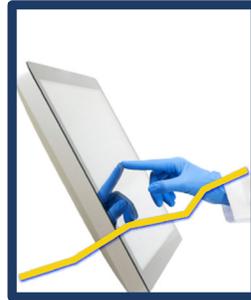


# Signature Leadership Series



## Leading Improvement Across the Continuum: Skills, Tools and Teams for Success

October 2013

## Leading Improvement Across the Continuum: Skills, Tools and Teams for Success

**Resources:** For information related to health care delivery transformation, visit [www.hpoe.org](http://www.hpoe.org).

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## Executive Summary

This guide presents two new frameworks, the Improvement Continuum and the Leadership Action Model, to assist hospital leaders in executing a wide range of improvement activities. Faced with many diverse improvement opportunities—from eliminating hospital-acquired infections to reducing community asthma rates—leaders need a way to categorize improvement efforts and identify effective strategies to lead many different projects simultaneously. ***As health care transforms, leaders must develop the knowledge and skill sets to move beyond single improvement efforts and engage in multiple efforts across a continuum of improvement projects.***

This report presents the Improvement Continuum. The continuum categorizes improvement efforts into four levels that build on one another:

1. Topic or microsystem improvement
2. Care coordination
3. Defined population
4. Community health

The Improvement Continuum then identifies the key skills, tools and teams that are necessary to implement projects successfully at each level. As improvement teams expand their projects across the continuum, they will add new skills, tools and people at each level. The Improvement Continuum outlines each level's key competencies.

This guide also includes a Leadership Action Model, a framework to help hospital leaders apply the Improvement Continuum. The model includes four steps:

1. Identify a strategy
2. Identify the skills, tools and teams necessary
3. Plan to sustain the improvement
4. Plan to spread the improvement

Hospital leaders should use both the Leadership Action Model and the Improvement Continuum to develop and implement improvement initiatives. The Action Model and Improvement Continuum will help leaders refine their efforts to be more effective across a wide range of improvement activities, from reducing surgical site infections to implementing community smoking cessation programs.

## Introduction

Since the publication of the seminal Institute of Medicine reports *To Err is Human* and *Crossing the Quality Chasm*, efforts to improve the U.S. health care system have increased substantially. Spurred by these reports, health care professionals, leaders and policymakers launched a wide-reaching quality and patient safety movement in the early 2000s. Now, more than a decade later, escalating costs, persistent disparities in health outcomes, suboptimal patient satisfaction and the rising prevalence of chronic disease continue to pressure the U.S. health care system to improve.

With many challenges competing for limited resources, organizations must be efficient in selecting and implementing their improvement projects. Hospital leaders need a way to identify the appropriate skills, tools and teams to achieve success across a variety of projects.

To ensure high-quality care for every patient, every time, hospitals and health systems must improve across the continuum of care: in individual units, across hospitals and beyond the hospital walls and into communities. To lead improvement across these diverse settings, hospital leaders must understand the unique challenges that arise in different environments across the continuum of care. Once those unique challenges are understood, leaders will be able to implement the correct skills, tools and teams to maximize the impact of improvement efforts across a variety of practice settings.

## The Improvement Continuum

Many excellent toolkits and models for improvement already exist, such as the Model for Improvement (Plan-Do-Study-Act) developed by the Associates in Process Improvement.<sup>1</sup> But different challenges require different skill sets, different tools and different teams. The Improvement Continuum is meant to be a supplement to those existing resources to help leaders choose the appropriate tools, skills and teams for many projects across the continuum.

The Improvement Continuum identifies four levels of improvement—topic or microsystem, care coordination, defined population and community health—and outlines the key skills, tools and teams necessary for success at each level (see Figure 1). As organizations engage in multiple projects across the continuum, moving from microsystem projects and eventually to community health projects, they will need to increase the number of skills, tools and people to be successful. Therefore, at each level, the Improvement Continuum outlines the key skills, tools and people that will be necessary, in addition to all of those identified in previous levels of the continuum.

The Improvement Continuum presents a way for leaders to think strategically about their improvement efforts across many dimensions and can become an integral tool for maximizing project impact. To demonstrate how the Improvement Continuum can be effectively integrated into the larger improvement planning process, the Leadership Action Model for Improvement clearly shows how the continuum informs the planning process (see Figure 2). Additionally, four case studies in Appendix A demonstrate how successful projects have incorporated the elements of the Improvement Continuum into their work.

### *Sustain and Spread*

Implementing multiple projects simultaneously can lead to improvement fatigue and a feeling that the extra projects interfere with primary work roles. As a result, many projects may not prove sustainable, even if they are initially effective.

