



A Learning System to Support Health Care Improvement Guidance on Learning System Standards

I. INTRODUCTION

Improving health care is key to achieving the Millennium Development Goals of reducing morbidity and mortality. Yet we know from experience that this is not simply a question of providing better guidelines and more training. While these are important, they are not sufficient to address health systems issues at micro and macro levels. Quality improvement (QI) focuses on improving performance by making changes in existing systems and processes. In the past, application of modern QI methods focused on individual teams examining their situation and testing changes in an isolated manner. In the last 5-10 years, QI efforts have focused on achieving improvements at scale. Achieving this level of results cannot occur unless there are systems in place to ensure learning and transfer of that learning across multiple sites/QI teams. While QI always focuses on the question – “Does the change we are trying out yield improvement?” going to scale requires the answer to “Which best practices are emerging from the work of the QI teams that merit taking to scale?”

Over the last several years, the United States Agency for International Development (USAID) Health Care Improvement Project (HCI) worked to develop and test a set of tools that would improve the levels of documentation, analysis, sharing and synthesis of experiences from teams to be able to answer those key questions to taking improvement to scale. The tools, collectively known as the *Standard Evaluation System (SES)* tools, were designed to address both the insufficient documentation of site-level interventions and results and the often-inadequate analysis and use of data by teams in making decisions and sharing lessons learned.

Two key findings from the recent evaluation of the SES tools and experiences in their use inform this guidance about the learning system for improvement:

1. The SES tools, while useful tools, are not sufficient to ensure documentation, analysis, sharing and synthesis at QI team and collaborative – there needs to be clarity and focus on these key tasks as part of collaborative improvement implementation.
2. The range of environments and complexity of systems in which HCI works (or that anyone doing improvement would be working) do not allow for a “standardized” set of tools. Each country adapted the SES tools to the needs of their improvement work, the context of the health systems in which they were working, and the language used to manage improvement.

For a full discussion of the results of the SES tool field testing, see Jennings L, Franco LM, Zeribi KA, and Rosser E. 2010. Synthesis of Findings and Learning from the Field Testing of Learning System Tools: The Standard Evaluation System (SES) Team Documentation Journal, Team Synthesis Form, and Excel Results Databases. *Research and Evaluation Report*. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC). Available at: <http://www.hciproject.org/node/1690>.

The purpose of this paper is to describe the fundamental standards underlying an effective learning system for health care improvement, to serve as a guide to HCI staff and counterparts in designing and implementing large-scale improvement efforts.

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2. WHY DO WE NEED A LEARNING SYSTEM?

We can only achieve results at scale if we can harness the learning generated at each individual site seeking to improve health care. While collaborative improvement is not the only mechanism available to do improvement at scale, its structure lends itself well to illustrating how a learning system can function and produce the knowledge needed: what changes in the way care is provided are effective and robust, such that they can be implemented and achieve desired results at scale (see Figure 1).

The crux of learning happens first and foremost at the level of individual QI teams who are testing changes. The learning system proposed for the HCI Project thus seeks to generate a convergence of learning from these individual teams so that teams can learn from each other and so others can learn from them. This system is not simply an inventory of what people did, but an explicit process for synthesizing what works and what does not, and under what conditions. Learning from improvement efforts must be a key activity all along the way. Learning happens:

- At the place where individual sites are working on improvement – they learn what works and what does not to help them reach their objectives of better care and better outcomes for the clients they serve
- When sites share and discuss with other sites
- When the changes and results are consolidated, analyzed, and synthesized across sites to determine what changes can be implemented effectively in a range of environments
- When others not involved in the collaborative are exposed to this information

Yet the environments where we work are many and varied, and there is no one detailed, standardized system that can be made to work everywhere. If we draw lessons from complexity science, we can see that the design of an effective learning system for improvement must be simple, adaptable in complex improvement environments, and capable of being applied in different ways according to local circumstances.

