**Quality Improvement Primer**

An overview of the key Continuous Quality Improvement (CQI) principles and methodology

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**Guiding Principles for**

**Continuous Quality Improvement (CQI)**

When questions arise in the details of the CQI work, refer back to these guiding principles to provide clarity of direction.

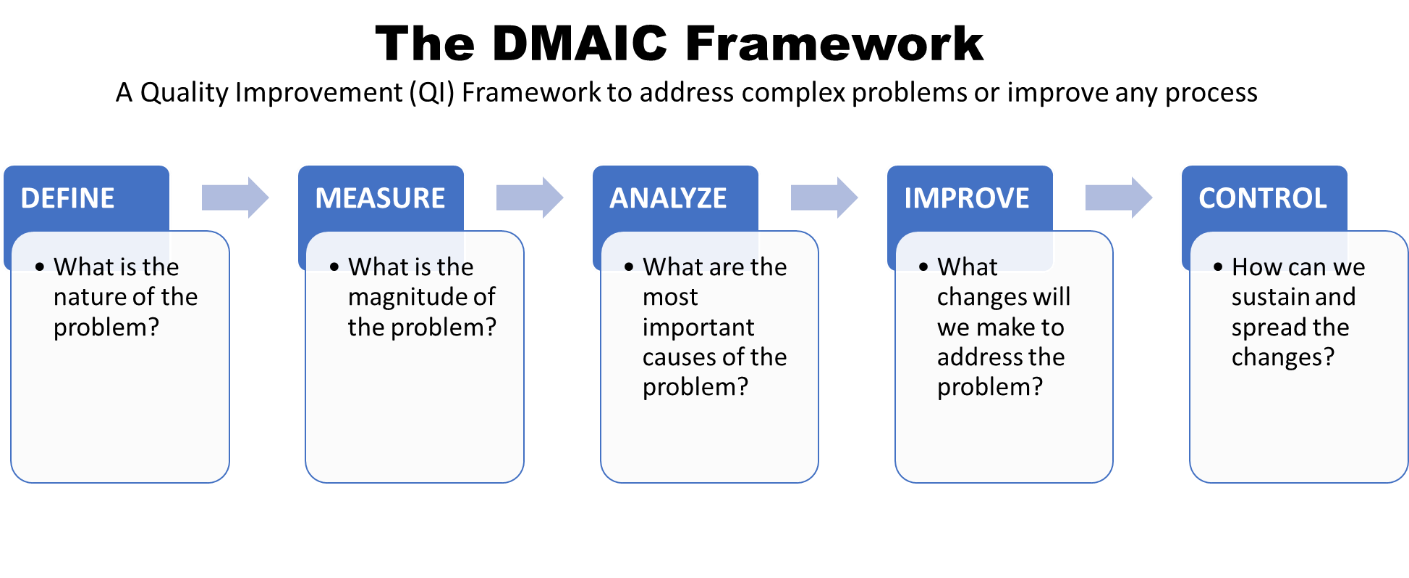
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| Guiding Principle | Related Tools |
| Focus on processes to increase the productivity of work | * Process Mapping |
| Focus on the needs of the users | * Voice of the Customer (VOC) |
| Use data to improve services | * Metric Use for Improvement |
| Use teams to improve quality | * Team Formation |
| Improve communication | * Stakeholder Analysis * Communication Plan * Action Plan * Meeting Facilitation |

**THE DMAIC FRAMEWORK**

A standardized, evidence-based framework for solving problems or improving any process

Problems are better solved and processes are better improved using a framework that is:

* Consistent, standardized for each complex problem or process requiring improvement
* Scientific evidence-based versus opinion-based
* Data-driven
* Based on exploration and analysis of causative issues
* Result-driven, measurable outcomes
* Focused on sustainable solutions
* Results in taking the project to scale - communication & spread of best practices



