



Using Workforce Practices to Drive Quality Improvement: A Guide for Hospitals

June 2010



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

ACKNOWLEDGMENTS

The Health Research & Educational Trust (HRET), an affiliate of the American Hospital Association (AHA), is dedicated to transforming health care through research and education. The research and publication costs for this guide were funded by the Agency for Healthcare Research and Quality (Contract No. HHSA290200600022, Task Order No. 5).

HRET would like to express our sincere gratitude to the following important contributors who served as advisors to this project:

Peter I. Buerhaus, Ph.D., RN, FAAN
Professor of Nursing
Vanderbilt University

Myron D. Fottler, Ph.D.
Director of Programs
University of Central Florida

Jane Grady, Ph.D.
Assistant Vice President, Human Resources
Rush University Medical Center

Stephen R. Grossbart, Ph.D.
Corporate Quality Officer
Catholic Healthcare Partners

Stephen R. Mayfield, Dr.H.A., M.B.A., M.B.B.
Senior Vice President for Quality and Performance Improvement
Quality Center Director
American Hospital Association

Nicole Morin-Scribner, M.B.A., SPHR
Director of Human Resources
St. Mary's Health System

Nancy Pratt, RN, M.S.
Senior Vice President, Clinical Effectiveness
Sharp HealthCare

Suggested Citation

McHugh M, Garman A, McAlearney A, et al. Using workforce practices to drive quality improvement: a guide for hospitals. Rockville, MD: Agency for Healthcare Research and Quality; 2010. AHRQ Publication No. 11-0003-EF.

Contact Information

Michael Harrison, AHRQ. E-Mail: Michael.Harrison@ahrq.hhs.gov.

The authors of this report are responsible for its content. The authors and investigators have all provided assurances to AHA and AHRQ that they did not have any affiliations or financial involvement that created a conflict of interest with respect to any of the material or conclusions presented in this publication. Funding of the guide by the Agency for Healthcare Research and Quality in the U.S. Department of Health and Human Services was provided to collect and disseminate employment practices that have yielded high quality outcomes. The contents of the guide should not be interpreted as mandatory national standards of clinical practice or quality health care.

INTRODUCTION

There is ample evidence indicating the need to improve health care quality. Health care organizations have been investing significant resources to implement systems and processes to improve care quality, but must pursue these efforts strategically in order to maximize their effectiveness within an environment of growing resource constraints.

A considerable amount of information suggests that workforce practices may represent an important and underutilized resource for supporting quality improvement activities in health care organizations. The availability of a stable, capable health care workforce has been shown repeatedly to be critical to the efficient and effective delivery of health services. Although researchers are still investigating links between workforce practices and care quality, the findings so far suggest that several practices hold the potential to positively affect organizational outcomes.

The purpose of this guide is to provide hospital leaders and human resources staff a basic description of four high-performance work practices (HPWPs) that hold the potential to improve an organization's capacity to effectively attract, select, hire, develop, and retain and deploy personnel in ways that best support a high-performing health care system. It also offers approaches and recommendations for implementing HPWPs in their organizations. These HPWPs fall into four categories.

HPWP Category 1: Organizational Engagement Practices

Practices that ensure all employees' awareness, understanding, and personal stake in the organization's vision, including its current level of success in pursuing that vision

Communicating mission, vision, and values

Sharing performance information

Involving employees in key decisions

Tracking and rewarding performance

HPWP Category 2: Staff Acquisition and Development Practices

Practices that build the quality of the organization's workforce through attention to attracting, selecting, and developing staff

Rigorous recruiting

Selective hiring

Extensive training

Career development

HPWP Category 3: Frontline Empowerment Practices

Practices that affect the ability and motivation of frontline staff to improve the quality of care that their teams provide

Employment security
Reduced status distinctions
Teams/decentralized decisionmaking

HPWP Category 4: Leadership Alignment and Development Practices

Practices that develop leaders and align behavior with organizational goals

Linking management training to organizational needs
Planning succession
Tracking and rewarding performance

Facilitators

These numerous HPWPs can be facilitated by the following actions, which will be expanded upon in a later section of this guide:

Commit to an organizational culture that focuses on quality and safety
Engage senior leadership support
Involve the human resource department in strategic planning
Identify opportunities for shared learning
Hire human resources professionals with training and experience in HPWPs
Involve employee representatives
Monitor progress

The implementation recommendations presented below were distilled from a review of peer-reviewed and gray literature covering health care and other industries, and from findings from case studies of five health care organizations that have been recognized for their successful workforce practices (e.g., *Fortune* magazine’s “Best Companies to Work For,” Baldrige National Quality Award). Page 15 contains a checklist for readers to document and assess the extent to which HPWPs are used in their organizations.

