# Quality Improvement Toolkit

A guide to plan QI initiatives

April 2013

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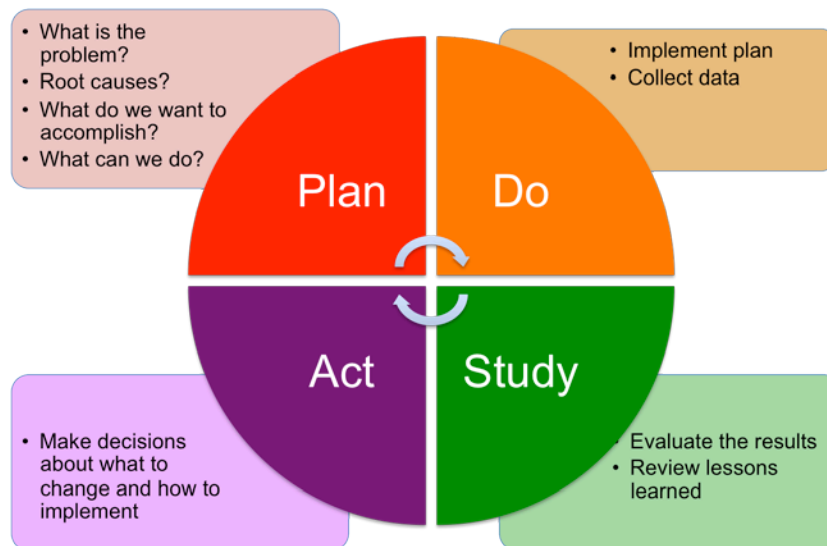
# Introduction

Quality improvement (QI) is a continuous and ongoing process to make measurable improvements in the efficiency, effectiveness, performance, and accountability of services. In public health, quality improvement is the use of a defined improvement process that is focused on activities that effect community needs and improve overall community health.

The Plan-Do-Study-Act (PDSA) is an approach that is commonly used to guide quality improvement efforts, and this framework can be used to implement community-wide or cross-jurisdictional efforts to improve public health.[1] This toolkit presents a variety of tools that can support DIG grantees as they plan quality improvement efforts in their districts. This toolkit provides checklists and tools for each step of the planning process.

The "Plan" stage of the PDSA cycle includes the following four key steps[1]:

Step 1: Getting Started
Step 2: Examine the Current Approach
Step 3: Identify Potential Solutions
Step 4: Develop an Improvement Theory



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[1] Adapted from: Embracing Quality in Local Public Health: Michigan's Quality Improvement Guidebook

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# Step 1: Getting Started

- ✓ Identify an opportunity for improvement and develop a plan
- ✓ Identify and assemble team members (including customers and/or stakeholders)
- ✓ Develop an aim statement
    - ✓ What are we trying to accomplish?
    - ✓ How will we know that a change is an improvement?
    - ✓ What change can we make that will result in an improvement?
- ✓ Identify key stakeholders, both external and internal

## Tools
1. Handout 1: AIM Statement
2. Handout 2: Stakeholder Analysis

**AIM Statement**
PURPOSE: To have a common vision for the project.

INSTRUCTIONS:
- As a group, brainstorm potential public health issues affecting your district.
- Identify the issue that you will focus on.
- Answer the guiding questions in Handout 1 to develop your AIM Statement.

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# Handout 1: AIM Statement[2]

Quality Improvement Project: _____

1. What is the potential issue we are trying to solve?




2. What are we trying to accomplish? (A brief statement of the aim)




Note: Your Aim Statement should meet the "SMART" criteria below:

| | |
|---|---|
| **S**pecific | Is your Aim Statement clearly written? |
| **M**easurable | Can you measure a change? Will you be able to monitor and evaluate the project? |
| **A**chievable | Can we do it? Is it within our sphere of influence? |
| **R**ealistic | Is it achievable within our time frame? |
| **T**ime-Bound | Is there a specific time period for completion? |

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[2] Adapted from: Michigan Accreditation Continuous Quality Improvement Collaborative (MACQIC)

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**Stakeholder Analysis**

PURPOSE: To identify important stakeholders (both external and internal) who play an important role in your public health issue.

