Institute for Healthcare Improvement

Innovation Series 2008

Planning for Scale:
A Guide for Designing Large-Scale Improvement Initiatives

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Planning for Scale:
A Guide for Designing Large-Scale Improvement Initiatives

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Executive Summary

This white paper aims to support those that are planning to take effective health care practices from one setting or isolated environment and to make them ubiquitous across a health care system, region, state, or nation. It is a preparation tool which is meant to guide conversation and thinking prior to the launch of a large-scale improvement effort; it considers the motivations, foundations, aims, interventions, social systems, and methods for spreading change that coordinators of such initiatives must understand and select.

This white paper does not attempt to describe the rigorous process for executing a large-scale improvement initiative, which entails tight management of logistics and a great deal of focus on tactics for mobilizing involvement, measuring progress, and stimulating sustainable change within a target population. That content will be the subject for future papers and is described in some detail in publications and content on the IHI website. In particular, note these two resources:

- Massoud MR, Nielsen GA, Nolan K, Schall MW, Sevin C. *A Framework for Spread: From Local Improvements to System-Wide Change*. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2006. Available at: http://www.ihi.org/IHI/Results/WhitePapers/AFrameworkforSpreadWhitePaper.htm.
- Nolan KM, Schall MW (eds.). *Spreading Improvement Across Your Health Care Organization*. Oakbrook Terrace, IL: Joint Commission Resources and the Institute for Healthcare Improvement; 2007.

Introduction

Since 2004, several nations have launched voluntary, large-scale initiatives to improve the quality and safety of their health care systems, with more to come.[1-6] Through direct participation in—or consultation to—these initiatives in the United States, Canada, Scandinavia, the United Kingdom, and Japan, the Institute for Healthcare Improvement (IHI) has learned much about the complexities associated with such ambitious work. We have generated—and iteratively tested and refined—the following list of questions that serve as a discussion guide for those contemplating multi-stakeholder improvement initiatives that involve many caregiving organizations in a district, region, or nation.

These questions fall into six sections: motivation, foundation, aim, nature of the intervention, nature of the social system, and network building (communication and support). The first three sections have emerged through first-hand learning, while the last three sections have their origins in the work of Everett Rogers and other experts on diffusion of innovation.[7-12] The questions should be considered by a core group of stakeholders—those with experience in and influence over the problem in question—in the months leading up to the launch of a large-scale improvement effort. Some questions might not be relevant for some initiatives; negative or incomplete answers to any of them need not halt action.

"Large-scale improvement" is a phrase that lends itself to many possible definitions. In this paper it refers to efforts that seek to stimulate change in complete, geopolitical areas through mobilization of hundreds or thousands of constituent organizations. For purposes of illustration, we offer here the example of the 100,000 Lives Campaign—an initiative the IHI led from December 2004 to June 2006 to assist hospitals across the United States in avoiding unnecessary deaths.

Motivation

These questions probe the motivations and ambitions of founding stakeholders. High levels of intellectual and emotional engagement are essential to any ambitious endeavor, while uncertainty and hidden assumptions can sap energy and create unexpected tension.

1. *Consider social/political movements and large-scale improvement initiatives that have drawn your attention and emotion. What about them inspired you?*

   Here stakeholders should reflect on efforts in their own field and in other fields that have engaged them intellectually and emotionally, noting the style, tactics, and outcomes of initiatives that they have admired.

   In early 2004, leaders at the Institute for Healthcare Improvement gathered and asked the question: how can we significantly reduce unnecessary deaths in US hospitals? Or, put another way, how can we take the promising performance of a small minority of facilities and make it ubiquitous? The group started by looking to electoral politics for inspiration and examples. How did political campaigns mobilize thousands and get them to take discrete action (voting for the desired candidate)? How did they manage their logistics and create a sense of momentum and energy? The group captured effective strategies and tactics, and described the feelings and emotions (energy, optimism, pride) they hoped the effort would evoke.

2. *Why would anyone want to join your initiative? Is there a glaring gap in performance or an urgent need? Is this an easy place to build will (i.e., is it a "no-brainer")?*

   Stakeholders should state explicitly their assumptions and understandings about their goals, making clear personal and organizational reasons for pursuing the work and verifying their ability to enlist others in their cause. Assuming that participation will be voluntary, the group should identify tactics to persuade prospective participants to join the work and embrace it fully.