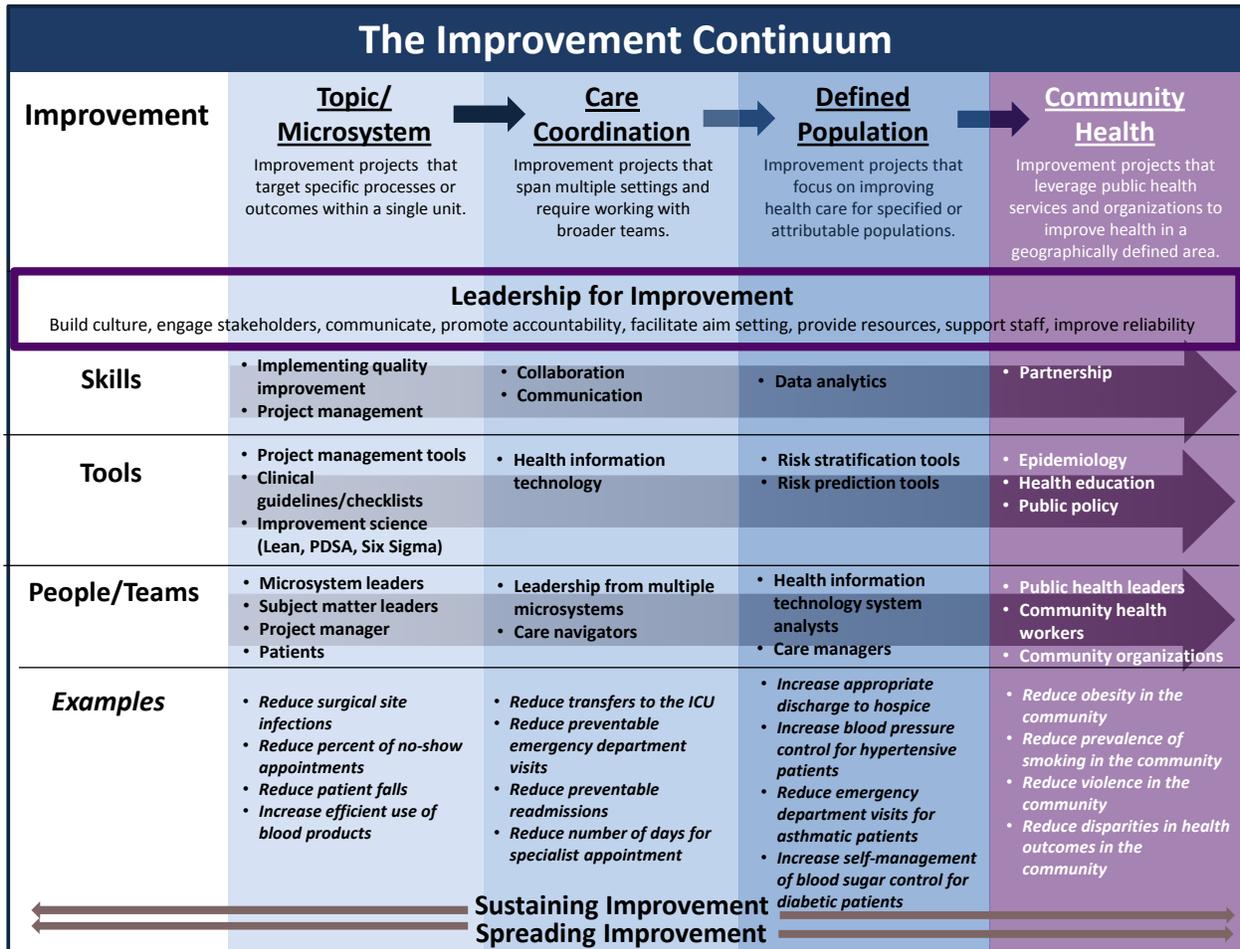
To avert that outcome, the Leadership Action Model includes four key items to consider when planning for sustainability: creating a strategy to engage both leadership and front-line staff; celebrating

success with rewards and recognition; incorporating changes into daily workflows; and building strong partnerships. Appendix B includes resources that describe how to plan for sustainability in greater detail.

In health care, innovative ideas and successful strategies are plentiful. However, leaders and staff often do not have the mechanisms to effectively spread those successes to all hospitals and care facilities. When designing and implementing any improvement activity, special care should be devoted to identifying the mechanisms that will allow the innovation to spread so that other systems and patients may benefit.

The Institute for Healthcare Improvement and HRET have developed a number of useful frameworks and tools to help leaders plan for and execute spread, including: [Planning for Scale: A Guide for Designing Large-Scale Improvement Initiatives](#), [A Framework for Spread: From Local Improvements to System-wide Change](#) and the [HRET Spread Assessment Tool](#). Additionally, the Leadership Action Model in this guide contains three key items to consider when planning for spread: engaging both leadership and front-line staff; developing an effective communication plan; and establishing systems for ongoing measurement and reporting.

Figure 1. The Improvement Continuum



Source: American Hospital Association, 2013

Figure 2. Leadership Action Model for Improvement Across the Continuum

### 1. Identify the level.

- Create an **aim statement**.  
*What are we trying to accomplish?*
- Choose **measures**.  
*How will we know that a change is an improvement?*
- Identify **changes**.  
*What change can we make that will result in improvement?*

These will show where your project lies on the continuum:

- Topic/microsystem
- Care coordination
- Defined population
- Community health

### 2. Choose your tactics.

*Identify the skills, tools and teams needed.*

The Improvement Continuum			
Improvement	Care Coordination	Defined Population	Community Health
Improvement projects that target one or two areas of an organization or system.	Improvement projects that span multiple settings and require working with broader teams.	Improvement projects that focus on a specific population or health care topic for a community or health care organization.	Improvement projects that target an entire health care system or community.
<b>Leadership for Improvement</b> Build culture, engage stakeholders, communicate, promote accountability, facilitate aim setting, provide resources, support staff, improve visibility			
<b>Skills</b> • Reporting quality improvement • Project management	<b>Skills</b> • Collaboration • Communication	<b>Skills</b> • Data analysis • Risk stratification	<b>Skills</b> • Partnership • Health education • Public policy
<b>Tools</b> • Project management tools • Clinical guidelines/checklists • Improvement science • Lean, PDSA, Six Sigma	<b>Tools</b> • Health information technology • Risk stratification tools	<b>Tools</b> • Health information technology • Risk stratification tools	<b>Tools</b> • Health information technology • Risk stratification tools
<b>People/Teams</b> • Microsystem leaders • Subject matter experts • Project manager • Patients	<b>People/Teams</b> • Leadership from multiple organizations • Care navigators	<b>People/Teams</b> • Health information technology • Risk stratification tools • Care navigators	<b>People/Teams</b> • Community health workers • Community coalitions
<b>Examples</b> • Reduce surgical site infections • Reduce percent of new-onset hypertension • Reduce patient falls • Increase efficient use of blood products	<b>Examples</b> • Reduce transfers to the ICU • Reduce preventable emergency department visits • Reduce preventable readmissions • Reduce number of days for oncologic operations	<b>Examples</b> • Increase appropriate antibiotic use • Increase blood pressure control for hypertension • Reduce emergency department visits for asthma • Increase self-management of blood sugar control for diabetes patients	<b>Examples</b> • Reduce obesity in the community • Increase physical activity in the community • Reduce tobacco use in the community • Increase adherence to health care • Increase self-management of blood sugar control for diabetes patients
Sustaining Improvement Spreading Improvement			

Based on the improvement level:

- Identify the members of the **improvement team**.
- Ensure team members have the necessary **skills**.
- Ensure the team has the necessary **tools**.

### 3. Plan for sustainability.

- Engage **leadership and front-line staff**.
- Celebrate success with **rewards and recognition**.
- Incorporate changes into **daily workflow**.
- Build strong **partnerships**.

### 4. Plan for spread.

- Engage **leadership and front-line staff**.
- Develop a **communication** plan.
- Establish systems for **measurement and reporting**.

Source: American Hospital Association, 2013

## Topic or Microsystem Level

Many traditional quality and patient safety improvement efforts target the topic or microsystem level. Clinical microsystems are the small, front-line units where most people receive health care services. Projects implemented at the unit or department level often address a specific challenge that the unit has identified as an opportunity for improvement. Examples of topic/microsystem level projects include efforts to:

- Reduce surgical site infections
- Reduce the percentage of no-show appointments
- Reduce adverse drug events
- Increase the efficient use of blood products

These improvement projects engage microsystem and subject matter leaders and utilize project management and improvement science skills and tools.

Figure 3. Topic/Microsystem Tactics Checklist: Skills, Tools and People/Teams for Success

Skills	Tools	People/Teams
<ul style="list-style-type: none"> <li><input type="checkbox"/> Implementing quality improvement</li> <li><input type="checkbox"/> Project management</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Project management tools</li> <li><input type="checkbox"/> Clinical guidelines/checklists</li> <li><input type="checkbox"/> Improvement science (Lean, PDSA, Six Sigma, etc.)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Microsystem leaders (e.g., department managers)</li> <li><input type="checkbox"/> Subject matter leaders</li> <li><input type="checkbox"/> Project manager</li> <li><input type="checkbox"/> Patients</li> </ul>

Source: American Hospital Association, 2013

### Skills

For topic/microsystem improvements, the key skill sets are those related to project management and implementation of quality improvement techniques. Organizations must ensure that a person competent in these skills facilitates the improvement effort.

Project management skills include the ability to initiate a project, convene a performance improvement team and develop an aim statement and action plan. Project managers must also be able to implement the action plan in collaboration with the improvement team, monitor the progress of the project and ensure the sustainability of the effort once the formal project ends.<sup>2</sup> Many resources exist to guide successful project management.

### Tools

There are numerous quality improvement systems, tools and toolkits for managing an improvement effort at the topic/microsystem level. It is important to define the project goals and measures before choosing the relevant quality improvement system. Every project team also should select a toolkit that best fits its specific goals and needs.<sup>3</sup>

Project management tools to facilitate improvement efforts include templates for charters, communication plans, meeting agendas, task lists, checklists, methods for tracking progress toward the goal and deliverable templates. The IHI [Project Tracking Tool](#) is just one example.

Possible quality improvement systems include:

- PDSA (Plan-Do-Study-Act) cycle
- Baldrige criteria
- Lean
- Six Sigma

Each of these processes employs a variety of tools,<sup>4</sup> including:

- Control charts
- Histograms
- Cause-and-effect diagrams
- Pareto charts
- Affinity diagrams
- Matrix diagrams
- Priorities matrix
- Benchmarking
- Failure Mode and Effects Analysis

In addition to these improvement tools, projects may utilize toolkits such as those developed by HRET, the Agency for Healthcare Research and Quality and the Institute for Healthcare Improvement. Examples of toolkits include the [Comprehensive Unit-based Safety Program \(CUSP\) toolkit](#), the [TeamSTEPS curriculum](#) and many others available at the Hospitals in Pursuit of Excellence website at [www.hpo.org/resources](http://www.hpo.org/resources). Improvement efforts also may utilize clinical guidelines, protocols and checklists as tools, which may be adopted from national recommendations or developed internally to reflect organization-specific needs and values.

## People/Teams

Skills and tools are important, but an improvement effort will not succeed without the appropriate teams and people. Improvement efforts at the topic/microsystem level must engage unit leaders, including physician leaders, nurse managers and administration.<sup>5,6,7</sup> They also should enlist subject matter experts, including quality improvement specialists and clinicians.<sup>8</sup> Performance improvement teams should be multidisciplinary and led by a designated project manager to ensure the successful development and execution of an improvement plan.

All projects across the Improvement Continuum should include patients and families in their improvement teams. Patients provide important perspective and critical insight that will not only contribute to more patient-centered care but also can improve the effectiveness and efficiency of care.