INSTRUCTIONS:

- Identify a list of stakeholders who are connected to the public health issue.
- For each stakeholder, identify the role they play (or could play in the future) in the public health issue (column two).
- In column three, identify if they are an internal or external stakeholder.
- Note: Make sure to discuss the stakeholder's interest in the issue (positive or negative). Additionally, the influence/ power (high/medium/low) of the stakeholder is important to keep in mind as you move forward. Also note the resources controlled by each stakeholder that could influence your quality improvement initiative.

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## Handout 2: Stakeholder Analysis[3]

| Stakeholder | What is the stakeholder's role (or potential role) to address the issue?[4] | External or Internal Stakeholder? |
|---|---|---|
| 1. | | ☐ External<br>☐ Internal |
| 2. | | ☐ External<br>☐ Internal |
| 3. | | ☐ External<br>☐ Internal |
| 4. | | ☐ External<br>☐ Internal |
| 5. | | ☐ External<br>☐ Internal |
| 6. | | ☐ External<br>☐ Internal |
| 7. | | ☐ External<br>☐ Internal |
| 8. | | ☐ External<br>☐ Internal |

Now that key stakeholders have been identified, they should be included in the remaining stages of the planning process.

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[3] Adapted from: Embracing Quality in Local Public Health: Michigan's Quality Improvement Guidebook
[4] Make sure to consider interest, influence/power, and resources of the stakeholders.

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# Step 2: Examine the Current Approach

- ✓ Examine the current approach or process flow
- ✓ Determine root cause(s) of the issue
  - ✓ Evaluate the current situation
  - ✓ Review existing baseline data

## Tools:

1. Handout 3: What is the Current Situation?
2. Handout 4: Fishbone Technique
3. Handout 5: Five Why's
4. Handout 6: SWOT Analysis

Note: The Fishbone and Five Why's are both tools for a root cause analysis. You do not need to complete both- determine which one best fits your needs.

**What is the Current Situation?**
PURPOSE: Determine the current situation/baseline for the public health issue that you have identified.

INSTRUCTIONS:

- As a group, discuss the questions outlined on the Current Situation handout.

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## Handout 3: What is the Current Situation?[5]

**Aim Statement:** _____

1. What data is currently available on this public health issue? What is the data showing us?

2. How will we know that a change is an improvement? (Include potential measures of success)

| Short term measures of success | |
|---|---|
| Medium term measures of success | |
| Long term measures of success | |

4. Are there other programs in the district working to address this issue? What are they doing?

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[5] Adapted from Michigan Accreditation Continuous Quality Improvement Collaborative (MACQIC)

