



# QUALITY *Improvement* PLAN





Georgia Heise, DrPH, District Director

## EXECUTIVE SUMMARY

Welcome to Three Rivers' Quality Improvement (QI) Plan! Someone once said, "What gets measured gets done." Although the author of that statement is unknown, he or she was certainly correct. With Public Health's limited resources, only those programs that can show outcomes receive funding. As we seek to become one of the first accredited health departments, Three Rivers is developing a culture of Quality Improvement by including it in everything we do. The Public Health Accreditation Board's (PHAB) defines QI in public health as "use of a deliberate and defined improvement process which is focused on activities that are responsive to community needs and improving population health. It refers to a continuous and ongoing effort to achieve measurable improvements in the efficiency, effectiveness, performance, accountability, outcomes, and other indicators of quality in services or processes which achieve equity and improve the health of the community."

At Three Rivers, we must constantly monitor our programs and their outcomes. We want to ensure that we are performing all processes and services in the most effective, efficient way possible. The only way to do that is to measure our performance and make improvements when and where possible. All our employees have received the equivalent of a college course in Quality Improvement based on The Team Handbook, by Scholtes, Joiner and Streibel. The curriculum for that course taught us how important it is assess what it is we are trying to accomplish, define the processes we are using, and to determine how we can improve them. We learned how to employ tools such as flow charts, affinity diagrams and cause and effect diagrams. Armed with our new skills, we are embracing our Shared Vision of ALL ONE TEAM, Striving for Excellence, Educating and Empowering with every Encounter!

Thank you,

Georgia Heise DrPH  
District Director



## TABLE OF CONTENTS

- Executive Summary .....2
- Quality Improvement Plan Fall 2011 .....4
  - Section 1: Introduction .....4
  - Section 2: Leadership and Organization .....8
  - Section 3: Goals and Objectives .....9
  - Section 4: Performance Measurement .....10
  - Section 5: Quality Improvement Initiative .....12
  - Section 6: Evaluation .....13
- Appendix A: Quality Improvement Tools .....15
- Appendix B: Quality Improvement Tools Specific to TRDHD .....19
- Glossary of Terms .....22

# QUALITY IMPROVEMENT PLAN THREE RIVERS DISTRICT HEALTH DEPARTMENT FALL 2011

## Section 1

## Introduction

### **Introduction: Mission, Vision, Guiding Principles of TRDHD**

**Vision:** All One Team, Striving for Excellence, Educating and Empowering with Every Encounter

**Mission:** The Public's Health is Our Passion

#### **Guiding Principles:**

- I. The communities served by TRDHD consider our delivery of the Ten Essential Public Health Services Outstanding, while being an accredited public health department.
- II. Regardless of discipline, TRDHD employees work as "All One Team", striving for excellence while educating and empowering with every encounter. All employees consider TRDHD a great place to work.
- III. The key to exemplary delivery of the Ten Essential Public Health Services is a competent public health workforce and the key to a competent workforce is adequate training. Furthermore, TRDHD will be a model health department and training center for others.

### **Our QI Story:**

Shortly after Three Rivers District Health Department (TRDHD) developed its Vision, "All One Team, Striving for Excellence, Educating and Empowering with Every Encounter," TRDHD employees began the process of developing a strategic plan as well as a culture of quality improvement. Throughout several months, all TRDHD staff received a series of quality improvement (QI) trainings. It was then that our past culture of "if it's not broke don't fix it," or "we've always done it that way," was realized. Using The TEAM Handbook as our main resource, staff learned the "Process Excellence" approach to quality improvement. Process Excellence is our adopted approach to focus on giving top value to our customers by building excellence into every aspect of our organization.

First, Process Excellence introduced us to 3 key elements: Customer Focus, Teamwork and Scientific Approach.



- **Customer Focus** - we learned our different types of customers, understanding their needs, and formulating ways to deliver easy, efficient and exemplary services.
- **Scientific Approach** - systems thinking was introduced, as well as ways to analyze data to better understand how to consistently provide services and programs to meet our customer's needs.
- **Teamwork** - TRDHD fostered teamwork which required staff to create an environment which supports trust, respect and collaboration. A common understanding of our vision, mission and shared commitments to our agency was created.

