7 Guiding Questions

A Framework for Outcomes Improvement

HealthCatalyst
ignite outcomes improvement

About This Handbook

We believe that a sound, consistently used improvement method is essential for meaningful and sustained gains in healthcare outcomes. This handbook presents our approach: a framework of guiding questions to help your improvement teams understand and solve problems in clinical, financial, and operational processes. Based on best practice and informed by our work helping clients conduct data-driven improvement work, the framework aims to help strengthen your organization and build health in your community.

We intend this handbook to be practical, flexible, and actionable. We present just enough content to help you understand the guidance and supporting steps (what the recommended action is, who's involved, how to do it) and refer to resources that you may find helpful. Additionally, we indicate how analytics support the improvement process at each step.

Adapt this framework to meet your needs. We recognize that your organization may have a different improvement methodology already in place, use different terms to describe its elements, and use different teams to conduct the same essential work. We hope you'll find value in this framework regardless of the method you use, and can see it as a guide for integrating analytics tools and the practices of good governance into your improvement process.

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Overview: A Principle-based Approach

Key governance principles

- ☑ Stakeholder engagement
- ☑ Shared understanding
- ☑ Alignment
- ☑ Focus

For more on governance, see the Health Catalyst handbook, *Implementing Governance for Outcomes Improvement.*

This section summarizes the concepts that inform our framework and suggests how you can use the handbook to support your teams.

Key Governance Principles

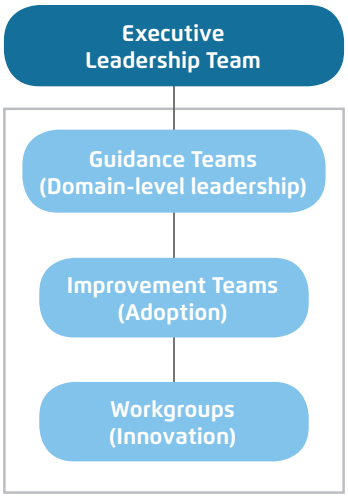
The principles listed at left represent our view of effective governance for outcomes improvement; they are the "must-haves" that help ensure the success of improvement initiatives in healthcare organizations. The 7 Guiding Question framework supports these principles. Here's how:

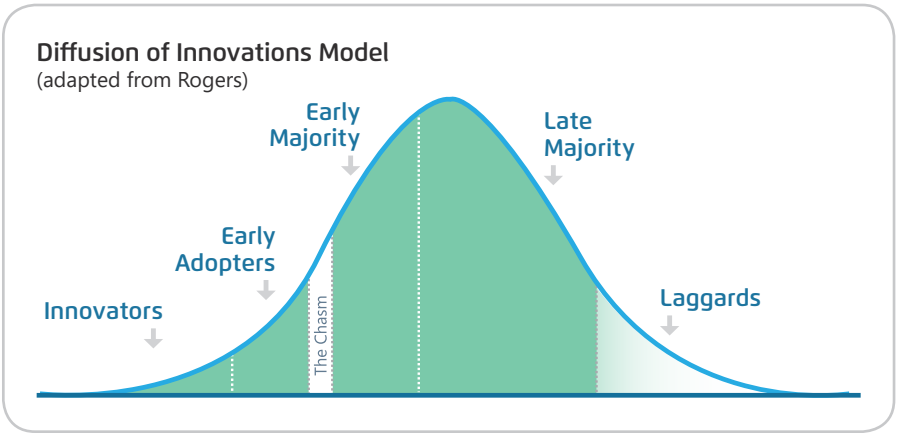
- **Stakeholder engagement:** The framework advocates a thoughtful approach to improvement team composition to ensure the right blend of domain- and process-specific influence, knowledge, and expertise.
- **Shared understanding:** To help improvement teams develop a comprehensive and common understanding of the work, the framework emphasizes careful review of the opportunity or problem, its contributing factors, and possible solutions.
- **Alignment:** Within each step, the framework coordinates technical work and other types of improvement work (investigating, planning, communicating, etc.); promotes links between outcome goals, process aims, and interventions; and outlines practices to ensure alignment with executive leadership and the strategic priorities they establish.
- **Focus:** The framework helps organize the intensive work required to achieve improvement, and also lays the foundation to spread and sustain gains.