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**The Fishbone Technique**

PURPOSE: To identify root causes(s) of the public health issue you have identified.
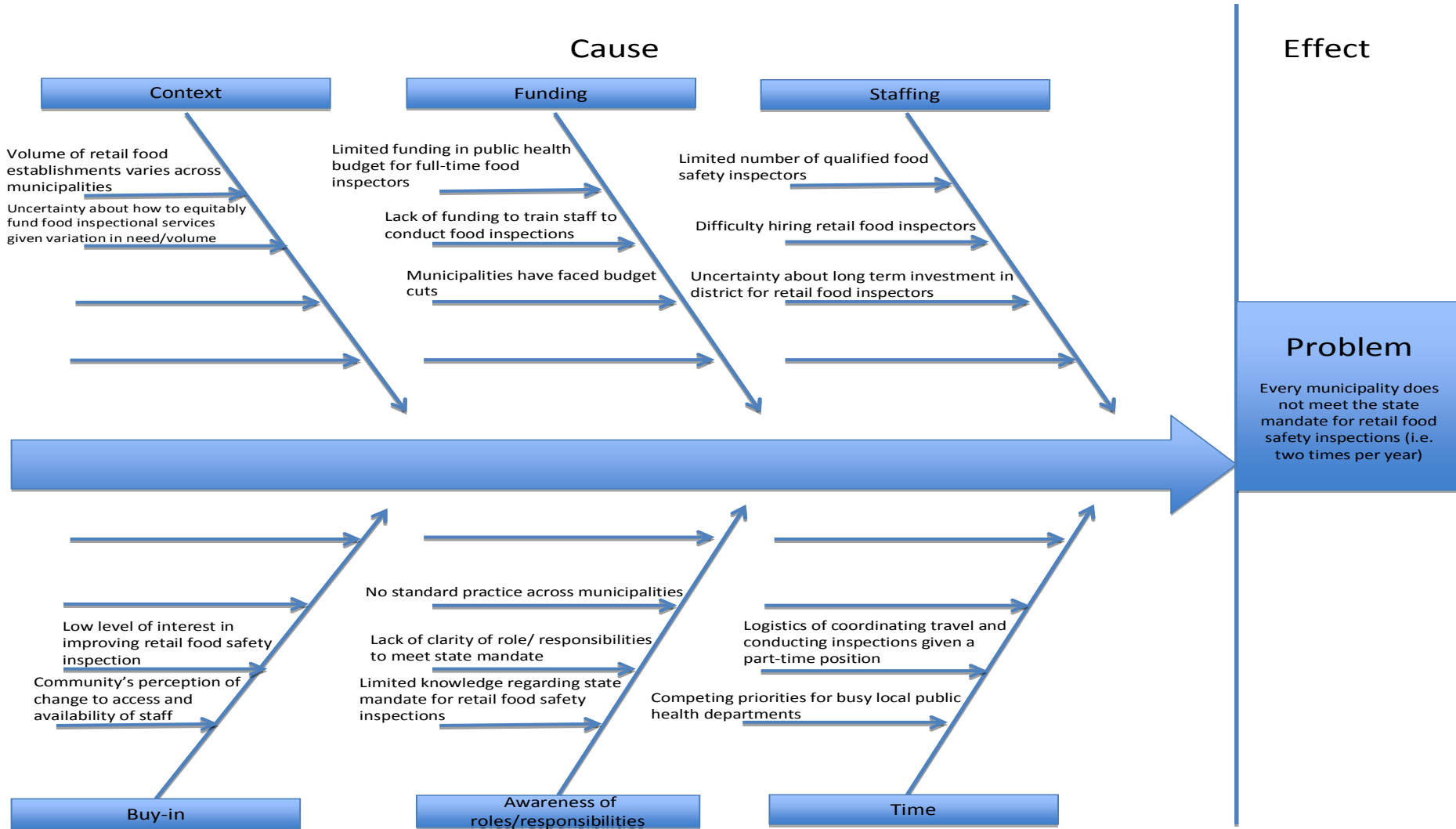
INSTRUCTIONS:
- On the right of the diagram, write the public health issue that you are addressing.
- As a group, brainstorm the major possible causes of the issue. Below are examples of possible types of problems associated with major topic areas that may help you to organize your ideas but are in no way exhaustive.

EXAMPLE:

| Major Topics | Types of issues associated |
|---|---|
| People | Knowledge, skills, motivation, support, feedback |
| Supplies | Materials/inputs needed |
| Policies/Procedures | Organizational/managerial standards, administration |
| Environment | An identifiable element in the physical, cultural, demographic, economic, political or regulatory that affects an organization. This includes: federal, state, local rules and regulations. |

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EXAMPLE:

Cause

Effect

**Context**

Volume of retail food establishments varies across municipalities

Uncertainty about how to equitably fund food inspectional services given variation in need/volume

**Funding**

Limited funding in public health budget for full-time food inspectors

Lack of funding to train staff to conduct food inspections

Municipalities have faced budget cuts

**Staffing**

Limited number of qualified food safety inspectors

Difficulty hiring retail food inspectors

Uncertainty about long term investment in district for retail food inspectors

**Problem**

Every municipality does not meet the state mandate for retail food safety inspections (i.e. two times per year)