Second, QI methods highlighted in The TEAM Handbook were taught to all employees to gain a better understanding of tools that can be utilized to promote quality improvement. Tools included:

- Pareto Charts
- Flow Charts
- Fishbone Diagrams
- SIPOC Diagrams
- Cause & Effect Diagrams

After this was completed, employees had the skills necessary to create a list of their critical processes, and then flow chart those critical processes. Examples of such are provided in Appendix B.

To conclude our initial QI training modules, following their assessments of professional duties and improvement within the agency, staff had the opportunity to develop personal 5 year plans. The purpose of this was to further instill the consistent message of goal-setting, evaluation, and continuous development.



Modules presented to the staff during QI training include:

- Fourth Generation Management
- Voice of the Customer
- Process and Systems Thinking
- Using Data to Learn and Improve
- Developing a High Functioning Team
- Resolving Conflict More Effectively
- How to Handle Difficult Conversations and Interaction More Effectively
- Managing the Change Process
- Building an Improvement Plan

Each member of the Vision Team, consisting of staff in leadership positions, also participated in the BarOn Emotional Quotient Inventory which addresses emotional intelligence.



During new staff orientation, the District Director is responsible for introducing Process Excellence, QI Initiatives and our Strategic Plan. Each new employee will receive a copy of TRDHD’s Strategic Plan and Quality Improvement Plan. All staff have access to each plan by means of an internal network drive. Within two weeks of employment at TRDHD, the new employee will receive a Quality Improvement Orientation Training, adapted from the National Association for County and City Health Officials (NACCHO). This presentation will be delivered by the QI Coordinator. This training can also be accessed by each employee by means of our internal network drive, titled “QI Training TRDHD.”

To continue staff training for Quality Improvement, TRDHD also has a policy devoted to Quality Improvement and Performance Management, Policy A-IC-28, as well as each official job description at TRDHD includes the following:

- I. Participate in Process Excellence and TRDHD’s evaluation process.
  - A. Actively participates in the evaluation process of co-workers when needed.
    - Actively participates in the self-evaluation process when needed.
    - Actively participates in the All One Team and Process Excellence meetings
    - and completes tasks to the TRDHD strategic plan as well as personal and professional development.
    - Consistently fosters a nurturing work environment.

The following Quality Improvement Plan serves as the foundation of the commitment of Three Rivers District Health Department to continuously improve the quality of programs and services it provides.

**Quality.** Quality services are services that are provided in a safe, effective, recipient-centered, timely, equitable, and efficient manner.

Three Rivers District Health Department is committed to the ongoing improvement of the quality of care its community members receive, as evidenced by the outcomes of programs and services. TRDHD continuously strives to ensure that:

- The programs and services provided incorporate evidence-based, effective practices;
- The programs and services are appropriate to each client’s needs, and available when needed;
- Risk to patients, providers and others is minimized, and errors in the delivery of services are prevented;
- Standard operating procedures are developed and utilized on a consistent basis;
- Programs, processes, and services are provided in a timely and efficient manner, with appropriate coordination and continuity.

**Quality Improvement Principles.** Quality improvement is a systematic approach to assessing services, programs and processes and improving them on a priority basis. Three Rivers District Health Department’s approach to quality improvement is based on the following principles:

- **Customer Focus.** High quality organizations focus on their internal and external customers and on meeting or exceeding needs and expectations.
- **Employee Empowerment.** Effective programs involve people at all levels of the organization in improving quality.

