Strategic Issues
Forecasting Report

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Executive Summary

Background

The AHA Committee on Research (COR)

The American Hospital Association (AHA) standing Committee on Research (COR), which also serves as the Health Research & Educational Trust (HRET) Board of Trustees, is responsible for annually recommending the AHA organization-wide research agenda to the AHA Board for approval. The HRET Board of Trustees holds the fiduciary duties of care, loyalty, and obedience for HRET and is responsible for approving the HRET strategic plan, which includes the AHA Research Agenda. The research agenda represents a short-term, one-year perspective, as well as a rolling long-term, three-year horizon.

The COR will meet three times a year (March, July, and October) and will recommend the AHA Research Agenda to the AHA Board in November. The COR will also provide updates to the AHA Board in April and July of each year.

The COR will interface with the AHA Long-Range Policy Committee (LRPC) by having a COR member serve as a member of the LRPC.

Strategic Issues Forecasting Report

The COR will use this Strategic Issues Forecasting (SIF) Report as the foundation for its AHA Research Agenda development and recommendation. The goal of the SIF Report is to analyze key indicators to determine implications for strategic research questions and thus to arrive at an overall research agenda with the goal of answering those strategic research questions.

The SIF Report is developed by HRET staff for the AHA COR to monitor key indicators and to forecast strategic research issues for consideration by AHA leadership and governance. The SIF Report lays out a series of environmental and health care indicators and their potential research implications and corresponding research questions. The SIF Report has a three-year time horizon and will be produced annually. In March of each year, the SIF Report will be disseminated to the AHA Constituency Governing Councils (such as the Health Systems Governing Council and the Metropolitan Hospitals Governing Council) and the Regional Policy Boards (RPBs). In July of each year, the COR will present the SIF Report to the LRPC as a source for its future selection of topics. In addition, the AHA Research Council, an internal steering committee, operationalizes the SIF Report through its efforts to coordinate research efforts throughout all operating units of the AHA.

The two diagrams on the following page depict:

- The role delineation between the HRET Board of Trustees and the AHA COR.
- The SIF Report process flow.
Role Delineation Between AHA COR and HRET Board

Role Delineation
AHA Committee on Research & HRET Board of Trustees

AHA Committee on Research Role
• Development of Strategic Issues Forecasting
• Recommendation of AHA Research Agenda

HRET Board of Trustees
• Fiduciary Responsibility for HRET
• Approval of HRET Strategic Plan

SIF Process Flow

AHA Strategic Issues Forecasting Annual Process

January to February
AHA Environmental Scan
* AHA Strategic & Business Planning Staff

March
HRET Indicators Analysis
* HRET Staff

March
Input from AHA Planning & Priorities Team
* HRET Staff

March
Draft SIF Report Disseminated to RPBs & Governing Councils
* HRET/AHA Staff

March
Draft Strategic Issues Forecasting (SIF) Report Reviewed
* COR

April
COR Update to AHA Board
* COR

June
Final SIF Report
* COR

June
SIF Report Presented to Long Range Policy Committee
* HRET Staff

July
COR Update to AHA Board
* COR

August to October
SIF Report Refreshed
* HRET Staff

November
SIF Report Presented to AHA Board
* COR
Development of the SIF Report occurs through four (4) major processes:

1. Using the AHA Environmental Scan to identify emerging trends and critical issues of the health care landscape.
2. Assessing and analyzing key environmental and societal, health care, and hospital-specific indicators.
3. Developing key research implications and questions based on information from the AHA Environmental Scan and the HRET Indicators Analysis.
4. Developing the core AHA/HRET Research Agenda based on the research implications and questions.

First, the AHA Environmental Scan was used when considering indicators for the SIF Report. The AHA Environmental Scan is developed by management with recommendations from AHA governance committees and represents emerging trends and critical issues thought to have the most significant impact on health care, hospitals, and the broader health care field in the foreseeable future. Developed annually, the AHA Environmental Scan is the first phase of the association’s planning process. The Environmental Scan is conducted annually by the AHA Strategic & Business Planning staff and identifies emerging trends and critical issues on the health care landscape. The Scan’s purpose is to inform the AHA strategic plan. The Environmental Scan proved to be a great starting point in the process of identifying many indicators. The areas included in the Scan include: Consumers & Demographics; Economy & Finance; Human Resources; Information Technology & E-Health; Insurance & Coverage; Political Issues; Provider Organizations & Physicians; Quality, Patient Safety & Performance Improvement; and Science & Technology.

