recommendations for how administrators can use these results to target change.

Pronovost P., Weast B., et al. (2003). Medication reconciliation: a practical tool to reduce the risk of medication errors. *Journal of Critical Care*, 18(4), 201-5.

Discusses a hospital ICU's success in eliminating medication errors upon discharge by implementing a medication reconciliation tool upon admission.

Pronovost P.J., Weast B., et al. (2003). Evaluation of the culture of safety: survey of clinicians and managers in an academic medical center. *Quality & Safety in Health Care*, 12(6), 405-10.

Describes Johns Hopkins systematic review of its organization to determine staff perceptions regarding safety as a strategic priority and the extent to which the culture supports patient safety.

\*Reason, J. (2000). Human Errors: Models and Management. *BMJ*, 320, 768-770.

Ruchlin, H., et al. (2004). The Role of Leadership in Instilling a Culture of Safety: Lessons from the Literature. *Journal of Healthcare Management*, 49(1), 47-59.

An examination of how to build a culture of safety and the level of leadership required to do so. Discusses two paradigms for understanding why errors occur and approaches to creating a safety culture.

Scarrow, P. (2002). Lucian Leape and Healthcare Errors. *Journal for Healthcare Quality*, 24(3), 17-20.

An interview with Lucian Leape on his thoughts regarding how to create a non-punitive environment for reporting errors and how leadership can create cultures that support this environment.

Sexton, B.J., Paine, L.A., et al. (2007). A check-up for safety culture in "my patient care area." *Joint Commission Journal on Quality & Patient Safety*, 33(11), 699-703.

Presents information on the Safety Attitudes Questionnaire (SAQ) and Culture Check-Up tools.

\*Thomas, E.J., Studdert, D.M., & Brennan, T.A. (2002). The Reliability of Medical Record Review for Estimating Adverse Events. *Annals of Internal Medicine*, 136(11), 812-816.

\*Vincent, C. (2003). Understanding and Responding to Adverse Events. *NEJM*, 348(11), 1051-1056.

\*\*Volpp, K. and Grande, D. (2003). Residents' Suggestions for Reducing Errors in Teaching Hospitals. *NEJM*, 348(9), 851-855.

Provides eight areas for system-level improvement to reduce errors in the care setting. Authors contend that there must be a balance of holding residents accountable for errors, while simultaneously working to develop a culture of learning and continuous improvement that addresses system-related issues.

Wachter, R. (2004). The End of the Beginning: Patient Safety Five Years After 'To Err is Human'. *Health Affairs*, Suppl 2(23), 534-545.

Weeks, W.B., et al. (2001). Using an Improvement Model to Reduce Adverse Drug Events in VA Facilities. *The Joint Commission Journal on Quality and Patient Safety*, 27(5), 243-254.

Discusses the success of a joint quality improvement initiative between the Patient Safety Center of Inquiry and the IHI to reduce medication errors in VA hospitals using interdisciplinary teams.

Wong, P., et al. (2002). Providing the Right Infrastructure to Lead the Culture Change for Patient Safety. *Journal on Quality Improvement*, 28(7), 363-372.

Describes how one community teaching hospital successfully implemented a patient safety program by placing special emphasis on incorporating safety into the organization's culture and care processes.

### **EVIDENCE-BASED MEDICINE**

\*Boyd CM, Darer J, Boulton C, et al. (2005). Clinical practice guidelines and quality of care for older patients with multiple comorbid diseases: implications for pay for performance. *JAMA*, 294, 716–724.

\*Grol, R. & Grimshaw, J. (2003). From best evidence to best practice: effective implementation of change in patients' care. *The Lancet*, (362) 9391, 1225-1230.

Leape, L., Berwick, D. and Bates, D. (2002). What Practices Will Most Improve Safety? Evidence-Based Medicine Meets Patient Safety. *JAMA*, 288(4), 501-507.

Lorenzi, N., Pinson, C.W., Starmer. (2007). Integrating Quality Management Efforts in a Complex Organization: A Panel Discussion. *Q Manage Health Care*, 16(2), 182-186.