- **Leadership Involvement.** Strong leadership, direction and support of quality improvement activities by the District Director and Board of Health are key to performance improvement. This involvement of organizational leadership assures that quality improvement initiatives are consistent with TRDHD’s mission, vision, and strategic plan.
- **Data Informed Practice.** Successful QI processes create feedback loops, using data to inform practice and measure results. Fact-based decisions are likely to be correct decisions.
- **Statistical Tools.** For continuous improvement of services and programs, tools and methods are needed that foster knowledge and understanding. CQI organizations use a defined set of analytic tools such as flow charts, cause and effect diagrams, flowcharts, Pareto charts, histograms, and control charts to turn data into information.
- **Prevention Over Correction.** Continuous Quality Improvement entities seek to design good processes to achieve excellent outcomes rather than fix processes after the fact.
- **Continuous Improvement.** Processes must be continually reviewed and improved. Small incremental changes do make an impact, and employees can almost always find an opportunity to make things better.

**Continuous Quality Improvement Activities.** Quality improvement activities emerge from a systematic and organized framework for improvement. This framework, adopted by Three Rivers District Health Department, is understood, accepted and utilized throughout the organization, as a result of continuous education and involvement of staff at all levels in performance improvement. Quality Improvement involves two primary activities:

- Measuring and assessing the performance of services, programs and processes through the collection and analysis of data.
- Conducting quality improvement initiatives and taking action where indicated, including the
  - design of new services, processes, programs and/or
  - improvement of existing services, processes and programs.

The tools used to conduct these activities are described in Appendix A, at the end of this Plan. General templates are provided as well as flow charts and diagrams specific to TRDHD.

## Section 2

## Leadership and Organization

**Leadership.** The key to the success of the Continuous Quality Improvement process is leadership. The following describes how the leaders of TRDHD provide support to quality improvement activities.

The **Quality Improvement Team** provides ongoing operational leadership of continuous quality improvement activities at the Three Rivers. QI Team members will spend one fiscal year serving on the team, therefore new membership will begin every July. Each department of the agency will be represented, as well as the District Director and the Accreditation/QI Coordinator. The team will meet at least monthly or not less than ten (10) times per year and the initial QI Team consists of the following individuals:

April Harris, QI Chairperson	Deborah Jones, Clinic Services
Georgia Heise, District Director	Jennifer Johnson, Home Health
Wayne Biddle, Environmental Health	Melody Stafford, Health Planning
Michael Boisseau, Administrative Services	Rebecca Wilson, Health Education

The membership of the Quality Improvement Team is based upon:

- District Director and departmental manager's recommendation;
- Employee capability and interest.

The responsibilities of the Quality Improvement Team include:

- Developing and approving the Quality Improvement Plan.
- As part of the Plan, establishing measurable objectives based upon priorities identified through the use of established criteria for improving the quality and safety of clinic services.
- Developing indicators of quality on a priority basis.
- Periodically assessing information based on the indicators, taking action as evidenced through quality improvement initiatives to solve problems and pursue opportunities to improve quality.
- Establishing and supporting specific quality improvement initiatives.
- Reporting to the Director and District Board of Health if needed, on quality improvement activities on a regular basis.
- Formally adopting a specific approach to Continuous Quality Improvement, specifically Plan-Do-Check-Act.

The **District Director** also provides leadership for the Quality Improvement process as follows:

- Supporting and guiding implementation of quality improvement activities.
- Reviewing, evaluating and approving the Quality Improvement Plan annually.
- Consulting with the Quality Improvement Coordinator to develop an annual budget and resource allocation.

The District Director will play a vital role in the development and maintenance of the agency Quality Improvement Plan and its subsequent activities. Furthermore, the District Director will provide oversight on QI initiatives derived from the QI Team. Quality improvement training to TRDHD will be facilitated by the District Director or appointed employees.

The Quality Improvement Team supports QI activities through the planned coordination and communication of the results of measurement activities related to QI initiatives and overall efforts to continually improve the quality of programs, services and processes. This sharing of QI data and information is an important team function. Team members, through a shared communication approach, ensure TRDHD staff acknowledge ongoing QI initiatives as a means of continually improving performance.

This planned communication may take place through the following methods;

- Story boards and/or posters displayed in common areas
- Employees participating on QI Team reporting back to departmental groups
- Sharing of the agency's annual QI Plan evaluation
- Newsletters and handouts
- Quarterly staff meetings facilitated by the District Director and management staff.