Second, HRET conducted its own independent analysis of environmental and societal, health care, and hospital-specific indicators, focusing on indicators with potentially important research implications. The purpose of this scan is to inform the COR’s recommendation of AHA’s specific research agenda. This overall analysis process concluded with the identification of indicators in the areas of:

- Economics
- Demographics
- Equity
- Health Care Spending
- Workforce
- Coverage
- Quality
- Patient Safety and Communication
- Access to Quality
- International Comparisons
- Hospital Financials and Utilization
- Hospital Service and Type

While there is some overlap between the indicators influenced by both the AHA Environmental Scan and the HRET Indicators Analysis, each scan serves an individual and distinctive purpose. The AHA Environmental Scan serves as the foundation of the association’s strategic planning process and is employed to develop a set of planning assumptions against which the association’s strategic framework (vision, mission, values, and goals) is tested and then affirmed or modified for the next three-year planning horizon. Alternatively, the HRET Indicators Analysis focuses on environmental and societal, health care, and hospital-specific indicators that have possible research implications. The indicators used in the final report were determined by several criteria, including their relevance to research, their relevance to AHA and HRET, the frequency of available data, and the recency of available data. In total, 20 sources were used to identify 37 different indicators, which were used to inform the final SIF Report.
Third, based on the information from the above processes, research implications in 15 important areas are identified, as well as salient research questions for each of the 15 areas. The 15 research implication areas are prioritized in the following order:

- Quality and Patient Safety
- Quality and Performance Improvement Methodologies
- Cost Control
- Financial Sustainability and Human Resources Practices
- Improving Patient Flow
- Effectiveness of Systems
- Disparities
- Care Coordination and Chronic Care Management
- New Models of Care
- Patient-Centered Care
- Health Information Technology
- New Payment Policies
- Leadership and Governance
- Dissemination and Uptake of Best Practices
- Organizational Structure and New Workforce Models

Fourth, the research implications and questions inform the HRET/AHA Research Agenda, which includes four specific research topics and two research issues that cut across all topics:

Specific Research Topics:

1. **Quality/Cost/Disparities**: Management research to provide operational advice on improving quality, reducing costs, and eliminating disparities.
2. **Care Coordination/Health Information Technology**: Management and policy research to identify best practices in HIT and to evaluate effective care coordination practices.
3. **Payment Reform**: Policy research to develop, test, and evaluate new models of payment reform.
4. **Leadership/Governance**: Management research to support improvement in leadership and governance.

Cross-Cutting Research Issues:

1. **Translational Research**: Identifying and executing strategies and methods to disseminate and implement research findings, knowledge, tools, and best practices.

In addition to these major research topics, the following are the four top research questions for the AHA from 2010 to 2012:

**Top Research Questions**

1. What are the most effective and efficient ways for hospitals and health systems to integrate care and improve performance (financial, clinical, service, patient and staff experience) along the continuum of care (e.g., implementing care coordination across all settings of care)?

2. What organizational characteristics, structures, and processes lead to a high-performing system of care (e.g., the implementation of specific HIT components, specific horizontal
and vertically integrated system practices, and clinical and functional integration across a health system that produce benchmark outcomes)?

3. What are the most promising practices and system design elements for reducing health disparities, considering all factors such as organizational elements and social determinants?

4. What is the role of the hospital in a new community environment that provides more efficient and effective health care (e.g., what are the redesigned structures and models, the role and implementation of accountable care organizations, the structures and processes needed to implement new payment models such as bundled payments, and how do organizations transition to this new role)?