   The group of IHI planners canvassed national leaders at work on improving health care quality (e.g., researchers, accrediting agencies, federal bodies) and prospective participants at the front lines of health care to confirm their sense of urgency and their willingness to take part in a campaign-like initiative. These conversations occurred at the five-year anniversary of the issuance of *To Err Is Human*,[13] the Institute of Medicine's landmark report on the poor quality of American health care, and, citing data and experience, these colleagues strongly confirmed the need to take swift national action to reduce unnecessary mortality and harm to patients in US hospitals. They believed that, with a call to action from a credible source, the nation's health care providers and leaders would address these urgent problems.

3. *What is the scale of the proposed effort? Do you seek total transformation of the system, or spread of a best practice through an existing system?*

   Here, stakeholders become explicit about how much they seek to accomplish. Crucially, they consider whether their goal is to enhance an existing system or transform it entirely, thereby pursuing a comprehensive redesign (versus the large-scale improvement described herein).

   From the outset, the IHI leadership group was very clear about the planned scale of the effort. It would offer support to every willing hospital in the nation, building upon the success of strong facilities and learning from IHI's prior work. It would welcome any other friendly organization to be a partner. It would not seek to uproot or fundamentally overhaul the nation's health care system; rather it would try to introduce more effective interventions and care processes into existing hospital structures.

   Experts suggest that efforts to spread innovation exist along a continuum that runs from "letting change happen" (i.e., pure diffusion) to "helping change happen" to "making change happen" (i.e., active dissemination).[14] Instead of waiting to see if large-scale improvement initiatives would emerge spontaneously, IHI sought to occupy the space between helping change to happen and forcibly driving its introduction.

Foundation

In this phase, stakeholders examine where they are in the narrative history of their shared work, making certain that they take action appropriate to their levels of confidence and expertise. They explore the foundations of their effort and ensure that sound leadership is in place.

4. *Where does this work fit in the larger narrative of change that you seek to effect? Is it a first step? A middle step? The last mile?*

   This question begins the process of creating a shared story, helping the group to situate its prior efforts (e.g., prototypes, pilots, awareness-raising activities) and upcoming work within a larger story of improvement. Answers will reveal much about the group's confidence in its current ideas and what it might accomplish.

   The developers of the 100,000 Lives Campaign advanced rapidly from examining their motives to assessing their readiness for instigating a large-scale improvement effort in US hospitals. They viewed the contemplated improvement initiative as the next national tactic in a larger movement to transform the US health care system; it would build on isolated, regional pockets of success and raise broad awareness inside and outside of hospitals about the scale of the problem and the great potential for change. It would not complete the

journey (i.e., completely driving harm out of US hospitals) but it would mobilize care providers and have impact at unprecedented levels.

5. *What is your theory about how change will occur? What sequence of events—involving which stakeholders—will get you to your desired result?*

   This question seeks to roughly map the story of the initiative, in and of itself. It helps stakeholders understand where their contributions might be most timely and effective. A regulatory body, for instance, might make a more meaningful contribution after a critical mass of engaged facilities has established proof-of-concept. Sophisticated efforts will outline a predicted "sequence of change" (i.e., a series of dependent events undertaken by different stakeholders), while allowing for flexibility and adaptation as the work progresses.[15]

   The 100,000 Lives Campaign stakeholder group began to tell the story of the initiative *in advance*—imagining how participants, national partners, and IHI staff would gradually take on the concept, find new ways of working together and eventually build on learning and progress. Based on prior work and observation of other improvement efforts, the group hypothesized what it might do to stimulate national change. This approach took advantage of the well-established view that positive (forward) thinking and imaging has a power to shape the future and build momentum, trust, and confidence in the initiative and its developers.[16]

6. *Is there a charismatic leader, someone with a regional or national platform from which to speak?*

   A successful initiative must attract participants through compelling communication of a shared problem and a striking vision of what the initiative will accomplish (the narrative described above).[17] A respected leader with an established platform for communication, aligned with the cause and willing to support it publicly, is an enormous asset.

   The planned Campaign benefitted greatly from the presence of a strong national leader (IHI CEO Donald Berwick), who would have a "bully pulpit" from which to communicate in national meetings and publications.

7. *How do relevant hierarchies (e.g., ministry or district leadership, regulatory bodies) perceive the initiative? Will they actively support it (i.e., remove barriers, recognize success, change policies) or simply tolerate it?*

   The support—or at least the nominal endorsement—of key opinion leaders is essential. While the work of mediating the interests of different organizations (e.g., political entities, businesses, regulators, direct providers of health care) is arduous, initiatives that ignore these relationships do so at their peril.