An interview with leadership who instituted an extensive quality initiative, strongly founded on evidence-based medicine, in a large academic medical center.

\*\*McGlynn, E., et al. (2003). The Quality of Health Care Delivered to Adults in the United States. *New England Journal of Medicine*, 348(26), 2635-2645.

Describes a random sample survey and chart review conducted to determine the extent to which standard processes in healthcare are delivered in the US. The findings indicate that participants received only 54.9% of recommended care, and that great variance exists in terms of quality delivered by condition.

O'Connor, P. (2005). Adding Value to Evidence-Based Clinical Guidelines. *JAMA*, 294, 741-743.

Discusses the use of clinical practice guidelines in measuring and rewarding quality care, as well as the limitations associated with these guidelines.

Quinn, M.M. & Mannion, J. (2005). Improving patient safety using interactive, evidence-based decision support tools. *Joint Commission Journal on Quality & Patient Safety*, 31(12), 678-83.

Discussion of the implementation of CPOE and clinical decision support tools at Meridian Health System and the successful impact on compliance rates with clinical practice guidelines for certain conditions.

\*Shojania, K.G. & Grimshaw, J.M. (2005). Evidence-Based Quality Improvement: The State of the Science. *Health Affairs*, 24(1), 138-150.

Shortell, S., et al. (2007). Improving Patient Care by Linking Evidence-Based Medicine and Evidence-Based Management. *JAMA*, 298(6), 673-676.

To improve quality of care, the system needs to successfully integrate evidence-based medicine, which identifies the clinical guidelines that improve care, with evidence-based management, which informs how these practices are integrated into routine practice within the delivery setting.

## VALUE

American College of Physicians (2008). Information on Cost-Effectiveness: An Essential Product of a National Comparative Effectiveness Program. *Annals of Internal Medicine*, 148, 956–961.

Calls for increased comparative effectiveness research to ensure that medical care provided is effective and rational.

Fisher, E., Wennberg, D., et al. (2004). Variations in the Longitudinal Efficiency of Academic Medical Centers. *Health Affairs*, Web exclusive, 19-32.

Comparison of academic medical centers that have a high variance in terms of intensity of services provided and quality of care and outcomes.

Greene, R., et al. (2008). Beyond the Efficiency Index: Finding a Better Way to Reduce Overuse and Increase Efficiency in Physician Care. *Health Affairs*, w250-w259.

Discusses a strategy beyond the efficiency index to address unnecessary variation and overuse in clinical practice by focusing on key cost drivers.

Gross, P., et al. (2007). The Business Case for Quality at a University Teaching Hospital. *The Joint Commission Journal on Quality and Patient Safety*, 33(3), 163-170.

Describes Hackensack University Medical Center's success in implementing strategies that increased quality of care while also increasing efficiencies and revenues, demonstrating the ability to make a business case for quality.

Hickman, B. (2007). Quality: The New Healthcare Imperative. *Healthcare Financial Management*, 61(8), 90-95.

Discusses the linkage between the success of evidence-based quality improvement programs and improvements in organizations' bottom lines and operational efficiencies.

Hillestad, R., et al. (2005). Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, and Costs. *Health Affairs*, 24(5), 1103-1117.

Compares the use of IT in health care to other industries and discusses the potential for HIT to save the system a significant amount of money by making care delivery and disease management more effective and efficient.

\*\*Leatherman, S., Berwick, D., et al. (2003). The Business Case for Quality. *Health Affairs*, 22(2), 17-30.

Examines four cases to demonstrate the clinical and financial impacts of improving care. Discusses costs and benefits of QI, and makes recommendations for better alignment of incentives.

O'Kane, M., et al. (2008). Crossroads in Quality. *Health Affairs*, 27(3), 749-758.

Presents five fundamental building blocks for a high-performance health system.

\*\*Pronovost PJ., Nolan T., Zeger S., Miller M., and Rubin H. (2007). How can clinicians measure safety and quality in acute care? *Lancet*, 363(9414), 1061-7.