Many local, state and national improvement efforts that focus on the topic/microsystem level are underway. Some of these efforts have their project content available to the public, including:

- Hospital Engagement Networks - <http://partnershipforpatients.cms.gov/about-the-partnership/hospital-engagement-networks/thehospitalengagementnetworks.html>
- On the CUSP: Stop HAI - <http://www.onthecuspstophai.org/>
- TeamSTEPS - <http://teamsteps.ahrq.gov/>
- Institute for Healthcare Improvement - <http://www.ihp.org/knowledge/Pages/Tools/default.aspx>

Table I outlines the key components for successfully executing project plans.

*Table I. Project Plan Execution*

PLAN COMPONENTS	DESCRIPTION
<b>Problem</b>	Outlines the system or process issue, challenge or failure and identifies why improvement is indicated.
<b>Aim Statements</b>	The aim statement(s) specifically describe(s) the system needing improvement, the population impacted, the measurable results and target date. The aim statements guide the process improvement strategies.
<b>Tests of Change</b>	Documents the change(s) to be tested, where and when the test(s) will be conducted and by whom, the predicted outcome of the change and the measured results of the test.
<b>Communication Plan</b>	Provides a framework for effectively informing stakeholders of the improvement efforts, including: rationale, goals, operational and clinical impact, progress of tests and results. Identifies the “who, what, how, when” for communication with each stakeholder group, as well as “who” is responsible for the project development, coordination, dissemination and implementation.
<b>Measurement Plan</b>	Identifies key metrics or measures: What will be measured? How will the data be collected and displayed? When will it be collected and analyzed and by whom? How will the data be reported and to whom?
<b>Spread and Sustainability</b>	Includes the following: <ul style="list-style-type: none"> <li>• Knowledge transfer (i.e., training and education of new and current medical and other unit staff)</li> <li>• Policy and procedure development or revision</li> <li>• Flow diagram development and updates</li> <li>• Implementation and utilization of materials, equipment, forms and tools</li> <li>• Ongoing measurement and data analysis reporting and communication</li> <li>• Rewards and recognition (acknowledgment and appreciation)</li> </ul>

Source: American Hospital Association, 2013

## Care Coordination Level

The U.S. health care system is highly fragmented, which creates challenges for continuity of care and care coordination.<sup>9</sup> As patients move between providers and care settings, test results, care plans, documentation of patient preferences and other information are often lost, which results in both lower quality care and higher costs to the patient and the system.<sup>10,11</sup> Fragmentation and lack of coordination create a frustrating and confusing experience for the patient and his or her family.<sup>12</sup>

Improvement efforts at this level aim to correct the consequences of this highly fragmented system. For example, projects to reduce readmission rates and improve discharge planning require coordination and partnership across multiple settings and among multiple teams of care providers.<sup>13,14</sup> These projects not only address quality of care, but also patient experience and costs.<sup>15,16</sup>

The care coordination level builds on the skills developed at the topic/microsystem level and engages team members from multiple microsystems to address challenges that span the wider continuum of care. Examples of improvement projects that require a care coordination strategy include efforts to:

- Reduce transfers to the ICU
- Reduce preventable emergency department visits
- Reduce preventable readmissions
- Reduce the number of days for a specialist appointment

Figure 4. Care Coordination Tactics Checklist: Skills, Tools and People/Teams for Success

Skills	Tools	People/Teams
<input type="checkbox"/> Collaboration <input type="checkbox"/> Communication	<input type="checkbox"/> Health information technology	<input type="checkbox"/> Leadership from multiple microsystems <input type="checkbox"/> Care navigators

Source: American Hospital Association, 2013

### Skills

Projects at the care coordination level will continue to utilize project management and improvement science skill sets but will do so in a way that engages stakeholders from multiple microsystems.<sup>17</sup> In addition to those quality improvement skill sets, collaboration and communication should be a focus. In care coordination projects, it becomes increasingly important to build multidisciplinary teams and to develop aims and strategies that reflect a consensus among diverse stakeholders. Teams must work across units, departments and sometimes with outside organizations to achieve their goals.

## Tools

While project management and quality improvement tools remain important, health information technology and other communication systems are essential for coordinating effectively across many units, departments and organizations. HIT tools may include electronic health records, computerized physician order entry, health information exchanges and others.

These technologies create opportunities to collect and share data across partners. With greater access to data and information sharing, improvement teams can work more effectively to identify the root causes of problems and design appropriate interventions to improve care.<sup>18,19</sup> Even without sophisticated HIT systems, however, hospitals can take steps to improve communication and data sharing.

## People/Teams

Care coordination improvement projects must engage leaders from multiple microsystems<sup>20</sup> and continue to include patients. As at the microsystem level, teams should be multidisciplinary and involve representatives from all points in the care process. Involvement of all levels of leadership is essential to create buy-in among front-line workers and to gain access to financial and human resources to achieve success. Patients and family members are important to help identify gaps in care.

## Defined Population Level

The next level on the Improvement Continuum includes projects that target defined populations. Many of the quality improvement initiatives and payment reform models put forth in the Patient Protection and Affordable Care Act require health care organizations to begin moving away from a model of care that focuses solely on individual interactions with the medical system and toward a model of accountability for population and community health.<sup>21,22</sup> This shift will begin with improvement targeted at defined populations, whether in an accountable care organization, patient-centered medical home, employer group or other.<sup>23,24</sup>

Many projects are underway nationally to improve the health of defined populations. One example is the development of accountable care organizations. Over the past few years, many hospitals and health care systems have organized into ACOs, entities that are held financially accountable for the health outcomes of a defined population. Through increasingly formalized partnerships and models of integration, these organizations are able to undertake improvement projects that focus on defined patient populations.