Coordination of the interests of these groups can, at minimum, avoid surprising conflicts and, at best, release enormous energy among participants encouraged by the alignment of influential leadership groups (which might otherwise present them with conflicting demands or redundant work). The group will also benefit from clear but flexible decision-making rules; a decision-making process that seeks too much consensus can handicap the large-scale program.

The Campaign secured an agreement for endorsement from several prominent national health care organizations (e.g., The Joint Commission, the Centers for Medicare and Medicaid Services, the American Medical Association, the American Nurses Association). Each of these organizations joined with IHI at the initiative's launch in December 2004 and IHI promised to create regular opportunities to hear their detailed advice. IHI also clearly asserted that it would alone make final decisions in the Campaign's operations, thereby guaranteeing agility and efficiency.

Aim

A bold, quantifiable aim and a specific timeframe carry great potential, and great risk, for a large-scale initiative. On one hand, they create attention and urgency among participants, driving pace and requiring them to focus on outcomes. On the other hand, they increase scrutiny of the problem that the program seeks to solve and may draw failure into sharp relief.

8. *What is the explicit aim (outcome)?*

   A good aim should feel simultaneously ambitious and achievable, and must be measurable. Our experience shows that the benefits of setting a crisp aim outweigh the risks of failing to achieve it; however, the stakeholder group should identify and mitigate threats from potential critics.[18] The savvy stakeholder group will actively canvass key opinion leaders and prospective participants in establishing an aim, building a sense of shared ownership.

9. *What is the timeframe for achieving the aim?*

   A quantifiable aim is meaningless without a sense of pace; many improvement efforts have languished without a clear timeframe.[19]

10. *Does the effort have embedded (tacit) aims?*

    The stakeholder group might also have embedded (tacit) aims for the work (e.g., an effort to reduce medication errors in hospitals might also seek to build skill and capacity in participating facilities for undertaking future improvement activity). Noting these aims will help to achieve them as the work progresses.

The IHI Campaign stakeholder group kept to a principle for all of its work by establishing a clear aim (avoid 100,000 unnecessary deaths in US hospitals) and a clear timeframe (18 months) for its planned effort, seeking to inspire prospective participants with boldness without overwhelming them. It also identified tacit aims that would be important in advancing the goal of gradually transforming the US health care system—enrolling a critical mass of facilities (more than 2,000), linking them in learning and exchange at a state and national level, and ensuring media coverage of their important, proactive work.

Nature of the Intervention

Any large-scale improvement effort has at its center a set of actions (e.g., a best practice to reduce infection) that participants will adopt in order to achieve the shared aim (e.g., reducing overall harm or mortality). Scholars have defined the characteristics of interventions that predict likelihood of adoption,[20, 21] and the stakeholder group must make a similar investment in studying the actions they seek to spread. Inattention to this question can badly undermine adoption.

11. *What is the nature of the intervention (or interventions)?*

    Rogers identifies key attributes that increase the likelihood that an audience will adopt an idea or intervention: relative advantage, compatibility, simplicity, "trialability," and "observability."[22] Associated questions include:

    - Does the new practice have potential to make their lives easier (in addition to being more efficacious for patients)?
    - Is there any controversy over the evidence base or implementation strategy? Will the intervention challenge the culture of the organization?
    - How many components does the intervention have, and what are their varying degrees of complexity? Does the intervention cross multiple care microsystems (e.g., units in a hospital)? Can certain elements be introduced simply or quickly (even through a national or state policy)?
    - Are there successful pilots, ideally in influential organizations, that demonstrate successful implementation of the intervention? (If not, is a large-scale program premature?)

The 100,000 Lives Campaign contemplated a scale of work that eclipsed any prior work by the IHI. The stakeholder group therefore chose its interventions by considering a set of criteria consistent with the questions above and with special attention to simplicity of introduction (failing, in fact, by introducing one intervention—medication reconciliation—that proved too complex for the teaching capacity of such a large effort). These criteria included:

- Extent to which the intervention would reduce harm and death to patients in US hospitals
- A sound clinical evidence base
- IHI experience with the interventions (including faculty leaders and examples of success)
- Straightforward steps and bundled activities
- Limited resources required to introduce
- Alignment with other national quality initiatives
- Easy to "put a patient face on it" (connects with the public)
- Charismatic or galvanizing measures (e.g., "getting to zero" in reducing infection)
- Considers input from participants/the field

Ultimately the Campaign's interventions focused on four major sources of harm in US hospitals—infection, medication error, surgical complication, and unreliable cardiac care.