HPWP CATEGORY I: ORGANIZATIONAL ENGAGEMENT PRACTICES

Organizational engagement practices are designed to enhance employees’ awareness and personal stake in the organization’s vision and its current level of success in pursuing that vision. Four HPWPs fall under the heading of Organizational Engagement.

1. Communicating mission, vision, and values

Description: Practices that communicate the organization’s scope and purpose to employees and clarify their role in supporting that purpose.

Implementation Recommendations:

- Incorporate the organization’s mission and values into new employee orientation.
- Incorporate the organization’s values into performance reviews; have employees “sign off” on the mission as part of their annual review.
- Discuss mission and values at the start of all internal meetings; discuss management decisions in the context of mission and vision; present the organization’s mission on the first slide for presentations.

2. Sharing performance information

Description: Practices that communicate organizational performance and other information affecting employees’ jobs and job performance.

Implementation Recommendations:

- Hold town hall meetings and other open forums to provide overviews of organizational and departmental performance.
- Share performance “report cards” regularly and widely.
- Communicate news to employees through multiple channels (e-mail and voicemail bulletins, intranet, newsletters).
- Monitor the effectiveness of communication strategies designed to reach different audiences.

3. Involving employees in key decisions

Description: Practices supporting employees' ability to influence the "decisions that matter."

Implementation Recommendations:

- Create employee councils or committees and empower them to influence key decisions.
- Hold town hall meetings and other open forums during which staff can interact with leadership.
- Develop suggestion systems.
- Use a quality/process improvement model that empowers employees to implement system improvements (e.g., Baldrige National Quality Award criteria, *Lean* training).

4. Tracking and rewarding performance

Description: Policies and practices that provide formal rewards/recognition for employees' success in achieving organization-supportive goals.

Implementation Recommendations:

- Provide recognition awards to individuals and/or teams that are tied to actions supporting the organization's mission and vision. Criteria for individual awards should consider employees' contribution to teams.
- Award spot bonuses when employees go "above and beyond" in demonstrating the organization's values.
- Provide annual bonuses based on organizational performance using balanced scorecards.

Organizational Engagement in Action

Several years ago, an academic medical center in the Midwest launched a large project focused on integrating the organization's mission, vision, and values (MVV) into the work and culture of the organization. The project, led by the organization's chief operating officer, was adopted because of the belief that strong MVV can lead to greater employee engagement and better organizational outcomes. The goal of program during the first year was simply MVV awareness. All employees received an hour of training on the organization's MVV, and the training was incorporated into new employee and manager orientations. A survey of employees following these trainings showed that the trainings were effective in increasing awareness of the MVV.

The second year of the program focused on engagement. The HR department developed several tools for managers to increase the focus on MVV within their departments and to foster an environment in which the values would flourish. Specifically, managers were instructed on how to establish goals for

employees that align with the organization's MVV and to incorporate MVV into the annual performance reviews. The goal of the third year of the project was adoption. Each month, the HR department developed events and programs that focused on a different core value of the organization. For example, "collaboration" was a value selected for one month, and the HR department arranged for employees to create large greeting cards to show appreciation for the work done by different teams.

The project is overseen by a Work Culture Committee that includes the CEO, CFO, and vice president of HR, and two positions were added to support the project. Progress of the project is tracked through a periodic staff survey that consists of a single question, "Would you rather work at this hospital than any other hospital in the area?" Since the start of the project, the percentage of employees who responded affirmatively to the question has steadily increased. Results also indicate a strong correlation between employees' positive responses to the question and their ability to identify their performance goals and how these relate to the organization's goals.