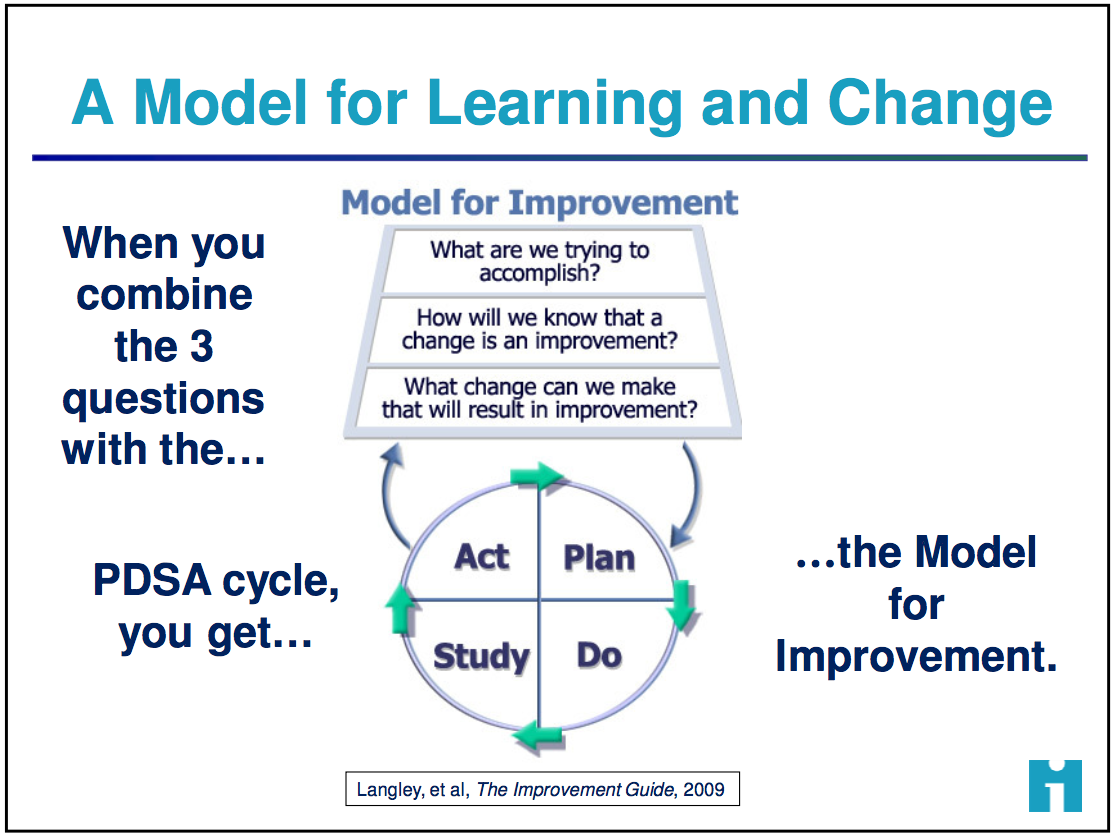
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| Phase | What Happens? |
| Define | * Create Problem Statement * Define Goals & Aim * Develop Timeline & Scope |
| Measure | * Select Metric * Collect Data |
| Analyze | * Identify Root Cause |
| Improve | * Test and Select Changes |
| Control | * Monitor Process * Communicate & Share Successes |

**THE MODEL FOR IMPROVEMENT (MFI)**

A simple, yet powerful approach, using formal methods to test changes in the steps of a process, to achieve rapid and significant improvements (*IHI, Model for Improvement*).

The Model for Improvement consists of two components, which follow each other sequentially:

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| Part I | Answers to *Three Fundamental Questions* leading to the project Goals/Aim, Metric and Change |
| Part II | The *Plan-Do-Study-Act (PDSA) Cycle*, the iterative scientific method for achieving improvement through testing change, i.e., altering a step in a process and evaluating the impact of that alteration |



**PART I: The Three Fundamental Questions**

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| Three Fundamental Questions: | Deeper/Probing Questions | Desired Output |
| 1. What are you trying to accomplish? | * What outcome, in measurable terms, are you hoping to accomplish? * Specify how good, for whom, and by when. | **Goals & Aim Statement**  Overarching, “big-picture” goal initially; then hone to an aim statement with a specific, measureable, time-bound outcome |
| 1. How will you know if a change is an improvement? | * What would be the most useful, meaningful metric to track? * What metric provides the best measure of the desired goal? | **Metric**  A metric to complete the aim statement; Define the numerator and denominator for your metric |
| 1. What change will you make that will result in an improvement? | * Which changes will lead to the most significant improvement? * Which changes will promote reaching the aim? Improve the metric? | **Change/Intervention**  Based on insights gained during process mapping, begin small tests of change, ultimately describing, selecting and taking the best intervention to scale.  Small tests of change allow rapid testing of various solutions before adopting the best intervention to addresses the root or underlying cause |

**Tips:**

* Engage the team and stakeholders in determining the overall goal; i.e., what you want to accomplish.
* Answering question #1 and #2 is an iterative process, with each round gaining additional clarity and specification toward creating an AIM Statement
* When asked, everyone on the team should know the aim statement and elevator speech