## Section 3

## Goals and Objectives

The Quality Improvement Team identifies and defines goals and specific objectives to be accomplished each year. These goals include training of all TRDHD staff regarding both continuous quality improvement principles and specific quality improvement initiative(s). Progress in meeting these goals and objectives is an important part of the annual evaluation of quality improvement activities.

The following are ongoing, long term QI goals for TRDHD for the fiscal years 2011-2012, to be completed by member for the QI Team.

- To implement quantitative measurement to assess key processes or outcomes;
- To bring managers and staff together to review quantitative data and major adverse occurrences to identify problems;
- To carefully prioritize identified problems and set goals for their resolution;
- To achieve measurable improvement in the highest priority areas;
- To provide education and training to agency staff and Board of Health members
- To develop or adopt necessary tools, such as standard operating procedures, consumer and employee surveys and quality indicators.

### Short Team Goals:

Each fiscal year, the QI Team will develop 4-6 quality improvement initiatives that are aligned with the agency's long-term QI goals. The QI Team will facilitate the initiatives with staff in their respective departments. QI Team members will be responsible for identifying activities/projects associated with each initiative and develop objectives. The preferred method for prioritizing activities/projects is an affinity diagram.



## Section 4

### Performance Measurement

**Performance Measurement is the process of regularly assessing the results produced by the program. It involves identifying processes, systems and outcomes that are integral to the performance of the service delivery system, selecting indicators of these processes, systems and outcomes, and analyzing information related to these indicators on a regular basis. Continuous Quality Improvement involves taking action as needed based on the results of the data analysis and the opportunities for performance they identify.**

The **purpose** of measurement and assessment is to:

- Assess the stability of processes or outcomes to determine whether there is an undesirable degree of variation or a failure to perform at an expected level.
- Identify problems and opportunities to improve the performance of processes.
- Assess the outcome of the program or service provided.
- Assess whether a new or improved process meets performance expectations.

Measurement and assessment **involves:**

- Selection of a process or outcome to be measured, on a priority basis.
- Identification and/or development of performance indicators for the selected process or outcome to be measured.
- Aggregating data so that it is summarized and quantified to measure a process or outcome.
- Assessment of performance with regard to these indicators at planned and regular intervals.

- Taking action to address performance discrepancies when indicators indicate that a process is not stable, is not performing at an expected level or represents an opportunity for quality improvement.
- Reporting within the organization on findings, conclusions and actions taken as a result of performance assessment.

**Selection of a Performance Indicator.** A performance indicator is a quantitative tool that provides information about the performance of an agency's process, services, functions or outcomes. Selection of a Performance Indicator is based on the following considerations:

- Relevance to mission - whether the indicator addresses the population served
- Importance - whether it addresses an important process that is:
  - high volume
  - problem prone or
  - high risk

**Characteristics of a Performance Indicator.** Factors to consider in determining which indicator to use include;

- Scientific Foundation: the relationship between the indicator and the process, system or outcome being measured
- Validity: whether the indicator assesses what it purports to assess
- Resource Availability: the relationship of the results of the indicator to the cost involved and the staffing resources that are available
- Consumer Preferences: the extent to which the indicator takes into account individual or group (e.g., racial, ethnic, or cultural) preferences
- Meaningfulness: whether the results of the indicator can be easily understood, the indicator measures a variable over which the program has some control, and the variable is likely to be changed by reasonable quality improvement efforts.



**The Performance Indicator Selected for the Three Rivers Quality Improvement Plan:** For purposes of this plan, an indicator(s) comprises five key elements: name, definition, data to be collected, the frequency of analysis or assessment, and preliminary ideas for improvement.