Nature of the Social System

Understanding context—the unique nature of the national or regional system into which you seek to spread the new or improved behavior—is imperative. The initiative cannot force best practices into organizations and networks that will not accept them, but it can ease the way through nuanced understanding of sources of energy and dissent, and an appreciation of the architecture of the system.[23, 24]

12. *What is the nature of the system into which you want to spread new practices?*

    The stakeholder group should consider the types of facilities (e.g., hospitals, primary care sites, long-term care sites) that it seeks to engage and the relationships among them. It should also consider how external forces (e.g., the media, regulators, ministries, payers) might influence activity. Important questions include:

    - How many facilities do you seek to engage? What types?
    - Which sites are most successful, and where are they located?
    - If you plan to spread across the continuum of care, do participating sites represent every level of care? What are their referral relationships?
    - How often do participating sites already meet together (are there existing district meetings, professional networks, etc.)? How do they communicate new learning?

- What is the district management structure? Where are resources available within that structure?
- What is the larger environment like (public, media, financing, infrastructure, supply, etc.)?

The social system for the 100,000 Lives Campaign would, ideally, consist of thousands of US hospitals (though it would not extend to outpatient settings). As such the effort's stakeholder group studied the geography of American health care and began to think about how to transmit ideas and practices to different actors (leaders, clinicians, and other caregivers) and organizations (academic, pediatric, public, and rural facilities), seeking to preemptively address the concerns of each group in aligning with scientific and professional societies and in selecting existing examples of great success. Moreover, the group studied how hospitals tended to come together on state and regional levels in a desire to take advantage of such gatherings and, without allowing its efforts to be daunted, soberly identified organizations and forces (e.g., political organizations, other nonprofits, publications) that might challenge or undermine the effort.

13. *How busy do prospective participants feel?*

    Overwhelmed participants are neither creative nor energetic, and they can quickly grow resentful of "additional work." Involving prospective participants in aim-setting and design will yield goals and interventions that inspire them and make their lives easier.

14. *What level of resource needs to be allocated in participating organizations? Can you remove "lack of resources" as an excuse?*

    Leaders in participating facilities often note that, while they agree with the broad aims of the initiative, they simply lack the resources to commit meaningfully, particularly given requirements from other external sources (e.g., accreditors, regulators, ministries, payers). The stakeholder group should select interventions that align with existing programs and that can ultimately save money and resources for participants.

    By choosing interventions that did not require new staff or technology to introduce (they instead require re-engineering of existing work processes) the 100,000 Lives Campaign pre-empted concerns about resource requirements. The initiative also had a low bar to entry (participating hospitals had only to commit to introducing one of the Campaign's six interventions), which was meant to address anticipated concerns about workload; the group's hope was that success on one or two interventions might increase confidence and energy, resulting in expanded activity.[25, 26]

Network Building (Communication and Support)

Countless initiatives languish because planners believe that the existence of a new, better practice is, in and of itself, sufficient to guarantee its adoption. They rely on existing channels (e.g., government mandates, guidelines, or publications) to spread their ideas. Successful large-scale improvement programs instead select a structured process for spreading changes throughout participating organizations. The core task of the stakeholder group is to build a mechanism for distributed learning among participants (an organic "learning network") that generates meaningful exchange on a daily basis.

15. *What methods might you use to reach and support targeted participants?*

    Key considerations include:

    - The attributes of the intervention(s) in question;
    - Whether the whole population can be reached simultaneously, or whether a sequential approach is needed;
    - Existing formal or informal communication channels among potential participants; and
    - Constraints (time, resources, geography, etc.).

    Successful initiatives employ several methods of building and sustaining distributive learning networks for spreading improvement:

    - IHI Breakthrough Series Collaborative model—bringing together participating facilities (usually 50 to 100) in a structured learning framework where they share data and insights in regular face-to-face meetings and interim exchanges (via available electronic media) over a 12- to 18-month period;[27]
    - Extension agents—charging itinerant individuals with carrying news, answers, ideas, and innovations between participating sites;[28]
    - Emergency mobilization—treating the work at hand as an emergency in order to mobilize attention and effort (and, in some cases, to suspend normal consensus-building processes);
    - Wave sequence—designing a model of care for a "wedge" of the health care system (i.e., tertiary, secondary, and primary care sites working as an interdependent unit) and using each level in this wedge to teach peer facilities in subsequent waves of spread;
    - Campaign model—engaging many organizations (typically, many hundreds or thousands) in an effort to raise awareness, engagement levels, and action, offering simple interventions and often using distributed field offices to act as local conveners and supporters;[29] and
    - Hybrids of these and other methods.

