

Developing QI Projects: Understanding the Problem



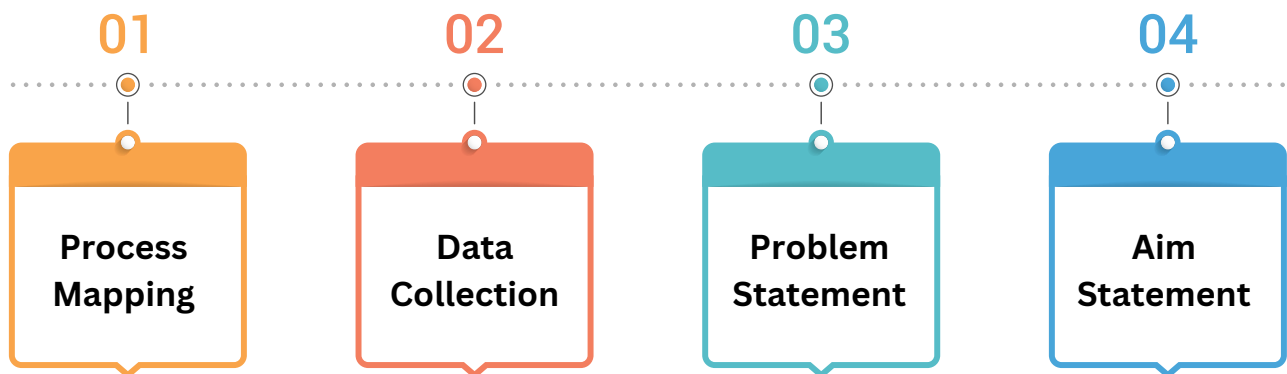
FAQ #3 in a series committed to assisting the HOPA membership along the quality improvement journey

“If I had an hour to solve a problem I’d spend 55 minutes thinking about the problem and 5 minutes thinking the solution.”

- Albert Einstein

Rather than starting with the solution, the key is to first understand the problem. We need a complete **understanding of the existing process** and **data** before we can find appropriate solutions. The steps described below can be used as part of the “P” (Plan) of the PDSA model and the “D” and “M” (Define and Measure) of the DMAIC model described in FAQ #2.

How to understand the problem



Process Mapping

A visual tool used to examine an existing process and expose flaws, duplication of work, unnecessary steps, waste, gaps, and other problems in the process

Ensure all involved parties are present:

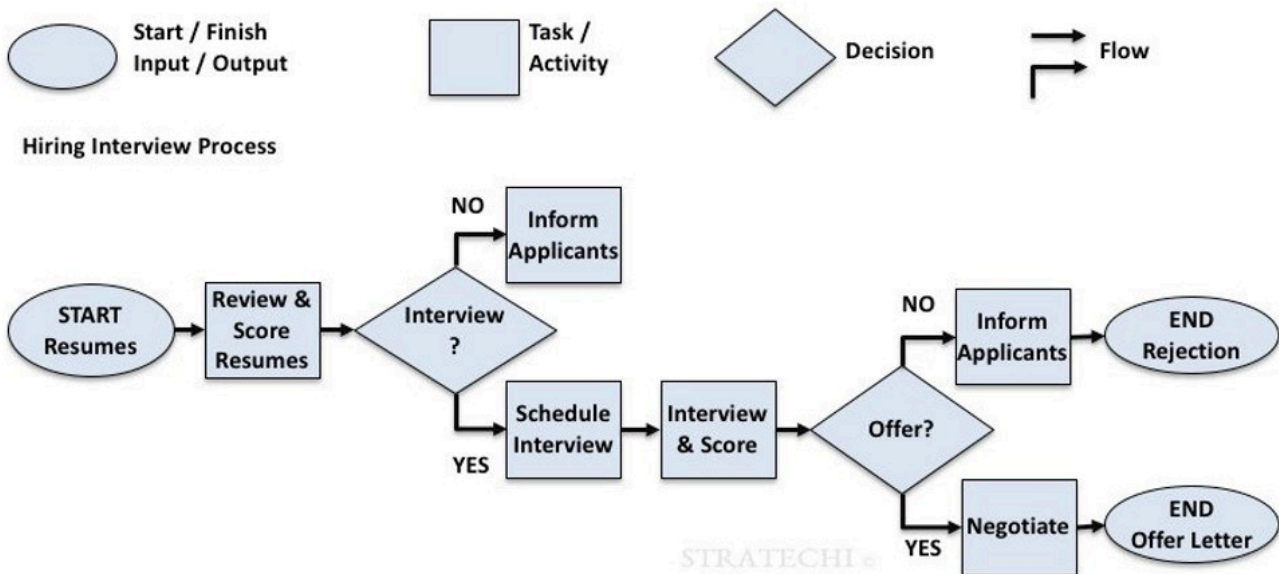
- Collect input from front-line staff responsible for each step in the process. They can validate the work that is actually happening rather than what you think is happening. This also promotes engagement in the work and upcoming change.
- Ensure all involved parties know what other team members contribute to the process to prevent duplicative work or inefficiencies.