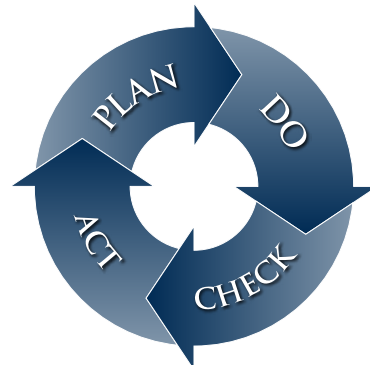
**Assessment.** Assessment is accomplished by comparing actual performance on an indicator with:

- Self over time.
- Pre-established standards, goals or expected levels of performance.
- Information concerning evidence based practices.
- Other local health departments or similar providers.
- Quarterly status reports included in our Strategic Plan.

## Section 5

## Quality Improvement Initiative

Once the performance of a selected process has been measured, assessed and analyzed, the information gathered by the above performance indicator(s) is used to identify a continuous quality improvement initiative to be undertaken. The decision to undertake the initiative is based upon agency priorities. The purpose of an initiative is to improve the performance of existing services or to design new ones. The model utilized at Three Rivers District Health Department is called Plan-Do-Check-Act (PDCA). PDCA is widely recognized as a comprehensive quality improvement method. The TEAM Handbook also outlines the PDCA Cycle on page 5-27 & 5-39.



- **Plan** - The first step involves identifying preliminary opportunities for improvement. At this point the focus is to analyze data to identify concerns and to determine anticipated outcomes. Ideas for improving processes are identified. This step requires the most time and effort. Affected staff or people served are identified, data compiled, and solutions proposed. (For tools used during the planning stage, see sections “a” thru “k” in APPENDIX: A. )
- **Do** - This step involves using the proposed solution, and if it proves successful, as determined through measuring and assessing, implementing the solution usually on a trial basis as a new part of the process.
- **Check** - At this stage, data is again collected to compare the results of the new process with those of the previous one.
- **Act** - This stage involves making the changes a routine part of the targeted activity. It also means “Acting” to involve others (other staff, program components or consumers) - those who will be affected by the changes, those whose cooperation is needed to implement the changes on a larger scale, and those who may benefit from what has been learned. Finally, it means documenting and reporting findings and follow up.

(APPENDIX: B includes tools used during PDCA specific to QI initiatives at TRDHD.)

**Improvement projects are supported by several components in TRDHD’s Strategic Plan.**

Specifically:

- Goal 10: Research for New Insights and Innovative Solutions to Health Problems, Objective 2: Increase Quality Improvement, Action Step A, Establish Quality Improvement Team.
- Goal 10, Research for New Insights and Innovative Solutions to Health Problems, Objective 8: Deliver Process Excellence Curriculum, Action Step A: Enroll Staff and Participate in Process Excellence Curriculum
- Goal 12: TRDHD is a Model Health Department and Training Center for Others, Objective 2, Become a Training Center, Action Step B: Design a Path for Accreditation
- Goal 12: TRDHD is a Model Health Department and Training Center for Others, Objective 3, Strive to Be a Learning Organization Through Continuous Improvement, Action Step A: Deliver Process Excellence Curriculum

## Section 6

## Evaluation

An evaluation is completed at the end of each fiscal year. The annual evaluation is conducted by the Quality Improvement Team and kept on file with the District Director. Evaluation will be completed by those members of the Quality Improvement Team, as well as open to all staff members and board of health members. The Quality Improvement Plan, as well as evaluation findings, will be kept on file with the District Director, as well as TRDHD’s internal network drive.

The evaluation for the QI Team is responsible for summarizing the goals and objectives of the Quality Improvement Plan, the quality improvement activities conducted during the past fiscal year, including the targeted process, systems and outcomes, the performance indicators utilized, the findings of the measurement, data aggregation, assessment and analysis processes, and the quality improvement initiatives taken in response to the findings.



- Summarize the progress towards meeting the Annual Goals/Objectives.
- For each of the goals, include a brief summary of progress including progress in relation to training goal(s).
- Provide a brief summary of the findings for each of the indicators you used during the year. These summaries should include both the outcomes of the measurement process and the conclusions and actions taken in response to these outcomes. Summarize your progress in relation to your Quality Improvement Initiative(s). For each initiative, provide a brief description of what activities took place including the results on your indicator. What are the next steps? Describe any implications of the quality improvement process for actions to be taken regarding outcomes, systems or outcomes at your program in the coming year.