Governance Structure

We believe that systematic outcomes improvement should engage stakeholders at four functional levels:

- **Executive leadership:** This team holds the highest level of accountability for resources and funding allocations across the healthcare system.
- **Domain guidance:** These teams understand clinical, financial, and operational domain interactions and trade-offs; they provide guidance for improvement work in a domain.
- **Adoption:** Improvement teams promote change (adoption of new processes) across a site or system.
- **Innovation:** Smaller groups can focus on identifying root causes and designing better processes to improve outcomes.





- The blue chart represents our view of an effective structure, and you'll see this terminology reflected in the handbook. However, we recognize that governance isn't one-size-fits-all. Your organization may use different structures to guide and conduct improvement work. **Our emphasis is on principles, not prescriptions.** The point is to create teams that can efficiently generate valuable innovations and then help these changes "move to the majority"—cross over the summit of the adoption curve—after they are produced.

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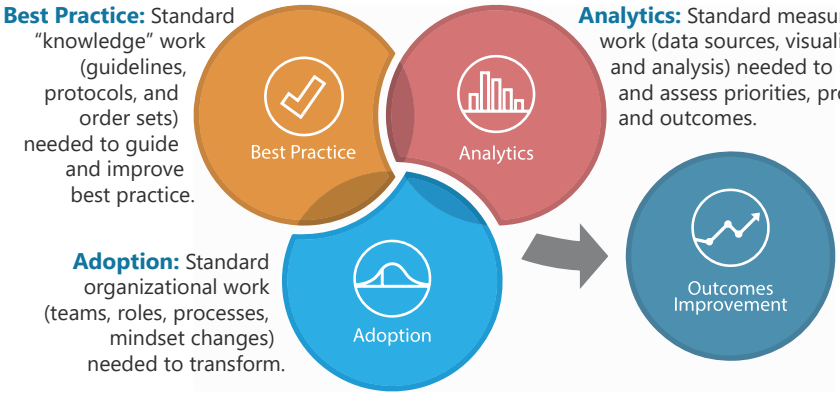
Three Systems for Improvement

Health Catalyst uses the three systems to describe the components of outcomes improvement work in healthcare organizations. The framework shows the integration of these systems at every step.



Functional Flexibility

We find that organizations do best when everyone uses a single, common method for outcomes improvement. However, the specific method is less important than the fact that organizations *have* a method—and use it consistently. The 7 Guiding Questions framework is only one possible method, and it's flexible enough to work in most healthcare organizations, for most types of improvement work. The framework is:

- **Compatible with other sound improvement methodologies,** such as those associated with PDSA, Toyota and DMAIC (which include elements of LEAN Six Sigma), and IHI. If your organization uses one of these, look to the translation symbol (YA) in the infographic on the next page to see how the questions and steps map to your method.
- **Agnostic as to the domain where the work is focused.** Healthcare is a complex business, and improvement opportunities exist in all of its domains: financial, operational, and clinical. The framework supports improvement work of all types across an organization.
- **Clear enough in its purposes to allow teams to adapt it** to their needs and go at their own pace (e.g., teams can shuttle between some steps in an iterative way, move quickly through some phases, or revisit earlier steps as needed). The guiding question for each step helps orient users to the focus of the work.
- **Designed for lasting improvement in any organization.** In our work with healthcare organizations, we see that although improvement efforts start off well and even yield promising initial gains, they often fail to produce sustained improvement across the organization. By promoting change management and adoption best practices, the framework helps overcome this limitation, prompting organizations to foster and maintain improvement in ways that are aligned with their unique culture, structure, and priorities.

Terms used

This list presents Health Catalyst definitions of some common process improvement terms.

- **Domain:** A program or service line—clinical, financial, or operational—that has system-wide authority to manage relevant processes and their improvement.
- **SMART:** **S**pecific, **M**easurable, **A**ttainable, **R**elevant, and **T**ime-based; this acronym expresses the elements of good goals and aims.
- **[Outcome] Goal:** A high-level, "SMART" target that addresses an issue of system-wide importance. Outcome goals should focus on the end results (outcomes) of process or performance improvements (*see page 11 for examples*).
- **[Process] Aim:** A "SMART" target that reflects a desired improvement in part of a specific process; its achievement contributes to an outcome goal (*see page 13 for examples*).
- **Intervention:** An intentional change made to support an outcome goal or process aim.

Guiding question

What is the focus of this step?

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7 Guiding Questions: A Framework for Outcomes Improvement

CLINICAL · FINANCIAL · OPERATIONAL

Start with a directive from executive leadership based on high-level opportunity analysis and readiness assessment

Guiding questions

Do we understand the problem? → *Steps are often iterative* → Do we know where we want to be? → *Steps are often iterative* → Do we know the cause? → Do we know what to change? → Have we applied and measured the change? → Did the changes result in improvement?