Consider ‘SIPOC’ to include each piece of process:

- **S: Suppliers** - who is supplying the inputs (pharmacist, MD, RN, lab, etc)
- **I: Inputs** - what is needed to complete each step in process
- **P: Process** - what are the steps of the process
- **O: Outputs** - what is produced by each step of process
- **C: Customers** - who are the “customers” of each step

Be sure to document the CURRENT process, not the IDEAL process

A PROCESS MAP



Data Collection:

Baseline data is essential to confirm the suspected problem, determine a reasonable target for improvement, measure the impact of the implemented solution, and begin to understand the problem

- Plan this out before you start collecting data
- Consider what to measure, how to collect it, and how it will be used. This will be the same data points you measure after your intervention.
 - Is this data already collected somewhere? How can you access it?
 - Do you need additional data points? How will you obtain this data?
 - Does this data need to be collected continuously or periodically?
 - Is there a national benchmark related to your problem? How is that benchmark measured?
- Determine a reasonable timeframe and/or sample size for baseline data
- Determine how you will store your data safely
- Be consistent in your data collection methods

Problem Statement:

Simply state the problem and include the following elements



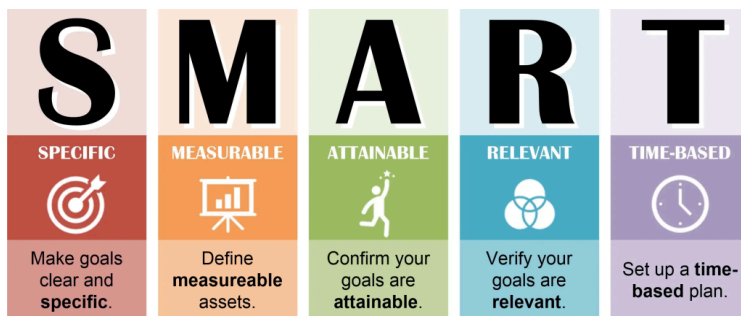
- **What** is happening (or not happening)
 - Consider using a place holder variable (X) while you are collecting your baseline data
- **Who** is the problem effecting?
- **Where** is this happening (or not happening)?
- **When** (over what time period) was the observation made?
- **Why** is this a problem for patient care?

Example: From January through June of 2023, **X % of methotrexate levels drawn** on **patients** in the **adult inpatient oncology unit at University Hospital** were drawn **at incorrect times**. This leads to **inaccurate results, potential for errors** in clinical decisions impacting **patient** outcomes, **increase costs** for the **institution**, and **staff frustration**.

Aim Statement

Should evolve from the problem statement and data collection to describe what is to be done about the problem. Describes how to “Close the gap” between the ideal state and what you have observed in your process.

The “SMART” goal approach may be helpful:



Avoid using possible solutions in the aim statement

Example: We aim to decrease the number of incorrectly timed methotrexate levels on the adult inpatient oncology unit from 25 % to 10% by January 2025.

References:

1. How to improve: Model for improvement. Institute for Healthcare Improvement. (n.d.). <https://www.ihl.org/resources/how-to-improve>
2. *Quality Improvement Essentials Toolkit*. Boston: Institute for Healthcare Improvement; 2017. (Available at [ihl.org](https://www.ihl.org))
3. Agency for Healthcare Research and Quality. Collect and Use Data for Quality Improvement. Integration Academy. Retrieved September 25, 2025, from <https://integrationacademy.ahrq.gov/products/playbooks/behavioral-health-and-primary-care/implementing-plan/collect-and-use-data-quality-improvement>
4. *Setting SMART Training Goals*. Fossil Consulting Services. Retrieved September 25, 2025, from <https://www.fossilconsulting.com/blog/qualifications-and-training/setting-smart-training-goals/>
5. Porter, L., & Waldron, T. (2023, April 19). *Process mapping: Seeing the bigger picture*. Health Quality Council. Retrieved from <https://www.saskhealthquality.ca/blog/process-mapping-seeing-the-bigger-picture/>

Stay tuned for future future topics:

QI tools ~ Developing QI projects: Diagnosing the problem, data in quality, defining measures and countermeasures, assessing results ~ Quality indicators and metrics ~ How to teach residents about quality ~ Designing a quality rotation vs longitudinal project ~ Sharing results

Interested in more information? [Click here](#) to see our HOPA Quality website.