Presents the use of the time series tool, adapted from industrial engineering, as a mechanism for providing physicians with frequent feedback to help improve quality and efficiency of care delivery.

Wennberg, D., et al. (2008). Building Partnerships: Addressing Overuse, Underuse and Misuse of Care. *Healthcare Executive*, 23(4), 8-15.

## **DISPARITIES**

Baker, L., et al. (2008). Variations in Hospital Resource Use for Medicare and Privately Insured Populations in California. *Health Affairs*, w123-w143.

Study examines the relationship between insurance coverage and resource intensity, and finds that variance is attributable to individual organizations and providers and is less dependent on coverage type.

Casalino, L.P., et al. (2007). Will Pay-for-Performance and Quality Reporting Affect Health Care Disparities? *Health Affairs*, 26(3), w405-w414.

Describes how pay for performance could actually worsen disparities in healthcare and makes recommendations for how these effects can be avoided in implementing a pay for performance program.

Chien, A., et al. (2007). Pay for Performance, Public Reporting, and Racial Disparities in Health Care. *Medical Care Research and Review*, 64(5), 283S-304S.

A review of the literature and interviews with leaders of major performance improvement programs to explore the impact of pay for performance on racial disparities in health care.

\*\*Fisher E.S., Wennberg D.E., et al. (2003) The implications of regional variations in Medicare spending. Part 1: The content, quality, and accessibility of care. *Annals of Internal Medicine*, 138(4), 273-87.

A cohort study of Medicare beneficiaries to determine whether regions with higher Medicare spending provide better care. Findings show that quality and access were not better for these enrollees.

\*\*Fisher E.S., Wennberg D.E., et al. (2003). The implications of regional variations in Medicare spending. Part 2: Health outcomes and satisfaction with care. *Annals of Internal Medicine*, 138(4), 288-98.

A cohort study of Medicare beneficiaries to determine whether regions with higher Medicare spending achieve better functional status or satisfaction with care. Findings show that Medicare enrollees in higher spending areas receive more care, but they do not have better outcomes or satisfaction.

\*Sternberg, S. & De Barros, A. "Does Where You Live Determine If You'll Live?" USA Today Online, May 23, 2007.

Vladeck, B. (2004). Everything New is Old Again. *Health Affairs*, Variations Suppl, 23, 108-111.

Discusses how little some things have changed since Health Affairs devoted a special issue to variations in medical practice twenty years ago.

## MEASURES

Blumenthal D. (1997). The future of quality measurement and management in a transforming health care system. *JAMA*, 278(19), 1622-5.

Examines the short-term and long-term potential impacts of health information technologies on quality measurement and management, and how these changes will drive the research agenda in quality.

\*Donabedian A. (1988). The quality of care: How can it be assessed? *JAMA*, 260, 1743–1748.

\*Horn SD. (2006). Performance measures and clinical outcomes. *JAMA*, 296: 2731–2732.

Hibbard, J.H. (2005). Hospital Performance Reports: Impact on quality, market share and reputation. *Health Affairs*, 24(4), 1150-1160.

Examines the impact of public reporting on clinical performance and consumers' perceptions of the organization.

Jha, A., et al. (2007). The Inverse Relationship between Mortality Rates and Performance in the Hospital Quality Alliance Measures. *Health Affairs*, 26(4), 1104-1110.

Using HQA data, the authors found that higher performance related to acute myocardial infarction, congestive heart failure and pneumonia is associated with lower risk-adjusted mortality for each of these three conditions. These findings validate the benefits of such a reporting program.

Klompas, M. & Platt, R. (2007). Ventilator-Associated Pneumonia – The Wrong Quality Measure for Benchmarking. *Annals of Internal Medicine*, 147: 803-805.

Demonstrates the difficulty in using certain proposed conditions to benchmark and reward quality of care using VAP metrics as an example.

\*\*Nelson, EC., et al. (2005). Publicly Reporting Comprehensive Quality and Cost Data: A Health Care System's Transparency Initiative. *J Qual Pt Safety*, 31(10).

A review of Dartmouth-Hitchcock's experience with public reporting since 2003.