The figure below displays the connection between the AHA environmental scanning and strategic planning process, the HRET Indicators Analysis, the identification of research implications and specific research questions, and the development of the AHA/HRET Research Agenda.
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Section I: Environmental and Societal Trends
A. Economic Trends
B. Demographic Trends
C. Diversity and Equality Trends

Section I first paints a picture of the current economic environment in the United States. With rising unemployment and declining GDP for most of the past 2 years, the recession has hit the economy hard. Since the start of the recession in December 2007, the number of unemployed persons has risen by 7.6 million. Millions of other individuals who are not counted in unemployment calculations are now either underemployed or have given up looking for work entirely due to the recession. This section then looks at the manufacturing index and the consumer sentiment index. These indexes are leading indicators, which means that they are often predictive of future economic activity. While the manufacturing index has shown signs of improvement the past few months, the consumer sentiment index remains near its nadir at the beginning of 2009. These indexes could indicate a relatively modest recovery with limited growth compared to other post-World War II business cycles.

Next, this section looks at population trends and discusses how immigration rates are declining and the aged dependency ratio [100 times the ratio of Americans over 65 years of age to the working age population, defined as 15–64] continues to rise, indicating an overall demographic evolution. One of the implications of this demographic evolution is that there has been a greater increase in the number of older Americans qualifying for benefits from aged-dependent social insurance programs, such as Social Security, than the corresponding increase in American workers who have been contributing to such programs over the past decade. This ratio will continue to rise as the first wave of baby boomers begins to retire. Finally, this section discusses diversity and inequality, showing that the country is growing more diverse, while income inequality has risen substantially compared to 30 years ago. [A higher Gini index indicates more inequality.]
Section II: Health Care Trends

A. Trends in Coverage
B. Trends in Quality
C. Trends in Patient Safety and Communication
D. Trends in Access to Quality
E. Workforce Trends
F. Trends in Health Care Spending
G. International Spending

Section II first looks at trends in health care coverage and finds a rapid increase in the number of uninsured from 2001 to 2006, followed by a slight decline in 2007. It speculates that the number rose significantly in 2008. The Commonwealth Fund projects that without significant health reform, the number of uninsured will hit 61 million by 2020. The trend in uninsured individuals has been related to a smaller percentage of individuals being covered by employer-sponsored insurance in recent years, with government insurance largely picking up the slack. There has also been a related rise in the underinsured, to an estimated 25 million Americans. Relating to the uninsured, great disparities remain with regards to race/ethnicity and region of the country, with Latinos, African Americans, Asians, and those from the South and West being much more likely to be uninsured.

This section then discusses trends in quality of care and finds that there have been improvements in several aggregate quality measures over the past two years, including life expectancy, mortality rates, and recommended care for heart attack, heart failure, and pneumonia. However, there remains much room for improvement. While aggregate quality of care improved each year from 1994 to 2008, the rate of improvement seems to have slowed. Agency for Healthcare Research and Quality (AHRQ) data shows that sustaining a steady rate of improvement over time is a challenge and that there is significant geographic variation in quality of care. Overall, the U.S. health care system is achieving higher performance levels on measures relating to acute care, but has not shown much improvement when it comes to measures relating to preventive care and management of chronic illness. Also according to the AHRQ data, the median annual rate of improvement in quality measures has been much higher in hospitals, home health, and long-term care settings than it has been in the ambulatory care setting. [Both of these indicators relating to measure category and care setting (shown below) reflect the median yearly improvement between 2002 and 2008.] Next, this section shows an increase both in the number of adults under age 65 with limited activity and in the number of obese individuals.
This section then looks at trends in patient safety and access to quality. There has been little to no improvement in patient safety and communication in recent years. According to AHRQ data, measures of patient safety have not only seen little improvement in recent years but also a relative decline. In fact, safety measures were the only AHRQ measures to show a decline over the past six years, with only 45% of safety measures showing some improvement. [Both of the measures shown below reflect two data points, 2006 and 2008.]

Next, this section looks at workforce trends. In spite of recent job losses affecting the larger economy, health care employment has remained steady, albeit with lower growth rates than in the early part of this decade. Regarding specific workforce trends, there has been a shortage of nurses for much of the past decade, and the number of new nursing graduates has generally not met the demand for new hires. While this trend has temporarily abated due to the current recession, it remains a long-term issue. In addition, this section addresses the misdistribution of physicians, particularly primary-care-related specialties, by geography and specialty.