Findings from SES evaluation and other studies currently being finalized indicate that the presence of SES tools themselves did not lead consistently to good documentation, analysis and sharing by teams. Figure 2 shows the results for Documentation, Analysis and Synthesis (DAS) scores for 102 teams in six countries whose performance on key learning system tasks was evaluated by coaches and collaborative managers. The evaluation found that while 80% of teams were doing satisfactorily with respect to graphing data and 64% satisfactorily with respect to recording changes, only 40% of teams were annotating changes satisfactorily, with 28% not annotating changes at all.

Figure 1: Collaborative Improvement Learning System

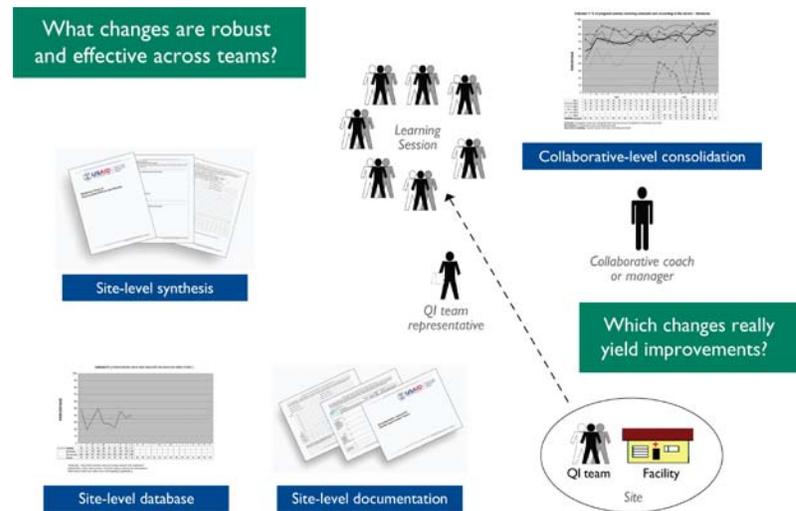
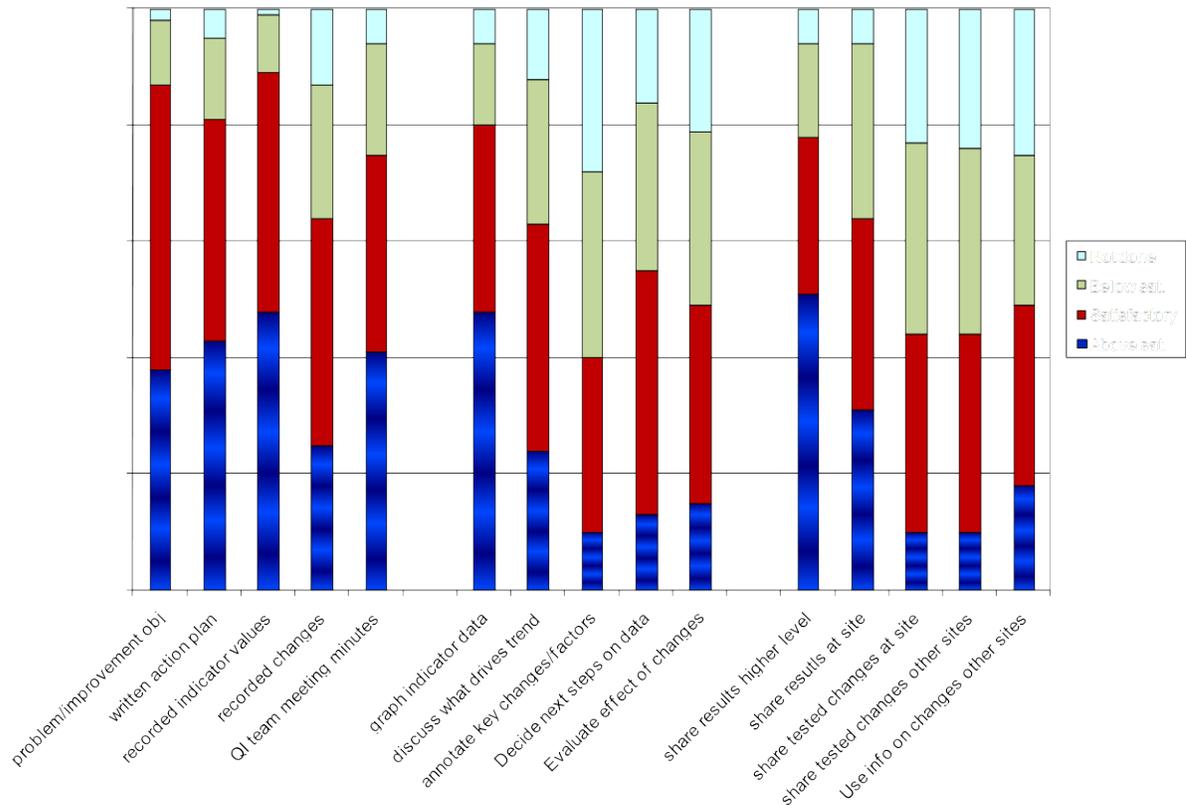