Figure 5. Defined Population Tactics Checklist: Skills, Tools and People/Teams for Success

Skills	Tools	People/Teams
<input type="checkbox"/> Data analytics	<input type="checkbox"/> Risk stratification tools <input type="checkbox"/> Risk prediction tools	<input type="checkbox"/> Health information technology system analysts <input type="checkbox"/> Care managers

Source: American Hospital Association, 2013

Other examples include numerous payer initiatives. Health plans have long focused efforts on defined populations—their policy holders—and now are entering into partnerships with providers, employers and other stakeholders to achieve greater impact.<sup>25</sup>

Examples of improvement projects that focus on improving health for defined or attributable populations include efforts to:

- Increase appropriate discharge to hospice
- Increase blood pressure control for hypertensive patients
- Reduce emergency department visits for asthmatic patients
- Increase self-management of blood sugar control for diabetic patients

These projects require all of the skills used in topic/microsystem and care coordination efforts, but the expanded scope of these projects and the added accountability also requires new skills and tools.

## Skills

To improve care and outcomes, providers must understand the demographics, behaviors and barriers their patient population faces. Building on the HIT competencies developed in the care coordination strategy, effective data analysis is crucial at the defined population level. Organizations that use data to define and understand specific health challenges will be able to create targeted improvement efforts that maximize impact.<sup>26,27</sup>

## Tools

The tools necessary for success include advanced HIT capabilities, such as disease registries and risk stratification and prediction technologies. Disease registries and other analytic tools can assist in identifying populations and defining the conditions (e.g., hypertension, smoking, diabetes) that should be targets for improvement.<sup>28,29</sup> Risk prediction and prevention tools help determine which strategies should be used to ensure that risk is not unduly assumed. It is important that organizations define projects that are sustainable, both financially and for health outcomes.

## People

While engaging leadership across multiple stakeholder groups, these projects also require sophisticated HIT analysts and care managers as part of the improvement teams. HIT analysts provide support in collecting, synthesizing and interpreting critical data. Care managers work directly with patients to ensure compliance with care plans and to ensure that patients have the resources necessary to take control of their health.<sup>30</sup> Patient engagement becomes increasingly important as organizations are held financially accountable for health outcomes. Improvement efforts must include patients on their teams to develop effective ways to engage patients in their care and thus improve health outcomes.

## Community Health Level

The final strategy on the Improvement Continuum describes projects that address community health. These are improvement projects that leverage public health resources to improve health in a geographically defined area. Success in these broad-based, community-wide projects will become increasingly important as reimbursement models shift from rewarding providers for care provided in the hospital to rewarding providers for keeping patients out of the hospital.

Policy drivers and market forces are beginning to compel hospitals to engage in community health improvement projects.<sup>31</sup> Examples include projects to:

- Reduce obesity in the community
- Reduce prevalence of smoking in the community
- Reduce violence in the community
- Reduce disparities in health outcomes in the community

Many of these efforts can begin by establishing a culture of wellness at the organization. The [AHA Call to Action: Creating a Culture of Health](#) presents some ways to get started.

Figure 6. Community Health Tactics Checklist: Skills, Tools and People/Teams for Success

Skills	Tools	People/Teams
<input type="checkbox"/> Partnership	<input type="checkbox"/> Epidemiology	<input type="checkbox"/> Public health leaders
	<input type="checkbox"/> Health education	<input type="checkbox"/> Community health workers
	<input type="checkbox"/> Public policy	<input type="checkbox"/> Community organizations

Source: American Hospital Association, 2013

### Skills

These efforts will require partnerships with diverse groups including public health agencies, other government agencies (including housing, education and economic development) and community-based organizations as well as schools, faith-based organizations and others.<sup>32</sup> HRET has developed a [collaboration primer](#) that describes the process for developing and sustaining strong partnerships.

## Tools

These projects move beyond the traditional medical model, which focuses on individual interactions between patients and clinicians once illness or injury has already occurred, and shift the focus to meaningful prevention efforts and effecting change not only at the individual level but also at the community level. Success in these efforts will require an understanding of public health concepts and tools, including: the use of epidemiology to understand disease prevalence and trends; an understanding of the social determinants of health; an understanding of behavioral science and effective interventions for behavior change; and use of communication and education strategies to build and sustain healthy communities. Many of these tools will be accessible through the strong partnerships that will be formed with external organizations for these improvement efforts.

## People/Teams

The composition of improvement teams will be diverse. Representation will depend on the needs and goals of the project, yet all teams should engage stakeholders and leadership from the many entities that impact community health. Experts in the many disciplines of public health may be included on the improvement teams. Team members also may be drawn from local government, schools, community-based organizations and the business community.

Community members, patients and families will work with teams to identify the social determinants of health that contribute to poor health outcomes. For example, patients may be able to identify sources of pollution in the community that will need to be addressed to reduce asthma rates. The inclusion of diverse stakeholders is critical for long-lasting impact at the community health level.

## Sustainability and Scale

For any improvement process, the ability to both scale and sustain the intervention is crucial. As illustrated in the Leadership Action Model, planning for sustainability and planning for spread are both integral steps in the process of performance improvement.

Improvement interventions should be designed to be sustainable beyond the grant, funding or PDSA cycle. Interventions must be built into the daily workflow so that they are not an added burden or anomaly, but an integral part of the job.