This section then reviews economic trends in health care. Health care spending continues to make up a larger percentage of GDP, and overall medical care inflation has generally been around 1%–3% higher than overall inflation. The National Coalition on Healthcare projects that without significant reform, health care spending will make up 20% of GDP by 2017. Next, the section discusses that the annual percentage increase in aggregate health insurance premiums remains at more than 6% annually. It then discusses current actuarial projections showing that without significant reform, the Hospital Insurance (HI) portion of the Medicare Trust Fund (Part A) is expected to be depleted by 2017.

Finally, this section compares U.S. health care spending and outcomes to other countries and finds that the United States spends approximately twice as much per capita and achieves poorer outcomes, such as infant mortality and life expectancy, when compared to most other economically developed
countries. U.S. health care spending is highly concentrated in areas relating directly to medical care, while relatively little is spent on public health.

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<th>$ Spent Per Capita Health Care Costs (US2008$)</th>
<th>Health Care as a % of GDP</th>
<th>CT Units Per Million Persons</th>
<th>MRI Units Per Million Persons</th>
<th>Infant Mortality Per 1,000 Births</th>
<th>Life Expectancy (yrs.)</th>
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<td>USA</td>
<td>$6,347</td>
<td>15.2%</td>
<td>33.9</td>
<td>26.5</td>
<td>6.9</td>
<td>77.8</td>
</tr>
<tr>
<td>Canada</td>
<td>$3,460</td>
<td>9.9%</td>
<td>12.0</td>
<td>6.2</td>
<td>5.4</td>
<td>80.4</td>
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<tr>
<td>Netherlands</td>
<td>$3,156</td>
<td>9.5%</td>
<td>8.2</td>
<td>6.6</td>
<td>4.9</td>
<td>79.4</td>
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<tr>
<td>France</td>
<td>$3,306</td>
<td>11.1%</td>
<td>10.0</td>
<td>5.3</td>
<td>3.8</td>
<td>80.2</td>
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<tr>
<td>Spain</td>
<td>$2,260</td>
<td>8.3%</td>
<td>13.9</td>
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<tr>
<td>UK</td>
<td>$2,580</td>
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<tr>
<td>Denmark</td>
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<td>15.8</td>
<td>10.2</td>
<td>4.4</td>
<td>78.3</td>
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Section III: Hospital-Specific Trends

A. Hospital Service and Type Trends

B. Hospital Financial and Utilization Trends

**Section III** first looks at hospital service and type trends. There has been a trend toward a greater percentage of hospital revenue coming from outpatient services compared to inpatient services over the last several decades. In addition, there has been a large increase in the number of freestanding ambulatory care surgery centers and physician-owned, limited-service hospitals. The rise of physician-owned, limited-service hospitals has been most pronounced in states that do not have certificate-of-need laws.

Next, this section reviews hospital financial and utilization trends. Hospitals generally enjoyed relatively healthy, growing operating margins during the latest economic expansion, particularly between 2003 and 2007. However, it is likely that these operating margins will decline significantly during the current recession. In addition, in good economic times and bad, aggregate hospital spending on uncompensated care has increased every year for the past seven or eight years. There is a general consensus that this spending will increase at even higher rates in 2009 and 2010.
AHA/HRET Research Implications

Section IV looks at the research implications of the indicators laid out previously in the report and identifies the need for research in 15 areas. These areas are prioritized by internal HRET competencies, relevance to the hospital field, and the current needs of funders.

In each of these 15 areas, possible research questions are identified. These research implications and research questions are relevant to both primary and network research activities and will inform AHA/HRET’s Research Agenda of (1) quality, cost, and disparities, (2) care coordination/health information technology, (3) new payment models, and (4) governance and leadership.

Quality and Patient Safety

The strategic indicators show that although there has been some improvement in recent years, there is much more improvement needed in the areas of quality of care and patient safety. In addition, even with improvement in quality, access to quality has not improved. When compared to most other economically developed countries, we in the United States are not getting quality of care equal to our expenditures, which continue to rise rapidly. Possible research questions are:

1. What patient safety initiatives are most effective in different settings?
2. What organizational structures best support improvements in patient safety and quality?
3. What are the most effective ways for hospitals to integrate quality and performance improvement across care settings—before and after inpatient admission to the hospital and before and after care in the hospital’s outpatient clinics? Put another way, what is the hospital’s role in integrating care of the whole person?