Do we need to reevaluate root cause? (from Do we know the cause?)

Do we need to adjust our intervention(s)? (from Do we know what to change?)

Is it an adoption problem? Is our data valid? (from Have we applied and measured the change?)

NO (from Did the changes result in improvement?)

1 Analyze Domain Opportunity and Define the Problem

- **Client:** Executive sponsor or designee; domain and analytic expertise (e.g., Guidance team leads, knowledge manager)
- **Health Catalyst:** Domain, project management, improvement, and analytic expertise

THE HOW

- Review the improvement directive
- Analyze and review available domain-specific reports and data, with focus on high-level outcome metrics
- Review benchmarks, regulatory requirements, and other drivers
- Begin to identify and gather industry or clinical best practices
- Examine the improvement scope, cohort, applicability
- Draft a problem statement
- Assess stakeholders and determine governance structure for work phases
- Orient to common improvement methodology and terminology

- Reports, data from previous analysis
- *Outcomes Improvement Worksheet* (problem)
- *Implementing Governance* handbook
- *Stakeholder Assessment*
- Team charters, role descriptions
- *7-Step Improvement Process Checklist*

- Data transparency, data sources
- Leadership direction, resource alignment, and empowerment
- Consistent improvement approach

- PDSA: Plan
- DMAIC/Toyota: Define the problem

- ☑ High-level cohort identified
- ☑ Problem statement created
- ☑ Governance structure established
- ☑ Improvement team leadership determined

2 Scope the Opportunity and Set SMART Outcome Goals

- **Client:** Improvement team leaders with domain, improvement, operational, and analytic expertise
- **Health Catalyst:** Domain, project management, improvement, and analytic expertise

THE HOW

- Further analyze and review available data/high-level outcome metrics
- Discuss approach to ensure accuracy of data
- Compare benchmarks and best practice to current performance
- Begin consideration of major focus areas
- Refine the problem statement and the scope and cohort
- Write SMART outcome goals that address the problem
- Form improvement team or workgroup for next phase of work
- Evaluate need for improvement methodology training
- Obtain approval for SMART goals

- *Outcomes Improvement Packet* and *Worksheet* (problem, goals)
- *Knowledge Brief* and *Care Process Improvement Map* (as applicable)

- Strategy for obtaining baseline data
- Agreement on scope and cohort

- PDSA: Plan
- DMAIC/Toyota: Define the problem
- IHI: Set aims, Establish measures

- ☑ SMART outcome goals and metrics approved by appropriate governance body
- ☑ Potential major focus areas identified
- ☑ Improvement team/workgroup composition determined

3 Explore Root Causes and Set SMART Process Aims

- **Client:** Improvement team/workgroup (innovators) with domain, improvement, operational, and analytic expertise
- **Health Catalyst:** Domain expertise (usually facilitates this step), project management and analytic expertise

THE HOW

- Begin to validate data
- Plan approach to data collection, evaluation, and display
- Refine cohort within the analytics
- Analyze current process (workflow) and identify problem points
- Explore root causes
- Prioritize "storm clouds" for initial aims
- Write SMART process aims
- Revisit team composition and review improvement plan.
- Arrange or reinforce improvement methodology training
- Obtain approval for SMART aims

- *Outcomes Improvement Packet* and *Worksheet* (current state, process aims)
- Improvement tools: process mapping, fishbone, "5 Whys," control charts, driver diagram

- Use of data to investigate assumptions about root cause
- Alignment of problem, goals, aims

- PDSA: Plan
- DMAIC: Measure, Analyze
- Toyota: Analyze causes
- IHI: Set aims, Establish measures

- ☑ Workflow analyzed: problem points and root causes identified
- ☑ SMART process aims and metrics approved

4 Design Interventions and Plan Initial Implementation

- **Client:** Improvement team/workgroup
- **Health Catalyst:** Domain expertise (usually facilitates this step), project management and analytic expertise

THE HOW

- Refine outcome and process metrics
- Establish balance measures
- Refine approach to data collection, evaluation, and display
- Review quality improvement literature
- Explore potential interventions
- Evaluate impact of potential interventions: infrastructure, ROI, etc.
- Choose intervention(s) and define scope of implementation
- Consider rapid test(s) of changes
- Draft implementation plan
- Assess stakeholders in context of interventions
- Solicit end-user input
- Obtain approval to proceed