Relationships, partnerships and teamwork are essential for sustainability.<sup>33</sup> Throughout the Improvement Continuum, the most critical skill is effective teamwork. Having a strong team involves both having the correct people at the table as well as creating an environment that promotes open collaboration, communication and problem solving. The development of strong relationships all along the improvement continuum will not only ensure the sustainability of current projects, but will also enable smooth transitions to new projects along the continuum.

To help promote the spread of improvement projects, designers should identify the key mechanisms and drivers of success for their project.<sup>34</sup> When these processes, protocols and systems are identified, it becomes easier to apply those frameworks and interventions to other environments and organizations. The Institute for Healthcare Improvement has developed two toolkits to help leaders facilitate the spread of successful innovations: [A Framework for Spread: From Local Improvements to System-wide Change](#) and [Planning for Scale: A Guide to Designing Large-Scale Improvement Initiatives](#). The [HRET Spread Assessment Tool](#) can also guide spread efforts.

## Action Model for Leading Across the Continuum

Informed by the Improvement Continuum, hospital leaders can guide the development of more nuanced approaches to the many improvement activities. Leadership is critical across all improvement efforts. The Improvement Continuum reflects this by showing leadership competencies extending across all levels of improvement. These competencies echo the eight steps for leading quality improvement from the Institute for Healthcare Improvement. The Leadership Action Model supplements those eight guiding steps by showing how the Improvement Continuum can be integrated into the performance improvement process.

The Leadership Action Model is a checklist of steps that leaders can take to ensure all improvement teams have the resources and skills needed for success (see Figure 7). The first step in the Action Model is to define the project through developing an aim statement and measures. Once the project goals are clear, team members can identify where the project lies on the improvement continuum. For example, if the project aim is to reduce pressure ulcers in the intensive care unit, the team would determine that the project focuses at the microsystem level. Some projects may draw from multiple levels in the continuum; they may not be restricted to one level. In this case, teams should simply consider the tools, strategies and teams from the multiple levels that the project overlaps.

Once the team identifies the project aim and the project's place along the improvement continuum, the team should use the continuum as a checklist to ensure that its efforts include the recommended skills, tools and people for success.

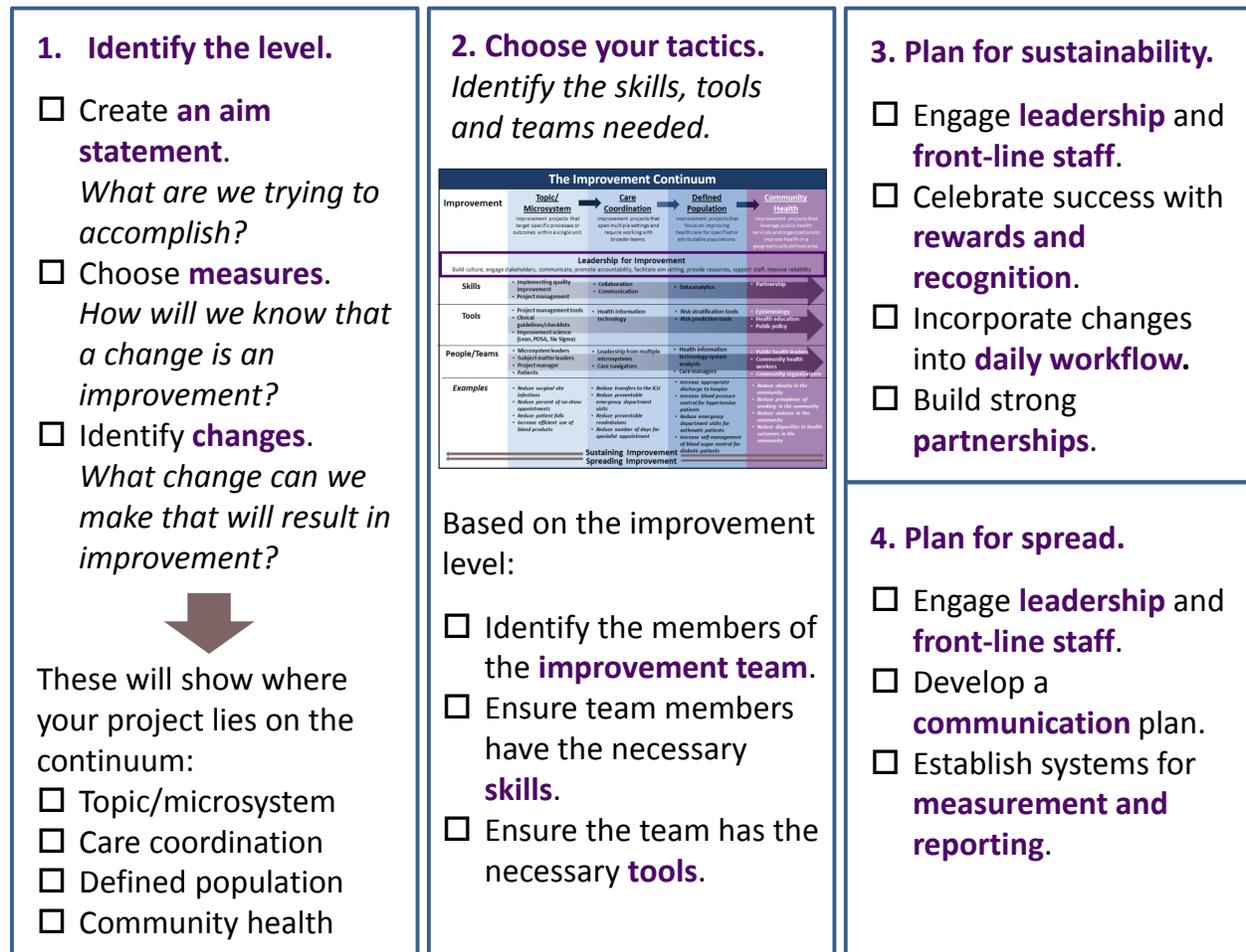
The Leadership Action Model includes the key strategies for the third and fourth steps, planning for sustainability and planning for spread. Appendix B has many resources that provide greater detail on how to effectively sustain and spread improvements.