Leaders of the Work Culture project offered three recommendations for implementing the project at other sites:

1. Engage senior executives. Grassroots activities are important, but rolling them out and maintaining them organizationwide requires high-level support.
2. Coordinate timing so that the initiative does not conflict with other significant efforts. If executives and employees are focused on other projects (e.g., electronic health record implementation), it will be difficult to get their attention.
3. "Slow and steady wins the race." Incremental change brings small steps that lead to steady progress.

HPWP CATEGORY 2: STAFF ACQUISITION AND DEVELOPMENT PRACTICES

The four HPWPs in this category focus on building the quality of the organization's workforce through attention to attracting, selecting, and developing staff.

I. Rigorous recruiting

Description: Activities and outcomes associated with outreach to attract new employees.

Implementation Recommendations:

- Identify your strengths as an employer. Survey your employees to learn the reasons they choose to work with you rather than other employers, and search for ways to further strengthen those attributes.

- Use your strengths to proactively cultivate the image of your organization as a highly desirable place to work. This could be accomplished through, for example, communicating the mission-driven focus of your staff, quality of work life you offer, attractive benefits, flexible working arrangements, competitive pay (e.g., 50th percentile for most jobs, 65% for managers, 75% for hard-to-fill positions).
- Develop highly efficient and targeted strategies for recruitment for your high-volume and hard-to-fill positions, such as nurses and pharmacists. For example, form partnerships with local schools and develop special pages on your website for recruitment of hard-to-fill positions.
- Continuously evaluate your recruiting systems against industry best practices. For example, review best recruiting practices offered by the American Society for Healthcare Human Resources Administration (ASHHRA).

2. Selective hiring

Description: Practices associated with ensuring that open positions are filled with the highest quality candidates available from the applicant pool.

Implementation Recommendations:

- Use prescreening tools for high-volume applicant positions.
- Adopt validated selection tools (e.g., objective assessments, behavior-based interviewing) that tie selection to the knowledge, skills, and attitudes that directly contribute to quality, safety, and other performance goals.
- Assess candidates' fit within the culture of the organization through peer interviewing and team selection processes.

3. Extensive training

Description: Activities involving a more-than-mandated, more-than-typical investment in developing staff in order to achieve greater organizational effectiveness.

Implementation Recommendations:

- Develop internal conferences and workshops around organizational goals and skill development needs.
- Encourage continuing education activities that are aligned with organizational goals through organizational sponsorships, and hold attendees accountable for “bringing back” what they learn to their parts of the organization.
- In areas where skills are not present in-house, consider bringing in outside speakers, rather than (or in addition to) sending individuals out to conferences.

4. Career development

Description: Practices that focus on identifying career opportunities and pathways for current employees, as well as providing training to support those opportunities. Practices related to career development also include an emphasis on internal labor pools for filling open positions.

Implementation Recommendations:

- Emphasize opportunities to develop and recruit from within.
- Encourage flexibility to move within the organization to departments or units that best fit employees' interests and skills.
- Provide educational support (e.g., tuition assistance) for employees to pursue career paths within your organization.

Staff Acquisition and Development Practices in Action

Five years ago, a large safety net hospital launched a system transformation to improve quality. One component of that transformation involved matching the right people to the right positions. The organization's CEO and other senior leaders embraced concepts from the book *Good to Great*, which holds that it is easier to teach, correct, or remediate skill gaps than it is to address talent or attitudinal gaps. Based on a strong recommendation from the head of a leading firm in a non-medical service industry and with the help of an outside firm, the organization adopted a talent assessment and selection process for new recruits and applicants requesting a promotion.

The structured selection process represented a significant change from hiring based solely on clinical skills, training, credentials, and experience. The process involves a systematic interview, which assesses candidates' abilities in several behavioral areas (for example, ability to manage change and difficult situations or ability to build relationships), with the goal of selecting people who will support the desired culture of the organization. The selection system is managed by an external provider, who monitors the protocol to ensure that the process provides valid predictions for areas of importance to the organization.

Fifteen people within the organization have been trained to conduct the structured interviews for entry-level and managerial positions, and two consultants lead the interviews for director-level and above positions. Retention rates among those who were hired under the new process are higher than those who were not. To further evaluate the process, the organization is now investigating the links between their selection process and both absenteeism and patient satisfaction.