- Recommendations: Based upon the evaluation, state the actions you see as necessary to improve the effectiveness of the QI Plan and overall QI Team. Also include “Lessons Learned.”

The evaluation for the agency’s employees and board of health members will be completed by means of an anonymous survey. This evaluation will focus on:

- Summarize the progress towards meeting the Annual Goals/Objectives.
- Provide feedback for the Quality Improvement processes and projects.
- Recommendations: state the actions you see necessary to improve the effectiveness of the QI Plan and overall QI Team.
- Summarize your progress in relation to your Quality Improvement Initiatives performed by your respective team, or of the QI Initiatives in other areas.



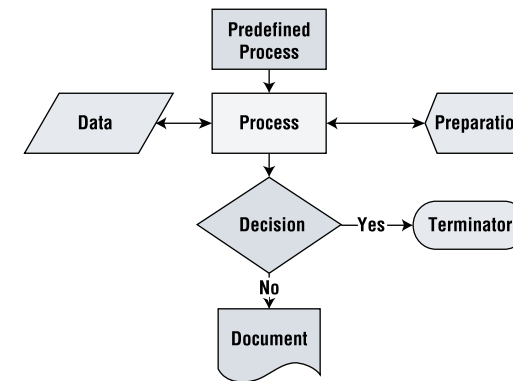
## APPENDIX A. QUALITY IMPROVEMENT TOOLS

Following are some of the tools available to assist in the Quality Improvement process.

- a. Flow Charting:** Use of a diagram in which graphic symbols depict the nature and flow of the steps in a process. This tool is particularly useful in the early stages of a project to help the team understand how the process currently works. The “as-is” flow chart may be compared to how the process is intended to work. At the end of the project, the team may want to then re-plot the modified process to show how the redefined process should occur. The benefits of a flow chart are that it:

1. Is a pictorial representation that promotes understanding of the process
2. Is a potential training tool for employees
3. Clearly shows where problem areas and processes for improvement are.

Flow Chart Symbols



Flow charting allows the team to identify the actual flow-of-event sequence in a process.

- b. Brainstorming:** A tool used by teams to bring out the ideas of each individual and present them in an orderly fashion to the rest of the team. Essential to brainstorming is to provide an environment free of criticism. Team members generate issues and agree to “defer judgement” on the relative value of each idea. Brainstorming is used when one wants to generate a large number of ideas about issues to tackle, possible causes, approaches to use, or actions to take. The advantages of brainstorming are that it:

1. Encourages creativity
2. Rapidly produces a large number of ideas
3. Equalizes involvement by all team members
4. Fosters a sense of ownership in the final decision as all members actively participate
5. Provides input to other tools: “brain stormed” ideas can be put into an affinity diagram or they can be reduced by multi-voting.

- c. Decision-making Tools:** While not all decisions are made by teams, two tools can be helpful when teams need to make decisions.

1. Multi-voting is a group decision-making technique used to reduce a long list of items to a manageable number by means of a structured series of votes. The result is a short list identifying what is important to the team. Multi-voting is used to reduce a long list of ideas and assign priorities quickly with a high degree of team agreement.
2. Nominal Group technique-used to identify and rank issues.