Low level of interest in improving retail food safety inspection

Community's perception of change to access and availability of staff

No standard practice across municipalities

Lack of clarity of role/ responsibilities to meet state mandate

Limited knowledge regarding state mandate for retail food safety inspections

Logistics of coordinating travel and conducting inspections given a part-time position

Competing priorities for busy local public health departments

**Buy-in**

**Awareness of roles/responsibilities**

**Time**

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## Handout 4: Fishbone Analysis[6]



Cause

Effect

Problem

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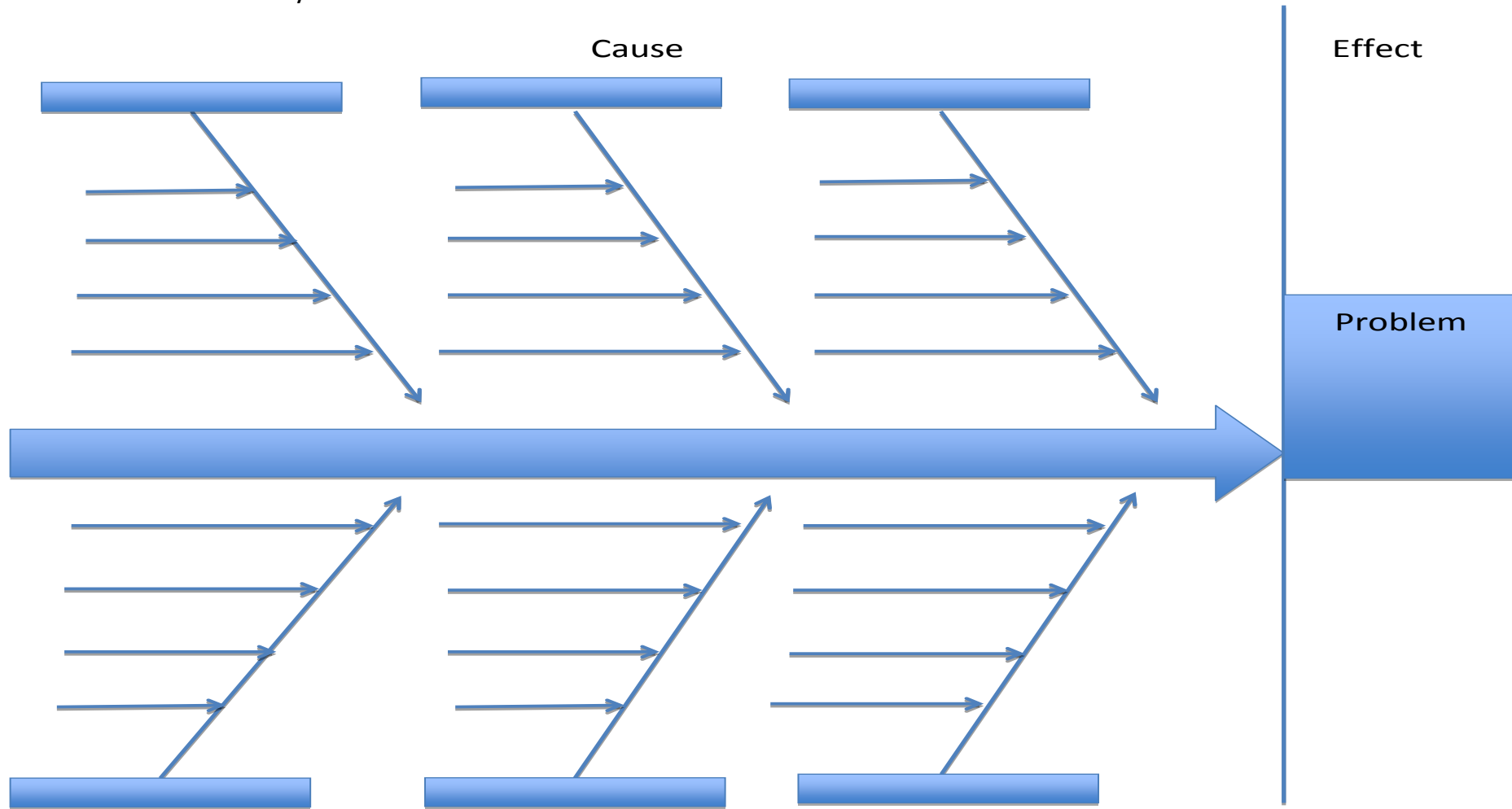
[6] Adapted from American Society for Quality, Quality Tools: Cause and Effect Diagram