Although the organization has now embraced the new selection process, it has created some challenges. The interviews have to be scored, which adds 1 to 2 weeks to the hiring process. Also, a hiring manager might not be able to select his or her top candidate if the candidate does not score well on the interview. There is an appeal process that will, in some cases, allow the manager to "override"

the decision. There are also concerns that the interview may not be culturally sensitive. Organizations considering the adoption of a formal selection process should always consider evidence of validity prior to implementation and involve end-users in the implementation process.

HPWP CATEGORY 3: FRONTLINE EMPOWERMENT PRACTICES

The three HPWPs in this category are those that most directly affect the ability and motivation of frontline staff, clinicians in particular, to influence the quality and safety of their care.

1. Employment security

Description: Policies and practices that ensure employees greater-than-mandated security in their positions.

Implementation Recommendations:

- Develop a commitment to preventing the need for layoffs, and pursue organizational policies that provide for alternatives.
- Set policies that protect employees from repercussions for “speaking up” about quality and safety concerns.
- Train staff on methods that will support and empower staff to speak up when they observe potential problems with quality and safety.
- Reinforce appropriate examples of speaking up and supporting patient safety by communicating and disseminating the examples.

2. Reduced status distinctions

Description: Practices that emphasize egalitarianism across employee roles.

Implementation Recommendations:

- Have managers and organization leaders model openness and availability to receive feedback from employees.
- Discourage the use of formal titles in team conversations (e.g., use first names).
- Provide training and policies that encourage teamwork and minimize hierarchy.

3. Teams/decentralized decisionmaking

Description: Practices of formalizing/defining employee roles according to teams and providing those teams (and the individuals in them) greater latitude in decisionmaking related to how their work is organized and completed.

Implementation Recommendations:

- Implement shared governance and staff practice councils.
- Hold regular team huddles to discuss current status and concerns.
- Provide opportunities for teams to participate together in training.
- Involve members of departments/units in setting performance goals and metrics.
- Consider employees' contribution to teamwork in performance reviews.

Frontline Empowerment Practices in Action

Lean/Toyota Production System (TPS) is well recognized as an effective approach to reducing waste and inefficiency in health care. Lean is also an example of several HPWPs, including the decentralization of decisionmaking and the reduction of status distinctions.¹

A safety net hospital in a large metropolitan area selected Lean as its primary method of quality improvement, integrating it into 15 areas of the organization, including human resources, finance, and clinical care. Senior executives of the organization, particularly the CEO, are strong supporters of Lean and described waste as disrespectful because it squanders scarce resources, makes employees do work with no value, and makes patients endure processes with no value.

The hospital has a Lean department that employs 8 facilitators. With guidance from an outside consultant (a “sensei”), the facilitators oversee approximately 120 rapid improvement events (RIEs) per year within the organization. During an RIE, a team of 8 to 10 staff spend a week focused on improving a particular process or area. They spend the first 2 days mapping out the current process and identifying possible improvements. By the third day, the team implements the improvements; on the fourth day they turn the improvements into standard work; and on the fifth and final day they report the results to executive staff.

Frontline employees and executives work together on the RIE teams, which helps reduce status distinctions within the organization. Frontline staff find RIEs to be empowering because they serve as a vehicle for expressing ideas and implementing change. Through the RIE process, the teams develop production boards and matrices that they then post on the walls. The postings facilitate communication and transparency about the changes occurring.

At this organization, 200 staff received additional Lean training and have earned the designation of “black belt.” The black belts are tasked with developing an idea for improvement every other month

and are expected to generate \$30,000 in cost savings each year. The CEO reviews monthly reports on their progress, and this accountability creates considerable competition around finding ways to eliminate waste.

Surveys of employee engagement at this organization show that staff who are involved in RIEs are more engaged than those who have not participated. The organization estimates that it has saved more than \$27 million through improvements resulting from applications of Lean since the inception of the program.

HPWP CATEGORY 4: LEADERSHIP ALIGNMENT/DEVELOPMENT

The three HPWPs in this category are those that develop leaders and align behavior with organizational goals.

I. Linking management training to organizational needs

Description: Practices involving the alignment of leadership development resources with the strategic direction of the organization.