Pearson, S., et al. (2008). The Impact of Pay-for-Performance on Health Care Quality in Massachusetts, 2001-2003. *Health Affairs*, 27(4), 1167-1176.

Despite the increased focus on pay for performance as a quality improvement driver, little research has been done on its effectiveness. Examines the impact of P4P in Massachusetts.

\*Pronovost P., Berenholtz, S.M., & Needham, D.M. (2007). A framework for health care organizations to develop and evaluate a safety scorecard. *JAMA*, 298(17).

Presents a method and worksheet for evaluating safety scorecards based on the "user's guide to the medical literature."

\*Pronovost, P., Miller M.R., & Wachter, R.M. (2006). Tracking progress in patient safety: an elusive target. *JAMA*, 296(6),

Presents a method for tracking patient safety, compares safety with quality measures, and identifies knowledge gaps related to these measures.

\*Pronovost, P., et al. (2007). The GAAP in Quality Measurement and Reporting. *JAMA*, 298(15), 1800-1802.

A commentary on the emerging science of quality measurement, and the need for periodic review to assure validity and relevance of the selected measures.

\*Rosenthal, M., Fernandopulle, R., Song, H.R., and Landon, B. (2004). Paying For Quality: Providers' Incentives for Quality Improvement. *Health Affairs*, 23(2), 127-141.

\*Werner, R. & Asch, D.A. (2005). The Unintended Consequences of Publicly Reporting Quality Information. *JAMA*, 293, 1239-1244.

Wicks, A.M., St. Clair, L. & Kinney, C.S. (2007). Competing values in healthcare: balancing the (un)balanced scorecard. *Journal of Healthcare Management*, 52(5), 309-323.

Describes the strengths and weaknesses of the balanced scorecard and offers an alternative method for measuring performance.

\*Wyszewianski L. (2003). Defining, measuring, and improving quality of care. *Clinics in Family Practice*, 5(4), 807-823.

## LITERATURE ON EDUCATION

Aron, D.C. & Headrick, L.A. (2002). Educating physicians prepared to improve care and safety is no accident: It requires a systematic approach. *Quality & Safety in Health Care*, 11(2), 168-73.

Using a system analysis from the field of human error, authors identify ways that medical education can increase the number of graduates with competency in both improving care and patient safety, such as making changes to entry requirements, the curriculum, and training environments.

Augustine, S. & Litaker, D. (2008). Pay for performance and medical education: Strategies for preparing physicians of the future. *Quality Management in Health Care*, 17(2), 94-101.

Analysis of pay for performance strategies and the potential impact on physician educators and residents.

Battles, J. and Shea, C. (2001). A System of Analyzing Medical Errors to Improve GME Curricula and Programs. *Academic Medicine*, 76, 125-133.

The authors performed a root cause analysis of events involving graduate medical trainees using near-miss reporting systems at institutions in the US and UK. Findings show a combination of lack of knowledge as well as organizational issues contributed to reported incidents.

Boonyasai, R.T., et al. (2007). Effectiveness of Teaching Quality Improvement to Clinicians: A Systematic Review. *JAMA*, 298(9), 1023-1037.

A systematic review of the quality improvement medical education curricula to determine whether certain teaching methods influence the effectiveness of these programs. Findings demonstrate that most curricula improved learners' knowledge about QI, but that further research is needed to determine the impact on clinical practice.

Brennan, T.A., et al. (2004). The Role of Physician Specialty Board Certification Status in the Quality Movement. *JAMA*, 292(9), 1038-1043.

Discusses evidence and theory in three domains related to the role of physician board certification status and quality improvement and clinical outcomes.

Canal, D., et al. (2007). Practice-Based Learning and Improvement: A curriculum for continuous quality improvement for surgery residents. *Archives of Surgery*, 142(5), 479-483.

Describes a continuous quality improvement curriculum that was integrated into a surgery residency program and its success in increasing residents' knowledge and self-efficacy about CQI.

