Comagine Health



Quality Improvement Strategy

Implementation Guide

Tools to Make and Measure Improvement

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Introduction

The most impactful health care settings are those that demonstrate quality improvement as a regular practice. A successful setting therefore must first understand its delivery system and processes to improve quality of care. However, it cannot be done with siloed efforts with the onus on clinical staff, but as a team process with representation from all areas, including leadership, to achieve significant and continuous improvement.

Teams are appropriate for virtually all quality improvement projects because no one person knows all the dimensions of an issue. Whether it's seeking to improve patient waiting times, heart conditions or anything else, team buy-in and effort will help you make significant, lasting improvements. Support for the development of an organizational culture of continuous quality improvement requires the use of three key strategies, which include:

- Choosing a quality improvement model to provide the approaches to quality improvement and using it.
- Understanding measurement and using it to guide and drive change.
- Engaging front-line staff and patients/families in making changes to the work.

Choose a quality improvement model to provide the approaches to quality improvement and use it consistently.

Organizations that are successful in driving change for improvement, use a QI model or strategy to organize their change efforts. Although the evidence isn't clear on which method works best, research indicates that teams with an organizing quality improvement approach are better able to make changes in practice than those without one.[1] This implementation guide focuses on the two QI methodologies that are most often used in health care: The Model for Improvement and Lean.

Understand measurement and use it to guide and drive change.

Measurement is a core component of all QI models. Teams need to be able to understand whether the changes being made are leading to improved care and improved outcomes. For data to have an impact on an improvement initiative, providers and staff must understand it, trust it and use it.

Engage front-line staff and patients/families in making changes to the work.

The work of improvement is done best when those most involved in the work are engaged in the process of changing that work because they know the work processes and can see if the changes are effective. This engagement creates an opportunity for staff to become stakeholders in the work, which supports sustainment of the new processes that they have helped to develop and test.

Each organization must decide how to implement these key changes considering their organizational structure and context.

Setting the Stage for Success

Effective quality improvement requires that the teams you ask to work on specific changes are prepared. This requires that the organization is engaged and is equipped to lead a team through the complex process of organizational and cultural change.

The Role of Leadership

Leaders need to be closely associated with the QI activities and teams — visible, interested and engaged.

Effective leaders will dedicate time and attention in order to overcome barriers that can derail improvement efforts. These leaders ensure they are kept up to date on QI activity progress and are aware both of current challenges and successful changes as a result of QI efforts.

Leaders must be able to:

- Understand and articulate to all staff what the improvement goal is for a specific initiative or project.
- Provide the overall strategy (the What, Why and How) for QI. Set the vision and provide ongoing support and encouragement.
- Describe how front-line staff and patients will participate in the improvement work and how the leaders will support them in this effort.
- Provide training and skill set development to enable front-line participation in QI.
- Provide visible, ongoing support to QI teams by attending meetings, participating in selected QI activities, reviewing data and engaging directly with teams.
- Understand and articulate how metrics will be used to assess progress.
- Monitor progress, provide opportunities to participate and provide ongoing skill-building.
- Ensure that the chosen approach to QI matches the organization's vision, mission and values.

Those who succeed in the work of quality improvement continually learn and grow as they go, to thrive during change.[2] They have:

- A commonly understood process and methodology that provides a shared foundation for understanding the nature of process change.
- A commonly understood QI methodology that provides a sense of control. Teams can use it to make things better, and this can help with the sometimes-negative emotional consequences of change.
- QI methods allow teams to experience "wins" — successes, even on a small scale — which can be very rewarding. Leaders should look for every opportunity to celebrate these small wins.

Embedding QI and measurement within the daily operations of a practice is essential for driving transformation and sustaining the gains.

The Impact of Change on Organizational Structure

Any substantial change requires deep and continuous engagement throughout the entire organization. Typically, when change occurs in one part of the organization, the entire system is impacted. Changes may result in intended improvements, but may also have negative unintended consequences. Teams need to continuously gather and analyze data to understand the impact of both intended improvements and potential unintended consequences.

It's virtually impossible for a team to anticipate all of the impacts and outcomes of system changes. Leaders can help track these impacts and assist team members in adjusting to them by periodically taking pauses from **doing** the work to reflect on how the work is progressing. These purposeful pauses can provide rich opportunities for learning.

Transformation requires providers and staff to review roles and processes for improvement opportunities. This includes the ways in which care is delivered and how staff relate to one another. Change, even positive change, can be uncomfortable. Discomfort is temporary and normal. Leaders who recognize that discomfort is inherent to the process of change will be better prepared to help their teams understand and manage their own feelings. It is also a hallmark of transformational change where new systems and processes are designed and implemented. This is different from incremental change, in which improvements are made to existing processes. Using a QI model is an effective way to mitigate feelings of unease because it provides an organizing framework that gives staff confidence in the change process as well as an opportunity to directly participate in the change.

Change and improvement efforts can be spread incrementally at first so that leaders can learn from experience (positive and negative) and build on successes before going organization-wide.[3] The goal is to transform care in such a way that the organization is more capable of managing change in the future, using objective evidence that transformation is actually resulting in improved clinical processes and outcomes.

Staff will likely have many questions, and leaders should conduct frequent purposeful conversations to address them. These interactions can bring to light and address limitations or unintended consequences in proposed improvements. Leaders should not spend a great deal of time trying to convince or convert active resisters, but should listen attentively to them and express respect for their opinions. Acceptance usually increases over time as results are achieved, (e.g., improved HbA1c rates).

<u>Tips for leaders in addressing response to change:</u>

- **Take time to pause and reflect.** This reflection process can be effective for problem solving when scheduled as a regular (e.g., monthly, bi-monthly) dialogue with the project team leader and team. This is a valuable conversation for teams to build into their meeting agendas as a regular group activity. Remember, it takes practice to become more effective in using QI processes for improvement.
- **Work from the perspective of the improved process.** This strategy is more engaging than focusing on existing aspects of the current state—focus on "what can be" rather than the frustrating "what is."
- **Have a realistic timeline for implementation**. It's not reasonable to expect staff to drop certain behaviors they believed served patients well or added value and immediately perform a new set of value-adding behaviors perfectly. Staff need time and support to change.
- **Address resistance**. Transformation disrupts organizational patterns and may realign sources of organizational power.[2] An additional source of resistance to change can be a lack of understanding on the part of those affected by the change as to why change is necessary and what it will accomplish.
  Resistance can also come from fear of being perceived as incompetent as one is learning new skills and approaches. Connect the new vision with elements of what you are currently doing as a way to foster motivation and build confidence in the ability to make necessary changes.[4]

    - Listen. Gain an understanding of the opposing viewpoint.
    - Address limitations frankly and honestly — if you don't have an easy answer, admit it.