### Eight Steps for Leading Quality Improvement

1. Address strategic priorities, culture and infrastructure
2. Engage key stakeholders
3. Communicate and build awareness
4. Establish, oversee and communicate system-level aims
5. Track/measure performance over time, strengthen analysis
6. Support staff and patients/families impacted by medical errors
7. Align system-wide activities and incentives
8. Redesign systems and improve reliability

*Source: Botwinick L, Bisognano M, Haraden C. Leadership Guide to Patient Safety. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2006.*

Figure 7. Leadership Action Model for Improvement Across the Continuum



Source: American Hospital Association, 2013

## Conclusion

Each day, hospitals and health care systems strive to provide the highest quality of care for all patients. That may mean preventing infections, reducing preventable readmissions, helping diabetic patients better manage their care or working to reduce smoking rates in the community. These projects all require basic skills in project management and improvement science, but each improvement strategy also utilizes additional skills, tools and teams to enable success across the improvement continuum.

The Improvement Continuum and Leadership Action Model identify the skills, tools and people necessary to be successful across many improvement projects as leaders work to transform their organizations into hospitals of the future. All of these strategies will be critical as hospitals move from focusing on microsystem challenges to community health challenges and all the points in between.

## Appendix A – Case Studies Across the Improvement Continuum

### *Improvement at the Microsystem Level: Reducing Medication Errors at the University of Arkansas Medical Center*

**Problem:** The University of Arkansas Medical Center, based in Little Rock, formed a pharmacist-led task force to address a high frequency of medication errors for patient-controlled analgesia (PCA) opiates.

**Solution:**

**Skills:** The task force began by evaluating data to determine the specific cause of the errors. The team discovered the source—a lack of “hard” limits in the infusion pump drug library software.

**Tools:** This improvement project built “hard” stops into the software and educated the nursing staff about the change.

**People/Teams:** A pharmacist led a multidisciplinary task force that included both microsystem leadership and subject matter expertise, such as administrators, nurses and other pharmacists.

**Result:** The hospital has updated all infusion pumps and is beginning to see reductions in the reported errors related to the administration of PCAs.

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\* This case study is part of the AHA/HRET Hospital Engagement Network series on improvement successes. Access more like this at: [http://hret-hen.org/index.php?option=com\\_content&view=article&id=56&Itemid=211](http://hret-hen.org/index.php?option=com_content&view=article&id=56&Itemid=211)

## ***Improvement through Care Coordination: Communitywide Safety Net Improves Care Transitions***

**Problem:** Many patients who are discharged from the hospital face obstacles to maintaining their health. Queen of the Valley Medical Center in Napa, California, uses the CARE (Case Management, Advocacy, Resource/Referral, Education) Network to ensure that the health care, economic and social needs of patients are met after discharge. The CARE Network helps to establish a seamless continuum of care from hospital discharge into the community setting.

### **Solution:**

**Skills:** Nurses, social workers, primary care providers and pharmacists collaborate to ensure the success of the CARE Network.

**Tools:** Partnerships define the CARE Network. Social workers visit patients' homes to ensure basic needs are met and work to arrange adequate housing, food and transportation to the patient's follow-up visit with a primary care provider and pharmacist. The social worker works with California Medicaid and welfare programs to arrange needed services.

**People/Teams:** The CARE approach utilizes a multidisciplinary team led by social workers and nurses. The focus on the patient is central throughout the process.

**Result:** In 2012, the CARE Network saw a 60 percent reduction in emergency department visits and a 40 percent reduction in hospitalizations for its patient population. CARE Network patients have a 21 percent lower 30-day readmission rate than QVMC's total patients—8.3 percent versus 10.5 percent.

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\* This case study and others may be accessed through the Robert Wood Johnson Foundation at <http://www.rwjf.org/en/about-rwjf/newsroom/newsroom-content/2013/02/community-wide-safety-net-improves-care-transitions.html>

## ***Improving Care for a Defined Population: Reducing Hospitalizations and Emergency Department Visits for Latino Children in New York City***

**Problem:** New York-Presbyterian Hospital and Columbia University Medical Center partnered to address the problem of asthma control among Latino children in northern Manhattan neighborhoods. Poor asthma control had resulted in a rate of asthma-related emergency department visits four times the national average. The hospitals collaborated with Northern Manhattan Improvement Corporation, Community League of the Heights, Alianza Dominicana, and Fort George Community Enrichment Center to develop a targeted program that utilized community health workers to engage patients and their families in improving asthma control.

### **Solution:**

**Skills:** Using data analytics, the improvement team was able to identify and quantify the challenge they faced—a disproportionately high rate of asthma-related emergency department visits among the Latino community in northern Manhattan. The project engaged community health workers to better understand the defined population and to develop culturally competent interventions.

**Tools:** This project utilized community health workers as care managers. Community health workers were extensively trained before and throughout the intervention. They worked with patients in many environments, including hospitals, clinics and in the community to successfully manage the disease.

**People/Teams:** This intervention engaged hospitals, clinics and community-based organizations. The relationship with community-based organizations and community health workers was particularly important in the successful implementation of this program.