Quality and Performance Improvement Methodologies

Quality of care has come a long way, but as the indicators show, there is a long way to go to truly get close to what we pay for. As such, continued research into quality of care and performance improvement methodologies will become more important in the years to come. Possible research questions are:

1. Which performance improvement methodologies have the most potential to eliminate waste? Improve quality? What contextual factors, such as culture and legacy, determine which performance methodology is right for individual hospitals or other health care settings? What interventions are most effective for different types of facilities (e.g., rural, safety net, AMCs)?
2. How can performance improvement (PI) methodologies help raise the floor for those hospitals in the bottom quintile of performance. In other words, how can PI be adapted to address the needs of low performers? What about high performers?
3. What are facilitators to particular performance improvement methodologies? Barriers?
4. What are the best ways to measure quality improvement?
5. What is the business case for quality improvement?

Cost Control

The strategic indicators show that health care costs continue to rise, albeit at levels lower than in recent years. In light of the economic recession, there will likely be much more pressure on hospitals and health care in general to reduce costs, along with improving quality of care outcomes. Possible research questions are:

1. Does consumer-driven health care live up to the promise of lowering costs without harming quality or access?
2. What strategies encourage best practices for end-of-life care?
3. How can payment reform be structured to encourage efficient use of health services?

Financial Sustainability and Human Resources Practices

As hospitals struggle financially in the current economic environment, more research will be needed into the sustainability of hospitals in economic downturns and into human resource practices that help
hospitals thrive financially while retaining high-quality care. In addition, human resources practices should be evaluated for effectiveness and value added. Possible research questions are:

1. How do new human resources practices focused on providing better work-life balance affect quality measures such as risk-adjusted mortality? Staff satisfaction? Patient satisfaction? The hospital’s bottom line?
2. What practices can hospitals undertake to become better stewards of their organization’s assets? In good economic times? In bad economic times? What factors are most important in ensuring long-term financial health and surviving in tough financial times (capital allocation, prudent investments, etc.)?
3. What HR practices are associated with high-quality care?
4. What are the most effective ways to recruit and retain quality providers?
5. What models of training are most effective?

**Improving Patient Flow**
The indicators show that hospitals are facing many financial challenges. With the current recession and bleak actuarial projections for the future of reimbursement programs such as Medicare, hospitals cannot rely on long-term financial stability through advocacy alone. As hospitals will be expected to do more with less, there will be a need to be more efficient. Possible research questions are:

1. What are the most effective strategies for improving patient flow?
2. How does improved patient flow affect the number of admissions? Hospital revenue?

**Effectiveness of Systems**
With the effort to improve quality while maintaining margins in difficult economic times comes the pressure for integration and scalability in health care. As such, with the current economic recession, we are likely to see a proliferation of hospitals becoming members of systems (already over 50%). In addition, many long-range health reform proposals may include incentives aimed at scale and integrated systems of care that many see as essential to getting value out of our health care dollars. Possible research questions are:

1. What facilitators of “systemness” are also associated with high-quality care?
2. How can hospitals that are not part of systems be encouraged to coordinate or link with other providers?
3. Which indicators of system clinical integration, functional integration, and economic integration have the greatest impact on system performance in terms of cost, quality, and access? That is, what is the comparative cost effectiveness of different integrating mechanisms—e.g., the interoperable electronic medical record, bundled payment arrangements, Lean processes of organizing and coordinating care, explicitly defined value streams, and clinical care pathways?
4. What characteristics or organizational processes and structures lead to a health system whose clinical effectiveness and efficiency are greater than the effectiveness and efficiency of its components (its constituent hospitals, medical groups, and other health organizations)? In other words, what are the cost- and quality-related synergies in functioning as a health “system” (a multi-component firm) as opposed to an independent health care organization?