Figure 2: Percentage of 102 teams in 6 countries carrying out specific documentation, analysis and sharing tasks (Data from SES endline – Summer 2009)]



This leads to the conclusion that rather than focus on tools, we need to articulate more clearly the key tasks that make up that learning system and ensure that all those participating in collaborative improvement or other QI efforts with intention to go to scale, understand and implement these key tasks at both site and collaborative or QI intervention levels.

3. STANDARDS FOR THE HEALTH CARE IMPROVEMENT LEARNING SYSTEM

Based on the experiences of many years in the field and on the results of the SES evaluation, HCI has articulated a set of seven standards for an effective learning system: three standards for the QI team level and four standards for the collaborative or QI intervention level. These standards represent a set of “simple rules” that can be applied in any setting or context in which we work and provide flexibility to define them more specifically in the specific environments in which they are being applied.

The following seven standards represent our expectations for every QI team and every collaborative or large-scale improvement intervention in order to successfully generate better care practices (changes) shown to work from collective experiences that are ready to be shared to new sites in the context of spread and scale up.

Learning system standards

Key QI Team Tasks:

1. Maintain a record of changes being tested (dates and description)
2. Graph indicators on time series chart and regularly annotate with changes tested
3. Share tested changes and results with others

Key Collaborative/QI Intervention Tasks:

4. Maintain up-to-date inventory of changes being tested at each site
5. Aggregate and analyze results in light of tested changes across sites
6. Regularly consolidate and share learning about tested changes within the collaborative/QI effort
7. Package and share learning about effective changes to those outside the collaborative/QI effort, both at national and global level (HCI Portal)

Key QI Team Tasks: Effective quality improvement requires developing and implementing changes and analyzing results to see if they yield improvement. Thus, all QI teams would be expected to carry out at least the following tasks:

1. **Maintain a record of changes being tested (dates and description):** To be able to effectively know which changes were effective and not effective in achieving desired results, it will be critical to document what is actually being tested. Not all team members may be involved in every change, but they all should take part in deciding what works or not. Many different tools can be used for team documentation. The SES Journal is one option, but many collaboratives have used planning matrices, log books, and meeting minutes as other mechanisms to document changes.
2. **Graph indicators on time series chart and regularly annotate with changes tested:** Understanding if results are being achieved requires examining the data, in light of changes implemented. Time series charts, which graph results indicators over time, allow teams to see progress in their results. A key component of this task is the annotation of the time series chart with the changes and other events that may be affecting progress. Without looking at the changes and results together, it is difficult to know what works and what doesn't and what consistently yields positive results. The Site-level Documentation Journal provides a hard copy template and the Excel Database generates these charts automatically, but other formats can be used. Annotation of time series charts and their analysis is something that teams should be doing on a regular basis (during team meetings or based on the frequency with which they calculate their indicator data), not just in preparation for learning sessions.
3. **Share tested changes and results with others:** Collaborative learning is built on peer-to-peer learning which can only happen if teams are testing changes, analyzing results, and then sharing their experiences (both positive and negative) with other teams. Early findings from several studies conducted this year on shared learning indicate that teams want information about how other teams implemented their changes and how they overcame challenges, not just a list of generic change categories. The Site-level Synthesis Form provides a template for preparing information to share with other teams, and the key elements have been used to structure PowerPoint presentations or posters that can be used for sharing. Much sharing takes place in learning sessions, but sharing can also be done through web sites and other forums.