- **Effectively support the dynamics of change and transition**. One of the most important principles in organizational change is similar to the Hippocratic Oath: First, do no harm. Implementing change poorly is often worse than not implementing change at all. Poor implementation negatively influences staff perspective and willingness to change and can undermine future efforts.
- **Acknowledge that the upcoming changes involve some loss.** Familiar patterns of behavior will be changing, and this is hard! Provide a means for staff to honor and grieve what "has been." This will serve you well as a means of transitioning staff to move forward into the future "what will be" scenario.[5]

Build a Quality Improvement Infrastructure

Establish a QI Policy and Structure

The commitment your organization has made to quality improvement requires a stable QI structure that supports your organizational values and strategic goals. The structure needs to be clearly articulated and both written and verbally expressed.

- Start by creating an organizational QI policy that outlines your organization's quality goals and your process for identifying strategic QI priorities. A successful QI policy provides a roadmap for how to proceed with your organizations' QI efforts. See **Appendix A** for an example of an organization-level QI program description.
- Define roles and responsibilities. Who is on the QI committee council? Who is the contact for metrics? Are there identified clinical champions? Write brief descriptions of key roles.
- Outline a process for organizing, monitoring and concluding improvement projects.
- Provide information about how QI is resourced within your organization.

QI team structures vary from organization to organization. Some large organizations such as hospitals have dedicated QI staff; if you are part of a large organization, you may even have a formal QI department. At the other end of the continuum, if where you work is free-standing, your team itself may serve as the QI team, taking on QI work in addition to other day-to-day clinical and operational responsibilities.

Regardless of your structure, formalize your QI priorities, goals, measures and explicit QI projects so that they are commonly understood across your organization. Provide a standard template for QI charters and projects, and publish regular reports of progress and outcomes for staff, the board and for patients and families.

Dedicated Time for QI

Establish opportunities for staff to participate in organization-wide QI work. Depending on the size and structure of your organization, this may include the structure of a formal QI committee that clarifies the organization-wide QI strategies, identifies priorities for process improvement, works to remove barriers and tracks progress. Work sessions can identify specific objectives and questions for consideration. Document the results as part of the organization's QI activities so that they can be reported internally and externally.

<u>Engagement in QI activities:</u>

- Helps the entire organization stay focused on quality.
- Creates accountability for completing action items for follow-up between QI committee meetings.
- Ensures the use of a specific improvement model to keep the QI committee's work on track.
- Publicly tracks teams' ongoing QI efforts and discoveries, and celebrates progress and successes. This fuels the effort and demonstrates the value of the committee's work to the practice.

Tips for QI Committees and Team Management

Reviewing and discussing data is key to creating a culture of QI within an organization. Designate time to review and manage PDSA cycles and outcomes or other QI tools used for improvement.

Effective QI meeting management is fundamental to maintaining momentum for QI efforts. These meetings will vary in size and structure based on the types of changes being made, the number of staff engaged and the size and structure of the site or organization. However, there are some basic guidelines on meeting management and agenda items to consider:

- Always start and end on time.
- At the first meeting, collaboratively set ground rules or "norms" for the team. Keep these posted during future meetings or as part of all meeting agendas as a reference. One key to success in these meetings is to invite everyone's input, which encourages building trust, and in turn can result in people feeling more comfortable to share their ideas.
- Use a standard meeting template that includes the following (See **Appendix B** for a sample agenda):
    - Aim, charter or goals of the team. "What are we trying to accomplish?"
    - Standing time for a quick check-in, status report on completed tests or tasks, review of action items with due dates and responsible party and a short evaluation of the meeting.
    - Time for discussion of decisions that need to be made during the meeting.
    - Time for a discussion of measures and data. Consider the following:
        - What do you notice? Are the measures moving?
        - Is there a sudden dip or a big jump? Can you indicate what the change is with an annotation?
        - Is the information what you need? Could you stratify some of the measures to give you a more granular picture of what is happening?
        - Are there other measure and data considerations?
- Ask for input from others on agenda items ahead of time.
- Keep leadership informed of what is happening; ask for help and support as needed.
- Communicate work with the broader staff.
- Make it fun once in a while. What would motivate the folks at your site? Remember, this is hard work that can take time!

Plus/Delta is a simple, quick (5-10 minutes) and effective evaluation tool that works very well for this. To use, draw a vertical line down the center of an easel pad. At the top of the left column, put a plus sign; at the top of the right, draw a triangle or delta sign. Under the plus sign, write comments from meeting attendees about what went well during the meeting or what should be continued or brought forward for the next meeting. Under the delta, write comments about what could be improved or done differently.

Quality Improvement Strategies and Tools

A QI model or strategy provides an organizing framework for approaching change.

Having an organizational QI strategy is critical to support improvement of processes and outcomes of care. Adopting a QI strategy gives staff confidence, skills, and a specific approach to use in making meaningful changes to improve care for patients and families. The goal of a QI strategy in healthcare is to ensure that the delivery of products, services, and care meets or exceeds established standards. Among the most widely used tools for continuous quality improvement are the Model for Improvement that includes plan-do-study-act (PDSA) cycles, and Lean; both will be discussed in detail.

Other widely used methods such as Six Sigma and Total Quality Management are beyond the scope of this guide. Similar to the Model for Improvement and Lean, these strategies also emphasize measurement and the systematic analysis of processes to reduce unnecessary variation.

The use of a formal QI strategy will likely require training for any staff who will participate in the improvement process. This may require the hiring of an experienced external coach or consultant to help guide the team/organization in the use of QI methods. Though many of these methods are not difficult to use, it is important to understand how and when to appropriately use them.

Getting Started

In this guide, we discuss in detail The Model for Improvement/PDSA and Lean.

The Model for Improvement is an easy-to-understand model that focuses on process improvement through rapid-cycle, small tests of change conducted at the front lines. Beginning the QI journey with The Model for Improvement provides a structure for understanding the intention of each improvement and a mechanism to test proposed changes in real time — initially on a small scale, and then scaling up over time to implement, spread and sustain the improvements.

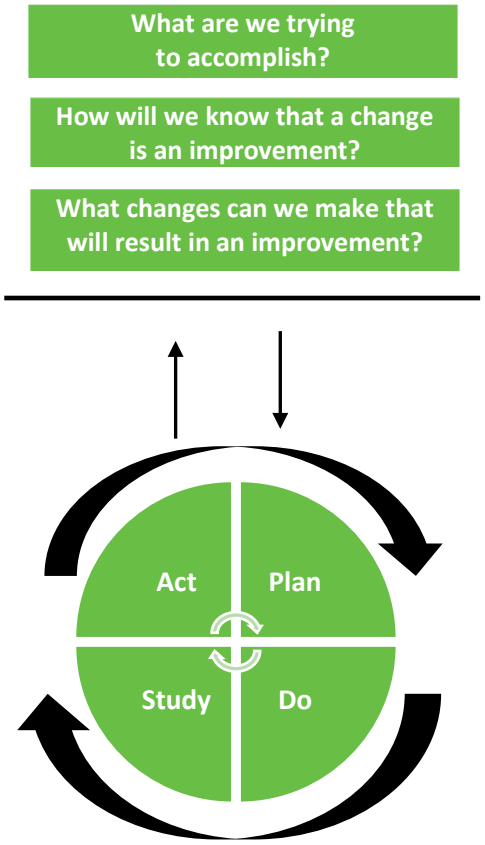
Using the Model for Improvement in Practice

One of the most straightforward and prevalent improvement approaches in health care is The Model for Improvement.[6] This model can be used as a primary QI strategy or as a vehicle for accelerating improvements using other QI models or strategies.