**Disparities**
The strategic indicators show that disparities are all too prevalent in our society. Although health reform could possibly lead to an elimination of differences in coverage, differences in the quality and type of care provided along racial and ethnic lines are not going away anytime soon. Possible research questions are:

1. What are the most promising practices for reducing health disparities?
2. How can hospitals use data on race and ethnicity to examine disparities within their organizations?
3. What are the best strategies for addressing equity at an organizational level?
**Care Coordination and Chronic Care Management**
The indicators clearly outline that access to primary care services is lacking for many and that we are not getting what we pay for relative to our health care expenditures. There will be a need for research that explores the cost effectiveness of care coordination and whether care coordination can have significant effects on cost, quality, and utilization. Possible research questions are:

1. What delivery and operational structures need to be in place to successfully implement care coordination?
2. What factors of care coordination are associated with quality improvement?
3. What are the potential savings associated with facilities that specialize in chronic care management? How are hospital readmissions affected? Length of stay?
4. What are the potential savings associated with organizations that invest resources in care coordination? What is the ROI? How are hospital readmissions affected? Length of stay? Patient satisfaction? Staff satisfaction?
5. What payment mechanisms are most successful in promoting cost-effective care coordination and how might they be implemented? What are the facilitators and impediments to implementing such payment forms?

**New Models of Care**
With the current model of care at a breaking point, there is a need for research into the medical home model of care, telemedicine, e-medicine, retail clinics, and other new ways of providing care, especially in the primary care setting. To avoid widespread implementation of any new in-vogue model before it is shown to be effective, all new models will need to be evaluated in terms of their potential effects on cost, quality, and utilization. Possible research questions are:

1. Which models of care are most effective for various patient populations (e.g., older adults, those with chronic conditions, rural populations)?
2. What delivery and operational structures need to be in place to implement new models of care?
3. How can payment systems be restructured to encourage/provide reimbursement for new models of care?

**Patient-Centered Care**
With the recent trend toward patient-centered, consumer-engaged care comes the need for more research into cost effective ways to implement patient-centered strategies, including the evaluation of their effectiveness in smaller, rural, freestanding hospitals. Particular patient-centered care strategies will need to be evaluated in terms of their effectiveness not only on patient satisfaction, but also on quality, safety, and hospital financials. In addition, strategies will need to be evaluated for their effectiveness in engaging patients as informed, active participants in their own care. Possible research questions are:

1. How can hospitals best encourage patients to become active participants in their care?
2. To what extent should patients be included in planning QI and other hospital initiatives?
3. How can patient-centered care be measured?
4. What is the relative importance of self-management in patient-centered care, and how can self-management better facilitate improvements in patient outcomes?

**Health Information Technology**
With the expected increase in implementation of HIT in many parts of the country through federal stimulus dollars, among other sources, comes the need for research to determine the best ways to parlay HIT into better bedside care. There will be many challenges with HIT implementation, particular with smaller, rural, freestanding hospitals. Possible research questions are:

1. What organizational factors facilitate or impede successful adoption of HIT?
2. What are the potential cost savings from the successful implementation of automated test results? Computerized order entry systems? Clinical decision support systems?
3. What are the potential improvements in quality and safety related to successful implementation of automated test results? Computerized order entry systems? Clinical decision support systems? How can health IT systems assist with quality improvement efforts?
4. What is the business case for hospitals’ adoption of health IT systems?
5. What steps can hospitals take to protect patient confidentiality with health IT systems?
6. Which specific HIT components (e.g., patient registries, computerized order entry) yield the greatest return in improved health and reduced costs? Can these components be adopted and bundled effectively as part of a health organization’s transition to a fully developed electronic information system?
7. What are the barriers and facilitators to use of HIT data by day-to-day managers?

**New Payment Policies**
The indicators clearly indicate that the current system of payment is broken, with misaligned incentives. To control costs, in addition to probable coverage expansion, health reforms will also likely focus on more value-based purchasing programs aimed at improving the quality of care. It will be important to conduct research into how this type of payment reform will potentially impact utilization and quality of care. Possible research questions are:

1. What will be the financial and nonfinancial impact of bundled payment (acute and post-acute)?
2. What delivery and operational structures need to be in place to implement bundled payments (post-acute and acute, and acute and physician)?
3. What delivery and operational structures need to be in place to implement global per-patient payments?
4. How can the transition to new payment forms be orchestrated as “win-win” along different points in the value chain of health care: primary care, secondary and subspecialty care, hospital inpatient care, post-acute care, and rehabilitation?
5. What are the comparative advantage and role of the hospital in implementing these new payment forms?
6. What delivery and operational structures need to be in place for hospitals to effectively improve care in the light of readmission policies that limit payment or provide “warranties” for 30- or 90-day readmissions?