Coyle YM, Mercer SQ., et al. (2005). Effectiveness of a graduate medical education program for improving medical event reporting attitude and behavior. *Quality & Safety in Health Care*, 14(5), 383-388.

The purpose of the study was to evaluate the effectiveness of an education program designed to improved medical error reporting attitudes and behaviors amongst graduate medical trainees. Discussion of the outcomes and barriers to medical error reporting as identified by the participants.

Criley, J. M., Keiner, J. et al. Innovative web-based multimedia curriculum improves cardiac examination competency of residents. *Journal of Hospital Medicine* 3(2): 124-133.

A controlled intervention study to determine if an interactive web-based curriculum coupled with training improves retention of cardiac examination skills by residents more so than clinical training alone.

Davis, D.A., et al. (1995). Changing Physician Performance: A systematic review of the effect of continuing medical education strategies. *JAMA*, 274, 700-705.

A review of the literature to determine which educational strategies used in CME have the greatest impact on changing physician behavior and health outcomes. Findings showed that traditional CME formats such as conferences were less effective in improving performance, whereas less commonly used formats, such as practice-based interventions, led to better outcomes.

Davis, DA., et al. (2003). The Case for Knowledge Translation: Shortening the Journey from Evidence to Effect. *BMJ*, 327, 33-35.

Identifies the limitations of CME and CPD in changing behaviors, and makes the case for using knowledge translation as a tool to bridge the gap between evidence and practice in health care delivery.

Foster, P. N., Sidhu, R. et al. (2008). Leveraging computerized sign-out to increase error reporting and addressing patient safety in graduate medical education. *Journal of General Internal Medicine*, 23(4), 481-4.

Discussion of the role a new safety reporting program played in enhancing residency education and quality of care as well as contributing to building a culture of safety in a community hospital.

Foster T., et al. (2008). Residency education, preventive medicine, and population health care improvement: the Dartmouth-Hitchcock Leadership Preventive Medicine approach. *Academic Medicine*, 83(4), 390-8.

Overview of the program and its outcomes related to training clinicians to be leaders in preventive medicine and to measurement of population health, and managing change for quality, value and safety.

Galbraith R.M., Holtman, M.C., & Clyman, S.G. (2006). Use of assessment to reinforce patient safety as a habit. *Quality & Safety in Health Care*, 15 Suppl 1, i30-3.

Discusses the role that assessment can play in measuring and enhancing clinicians' performance relative to patient safety. Assessment of patient safety should move beyond traditional standardized tests to performance-based assessment, including measurement of skills, behaviors and outcomes.

Haan, C. K., Edwards, F.H., et al. (2008). A model to begin to use clinical outcomes in medical education. *Academic Medicine*, 83(6), 574-80.

Halbach, J. & Sullivan, L. (2005). Teaching Medical Students About Medical Errors and Patient Safety: Evaluation of a Required Curriculum. *Academic Medicine*, 80, 600-606.

This evaluation assessed the impact of a short curriculum on patient safety and medical errors on third year medical students. The findings demonstrate an overall positive impact on awareness about these issues post-course.

Harrison R. Van, Standiford, C.J., Green, L.A., & Bernstein, S.J. (2006). Integrating education into primary care quality and cost improvement at an academic medical center. *Journal of Continuing Education in the Health Professions*, 26(4), 268-84.

Provides an overview of the University of Michigan Health System's "Guidelines, Utilization, Implementation, and Evaluation Studies" (GUIDES) program and its impact on improving the quality and cost-effectiveness of primary care across the system.

Holmboe, E., et al. (2008). Assessing Quality of Care: Knowledge Matters. *JAMA*, 299(3), 338-340.

Examines the relationship between physicians' medical knowledge and quality of care delivered, as well as the role that specialty certification exams play in assessing and measuring clinical performance.

Holmboe, E., et al. (2008). Association Between Maintenance of Certification Examination Scores and Quality of Care for Medicare Beneficiaries. *Archives of Internal Medicine*, 168(13), 1396-1403.

Examines the relationship between physicians' performance on maintenance of certification exams with rates of process of care for Medicare patients. The findings indicate a linkage between cognitive skills and adherence to these guidelines.