<u>The first component of the model</u> (*see Figure 1: The Model for Improvement*) explores three fundamental questions that lay the foundation of the improvement effort:

1. **Aims: What are we trying to accomplish?** This question leads to the development of an aim statement for each improvement. The aim should be time-specific, measurable and concise. It should also define a specific population of focus. In addition to the big picture, there are the incremental changes – accomplishments – along the way that will add up to the overall aim.
2. **Measures: How will we know that a chance is an improvement?** What measures will be used to know that the change is an improvement? Measures and definitions are necessary to answer this question. The data collected during the rapid testing cycles used in The Model for Improvement will help to assess and understand the impact of the changes designed to achieve the aim.
3. **Ideas: What changes can we make that will result in an improvement?** All improvements require making changes, though not all changes lead to improvement. The changes most likely to result in improvement – and achievement of the aim – are the ones that should be tested first.

Figure 1: The Model for Improvement



Source: Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. 2nd ed. San Francisco, CA: Jossey-Bass; 2009.

The second component of the Model for Improvement is the **Plan-Do-Study-Act (PDSA) cycle**. The PDSA cycle is the improvement engine – the process applied toward a desired improvement:

- **Plan**. Planning an intervention.
- **Do**. Testing the change on a small scale.
- **Study**. Observing, measuring, analyzing tests of change.
- **Act**. Using knowledge gained to plan the next steps.

The PDSA cycle uses an efficient method for testing change in the real world. Change ideas are initially tested on a small scale (e.g., one provider, one patient, one time) to learn if the change idea has merit and to determine if the change idea is likely to result in the desired improvement organization-wide. If this initial PDSA cycle results in improvement, the cycle can be expanded to test whether the improvement strategy continues to be successful. This expansion allows an improvement team to continue to test the change idea by increasing the scope of the PDSA cycle (e.g., the number of patients, providers, practices, across an organization) before moving to organization-wide implementation.

Small tests of change can be conducted rapidly and sequentially, allowing time to measure and analyze results before increasing the size and scope of the improvement process. If changes you are testing using the PDSA cycle approach do not result in improvements, the "Study" and "Plan" parts of the cycle provide the structure to explore and identify additional actions for the next rounds of "do" and "Act." After adequate and successful testing, an improvement team can move to implementation with more confidence, having demonstrated success through multiple PDSA cycles. The use of PDSA cycles provides objective evidence that the improvement has been successfully demonstrated prior to full-scale implementation increasing buy-in for the change and reducing the risk of investing in a change that simply does not work. Click here for additional information on The Model for Improvement.

Case Study: Putting the Model for Improvement into Practice

A hypothetical site has selected a care team for a pilot based on the team's panel of patients. The team consists of a PCP (Dr. Blue), an MA (Pat), a half-time RN (Jene) and a front desk staff person (Lauren). At a meeting to discuss the QI project, the team identifies one specific change they would like to test toward accomplishing their incremental aim. They want to begin doing daily morning huddles to better prepare and provide more comprehensive care for all patients seen throughout the day.

Using The Model for Improvement as their guide, they determine the following:

INCREMENTAL AIM: What are we trying to accomplish? The team's aim statement: We will provide more comprehensive and better care for all patients throughout the day, and will increase communication among team members so there are fewer missed opportunities with patients, easier flow throughout the day and more satisfied staff.

MEASURES: How do we know that a change is an improvement? (The team identifies specific measures that will show them whether or not they are making progress toward their Aim. One example is presented below.) Improve the delivery of preventive care services for Dr. Blue's eligible patients.

- *Numerator*: Number of patient visits during which a patient in need of at least one preventive care service was offered that/those care services (e.g., overdue Pap test, flu shot).
- *Denominator*: Number of patient visits with at least one identified preventive care need met.

IDEAS: What change can we test that will result in the improvements we seek? Use a daily morning huddle to review needs of patients being seen that day. Proactively plan for labs, tests and immunizations; coordinate flow.

AIM STATEMENTS: Without specific targets, it is not possible to know whether or not you are improving. So, the team writes an aim statement in the SMART format: Specific, Measurable, Actionable, Realistic and Time-bound.

For example:

"We will improve the delivery of preventive care services for Dr. Blue's eligible patients by 25% in the next two months by preparing for and implementing daily huddles."

The team knows that they will need to run several tests (PDSA cycles) to determine the best and most effective way to achieve this aim. They begin with the initial PDSA cycle.

Test a huddle with one team:

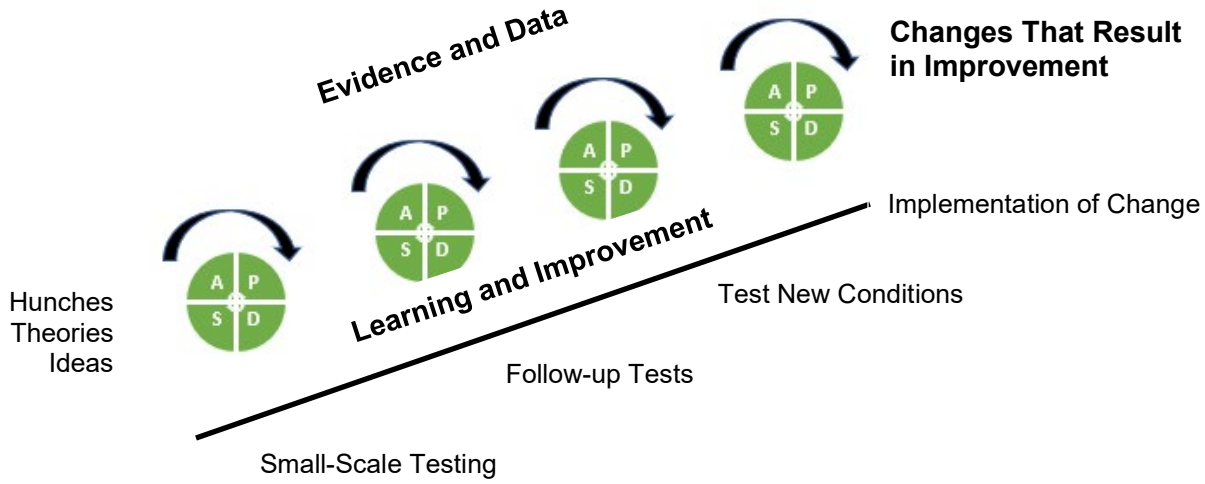
- **Objective**: Dr. Blue's care team (Dr. Blue, MA Pat, RN June and Lauren from the front desk) will test a five-minute huddle each morning to discuss that morning's patients for three consecutive days, using pre-collected information from each patient's medical record.
    - **Prediction**: The morning session will run more smoothly and the team will be better prepared to provide or at least offer, preventive services to those in need. Five minutes may not be enough time, but they really want to keep it short.
- **Plan**: Who, When, How: Lauren will print out a list of the morning patients the prior afternoon and give the list to Pat. Pat will pull up the patient's information from the electronic health record (EHR) in the morning and note any needed labs, tests or immunizations. The team will review these notes at the 7:50 a.m. huddle.
    - **Data collection**: Quantitative data – Was reviewing patient data the afternoon before doable for Pat? Did it feel burdensome? Was five minutes enough time to discuss all morning patients? Did the care team feel better prepared for patient visits? Who was responsible for capturing these data? How will they capture these data?
- **Do**: The team huddled at 7:50 a.m. on Tuesday, Wednesday and Thursday to discuss each morning patient.