- *Outcomes Improvement Packet* and *Worksheet* (interventions, balance measures)
- Improvement tools: process mapping, driver diagram
- *Use Case Scenario* worksheet
- *Stakeholder Assessment*
- Implementation plan

- Understanding impacts of the change
- Building measurement into the plan
- Stakeholder time commitment and buy-in for standardization

- PDSA: Plan
- DMAIC: Improve
- Toyota: Analyze causes
- IHI: Select changes, Test changes

- ☑ Interventions and implementation plan approved

5 Implement Interventions and Measure Results

- **Client:** Improvement team/workgroup plus identified stakeholders (early adopters)
- **Health Catalyst:** Domain, project management, and analytic expertise

THE HOW

- Obtain adequate data to track and evaluate interventions
- Refine visualizations, reports
- Follow/finalize implementation plan
- Troubleshoot problems and barriers
- Review data to evaluate impact
- Ensure infrastructure to support interventions
- Provide training on new processes
- Manage change
- Promote the vision
- Report progress or barriers to appropriate governance structures

- *Stakeholder Assessment*
- Implementation plan
- Change management, communication tools

- Adequate training and communication about the change
- Adequate resources allotted
- Change management strategies
- Maintaining focus and forward momentum

- PDSA: Do, Study
- DMAIC: Analyze, Improve
- Toyota: Implement a corrective action, Check results
- IHI: Test changes

- ☑ Initial implementation results evaluated to guide next steps

6 Monitor, Adjust, and Continuously Learn

- **Client:** Consistent, accountable ongoing team/leaders; domain, operational, analytic expertise
- **Health Catalyst:** Transitions to a consulting role

THE HOW

- Regularly review data and refine visualizations and reports
- Regularly meet to evaluate progress and maintenance of aims and goals
- Hold retrospectives
- Recommend adjustments, rework, or new improvement initiatives
- Continue to evaluate and prioritize infrastructure to maintain success
- Continue to manage and promote change and report progress
- Coordinate or assign team to diffuse and sustain success

- Control charts
- Report templates
- Retrospective tool
- Standing meeting agendas

- Continuing to adjust or optimize interventions based on data
- Maintaining stakeholder accountability

- PDSA: Study, Act
- DMAIC: Control (maintain)
- Toyota: Follow-up and standardize
- IHI: Implement changes, Spread changes

Are we sustaining the gains?

7 Diffuse and Sustain

Follow an organizational plan to strengthen, spread, operationalize, and sustain improvement

Start

Steps 1 and 2 take place with domain leaders and may take 1 to 3 meetings, depending on client governance structure and experience.

2–4 weeks

Steps 3 and 4 happen with a focused workgroup and may take 2 to 3 months of regular (weekly or biweekly) meetings to accomplish.

2–4 months

The time required to implement and measure change depends on the scope of implementation.

Ongoing →

A consistent improvement team should meet regularly to monitor and report results and coordinate efforts to sustain success.

ICON KEY: Key team members · Analytics · Best Practice · Adoption · Tools · Challenges · Map to other methods

1 *Guiding question: Do we understand the problem?* Analyze the Domain Opportunity

Overcoming common challenges:
Lessons from the field

Like all hand-offs, this one can go smoothly…or not. Problems we often see:

- **Lack of data transparency.** In one organization, a domain-level group wasn't given access to the financial data driving executives' decision to prioritize work on heart failure. This slowed the work considerably, as the team struggled to find and advance the information they needed (in this case, data related to CMS penalties for readmission).
- **Lack of empowerment.** Improvement should be led by people with the right authority and commitment. One team initially tried rotating leadership, on a "whoever isn't busy this month" basis. They met for months with no real direction or results. Only when executives named a permanent, accountable leader was the group able to drive change.
- **Inconsistent improvement approach.** People often want to jump to solutions before they've analyzed the problem. A standard improvement process helps prevent teams from getting sidetracked by work that's not aligned with the real opportunity or problem.

The process begins with an important handoff: an executive-level group (such as an Outcomes Improvement Leadership Team) has identified an improvement opportunity and relayed the improvement directive to domain-level leaders (who are accountable for pursuing results).

What?

This step initiates improvement work within a particular clinical, financial, or operational domain of your organization. It encompasses activities to help you systematically analyze the opportunity—as well as help marshal the resources (people, data, tools) and build the knowledge you'll need to conduct the improvement work.