Implementation Recommendations:

- Use corporate goals to prioritize training, assessment, and feedback programs provided to managers.
- Use new or existing leadership forums as vehicles to provide opportunities for skills development in areas of organizational need.
- Enlist managers to help employees connect their work to the goals and vision of the organization. Encourage managers to make sure their employees' goals align with the organization's goals.

2. Planning succession

Description: Proactively identifying and planning for future leadership needs.

Implementation Recommendations:

- Use talent assessments to identify employees with potential for promotion before the need arises.
- Require managers to create career development plans for the individuals reporting to them.
- Provide support for the development of high-potential future leaders through mechanisms such as mentoring programs, stretch assignments, and job rotations.

3. Tracking and rewarding performance

Description: Policies and practices that provide formal rewards/recognition for leaders' success in supporting organizational goals.

Implementation Recommendations:

- Provide annual bonuses based on objective measures of organizational performance.
- Support the appropriate use of incentives by implementing balanced scorecards that are relevant to the individual leader's scope of work.
- Provide other mechanisms for recognizing leaders who have modeled support of the organization's mission and goals through their own actions.

Leadership Development in Action

Executives at a large not-for-profit health system recognized that identifying and developing leaders is key to achieving organizational goals. They implemented several education and training strategies, one of which was a leadership development series. Every quarter, all department managers, directors, and even leaders above that level—1400 people in all—participate in a day of learning. The day begins with an address by the CEO focusing on the system's performance indicators and highlighting progress toward meeting performance targets. New leaders are introduced, and then a speaker gives a presentation aligned with the organization's goals. The afternoon includes exercises that reinforce the messages conveyed by the speaker, and at the end of the day, leaders are asked to integrate the learning into their departments' action plans. There is an accountability grid with measurable outcomes that the leaders are expected to achieve by the end of the quarter, and leaders are accountable to their supervisors for progress toward these outcomes.

In addition, the organization offers leadership boot camps, which are smaller workshops for new leaders and leaders who need or want additional training in a given area, for example, in building relationships with employees or in hiring new employees. Approximately 1,000 leaders attend a boot camp each year, and the camps range in size from 10 to 40 attendees. All of the presentations and tools from the leadership development series and the boot camps are available on the organization's intranet. The boot camp sessions are advertised on the site.

FACILITATING THE ADOPTION OF HIGH-PERFORMANCE WORK PRACTICES

Findings from the literature review and case studies suggest that several actions can facilitate the adoption of HPWPs. We offer the following recommendations for the adoption of HPWPs:

- 1. Commit to an organizational culture that focuses on quality and safety.* Use HPWPs to support that culture.
- 2. Engage senior leadership support.* Ensure that top and mid-level leaders are involved in the planning and implementation of HPWPs and that they reinforce the purpose and importance of HPWPs in communications with employees.
- 3. Involve the human resources department in strategic planning.* Implementation of HPWPs should be tied to the strategic decisionmaking process of the organization from the beginning. The best way to accomplish this goal is for HR to have a direct voice in strategic planning.
- 4. Identify opportunities for shared learning.* Help the people who are accountable for HPWP implementation find colleagues at other organizations that have implemented such practices successfully. Sources for these contacts could include professional associations (e.g., American Society for Healthcare Human Resources Administration, State hospital associations) and other shared learning collaboratives.
- 5. Hire human resources professionals with training and experience in HPWPs.* Make sure your organization has a critical mass of professionals who have the training and experience to understand, implement, and evaluate these best practices.
- 6. Involve employee representatives.* Ensure that both senior leaders and labor representatives understand the purpose and goals of HPWPs, and involve both groups in overseeing their implementation.
- 7. Monitor progress.* Include a review of HPWP implementation progress along with organizational progress on quality, safety, and efficiency goals.

CONCLUSION

Health care organizations invest considerable resources to improve quality and other dimensions of organizational performance. To cope with growing resource constraints, systems must make strategic choices about which improvement initiatives to pursue and how best to implement these initiatives. Personnel requires the single largest expense associated with health services delivery, so strategic management of human resources can help organizations leverage multiple opportunities to promote quality improvement and improve performance.