The following data was collected:

	Monday	**Tuesday**	**Wednesday**	**Thursday**
List of patients printed *Lauren*	✓	✓	✓	N/A
Review patient info in EHR. Note needed preventive care services *Pat*	N/A	✓ (all morning patients reviewed, 15 minutes)	✓ (all morning patients reviewed, 20 minutes)	✓ (all morning patients reviewed, 17 minutes)
No. of patients in need of at least one preventive care service	N/A	5	3	2
No. of patients seen in morning session	N/A	10	13	9
Huddle time	N/A	14 minutes	12 minutes	8 minutes
Notes		Two patients declined services (both Pap tests)	Two walk-in patients not reviewed nor discussed in morning huddle	

- **Study**: On Friday, the team met for 10 minutes during lunch to review the data on what went well and what didn't. They found one unexpected issue: Pat had a much harder time pulling the data from the EHR in a timely manner than she had expected. They had two walk-in patients one day who hadn't been included in the preparation, which affected flow. The team noted several overdue preventive services that were taken care of within scheduled visits that likely wouldn't have been completed without the huddle discussion in the morning. Generally, Dr. Blue and the rest of the team felt better prepared for the prescheduled visits, and they all liked feeling more "team-like." All three days required more than five minutes to discuss patients, but they predict they can get to five minutes as the rest of the kinks are worked out.
- **Act**: Should the team adopt, adapt or abandon this change? They decided to adapt the change by having Lauren share the patient list earlier on the previous day. Pat will pull the information from the EHR as she is able during the afternoon to see if most of the work can be accomplished that way. They will retest for three more days using this new improved process, and predict that this will work better for Pat. They will continue to monitor the time the huddle takes each day, and the number of patients eligible for preventive services.

Figure 2: Multiple PDSA Cycles, Part 1

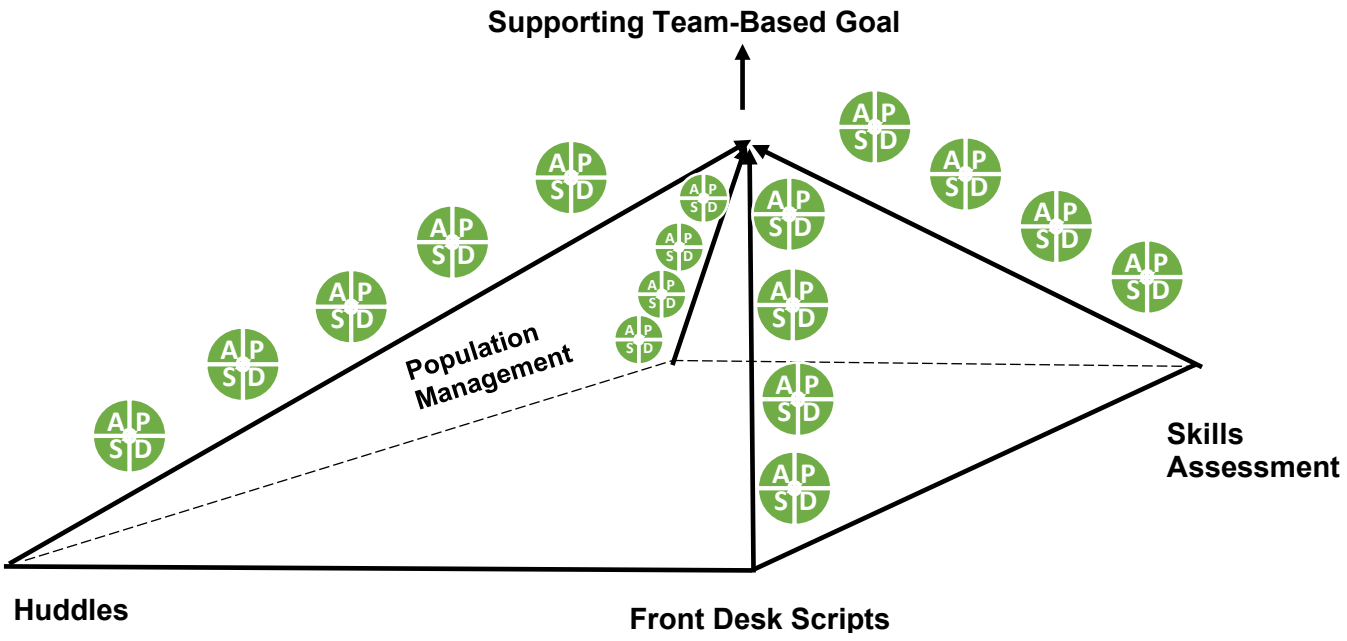


This initial team will continue to test the huddle until they have a design that works well. They may engage other teams to begin testing huddles, to test pieces of this huddle process at the same time or they may wait until they feel very confident in the huddle process and then have other teams test it as a whole. They want to make sure they have tested under a range of conditions, such as on all days of the week and with both the pediatric and family practice teams. Once they have had other teams test the process and feel confident that it will work for everyone, they will implement the change across their entire site.

Do you test only one change at a time?

No, sites can run multiple PDSA cycles at a given time. For example, as a site is trying to implement the key changes related to building and supporting care teams as the key to delivering the most effective care, they might be running PDSA cycles around the use of huddles, doing population management, using scripts with front desk staff on how to discuss the importance of continuity with patients when they call for an appointment and addressing the skills and training needs of the Mas at the same time.

Figure 3: Multiple PDSA Cycles, Part 2



Source: Group Health Cooperative, Seattle, WA; 2011

Change Concepts, Theories, Ideas

As an organization builds its experience with the use of QI, and the culture of the organization shifts, more staff can be enlisted to run PDSA cycles on different pieces of the work across different areas. However, each team should be supported in their use of The Model for Improvement and the PDSA cycle to enable each member of the team to learn how to design and carry out a cycle of change.

Getting Started with Lean

Lean concepts are frequently used in healthcare settings as a QI methodology. Lean focuses on driving out waste, maximizing value to the customer, implementing standard work, building in visual control and locating QI responsibility at the front-line with active leadership support. This model has a number of similarities to the Model for Improvement, and indeed, Lean projects can often begin with aim statements and be conducted via rapid PDSA cycles of change.