**Leadership and Governance**
With the current economic crisis and the building momentum for health reform, hospitals and other health care organizations will need an effective leadership team and board to best adapt, survive, and flourish in this challenging environment. As such, research will need to be carried out to determine what collective competencies will be requisite for hospital leaders and boards to meet these pressures. Possible research questions are:

1. What board practices are associated with better institutional financial results?
2. What board practices are associated with better institutional quality indicators?
3. What leadership practices are associated with better institutional financial results?
4. What leadership practices are associated with better institutional quality indicators?

**Dissemination and Uptake of Best Practices**
For many of the previously discussed areas, especially quality and patient safety efforts, more work needs to be done to disseminate research to the field. Much more progress has been made in the epidemiology of patient safety and quality of care than in actually disseminating research to the field about what works. Possible research questions are:

1. How effective is academic detailing in changing the practice behavior of clinicians?
2. How effective are social marketing techniques in increasing the uptake of patient safety toolkits at the provider level?
3. What are the most important considerations for hospital leaders in the adoption of best practices? How can these elements be incorporated into dissemination materials?
4. What level(s) of providers should be targeted in dissemination efforts?
5. To what extent must the business case for change be included in dissemination efforts?
6. How effective are shared medical decision making and the use of patient decision aids in stimulating improved care processes by clinicians, and how might the role of these decision aids differ for primary care and specialty care?
7. How can we ensure that medical research can be translated in a way that it can be used and understood?
8. What is the role of middle managers in the translational process? What are the best strategies for engaging this group?

Organizational Structure and New Workforce Models
The strategic indicators show significant workforce issues facing health care, particularly a shortage of nurses and a misdistribution of physicians. Overall, as we move toward a necessary redesign of the health care system, there will be a need for more research in areas related to workforce and organizational redesign and new types of organizational and workforce models and their implications for quality. Possible research questions are:

1. To what extent can traditional staff roles be modified to accommodate workforce shortages?
2. What modifications or incentives can be established to help retain older workers?
3. Can technology (e.g., telemedicine, remote monitoring) be leveraged to address workforce shortages without harming access or quality?
4. What does the future community hospital/population-based health care organization look like? What are the transits needed to get there?
5. What will future accountable care organizations look like? What related services provide the best opportunities to improve the health of the population?

The full set of prioritized research implications and associated research questions are detailed in the following table. Each implication is also categorized according to the AHA/HRET Research Agenda of (1) quality, cost, and disparities, (2) care coordination/health information technology, (3) new payment models, and (4) governance and leadership.