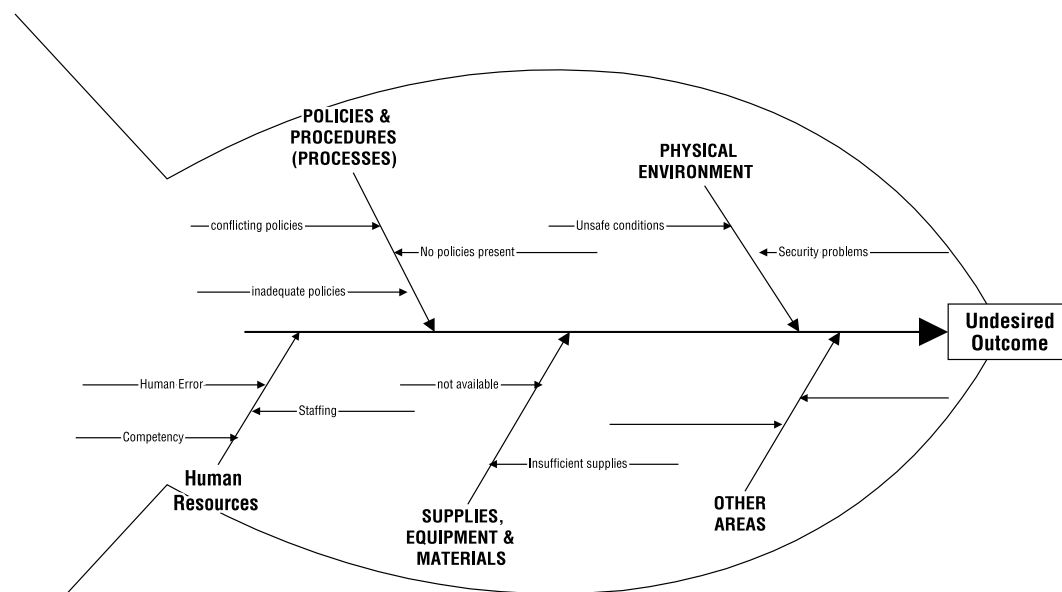
**d. Affinity Diagram:** The Affinity Diagram is often used to group ideas generated by brainstorming. It is a tool that gathers large amounts of language data (ideas, issues, opinions) and organizes them into groupings based on their natural relationship. The affinity process is a good way to get people who work on a creative level to address difficult, confusing, unknown or disorganized issues. The affinity process is formalized in a graphic representation called an affinity diagram. This process is useful to:

1. Sift through large volumes of data.
2. Encourage new patterns of thinking.

As a rule of thumb, if less than 15 items of information have been identified, the affinity process is not needed.

**e. Cause and Effect Diagram (also called a fishbone or Ishikawa diagram):** This is a tool that helps identify, sort, and display. It is a graphic representation of the relationship between a given outcome and all the factors that influence the outcome. This tool helps to identify the basic root causes of a problem. The structure of the diagram helps team members think in a very systematic way. The benefits of a cause-and-effect diagram are that it:

1. Helps the team to determine the root causes of a problem or quality characteristic using a structured approach
2. Encourages group participation and utilizes group knowledge of the process
3. Uses an orderly, easy-to-read format to diagram cause-and-effect relationships
4. Indicates possible causes of variation in a process
5. Increases knowledge of the process
6. Identifies areas where data should be collected for additional study.



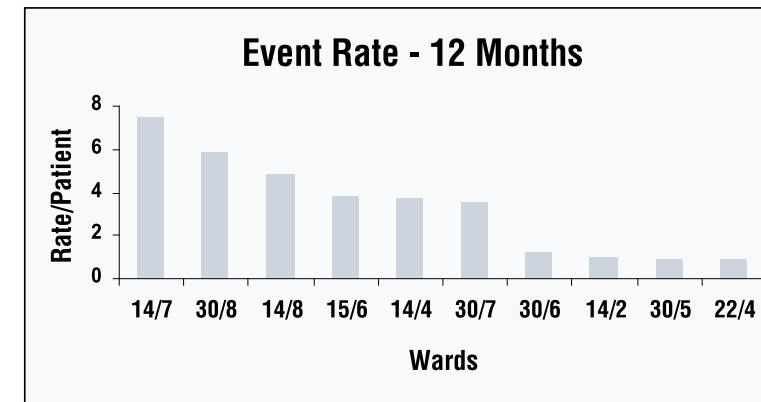
Cause and effect diagrams allow the team to identify and graphically display all possible causes related to a process, procedure or system failure.