Lean

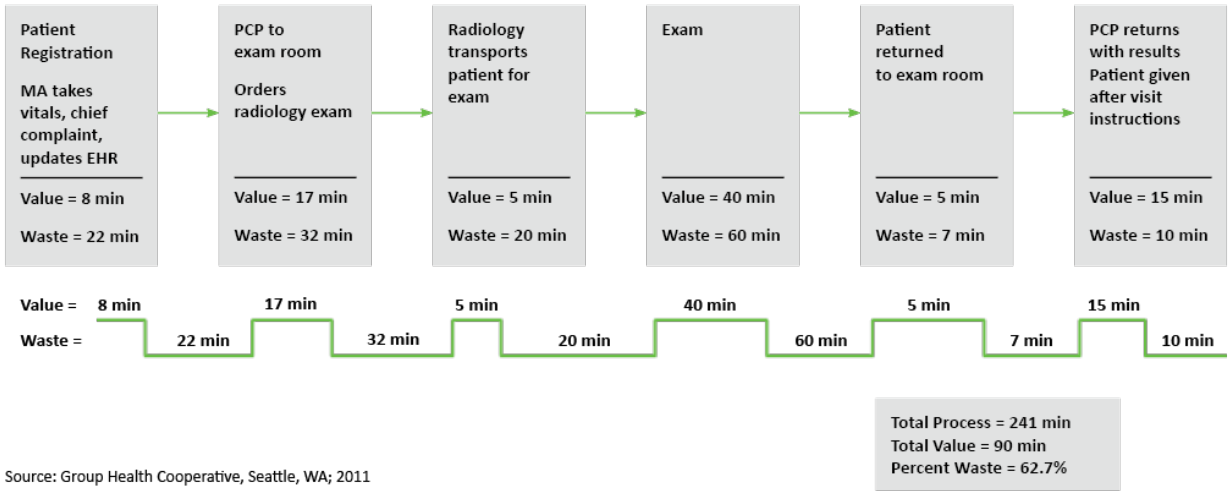
Many health care practices use Lean because they are customer-focused and aim to improve processes by driving out "non-value-added" activities, usually referred to as "waste." "Non-value-added" activities are defined as those steps that do not bring value to the patient or to the staff, depending on the process, experience or business bottom line. Exceptions to the "non-value-added work" include steps required to meet regulatory or legal requirements. Common examples of waste are errors resulting in rework or wasted product (e.g., searching for patient education materials or medical supplies, patient wait-times, expired medications/over-production). The goals of Lean are to streamline processes and maximize efficiency and effectiveness to deliver care and services when the patient needs them and in the manner that patient requests.

The A3 Report Template is a Lean tool used for structured in-depth problem-solving that focuses on addressing the "root causes" of problems. More information on the A3 tool and process can be found here and here.

Key Lean Concepts

- **Waste Reduction:** Waste is defined as time or energy spent doing things that don't ultimately benefit the end user. Eliminating waste is a major focus of Lean and is a powerful place to start, freeing up time and energy for staff to do new value-added work. However, the healthcare industry has instances in which non-value-added work is required due to regulatory or contract requirements. Although this work does not add value directly to patients, compliance with these requirements may add value as better understanding of outcome that are important to patient care and practice processes.
- **Value Stream Analysis**: Value stream analysis is based on the idea that all practice processes consist of a sequence of activities, each of which is designed to add some value to the product or service as it moves toward the end user. Value stream analysis involves drawing a workflow for a specific process and asking if cost/waste or value is added at each stage (Including stages between activities). This type of analysis may highlight unnecessary space used, distance traveled, rework or process inefficiencies, such as wait time, that occur within the existing process. Similar to using PDSA cycles, small rapid cycle improvements can be implemented to test improvement ideas. A sample is shown in *Figure 4: Sample Value Map Diagram.*
- **Pull Systems:** A pull system is a process in which an action takes place in response to a specific demand for a specific product or service. Examples include a patient requesting a same-day appointment or taking a prescription to a pharmacy to be filled. A pull system contrasts with examples such as maintaining a one-month supply of a medication on a shelf waiting to be requested. Designing pull systems is a way to eliminate the waste of handling, storing and reworking tasks or processes, or eliminating process steps that are repeated because they are incomplete. The intention is to balance and control the flow of time and resources to a real-time, as-needed basis.

Figure 4: Sample Value Stream Map Diagram



Source: Group Health Cooperative, Seattle, WA; 2011

- **Visual Displays of Information:** Data boards capture actionable, relevant data to guide work. Data boards are used both within individual care teams and by organization-wide improvement teams. Improvement teams create data boards to track selected measures across all elements of targeted improvements. For example, each morning improvement teams "huddle" around a data board to discuss data, ask questions, and brainstorm solutions when the data show that something is amiss or unexpected. Some data may come from automated sources, but in many cases data is collected by hand tally and posted on sticky notes, Typically, these boards emphasize simplicity in *Figure 5: Sample Data Board.*

- **Rapid Process Improvement Workshops (RPIW):** An organization may identify a core process to be improved, gather detailed data about that process, and articulate a clear improvement goal for agreement by senior leadership, the board and all affected staff. After detailed data is gathered as part of the "pre-work" for an RPIW, the staff – those involved in the process, such as physicians, nurses, medical assistants, front desk staff and managers – come together for a multi-day RPIQ, often with the goal of improving results by at least 50%. During these workshops, participants map their current work processes, identify waste and rework loops, determine whether the waste is non-value added or required, and then map an ideal process designed to meet improvement goals. RPIW teams suggest the measures to capture on data boards, produce a clear explanation of new work to be performed, by whom and identify associated staff training needs. The intention is that the newly improved process will be ready (or newly ready) for implementation directly following the RPIW.

Figure 5: Sample Data Board



- **Standard Work**: An organization committed to improving the patient interface focuses on understanding and standardizing its daily work. Standardized work is designed to reduce waste, a fundamental Lean principle. Teams make standard work possible by developing, documenting and agreeing to follow defined processes (such as the output of an RPIW). The description of, or instructions for, a standardized process are key. These instructions are intended to minimize variation among staff involved in the process, and may include both documentation of expectations and visual cues to support understanding by all staff. Newly standardized work may require changing job descriptions and training staff to support new processes. And development of standard work is not limited to new roles for providers, nurses, medical assistants, and front desk staff – managers also have standard work accountabilities such as regularly evaluating progress and providing ongoing training and staff support.
- **Leadership Rounding**: Leaders play a key role in Lean implementation. Beyond ensuring that staff are trained and using standard work. Lean leaders regularly monitor progress and help with problem solving when issues arise. When leaders round to visit teams, they may consider using a standard template for asking about progress and documenting next steps. Standardizing this leadership work makes sure that if a leader takes leave or moves, a new leader can step in without losing momentum.