ORGANIZATIONAL ASSESSMENT

The following checklist may be used to assess the extent to which your organization has adopted high-performance work practices. The goal of the assessment is to create awareness of the areas in which your organization may direct future efforts.

	Yes, we currently use this practice	We have a plan in place to implement this practice	No, we do not currently use this practice
Organizational Engagement Practices			
1. Communicate mission, vision, and values			
2. Share performance information			
3. Involve employees in key decisions			
4. Track and reward performance			
Staff Acquisition and Development Practices			
1. Rigorous recruiting			
2. Selective hiring			
3. Extensive training			
4. Career development			
Frontline Empowerment Practices			
1. Employment security			
2. Reduced status distinctions			
3. Teams/decentralized decisionmaking			
Leadership Alignment/Development			
1. Linking management training to organizational needs			
2. Planning succession			
3. Tracking and rewarding performance			

RESOURCES

Collins, J. (2001). *Good to great: Why some companies make the leap... and others don't*. New York: Harper Collins.

Collins led a team of people to investigate how 11 companies successfully moved from good to great. They identified several traits that were present in all 11 companies but largely absent from a group of comparison companies. Collins presents these traits and organizes them into a framework. The book includes many stories and examples geared toward leaders interested in moving their organizations from good to great.

Executive Pay and Quality: New Incentive Links — National Survey Results. Minneapolis, Minnesota: Integrated Healthcare Strategies; 2007.<http://www.ihstrategies.com/pdf/NewIncentiveLinks.pdf>
The report presents findings from a survey of hospital CEOs and human resource executives from 119 organizations regarding the motivations, levels, metrics, and methods of incentive pay for hospital physician and administrative leaders during the summer of 2007.

Eaton, S. (2000). Beyond 'unloving care': linking human resource management and patient care quality in nursing homes. *International Journal of Human Resource Management*, 11(3), 591-616.
Through case studies of 20 long term care organizations, the author concludes that low quality care is linked to employees' low quality jobs and work environments. The author provides examples of innovative human resource management practices and work structures that have resulted in high quality long-term care, and observes that these promising structures require change in work organization and HR. She describes common barriers to the diffusion of promising structures and offers a 'high performance' model of nursing home organization.

Denver Health. (2002). *A Toolkit for Redesign in Healthcare*. AHRQ Publication No. 05-0108-EF, prepared by Denver Health under Contract No. 290-00-0014. Agency for Healthcare Research and Quality, Rockville, MD. (Available at: <http://www.ahrq.gov/qual/toolkit/>).
This toolkit presents an approach for comprehensively redesigning and transforming hospital care, based on the experience of Denver Health. The Toolkit describes the factors that compel a hospital to begin a transformation, and provides planning steps, strategies for proposing implementation projects, and metrics for the implementation phase. The Toolkit enables readers to identify the attributes of their systems that are similar to or different from those of Denver Health, and assess how these attributes may influence their approach to the redesign described.

Frankel, A.S., et al. (2006). Fair and Just Culture, Team Behavior, and Leadership Engagement: The Tools to Achieve High Reliability. *Health Services Research*, 41(4), 1690-1709.
The authors observed that industries outside of health care have improved reliability by applying innovative concepts to interpersonal relationships and administrative hierarchical structures. The authors introduce and describe three initiatives that can serve as a cornerstone for improving reliability in health care organizations: (1) a Fair and Just Culture, (2) teamwork training and communication, and (3) leadership walk rounds. They argue that the three initiatives are critical and related requirements for safe and reliable care, and offer many implementation examples.

Keroack, M.A., et al. (2007). Organizational factors associated with high performance in quality and safety in academic medical centers. *Academic Medicine*, 82(2), 1178-1186.
The authors used qualitative methods to identify organizational factors at academic medical centers that distinguished superior performers from average ones. Common qualities shared by top performers included a shared sense of purpose, a hands-on leadership style, accountability systems for quality and safety, a focus on results, and a culture of collaboration.

Kotter, J. P. (2007). Leading change: Why transformation efforts fail. *Harvard Business Review*, 96-103. Based on observations of more than 100 companies' efforts to remake themselves into better competitors, Kotter describes eight critical success factors, including forming a powerful guiding coalition, creating and communicating the vision, and empowering others to act on the vision. He also offers two general lessons learned from more successful cases: (1) change process goes through a series of phases that usually require a considerable length of time, and (2) critical mistakes in any phase can have a devastating impact, slowing momentum and negating hard won gains.