**Five Whys**

PURPOSE: An analytical tool to help identify the root cause(s) of the identified public health issue.

INSTRUCTIONS:

- Brainstorm the major possible causes of the issue.
- Write each possible cause at the top of a separate "Five Whys" sheet.
- On each sheet ask "why" at least three times. This way, true root causes will be identified and not just symptoms of a deeper issue.
- Continue to ask "why" until you get to an answer that is a dead end, such as "it is the way it is" or "that is just the way it happened".

EXAMPLE:

Statement of the Problem: Every municipality does not meet the state mandate for retail food safety inspections (i.e. two times per year)

| Cause #1: Why is the possible cause happening? ↓ | Our municipalities do not have enough staff to perform two inspections per establishment per year |
|---|---|
| Why is Cause #1 happening? ↓ | Municipalities do not have enough food safety inspectors |
| Why is Cause #2 happening? ↓ | Difficulty in hiring qualified staff to perform food inspections |
| Why is Cause #3 happening? ↓ | Limited funding in the public health budget to hire full-time, qualified inspectors |
| Why is Cause #4 happening? | Municipalities have faced budget cuts, therefore, there is less money to allocate towards retail food inspections |

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## Handout 5: Five Why's

Statement of the Problem: _____

| | |
|---|---|
| Cause #1: Why is the possible cause happening?  ↓ | |
| Why is Cause #1 happening?  ↓ | |
| Why is Cause #2 happening?  ↓ | |
| Why is Cause #3 happening?  ↓ | |
| Why is Cause #4 happening?  ↓ | |
| Why is Cause #5 happening?  ↓ | |
| Why is Cause #6 happening?  ↓ | |
| Why is Cause #7 happening? | |

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**SWOT Analysis**

PURPOSE:  A tool that can be used to conduct an environmental scan. This tool identifies the strengths, weaknesses, opportunities and threats in the environment that affect your public health issue.

INSTRUCTIONS:
- As a group, complete a SWOT matrix for the public health issue you have identified.
- Use the information from your Fishbone Analysis or Five Why's to help inform the strengths, weaknesses, opportunities, and threats facing your district.

| | | |
|---|---|---|
| Structures within the organization | Strengths | Characteristics within the organization that are advantageous to addressing the public health issue. |
| | Weaknesses | Characteristics within the organization that pose a challenge or make it difficult to address the public health issue. |
| Structures in the environment | Opportunities | Elements in the environment could be advantageous to address the public health issue. |
| | Threats | Elements in the environment that could be problematic for you as you address the public health issue. |

EXAMPLE:

Aim Statement: For every municipality in our district to meet the state mandate for retail food inspections within two years.

| | Helpful to achieving our objective | Harmful to achieving our objective |
|---|---|---|
| **Internal Origin (Structures in the organization)** | -Trained food inspectors in district <br> -Interest in improving retail food safety practices across district | -There are no standard practices across municipalities <br> -Limited funding to support expansion |
| **External Origin (Structures in the environment)** | -There is a funding mandate/ incentives for improvement <br> -FDA food safety program offers funding for training | -Uncertainty about long term investments for district inspectors <br> -Public perceptions of change to status quo/ perceived changes in access/availability |

## Handout 6: SWOT Analysis

Aim Statement: _____

|  | Helpful<br>to achieving our objective | Harmful<br>to achieving our objective |
|---|---|---|
| **Internal Origin (Structures in the organization)** | *Strengths* | *Weaknesses* |
| **External Origin (Structures in the environment)** | *Opportunities* | *Threats* |