Measurement and Data in Quality Improvement

The ability to track progress is key to improvement efforts. (The second question in the Model for Improvement: How will we know a change is an improvement?) The sections that follow provide helpful information about how to create a measurement system that will serve your needs for your improvement work.

Measurement for Learning and Improvement

A measurement strategy provides feedback to staff, providers, leaders, board members and patients about the organization's progress toward transformation and the outcomes of the care they provide and receive.

Measurement is an essential part of quality improvement work of any kind and is used to guide the work, regardless of the QI strategy that a practice chooses. Measurement data demonstrates progress, highlights areas for improvement and engages the entire organization, including patients and families in its improvement efforts.

Roles in measurement:

- Leaders make the case about the need to improve, articulate a vision for a better future, and set the tone for change. Leaders also help staff understand how the measures they track tie to their strategic goals.
- Front-line administrative and clinical staff need to be trained in quality improvement methods and empowered to test small-scale changes that lead to improvements.
- If there is a dedicated QI staff, they are responsible for designing metrics for each and implementing data collection strategies; working with analysts and others to analyze, report, and communicate results; and supporting staff through making changes in processes.
- Assigned analytic/reporting/HIT staff (when present) assist with gathering, analyzing, displaying and interpreting data, and may also make changes to HIT systems to make data gathering simpler.
- Others (such as clinical or support staff) are responsible for using data in the most and actionable manner.

It is important to implement measurement strategies at multiple levels with data to meet your different needs:

- Global measures that are linked closely with the practice's strategic goals and special initiatives.
- Measures of sustainability or spread of improvements over time.
- Department- and/or team-specific measures that support opportunities for improvement and are related to the strategic goals of the practice site.
- PDSA cycle measures used to study small-scale tests of change.

A clear measurement strategy provides opportunity for everyone to build a shared understanding about where the data comes from (data sources), how measures are calculated (data definitions), the frequency of measurement, and the goals to be achieved.

Collect Data

Consider various data sources. You may use EHR reports to capture clinical quality measures or CMS' quality and process measures reports for your setting, but often the easiest way to collect data is at the same time as your work occurs. This is simplified when data collection is designed into workflows within your EHR. If you have IT staff, they can design automated monthly reports provided through the data stored in your EHR once the measures have been selected and defined.

If patient registries or an EHR are not available, process and outcome data can be gathered through a manual chart review, although this can be resource intensive. For example, if there is interest in understanding staff compliance with protocols or standing orders, a simple data collection sheet that includes a checklist of actions to be performed during each visit can be developed.

Surveys are another data source that may be collected through in person or phone interviews or through hand-written or online questionnaires. Surveys are ideal for capturing patients' experiences and provider and staff satisfaction.

Also consider sources of qualitative data such as patient complaints and compliments. There is also value in listening to stories shared by the care team to show why transformation is an important and worthwhile investment.

Strategies for Using Measures Effectively

- **Develop a comprehensive measurement set.** A comprehensive measurement set may include clinical quality measures, patient and staff satisfaction measures, and cost, productivity or efficiency measures.
- **Use clear data definitions.** Each measure will need to be clearly defined including the exact data sources for the numerator and denominator.
- **Ensure accuracy**. When beginning to collect numerators and denominators from automated reports/EHR reports, make time for double-checking the metric results with a manual chart review (10-20 charts). This will ensure the results are accurate. Presenting inaccurate data doesn't make a compelling case for the need to improve.
- **Set goals.** Every monthly measure should have a goal that is clearly marked on the graph. This goal should be set high enough to stretch or push the team, but realistic enough that it is not discouraging or decreases motivation. As results near the goal, adjust the goal to a higher level of performance or focus on a new goal. Bring national benchmarks on similar measures to meetings (when available) to assist in identifying reasonable goals.
- **Make measurement transparent.** Collect data on your measures monthly and report them on run charts displayed throughout the organization. These measures should be the foundation for routine discussions at various meetings. To illuminate improvement (or lack of it), data should be shared transparently with all stakeholders: staff, leadership, board members and even with patients and families.
- **Display and share data.** Develop a "measurement wall" to display data. Select high-traffic areas such as patient waiting rooms, staff lounges or even the back of bathroom stall doors. Dashboards are another great way to display data.
- **Provide training for all staff.** Offer training to staff to help them understand the measurement goals, how to read and understand run charts and other measurement tools, and their role in quality improvement. Similar strategies can be offered to patients and families. The more they understand about quality improvement measures, the more ablet they will be to participate in improvement efforts, Resources on training for staff and patients include: Community Health Partners Measurement 101 (slides) and Measurement for New Employees (slides).
- **Engage staff in data collection, charting, and reporting on QI projects.** Encouraged staff to lead PDSA cycles pertinent to their workflow and responsibilities.
- **Engage providers and staff.** Sharing data transparently helps engage all care team members in improvement. Sharing encourages "learning conversations" about success, opportunities and roles, and it allows all to learn how the transformation is progressing. Another way to engage providers and staff early on is to invite them to review the data definitions and data sources, or better yet, ask them to be part of the team that decides on the set of measures. BY providing input early and often, providers and staff are more likely to embrace the measures and use them to guide improvement efforts. Remember: to best leverage staff input, there needs to be opportunities for discussion about the meaning of the measures and the action that staff propose to take to make improvements.
- **Engage leaders and supporters.** Share data with leaders and board members proactively and consistently. "Data packets" and dashboards can help keep board members up-to-date, and when reviewed monthly at meeting with dedicated time on the agenda provide an important opportunity for engagement. Take time to present progress, opportunities, resources needed for larger scale changes and to let the board ask questions.

Making Change Stick

Sustaining Change

Defining Sustainability
SUSTAIN, verb
1. To keep in existence; maintain.
2. To support; keep from falling or sinking.

Strategies for Sustaining Change
Imagine you have tested multiple changes using small-scale, rapid PDSA cycles from the Model for Improvement. Some of those tests resulted in the implementation of a successful new process or way of working. How do you effectively sustain the new way of carrying out the work? Follow these steps based on the work from Health Quality Ontario's Sustainability Planner:

- Ensure the change is ready to be implemented and sustained.
  - Ensure there is enough time for experimentation, since that provides freedom to work the wrinkles out of a new process and building support among teams and helping them understand how the new method is better.
  - Have staff involved in the work identify which features of the innovation are essential and find ways to make sure they are done consistently as part of new "standard work."
- Clarify what changes(s) you are sustaining.
- Engage your leaders and get support to anchor the changes.
  - Know what matters to your leaders. In what ways will these changes and improvements contribute to strategic goals?
  - Share the data, stories and staff feedback; connect to what matters.
  - Be able to tell leaders what you need to sustain the changes (e.g., dedicated time and resources for training, coaching and monitoring).
  - Begin to talk about how you will spread this beyond the test unit, department, or population, including describing what resources you will need.
- Involve and support front-line staff.
- Communicate the benefits of the improved process.
- Build in on-going measurement.
- Embed the improved process to make it permanent.
  - Provide clear workflow maps, process descriptions and tools (e.g., scripts, checklists, forms, maybe even new policies and procedures) to facilitate using the new process.
  - Train staff to use the new process; coach, monitor processes and data and give feedback.
  - Make the old way unavailable; make the new way unavoidable.