**Results:** The program has increased families' use of asthma management strategies and enhanced confidence in their ability to manage their child's disease, leading to significant reductions in symptom flare-ups, hospitalizations, ED visits and missed school days. The proportion of participating families with asthma action plans more than doubled—from 30 percent to 77 percent—while the proportion of children reporting asthma symptoms fell 28 percent.

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\*Find details on this case study and more like it through the AHRQ Health Care Innovations Exchange: <http://www.innovations.ahrq.gov/index.aspx>

## ***Improving Community Health: Reducing Childhood Obesity in Tennessee***

**Problem:** In the past two decades, the number of U.S. children and adolescents who are either overweight or obese has tripled, making childhood obesity one of the most serious public health concerns in the United States today. Being obese or overweight is associated with numerous chronic diseases in both childhood and adulthood, including type 2 diabetes, cardiovascular disease and certain cancers.

In 2004, the Tennessee Governor's Council on Physical Fitness and Health initiated a partnership with BlueCross BlueShield of Tennessee to encourage physical activity in the state's elementary schools. The program is known as BlueCross WalkingWorks for Schools.

### **Solution:**

**Skills:** This improvement effort relies heavily on partnerships and coordination among diverse stakeholders, specifically the Tennessee Department of Health, BlueCross BlueShield of Tennessee and elementary schools. The program capitalized on the strengths of each stakeholder. The Tennessee Department of Health promoted the program through regional health department educators working in local communities. The Department of Education led the implementation by coordinating school health pilots, and BCBS organized demonstration days, distributed promotional t-shirts and funded the materials required for program administration.

**Tools:** The WalkingWorks for Schools program is straightforward. The program requires teachers to incorporate a minimum of five minutes of walking into each school day for a period of 12 weeks each semester. The program uses materials developed by public health professionals, such as tracking posters, information packets and pedometers.

**People/Teams:** The project had diverse stakeholders including the Department of Health, Department of Education, a private payer and other partners such as Belmont University, and the Tennessee Association for Health, Physical Education, Recreation, and Dance.

**Results:** An initial evaluation of the program tracked the percentage of teachers who reported changes in students' behavior and weight. Seventy percent of teachers reported improved classroom behavior, 54 percent reported increased energy levels and 42 percent reported increased physical endurance, among other outcomes.

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## Appendix B – Resources

### *Process Improvement Basics*

#### [How to Improve](#)

<http://www.ihi.org/knowledge/Pages/HowtoImprove/default.aspx>

#### [Project Tracking Tool](#)

<http://www.ihi.org/knowledge/Pages/Tools/ProjectTrackingToolProjectSummaryandStrategicQualityGoals.aspx>

### *Improvement Toolkits*

#### [Comprehensive Unit-based Safety Program \(CUSP\) toolkit](#)

<http://www.ahrq.gov/professionals/education/curriculum-tools/cusptoolkit/>

#### [TeamSTEPPS](#)

<http://teamstepps.ahrq.gov/abouttoolsmaterials.htm>

#### [Hospital Engagement Networks](#)

<http://partnershipforpatients.cms.gov/about-the-partnership/hospital-engagement-networks/thehospitalengagementnetworks.html>

#### [On the CUSP: Stop HAI](#)

<http://www.onthecuspstophai.org/>

#### [Hospitals in Pursuit of Excellence](#)

<http://www.hpoe.org/resources>

#### [Institute for Healthcare Improvement](#)

<http://www.ihi.org/knowledge/Pages/Tools/default.aspx>

### *Planning for Sustainability and Spread*

#### [How-to Guide: Sustainability and Spread](#)

<http://www.ihi.org/knowledge/Pages/Tools/HowtoGuideSustainabilitySpread.aspx>

#### [A Sustainable Planning Guide for Healthy Communities](#)

[http://www.cdc.gov/healthycommunitiesprogram/pdf/sustainability\\_guide.pdf](http://www.cdc.gov/healthycommunitiesprogram/pdf/sustainability_guide.pdf)

#### [Planning for Scale: A Guide for Designing Large-Scale Improvement Initiatives](#)

<http://www.ihi.org/knowledge/Pages/IHIWhitePapers/PlanningforScaleWhitePaper.aspx>

[A Framework for Spread: From Local Improvements to System-wide Change](#)

<http://www.ihl.org/knowledge/Pages/IHIWhitePapers/AFrameworkforSpreadWhitePaper.aspx>

[HRET Spread Assessment Tool](#)

[http://www.hret.org/dissemination/projects/hret\\_spread\\_assessment\\_tool.shtml](http://www.hret.org/dissemination/projects/hret_spread_assessment_tool.shtml)

***Community Health***

[Creating a Culture of Health](#)

<http://www.aha.org/research/cor/content/creating-a-culture-of-health.pdf>

[Collaboration Primer](#)

<http://www.hret.org/upload/resources/collaboration-primer.pdf>

## Endnotes

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### **About HRET**

Founded in 1944, the Health Research & Educational Trust (HRET) is the not-for-profit research and education affiliate of the American Hospital Association (AHA). HRET's mission is to transform health care through research and education. HRET's applied research seeks to create new knowledge, tools and assistance in improving the delivery of health care by providers and practitioners within the communities they serve.

### **About HPOE**

Hospitals in Pursuit of Excellence (HPOE) is the American Hospital Association's strategic platform to accelerate performance improvement and support delivery system transformation in the nation's hospitals and health systems. HPOE shares best practices, synthesizes evidence for application, and engages leaders in the health industry through education, research tools and guides, leadership development programs and national engagement projects.