It is certainly the case that other approaches to spreading improvement in health services organizations exist, and other fields and industries (particularly the military and business sectors) have a great deal to offer in this respect.[30, 31]

The 100,000 Lives Campaign stakeholder group very quickly realized that, in order to create meaningful learning and connection between thousands of organizations, it would need to divide the effort's large group of participants into regional networks of activity, much like an electoral campaign. The group identified state-level intermediary organizations (often state hospital associations or quality improvement organizations) to act as field offices or "nodes," and asked each to set its own complementary aims and coordinate local improvement activities (some, for instance, ran Breakthrough Series Collaboratives). It further asked these field offices to share insights with one another and with IHI in order to accelerate national learning.

16. *How will your system for spreading change foster learning and create value for participants every single day? How will you collect and quickly redistribute insight from the front lines?*

    Exquisite guidelines and thoughtful preparation are alone insufficient to create change. Assiduous attention to the questions and innovations that participants generate every day is important; collecting, distilling, and redistributing good information (i.e., well-executed knowledge management) that addresses the most practical frustrations of participants generates tremendous value.

    An active network of participating organizations creates enormous value if managed properly, and a large network can be an asset. It is only burdensome to work with a large population of participants when the initiative's leaders have a one-way relationship with them, constantly needing to teach and guide from above.

    Though its scale introduced complexity, the Campaign learned to trust its large network, treating participants as equal partners in generating breakthroughs, and recognizing richness in a multiplicity of experiences.

17. *Will you need to collect new data in the project? How can you generate information that is useful to front-line teams?*

    Data-submission burden is a common complaint from participants in large-scale improvement efforts. Participants struggle to find time to collect and submit data that the initiative requires, and grow frustrated when they feel the initiative uses data only to chide them or compare them to others. It is preferable to make data submission very easy or require no additional data collection at all, utilizing existing sources of information and, wherever possible, offering participants useful analysis and insight on how they can improve.

18. *What form of measurement and evaluation should be adopted for the initiative?*

    Because improvement initiatives involve information (data) capture, some form of measurement and evaluation is important to assess the impact of the initiative, as well as to facilitate ongoing learning, motivation and spread. The primary aim of any measurement and evaluation process is to provide useful, actionable knowledge to the participants, stakeholders, and the public. As researchers suggest, there is no universal "logic of evaluation" or standard research design formula.[32] Exploring traditional quantitative outcome measures (e.g., hospital standardized mortality ratios) should be balanced by qualitative measures that can be captured by narratives, stories, lessons learned, and reflections.[33]

    The Campaign decided that it would only require participants to submit in-hospital mortality data without requiring data on intervention-level performance (instead seeking these data through sampling and pre-existing national databases, while still giving hospitals tools to track their progress on interventions).

19. *What form of recognition does each stakeholder value most? How can you provide that recognition at predictable intervals?*

    Celebration is often neglected for fear that critics will attack it as premature or that participants will view it as sentimental or a waste of time. To the contrary, regularly scheduled celebration generates energy and pride among participants, refocusing their attention on the work at hand. In a voluntary effort, recognition serves as an alternative form of payment—or an incentive—for good work (what we have begun to think of as a "recognition economy"). Although putting too much recognition in circulation could devalue the currency, most initiatives benefit from applying it liberally.

    The Campaign planned regular celebration of excellent work, creating a network of mentor hospitals, recognizing hospitals publicly for voluntary data submission, and devising national events (e.g., a coast-to-coast bus tour) to celebrate the achievements of participants.

The IHI stakeholder group set a clear date for launch (just two months after deciding to pursue the effort), committing to regular assessment of progress and testing of new strategies for improving outcomes for the duration of the Campaign.

Getting Started

Superb planning is nearly meaningless in the absence of superb execution—the end of planning is only the beginning of the improvement process. Stakeholders must limit time spent in contemplation, rapidly and religiously getting out into the field to support and learn from participants. In the first 90 days, the program should establish clear rules for operation with an emphasis on continuous learning and adjustment, and remain poised and solution-oriented in the face of inevitable unexpected challenges. It helps to ensure early victories for the program; several national improvement initiatives have not launched until they have enlisted key opinion leaders and a critical mass of prospective participants. The most successful efforts demonstrate a strong bias toward managing logistics—a relentless focus on the details of successfully running the program—as opposed to high-level planning or strategy.

Conclusion

Clear answers to these questions do not, of course, guarantee a successful project; iterative learning from the work at hand—in combination with the enormous optimism, creativity, and opportunism that characterize any successful effort to spread change—is crucial to success.

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