Make the New Way Unavoidable with Standardized Work Processes

Standardizing work processes is key to sustaining improvements. Standardization is a Lean to that you can use to sustain improvement effort, even if you have not used Lean methods to develop improvement.

When everyone is allowed to create their own method or sequence in which they do the same activity quality and efficiency are not optimized. Standardized work includes detailed, documented visual systems where staff develop, agree to and follow a defined process. The description or instructions of a standardized process are critical. These instructions should be clear in order to minimize unnecessary variation among staff involved in the process. This reduces waste. The instructions for standard work should not only be documented (written) but should also include visual cues to support understanding by all staff. For example, a process or flow map or checklist might aid in understanding every step in the appropriate sequence. Photographs or diagrams are also helpful.

To demonstrate the usefulness of visual cues, try this exercise at a staff or team meeting.

Steps for Designing Standardized Work Processes

1. Define the boundaries of the process for which you are creating standard work (e.g., starts at… ends at…). Include those who are accountable for using the standard process (e.g., all staff doing the same job will use the same standard work process).
2. Determine the appropriate elements that will define standard work:
    - Name of process.
    - Author.
    - Revision date.
    - Process name.
    - Sequence of the work.
    - Tools to support the work (e.g., checklist).
    - Time allotted or time expected for process to be completed.
3. Ask staff most involved in this process to gather best practices on how this work should be completed. Observing multiple people doing the same work is a good way to let everyone see how much variation there is from person to person.
4. Document the standardized work process and include visual cues.
5. Train the supervisor on the standard work. The supervisor is accountable for ensuring staff do the work as described.
6. Train all pertinent staff on how to do the standard work, and confirm they can demonstrate competence with the process.
7. Run the process and observe the results. This is the time to look for improvements and any training needs.
8. Make adjustments and modifications to the standard work as improvements are identified.

Spreading Change

A Strategy for Spread

Defining Spread

SPREAD, verb

1. To distribute widely.
2. To increase in range of occurrence.

Your change is ready to be spread throughout the practice or to other parts of the organization/other organizations when you:

- Can demonstrate success with evidence including measures of results (outcomes and stories).
- Have champions within the staff who tested initial changes and are prepared to help with spread – to communicate, influence, and train others.
- Have the interest and support of key leader(s).
- Have a "Spread Plan" to guide the spread process. Consider using IHI's Spread Planner as a tool to assist you in developing your spread plan.

Components of a Great Spread Plan

Communication: A plan for widespread transmission of the change.

- Think of a communication campaign. Use multiple modes of contact and exchange of information.
- Create a compelling message.
- Use data and stories to share results.
- Use champions to communicate the benefits and results to other staff. Give leaders a clearly defined role.

Training and coaching: Develop a training and coaching plan and devote resources to support it.

- How will you train and coach staff in the site/team/department to carry out the new process?
  - Share key ideas and concepts identifying the benefits of this new change.
  - Share results of testing (use data and feedback from patient, family, caregivers and staff).
  - Train staff on skills and execution (e.g., how to use the new process or forms).
  - Show and explain how the new element works (coaching).
  - Share your own enthusiasm.
  - Address all questions and concerns thoughtfully.
- Share data, show methods and coach others as they do it. Use data for monitoring and feedback.
- Have a plan to deal with resistance. Use principles for overcoming resistance to change.[9]
  - It is natural and inevitable: **Expect it.**
  - It doesn't always show its face: **Find it.**
  - It has many motivations: **Understand it.**
  - Deal with people's concerns rather than their arguments: **Confront it.**
  - There's no one way to deal with resistance: **Manage it.**
- Make trainings interactive and have the staff that have tested and implemented the change first provide the training.
- Include training on change management and communication as part of this work.
- Hold provider-only training sessions.
- After initial training and implementation at the new location, continue coaching through collaborative
- meetings (e.g., bring staff from multiple locations together to discuss how implementation of the new change is working).

Leadership: Help leaders support change by sharing the results of improvement throughout the organization.

- Share results transparently.
- Help leaders and managers keep the work on their radar: on meeting agendas, board reports.
- Make it the expectation and design accountability into the system of management.
- Keep seeking feedback from patients, families, caregivers and staff.
- Recognize and celebrate success.

Measurement: Identify a set of spread measures to demonstrate progress.

- Select clinical quality and practice transformation metrics.
- Measure the rate of spread throughout your organization.
- Develop an approach to how often, to whom, and where these results will be shared.
- Examples from spread measures from IHI's Rate of Spread:

- An example of a key process change to support improvement in the care for patients with diabetes at the local level is the use of a flagging system to identify patients needing an HbA1c or LDL at their visit. In this example, the spread project could measure number of targeted sites using a process for flagging charts of patients needing an HbA1c or LDL before the patient visit.
- Spreading same-day access to all primary care clinics in a medical group will require that all targeted sites eliminate the backlog of appointments scheduled into the future. A rate of spread measure for an access project in primary care could be the percentage of targeted sites actively engaged in working down the backlog.

Tips for Successful Spread

- **Have staff share their experience** with one another often. If you have multiple sites, establish dedicated time for staff from the initial implementation site to meet with staff from all spread sites to exchange knowledge.
- **Define standard work**. Identify those top few things that everyone in the organization needs to do the same way to make the new process or way of working successful. **Clearly outline what the standard work/process is and how it is to be accomplished**. For example, ensure rooms are stocked in accordance with the supply checklist on a weekly basis. Establish a monitoring process to reinforce the importance of standard work and the new and consistent way of doing things. Monitoring and auditing also provide opportunities for coaching and retraining if necessary.
- **Keep things flexible** to allow for site differences.
- **Track and advertise new improvements** that occur as various locations adopt and adapt the change.
- **Celebrate successes**, even the small ones. Share stories with data in email and newsletters, post on bulletin boards, waiting rooms and share in meetings.

Conclusion

Using a formal QI strategy helps practices achieve the goals of transformation. This guide reviewed two of the most commonly used strategies for implementing the sustaining change: The Model for Improvement and Lean. Measurement is a core component of all QI models. But for measurement to guide and drive improvement, providers and staff must understand measurement data, trust it and use it.

Additional Resources

Websites

- Institute of Healthcare Improvement
- Lean Website
- American Society of Quality
- Comagine Health

Appendix A

Quality Improvement Program Description

I. Scope and Structure

Mission & Scope

Quality improvement (QI) is an integrative process that brings together knowledge, structures, processes and outcomes to increase quality throughout the organization. The QI council's mission is as follows:

To improve and support the health of patients served by ensuring efficient and effective processes and programs through ongoing review of performance measurements.

This mission statement describes the fundamental reason for the existence of the QI council. Actions and decisions by the QI council will be compared against the mission statement to evaluate if those actions and decisions are consistent with the intent of this stated responsibility.