# Step 3: Identify Potential Solutions

- ✓ Revise Aim Statement (as necessary)
- ✓ Move from understanding to planning
- ✓ Identify all potential solutions to the issue based on the root cause(s)
- ✓ Review model or best practices to identify potential improvements
- ✓ Develop a theory for improvement
    - ✓ What is your prediction?
- ✓ Pick the best solution (the one most likely to accomplish your Aim Statement)

## Tool:

1. Handout 7: Selecting a Solution
2. Handout 8: Activity Timeline

**Selecting a Solution**

PURPOSE: To identify all possible solutions to the public health issue and determine which is the most feasible in your district.
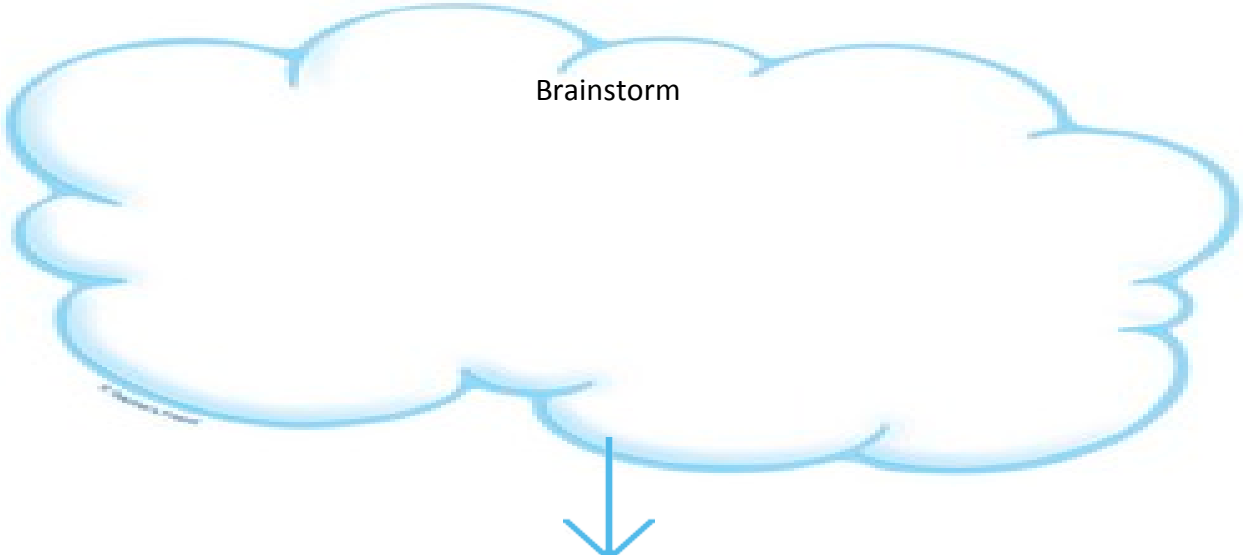
INSTRUCTIONS:
- As a group, brainstorm possible solutions to the public health issue you have chosen and write them in the brainstorm cloud. <u>NOTE</u>: Identified solutions can come from a variety of sources including published literature, other health department initiatives, personal experience and/or stakeholder input.
- Once the group has exhausted all their ideas, group the ideas into major themes and write them in Column 1 of the table.
- For each theme/solution, discuss the pros and cons.
- Lastly, discuss the feasibility of implementing each idea in your district. Remember, there might be good solutions that are not practical for your particular district.
- Pick the solution that is most feasible and fits with your Aim Statement.
- Write out a "plan of action" outlining the major steps needed to happen to implement your QI initiative.
- Determine your theory of change. (By implementing your solution what do you expect to change?)

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## Handout 7: Selecting a Solution

Aim Statement (Revised as necessary): _____

Brainstorm

| Solutions/ Major Themes | Pros | Cons | Feasibility |
|---|---|---|---|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

A) Plan of Action:

As a group, brainstorm the major activities needed to accomplish the QI initiative. Write these in the space below.