**PART II: The Plan-Do-Study-Act (PDSA) Cycle - Tests of Change Cycles**

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| PLAN | * State the objective * Make predictions * Generate solutions * Develop a data collection plan (who, what, where, when) | Tips:   * PDSA is not ‘one and done’, it consists of multiple iterative cycles. Think ahead & plan for the multiple cycles of testing over a wide range of conditions, collecting useful data from each test to guide the next one. * Start small - Focus the initial test on the “one” – one doctor, one nurse, one laboratorian, one shift, one form, one day, etc. * Start - Don’t wait around. Ask, “what change can we test by next Tuesday?” * Keeping PDSA cycles updated on the Learning Board ensures that all involved know what changes are being tested |
| DO | * Run the test on a small scale * Document problems & observations * Collect and chart the data |
| STUDY | * Analyze the data * Compare data to predictions * Summarize learnings |
| ACT | * Determine what modifications you should make – adapt, adopt, or abandon * Standardize the process * Select the next cycle |

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| **Moving from the small test of change to widespread “big” change using ever widening PDSA Cycles** | |
| * ***Begin with small tests of change*** - focus on the “one”. As one PDSA cycle is complete, the next cycle begins. * ***Continue to fine-tune tests*** – use lessons learned to “tweak” the test, and with each cycle, the involvement expands to involve another person/s, another shift, etc. * ***Conduct wider scale tests*** - involve another group, another unit, another facility, etc. * ***Standardize/Implement*** - When the change is proven to work reliably, it then becomes the new way to do work. The change is standardized into a new process and implemented. * ***Move to the Control phase*** - where the change is monitored for sustainability and results are shared * ***Implement at scale*** – if the change is applicable, it may be spread to other facilities or organizations |  |

**Templates:**

* Worksheet for Testing Change
* Quality Improvement Project Outline

**Associated Frameworks/Tools:**

* DMAIC Framework
* Critical to Quality
* Standard Work
* Learning Board
* Elevator Speech

**Worksheet for Testing Change**

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| **Aim:** |

*Every goal will require multiple smaller tests of change*

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| **Describe your first (or next) test of change:** | **Person responsible** | **By When** | **Where** |
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| **Plan** | | | |
| List the tasks needed to set up this test of change | **Person responsible** | **By When** | **Where** |
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| **Predict what will happen when the test is carried out** | **Measures to determine if prediction succeeds** | | |
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| **Do** **Describe what actually happened when you ran the test** | | | |
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| **Study** **Describe the measured results and how they compared to the predictions** | | | |
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| **Act** (three options) | | | |
| * **Adopt 🡪 Standardize** * **Adapt 🡪 Describe what modifications to the plan will be made for the next cycle** * **Abandon** | | | |

**Quality Improvement Project Outline**

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| **Team** | | | |
| **ROLE** | **NAME/S** | | |
| Champion/Sponsor/s | See Team Formation & Stakeholder Analysis | | |
| Team Leader |  | | |
| QI Expert / Coach |  | | |
| Data Manager |  | | |
| Front Line Team Member/s (One from each cadre) |  | | |
| Other Team Member/s |  | | |
| **Scope of Project** | | | |
| **Includes** | | | **Excludes** |
| Specify first & last steps of process | | |  |
| **Background/Context/Setting** | | | |
| For example: Country Information – Statistics, MOH efforts  Clinic Information - Size, location, staff – number and cadres, NGOs/partners involved, resources available, previous improvement efforts  Patient Information - Number of patients with HIV, number of tests, community needs, | | | |
| **Model for Improvement** | | | |
| **THE THREE QUESTIONS** | | **DEVELOP** | **YOUR ANSWERS** |
| What are you trying to accomplish? | | **AIM** | See Model for Improvement – 3 Fundamental Questions |
| How will you know if a change is an improvement? | | **METRIC** |  |
| What change will you make that will result in an improvement? | | **CHANGE** |  |

**Quality Improvement Project Outline**

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| **DMAIC** | | |
| **PHASE** | **KEY COMPONENTS** | **PROJECT DETAILS** |
| **Define** | Gap (Problem Statement) | (15 words or less) |
| Aim | Increase/Decrease \_\_\_\_\_\_\_\_\_\_\_ (metric) from \_\_\_\_ (baseline) to \_\_\_\_ (target) by \_\_\_\_\_\_ (date) |
| **Measure** | Baseline Measure | Numerator  ----------------------------------------------------------  Denominator |
| Data Source |  |
| Sample Size: | (need at least 25) |
| **Analyze** | Contributing Factor/s (See Analyze Tools): | See Analyze Tools |
| **Improve** | Intervention (Change): | See Model for Improvement - PDSA |
| Re-measure: | See Run Chart |
| **Control** | Project Owner: | Specify who & date of project transfer |
| Control Plan: | See Control Plan |
| Communication of Project Outcomes: | See Final Report & Storyboard Templates  Reported to Whom/Dates |
| Lessons Learned: |  |
| **Accomplishments:**  In one to two sentences, what did your team accomplish? | | |