Key Collaborative/QI Intervention Tasks: Achieving results at scale requires determining which changes are the most effective and robust. To determine what works across sites, information generated by teams must be consolidated and analyzed, then synthesized and packaged so that teams within the collaborative as well as those outside the improvement effort can learn about which changes are effective and robust across teams. Thus, all collaboratives and large-scale improvement interventions would be expected to do the following tasks:

4. **Maintain up-to-date inventory of changes being tested at each site:** Over time and across teams, many different changes are being tested. It is important to know which sites are implementing which key changes. Without this information, it is difficult to interpret results in light of changes. The Collaborative Excel Database includes a Changes Worksheet to that can be used to record information by team and by change over time, but to date its use has been limited. HCI country teams are encouraged to innovate and share with colleagues tools and formats they develop to document and track changes tested.
5. **Aggregate and analyze results in light of tested changes across sites:** Understanding which changes are most effective and robust across teams is a challenging task, but crucial for ensuring successful results at scale. Several strategies can be used for this task: reviewing individual team annotated charts to identify successful changes, examining charts of all teams implementing those changes to see if they are getting similar results, and examining results disaggregated for those implementing that change versus those not implementing that change.
6. **Regularly consolidate and share learning about tested changes within the collaborative/QI effort:** While learning sessions and/or web sites provide opportunities for individual teams to share publically with other teams, it is the responsibility of the collaborative or improvement intervention managers to make sense of all the information generated by various teams and feed back this synthesis to those participating. This consolidation and sharing could take place at the end of a learning session, on a quarterly, semi-annual, or annual basis, or at other timing that makes sense in the context of that improvement intervention, but the task needs to be done regularly throughout the life of the improvement effort.
7. **Package and share learning about effective changes to those outside the collaborative/QI effort, both at national and global level (HCI Portal):** Going to scale with effective changes means using additional mechanisms to share changes and results beyond those teams participating in a collaborative. Learning consolidated and shared within the collaborative may need to be repackaged into a format that can be exploited by those who do not attend learning sessions. This could be done through documents, web sites or other mechanisms. A key expectation is that all HCI-supported collaboratives and improvement interventions post the products of their learning systems in the Improvement Database of the HCI Portal (http://www.hciproject.org/improvement_database) so that they can be available globally.

4. APPLYING THESE STANDARDS GOING FORWARD

The seven learning system standards described above are not something new or something that HCI and teams we support have not been doing. But they do reflect expectations that we have not always been able to meet in the way we would like to.

By placing emphasis on the learning system standards rather than on specific tools (such as the SES tools), we hope to shift our focus toward the fundamental actions for improvement, knowledge management, and learning needed to achieve results at scale. These seven standards should guide our work: how we plan and carry out collaboratives and other large-scale improvement efforts; what we tell our counterpart and teams about expectations for participation in an improvement activity; how we coach and recognize teams; and how we prepare and organize learning sessions.

HCI has developed a number of tools to support QI teams and managers of large-scale improvement interventions in meeting the learning system standards. These include:

- Norms for Presentation of Time Series Charts (available at: <http://www.hciproject.org/node/1523>)
- Guidance for Analyzing Quality Improvement Data Using Time Series Charts (available at: <http://www.hciproject.org/node/1644>)
- Site-level Documentation Journal (available at: <http://www.hciproject.org/node/1272>)
- Site-level Synthesis Form (available at: <http://www.hciproject.org/node/1273>)
- Team-level Excel Database (available at: <http://www.hciproject.org/node/1274>)
- Collaborative-level Excel Database (available at: <http://www.hciproject.org/node/1687>)
- QI Team-level Documentation, Analysis and Sharing: Criteria and Scoring Worksheets (available at: <http://www.hciproject.org/node/1688>)
- Collaborative-level Documentation, Analysis and Sharing: Criteria and Scoring Worksheet (available at: <http://www.hciproject.org/node/1689>)

We will continue to study how these seven learning system standards can most efficiently be met and identify ways to help teams and improvement managers design and implement robust learning systems to support health care improvement.