1.

2.

3.

4.

5.

6.

B) What is your "theory of change"? (If we do X, we expect Y will happen)

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**Activity Timeline**

PURPOSE: To develop a project strategy that identifies activities/tasks that need to be completed, who is responsible, and a timeline for completion.

INSTRUCTIONS:
- Fill the activities from Handout 7 (Selecting a Solution) Question A in the gray cells and determine if any sub-activities should be listed in the white cells.
- Develop a timeline (weekly or monthly) to be filled in across the top two rows.
- For each activity identify the person(s) responsible and then shade the appropriate cell(s) for the expected completion date.

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## Handout 8: Activity Timeline[7]

| Number | Activity | Person(s) Responsible | | | | | | | | | | | | |
|--------|----------|----------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| 1 | | | | | | | | | | | | | | |
| 1.1 | | | | | | | | | | | | | | |
| 1.2 | | | | | | | | | | | | | | |
| 1.3 | | | | | | | | | | | | | | |
| 1.4 | | | | | | | | | | | | | | |
| 1.5 | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | |
| 2.1 | | | | | | | | | | | | | | |
| 2.2 | | | | | | | | | | | | | | |
| 2.3 | | | | | | | | | | | | | | |
| 2.4 | | | | | | | | | | | | | | |
| 2.5 | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | |
| 3.1 | | | | | | | | | | | | | | |
| 3.2 | | | | | | | | | | | | | | |
| 3.3 | | | | | | | | | | | | | | |
| 3.4 | | | | | | | | | | | | | | |
| 3.5 | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | |
| 4.1 | | | | | | | | | | | | | | |
| 4.2 | | | | | | | | | | | | | | |
| 4.3 | | | | | | | | | | | | | | |
| 4.4 | | | | | | | | | | | | | | |
| 4.5 | | | | | | | | | | | | | | |

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[7] Adapted from Embracing Quality in Local public Health: Michigan's Quality Improvement Guidebook

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# Step 4: Develop an Improvement Plan

✓ Clearly identify your indicators of success
✓ Outline your plan for data collection

## Tool:
1. Handout 9: Monitoring Plan

**Monitoring Plan**
PURPOSE: To develop indicators that will measure the success of your QI initiative as well as help create a plan for how and when data will be collected.

INSTRUCTIONS:

- As a group, identify how you will measure the success of what you are doing. Brainstorm key measurement points that could signal change. Use the measures of success identified on the AIM Statement worksheet as a starting point and revise measures as necessary.

- Fill out each column of the Monitoring Plan table for each measure that you identify as important to collect.
  - Identify the baseline of each measure and your target goal for each measure that would indicate success.
  - In the subsequent columns identify how, when, and who will collect the information to establish accountability.

EXAMPLE:
Aim Statement: For every municipality in our district to meet the state mandate for retail food inspections within two years.

| Measure | Baseline | Target/Goal | Data Source | Data collection method | Data collection frequency | Person responsible for collection |
|---------|----------|-------------|-------------|------------------------|---------------------------|-----------------------------------|
| # of food inspectors per establishment per year | 3 of 5 towns meet the state mandate | 5 of 5 meet the state mandate for retail food safety inspections | -DPH -Local food establishment inspection data | Food establishment inspection forms | Weekly | -Food inspectors → complete & submit forms -Clerk → perform data entry of submitted forms |

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## Handout 9: Monitoring Plan

Aim Statement: _____

| Measure | Baseline | Target/Goal | Data Source | Data collection method | Data collection frequency | Person responsible for collection |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

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# QI Resources

1) Michigan Local Public Health Accreditation Program:
http://www.accreditation.localhealth.net

2) American Society for Quality (ASQ): http://www.asq.org

3) National Association of County & City Health Officials (NACCHO): http://www.naccho.org/

This toolkit was prepared on April 2013 by the Institute for Community Health. If you have further questions about its content, please contact Justeen Hyde at jhyde@challiance.org or 617-449-6684.

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