<table>
<thead>
<tr>
<th>Research Implications and Related Agenda</th>
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<tr>
<td>Quality and Patient Safety (1)</td>
<td>1. What patient safety initiatives are most effective in different settings?</td>
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<td>2. What organizational structures best support improvements in patient safety and quality?</td>
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<td>3. What are the most effective ways for hospitals to integrate quality and performance improvement across care settings—before and after inpatient admission to the hospital and before and after care in the hospital’s outpatient clinics? Put another way, what is the hospital’s role in integrating care of the whole person?</td>
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<td>Quality and Performance Improvement Methodologies (1)</td>
<td>1. Which performance improvement methodologies have the most potential to eliminate waste? Improve quality? What contextual factors, such as culture and legacy, determine which performance methodology is right for individual hospitals or other health care settings? What interventions are most effective for different types of facilities (e.g., rural, safety net, AMCs)?</td>
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<td>2. How can performance improvement (PI) methodologies help raise the floor for those hospitals in the bottom quintile of performance. In other words, how can PI be adapted to address the needs of low performers? What about high performers?</td>
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<td>3. What are facilitators to particular performance improvement methodologies? Barriers?</td>
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<td>4. What are the best ways to measure quality improvement?</td>
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<td>5. What is the business case for quality improvement?</td>
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<td>Cost Control (1)</td>
<td>1. Does consumer-driven health care live up to the promise of lowering costs without harming quality or access?</td>
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<td>2. What strategies encourage best practices for end-of-life care?</td>
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<td>3. How can payment reform be structured to encourage efficient use of health services?</td>
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| Financial Sustainability and Human Resources Practices (1) | 1. How do new human resources practices focused on providing better work-life balance affect quality measures such as risk-adjusted mortality? Staff satisfaction? Patient satisfaction? The hospital’s bottom line?  
2. What practices can hospitals undertake to become better stewards of their organization’s assets? In good economic times? In bad economic times? What factors are most important in ensuring long-term financial health and surviving in tough financial times (capital allocation, prudent investments, etc.)?  
3. What HR practices are associated with high-quality care?  
4. What are the most effective ways to recruit and retain quality providers?  
5. What models of training are most effective? |
| Improving Patient Flow (1) | 1. What are the most effective strategies for improving patient flow?  
2. How does improved patient flow affect the number of admissions? Hospital revenue? |
| Effectiveness of Systems (1) | 1. What facilitators of “systemness” are also associated with high quality care?  
2. How can hospitals that are not part of systems be encouraged to coordinate or link with other providers?  
3. Which indicators of system clinical integration, functional integration, and economic integration have the greatest impact on system performance in terms of cost, quality, and access? That is, what is the comparative cost effectiveness of different integrating mechanisms—e.g., the interoperable electronic medical record, bundled payment arrangements, Lean processes of organizing and coordinating care, explicitly defined value streams, and clinical care pathways?  
4. What characteristics or organizational processes and structures lead to a health system whose clinical effectiveness and efficiency are greater than the effectiveness and efficiency of its components (its constituent hospitals, medical groups, and other health organizations)? In other words, what are the cost- and quality-related synergies in functioning as a health “system” (a multi-component firm) as opposed to an independent health care organization? |
| Disparities (1) | 1. What are the most promising practices for reducing health disparities?  
2. How can hospitals use data on race and ethnicity to examine disparities within their organizations?  
3. What are the best strategies for addressing equity at an organizational level? |
| Care Coordination and Chronic Care Management (2) | 1. What delivery and operational structures need to be in place to successfully implement care coordination?  
2. What factors of care coordination are associated with quality improvement?  
3. What are the potential savings associated with facilities that specialize in chronic care management? How are hospital readmissions affected? Length of stay?  
4. What are the potential savings associated with organizations that invest resources in care coordination? What is the ROI? How are hospital readmissions affected? Length of stay? Patient satisfaction? Staff satisfaction?  
5. What payment mechanisms are most successful in promoting cost-effective care coordination and how might they be implemented? What are the facilitators and impediments to implementing such payment forms? |
| New Models of Care (2) | 1. Which models of care are most effective for various patient populations (e.g., older adults, those with chronic conditions, rural populations)?  
2. What delivery and operational structures need to be in place to implement new models of care?  
3. How can payment systems be restructured to encourage/provide reimbursement for new models of care? |
| Patient-Centered Care (2) | 1. How can hospitals best encourage patients to become active participants in their care?  
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The following are the four top research questions for AHA:

**Top Research Questions**

1. What are the most effective and efficient ways for hospitals and health systems to integrate care and improve performance (financial, clinical, service, patient and staff experience) along the continuum of care (e.g., implementing care coordination across all settings of care)?

2. What organizational characteristics, structures, and processes lead to a high-performing system of care (e.g., the implementation of specific HIT components, specific horizontal and vertically integrated system practices, and clinical and functional integration across a health system that produce benchmark outcomes)?

3. What are the most promising practices and system design elements for reducing health disparities, considering all factors such as organizational elements and social determinants?

4. What is the role of the hospital in a new community environment that provides more efficient and effective health care (e.g., what are the redesigned structures and models, the role and implementation of accountable care organizations, the structures and processes needed to implement new payment models such as bundled payments, and how do organizations transition to this new role)?

The remainder of this SIF Report provides greater detail about the indicators assessed, their analysis, further articulation of the 15 prioritized research implication areas, and more specific additional research questions. This information leads to the development of the core AHA/HRET Research Agenda.