Martin LA, Nelson EC, Lloyd RC, Nolan TW. *Whole System Measures*. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2007. (Available on www.IHI.org) The authors present 13 measures that can be used to examine quality at the system level. The measures can be a useful framework for organizing measures of care quality and can contribute to an organization's balanced scorecard or dashboard of strategic performance measures. The authors offer guidance for implementing the whole system measures, including roles for specific individuals.

McAlearney, AS. (2008). Using Leadership Development Programs to Improve Quality and Efficiency in Healthcare. *Journal of Healthcare Management*, 53(5), pp 319-331. The author uses data from three qualitative studies of leadership development to describe the ways in which leadership development programs can improve quality and efficiency. Analyzing data from 200 interviews conducted between 2003 and 2007 with health system managers and executives, academic experts, consultants and others, the author identifies four opportunities for these programs to improve quality and efficiency: (1) increasing the caliber of the workforce, (2) enhancing efficiency in the organization's education and development activities, (3) reducing turnover and related expenses, and (4) focusing organizational attention on specific strategic priorities.

Meyer, J.A., et al. (2004). Hospital quality: Ingredients for success – overview and lessons learned. (Available on www.Commonwealthfund.org). The authors summarize findings on the key ingredients that contribute to the success of quality improvement strategies, based on site visits and interviews with four top-performing hospitals. They describe four key elements for success: developing the right culture, attracting and retaining the right people to promote quality, devising the right processes for QI, and giving staff the right tools for the job.

Nolan TW. *Execution of Strategic Improvement Initiatives to Produce System-Level Results*. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2007. (Available on www.IHI.org). In many organizations, quality improvement began with individual improvement projects. Over time, quality improvement has become part of the strategic plans of many health care organizations. Based on interviews with health care and non-health care organizations and their experience at IHI, the authors offer a framework for executing strategic initiatives to achieve systemwide results. The framework contains three interrelating parts: system-level aims, pervasive local improvement, and continuous development of people's capabilities to lead improvement and attain system-level results.

Reinertsen JL, Bisognano M, Pugh MD. *Seven Leadership Leverage Points for Organization-Level Improvement in Health Care (Second Edition)*. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2008. (Available on www.IHI.org) Based on learning from 100,000 Lives, 5 Million Lives, and other IHI initiatives, the authors offer seven "Leverage Points" for leaders to achieve results in quality and safety at the level of entire organizations and care systems. The seven Leverage Points will help leaders get started with quality initiatives and prioritize actions. The

white paper offers several examples of the field application of each leverage point and includes a self-assessment tool to help administrative, physician, and nursing leaders design and plan their work using the Seven Leadership Leverage Points.

Tzafirir SS and Gur, A. (2007). HRM Practices and Perceived Service Quality: The Role of Trust as a Mediator. *Research & Practice in Human Resource Management*, 15(2), pp 1-16.

Organizational practices are among the most important drivers of employee satisfaction. The authors collected data from 411 employees and managers of an Israeli health care organization and found that human resource management practices have a direct impact on employee perceptions of service quality.

ⁱ The origins of Lean stem from the work of W. Edwards Deming, who called for improvements in quality by focusing on improving the production process, building quality into the product at the forefront instead of relying on later inspections. Taichi Ohno of Toyota adopted and extended Deming's work for the design of their manufacturing process, the Toyota Production System (TPS). The TPS is focused on establishing a customer-focused environment, making continuous improvements, correcting problems as they arise, and eliminating waste. "Lean" was a term developed in the 1980s to describe the TPS.

Lean/TPS has been described as a philosophy, a management strategy, and a set of tools or practices. As a philosophy, Lean calls for bringing value to the customer and eliminating waste in the production process. The Lean management strategy is focused on streamlining processes to reduce cost and improve the quality and timeliness of products. Lean practices range from material flow in a factory, to equipment design, to human resource practices. Overall, the goal of Lean/TPS is to produce the desired amount of product at the highest level of quality, using as few resources as possible.