Koh, G., et al. (2008). The effects of problem-based learning during medical school on physician competency: a systematic review. *Canadian Medical Association Journal*, 178(1), 34-41.

A systematic review of the impact problem-based learning in medical school has on physician competencies post-completion.

Leist, J., et al. (2004). Using Baldrige Criteria to Meet or Exceed Accreditation Council for Continuing Medical Education Standards. *Journal of Continuing Education in the Health Professions*, 24(10), 57-63.

Analysis of how the Baldrige criteria can be used as a framework for planning CME activities to meet or exceed the ACCME standards.

Lester, H. & Tritter, JQ. (2001). Medical Error: A discussion of the medical construction of error and suggestions for reforms of medical education to decrease error. *Medical Education*, 35, 855-861.

Provides suggestions for reforming professional socialization and curricular reform, including increased emphasis on team building, communication skills and evidence-based practice, to help change attitudes and behaviors towards error within the profession.

Moore, D., et al. (1994). Creating a New Paradigm for CME: Seizing Opportunities Within the Health Care Revolution. *The Journal of Continuing Education in the Health Professions*, 14(1), 4.

Mowatt, G., Grimshaw, J.M., Davis, D.A., & Mazmanian, P.E. (2001). Getting evidence into practice: the work of the Cochrane Effective Practice and Organization of Care Group (EPOC). *J Contin Educ Health Prof*, 21, 55-60.

The EPOC Group prepares and maintains systematic reviews of professional and organizational interventions designed to improve care delivery for the Cochrane Library. Some of these reviews are particularly relevant to educators planning CME in quality and performance improvement.

Patey R., et al. (2007). Patient safety: helping medical students understand error in healthcare. *Quality & Safety in Health Care*, 16(4), 256-9.

Discusses a UK medical school's effort to integrate patient safety content into undergraduate medical education. A pre- and post-test survey revealed that students' knowledge and perception of control over patient safety matters improved post-test.

Price, D. (2005). Continuing Medical Education, Quality Improvement, and Organizational Change: Implications of recent theories for twenty-first century CME. *Medical Teacher*, 27(3), 259-268.

Calls for increased focus on integration of organizational improvement content in CME.

Seiden, S.C., Galvan, C., & Lamm, R. (2006). Role of medical students in preventing patient harm and enhancing patient safety. *Quality & Safety in Health Care*, 15(4), 272-276.

Presents four cases in which medical students prevented or were in a position to prevent patient harm, demonstrating the need to encourage medical students to be actively engaged in patient safety matters.

Splaine ME., et al. (2002). A curriculum for training quality scholars to improve the health and health care of veterans and the community at large. *Quality Management in Health Care*, 10(3), 10-18.

Describes the curriculum for the Veterans Administration National Quality Scholars Fellowship Program and the lessons learned from the program since its inception in 1998.

Staker LV. (2003). Teaching performance improvement: an opportunity for continuing medical education. *Journal of Continuing Education in the Health Professions*, 23 Suppl, 1, S34-52.

Provides six tools that can be integrated into CME programming to enhance physicians' knowledge and skills relative to quality and performance improvement.

Wachter, R.M. & Shojania, K.G. (2004). The faces of errors: a case-based approach to educating providers, policymakers, and the public about patient safety. *Joint Commission Journal on Quality & Safety*, 30(12), 665-670.

Using data from projects like the AHRQ's WebM&M, authors found that clinicians are interested in case-based patient safety education and that they are more willing to share medical mistakes through these forums if they are kept anonymous and the cases are de-identified.

Walton, M.M. & Elliott, S.L. (2006). Improving Safety and Quality: How can education help? *Medical Journal of Australia*, 184(10 Suppl), S60-64.

Calls for increased interdisciplinary collaboration amongst educators, providers, and organizations to develop curricula that enhance providers' ability to identify and prevent error and risk, to work more safely in teams, and to become leaders and educators in the practice setting.

\* *Steering Committee recommendation*

\*\**Part of review as well as Steering Committee recommendation*