The QI program will include the activities detailed in Section II. The QI council will guide and evaluate the QI program by:

- Identifying, monitoring, reviewing results from and making recommendations on rapid cycle QI projects.
- Reviewing department-level performance measures during QI council meetings, reviewing program-level performance measures with program staff outside of meetings and providing brief updates during meetings.
- Reviewing department performance evaluation reports.
- Reviewing and revising the QI plan annually based on its annual evaluation.

Organizational Structure

The CEO has charged the QI council with carrying out the purpose and scope of the QI program. Management team members are responsible for conducting QI efforts and for promoting, training, challenging and empowering organization employees to participate in the processes of QI.

The QI council is composed of senior management and staff, including:

- CEO
- Medical director
- Department managers, including the QI manager
- QI staff
- Four front-line staff (including MAs, MSWs, front office, RNs)
- Patient and/or family member(s)

The QI council meets the first Tuesday of each month at 10 a.m. and maintains records and minutes of all meetings; these minutes are presented for review and acceptance by QI council members. Quarterly, the QI council will provide a report of the QI program to the Board of Directors.

QI council members will make every effort to come to consensus on issues requiring a decision. However, if consensus cannot be reached, the QI council will make decisions by a majority vote.

QI and other QI project teams are convened by the QI council as required for specific initiatives. These teams are accountable to the QI council and report activities and results on an ongoing basis.

Dedicated Resources

The QI department provides administrative and analytical support to the QI council.

This support includes:

- Maintaining concurrent records/meeting minutes.
- Developing and distributing the monthly QI council agenda.
- Tracking and trending of performance data.
- Providing technical assistance and consultation regarding the development of systems for the identification and monitoring of improvement projects.
- Providing staff training in QI philosophies and methodology.
- Providing analytical support for QI projects; serving as a QI team member.

Roles and Responsibilities

CEO or designee:

- Provides vision and direction for the QI program.
- Convenes and serves as a voting member of the QI council.
- Allocates resources for QI programs and activities.
- Reports on QI activities to the Board of Directors.
- Requests the review of specific activities or the implementation of QI projects.

Department managers:

- Implement QI projects and report activities and results to the QI council.
- Identify appropriate staff to participate in QI projects as needed.
- Report to the QI council on evaluation activities and the monitoring of goals/objectives in the organization's annual work plan that fall within their departments.
- Serve as voting members of the QI council.
- Encourage staff to incorporate QI concepts into daily work.

QI manager:

- Directs the analytical support and technical consultation to the QI council.
- Oversees the development of the annual QI plan and QI program evaluation.
- Provides training to QI teams and the QI council as needed.
- Serve as a voting member of the QI council.
- Encourage staff to incorporate QI concepts into daily work.

Other managers:

- As members of the senior staff, provide guidance to the organization's QI program.
- Report to the QI council on evaluation activities and the monitoring of goals/objectives in the organization's annual work plan that fall within their areas.
- Serve as voting members of the QI council.
    - Encourage staff to incorporate QI concepts into daily work.

QI staff:

- Provide analytical support and technical consultation for the following:
  - QI teams
  - Evaluation activities
    - Reporting performance measures for goals and objectives in the organization's annual work plan
    - Other data analysis involved in QI activities

Administrative support:

- Maintain minutes of QI council meetings
- Support QI activities as needed

Other staff:

- Participate in QI projects, as requested by department managers
- Collect and report data for department level performance measures; use data to identify areas needing improvement
- Participate in QI training
- Incorporate QI concepts into daily work

Approval of QI Plan and Annual Evaluation

The QI plan is revised annually to reflect program enhancements and revisions. Activities listed in the annual QI calendar are developed based on the recommendations from the annual QI program evaluation. The QI plan and program evaluation are approved annually by the QI council.

In addition, QI council members evaluate each QI council meeting at its end. Periodic summaries of these evaluations are provided to QI council members, and revisions to meetings are made accordingly based on QI council member feedback.

II. Quality Improvement Activities

QI activities include review and improvement of processes that have a direct or indirect influence on the health of patients. The following QI activities will be implemented and reported to the QI council:

Quality Improvement (QI) Projects

At least xx QI projects will be conducted annually to assess and continuously improve the quality of the organization's processes and services. Within each QI project, the project team will 1) establish an aim statement for improvement that focuses the group effort, 2) use data to evaluate and understand the impact of changes designed to meet the aim, and 3) conduct multiple Plan Do Study Act cycles to discover what is an effective and efficient way to improve a process. The department manager conducting the QI project will report the mid-term and final results of the project to the QI council. After review and approval by the QI council, a QI project report may be provided to the Board of Directors. Results will also be shared with staff at all-staff meetings, by displaying a storyboard poster in a common area and/or in employee newsletters.

Any member of the QI council may request the implementation of a QI project by completing the "QI project proposal" form and submitting it to the council. QI proposals will be discussed at a subsequent QI council meeting during the agenda item for new business/QI proposals.

In addition to the new QI projects conducted, performance data from previously conducted QI projects will continue to be periodically monitored to ensure sustained improvements. If improvements are not sustained, the appropriate department manager will notify the QI council and make recommendations for further actions.

Performance Measures

The selection and measurement of performance measures enables the QI council to understand a) if the organization is improving the health of patients and b) if departments are implementing efficient and effective processes and programs. Performance measures will be developed at two levels: department and organization.

Organization-Level Measures

QI council members will annually identify [xx] performance measures for the organization that will be included in the QI dashboard. Criteria for organization-level performance measures:

- Are meaningful to the leadership team, medical executive committee and the Board of Directors.
- Reflect how well the organization is working toward enhancing the health of our patients (our mission).
- Measure work from multiple departments, with an emphasis toward cross-functional processes.
- Include a valid benchmark or target to measure data against.

The organization-level performance measures tie to the strategic plan, which outlines the vision and mission, through the success measures for the purpose (mission).

Measures are based on the following categories:

- High risk
- High volume
- Problem-prone
- Relate to patient outcomes
- Relate to patient, family/significant other, customer and/or staff satisfaction
- Relate to compliance with regulatory/contractual requirements
- Relate to financial resources and utilization of services

Appendix B

Sample Quality Improvement Committee Agenda

Friday, June xx, 202x
8:30 a.m. - 9:45 a.m.

8:30 a.m. **Check-in and update on June xx meeting (5 minutes)**

8:35 a.m. Review of monthly dashboard (20 minutes)

- Report on action items from last month's review
- New action items for follow-up
- Summary of progress and pending

8:55 a.m. **Revisions to eligibility process: Design how to most effectively gather current financial information every six months (30 minutes)**

9:25 a.m. **Final review of uninsured/underinsured workflow (10 minutes)**

- Review of aim statement
- Any revisions needed based on pilot results?
- Where/whether workflow for insured patients would be different?

9:35 a.m. **Next steps and evaluation (10 minutes)**.

- Next meeting agenda
  - Review of monthly dashboard

9:45 a.m. **Adjourn**

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