☑ The main outputs of this step are the identification of a high-level cohort and a problem statement; decisions about the governance and team leadership for the improvement initiative are also made here.

Who?

Typically, this step is conducted by a small group consisting of:

- **A sponsor from your organization's Outcomes Improvement Leadership Team.** This person has been involved in identifying and prioritizing the opportunity for improvement in this domain. She or he can explain the rationale for prioritizing the work and relate the expectations of the Leadership Team and/or executive team.
- **One to four leaders from the Guidance Team or other domain-level leadership team.** The Guidance team is comprised of people with significant authority and expertise within a particular domain. (For example, a Cardiovascular Guidance Team may include cardiologists, surgeons, and nurse leaders; a financial team could include budget directors, financial analysts, and so on.) This step usually includes just a subset of the full Guidance Team.

To partner with your organization's experts, Health Catalyst brings people with **domain expertise** and **data analysis skills.**

Project management and improvement expertise come from Health Catalyst team members, your organization, or both.

Why?

This step is important for building shared understanding of the improvement directive, the problem to be addressed, and the people and teams who should be involved in the improvement effort. It also initiates collection of data relevant to the problem and prompts agreement about the improvement process and terminology to be used by the team(s).

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How?

Analytics

- **Review the improvement directive and investigate its rationale.** The directive is often general, e.g., "reduce heart failure readmissions," "increase revenue cycle collection rate," or "improve ED patient throughput." It's important for the domain-level leaders to understand precisely why work in this domain was prioritized. The sponsor can share the data and other factors that led to the decision and communicate any related expectations (timeline, resources to be used, etc.) for the initiative.
- **Analyze and review available domain-specific reports and data** from your institution. Here, the metrics available in Health Catalyst products and analytic accelerators can be helpful, allowing the group to begin to drill into the data for additional insight into the opportunity. For example, if readmissions are identified as the problem, the group can probe to see who's being readmitted, how much financial waste this represents, physician variance, etc.

Best Practice

- **Review benchmarks** (operational, clinical, departmental), regulatory requirements, and other drivers of the improvement opportunity. This research can inform your view of the problem, its impact, and the possibilities for improvement.
- **Begin to identify industry or clinical best practices.** Gather available literature, guidelines, procedures, etc. In the absence of accepted best practices, plan to develop system-specific standards.
- **Examine the improvement scope and cohort.** Make sure you understand the opportunity in the same way the executive leadership team does: what parameters underlie the improvement directive? What's included/excluded in their definition of the problem? If possible, the group should review the definitions that feed Health Catalyst applications and begin thinking about their applicability to your organization and the problem to be solved.
- **Draft a problem statement.** A problem statement is a clear, concise description of the issue. It should include data to help quantify the problem (e.g., current mortality rate, cost per case, overtime percentages, etc.) as well as describe the impact on patients and the system as a whole. For example, a patient flow issue may be connected to quantifiable problems such as long wait times in the ED and patients leaving without being seen.

Adoption

- **Determine governance structure and team composition(s).** At this stage, it's most important to identify leaders and determine which new or existing team(s) should own the work. As improvement work progresses, additional team members can be identified. Note that stakeholder assessment begins here and should continue as the initiative takes shape.
- **Orient to a common improvement method and terminology.** (We recommend that executive-level leadership for outcomes improvement identify a single method for the organization.) Plan training as needed for team members.

Tools for transformation

- Reports and data from your organization's previous analysis of opportunity (if available)
- These and other italicized items listed in this handbook are available from your Health Catalyst engagement lead or via community.healthcatalyst.com:
  - *Outcomes Improvement Worksheet* (problem section)
  - *Implementing Governance* handbook
  - *Change Risk Assessment* (stakeholder analysis) tool
  - Sample team charters: *Guidance Team, Improvement Team or Workgroup*
  - *7 Guiding Questions Improvement Process Checklist*

Problem statement example

The CLABSI rate for our hospital system is high and rising. In 2016 our Standard Infection Ratio (SIR) was 1.8, meaning we have 80% more infections than expected for a comparable hospital; this is an increase from our 2015 SIR of 1.4. We have earned negative publicity for our poor performance (*Springdale Times,* January 16) and received $3 million in penalties from CMS HAC reduction program.

Success checklist

- ☑ High-level cohort identified
- ☑ Problem statement created
- ☑ Governance structure established
- ☑ Improvement team leadership determined

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