**f. Histogram:** This is a vertical bar chart which depicts the distribution of a data set at a single point in time. A histogram facilitates the display of a large set of measurements presented in a table, showing where the majority of values fall in a measurement scale and the amount of variation. The histogram is used in the following situations:

1. To graphically represent a large data set by adding specification limits one can compare;
2. To process results and readily determine if a current process was able to produce positive results assist with decision-making.

**g. Pareto Chart:** Named after the Pareto Principle which indicates that 80% of the trouble comes from 20% of the problems. It is a series of bars on a graph, arranged in descending order of frequency. The height of each bar reflects the frequency of an item. Pareto charts are useful throughout the performance improvement process - helping to identify which problems need further study, which causes to address first, and which are the "biggest problems." Benefits and advantages include:

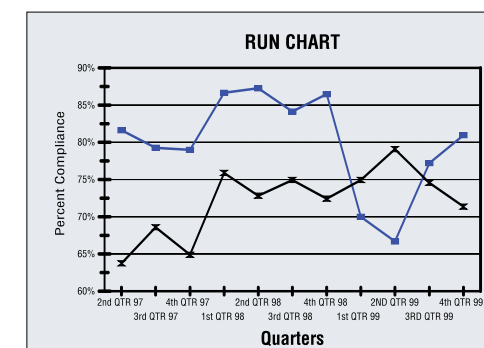
1. Focus on most important factors and help to build consensus
2. Allows for allocation of limited resources.



The "Pareto Principle" says 20% of the source causes 80% of the problem. Pareto charts allow the team to graphically focus on the areas and issues where the greatest opportunities to improve performance exist.

**h. Run Chart:** Most basic tool to show how a process performs over time. Data points are plotted in temporal order on a line graph. Run charts are most effectively used to assess and achieve process stability by graphically depicting signals of variation. A run chart can help to determine whether or not a process is stable, consistent and predictable. Simple statistics such as median and range may also be displayed. The run chart is most helpful in:

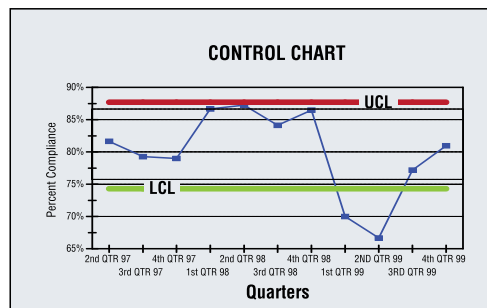
1. Understanding variation in process performance
2. Monitoring process performance over time to detect signals of change
3. Depicting how a process performed over time, including variation.



Allows the team to see changes in performance over time. The diagram can include a trend line to identify possible changes in performance

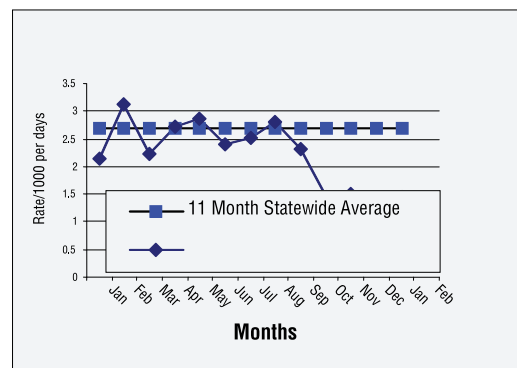
i. **Control Chart:** A control chart is a statistical tool used to distinguish between variation in a process resulting from common causes and variation resulting from special causes. It is noted that there is variation in every process, some the result of causes not normally present in the process (special cause variation). Common cause variation is variation that results simply from the numerous, ever-present differences in the process. Control charts can help to maintain stability in a process by depicting when a process may be affected by special causes. The consistency of a process is usually characterized by showing if data fall within control limits based on plus or minus specific standard deviations from the center line. Control charts are used to:

1. Monitor process variation over time
2. Help to differentiate between special and common cause variation
3. Assess the effectiveness of change on a process
4. Illustrate how a process performed during a specific period.



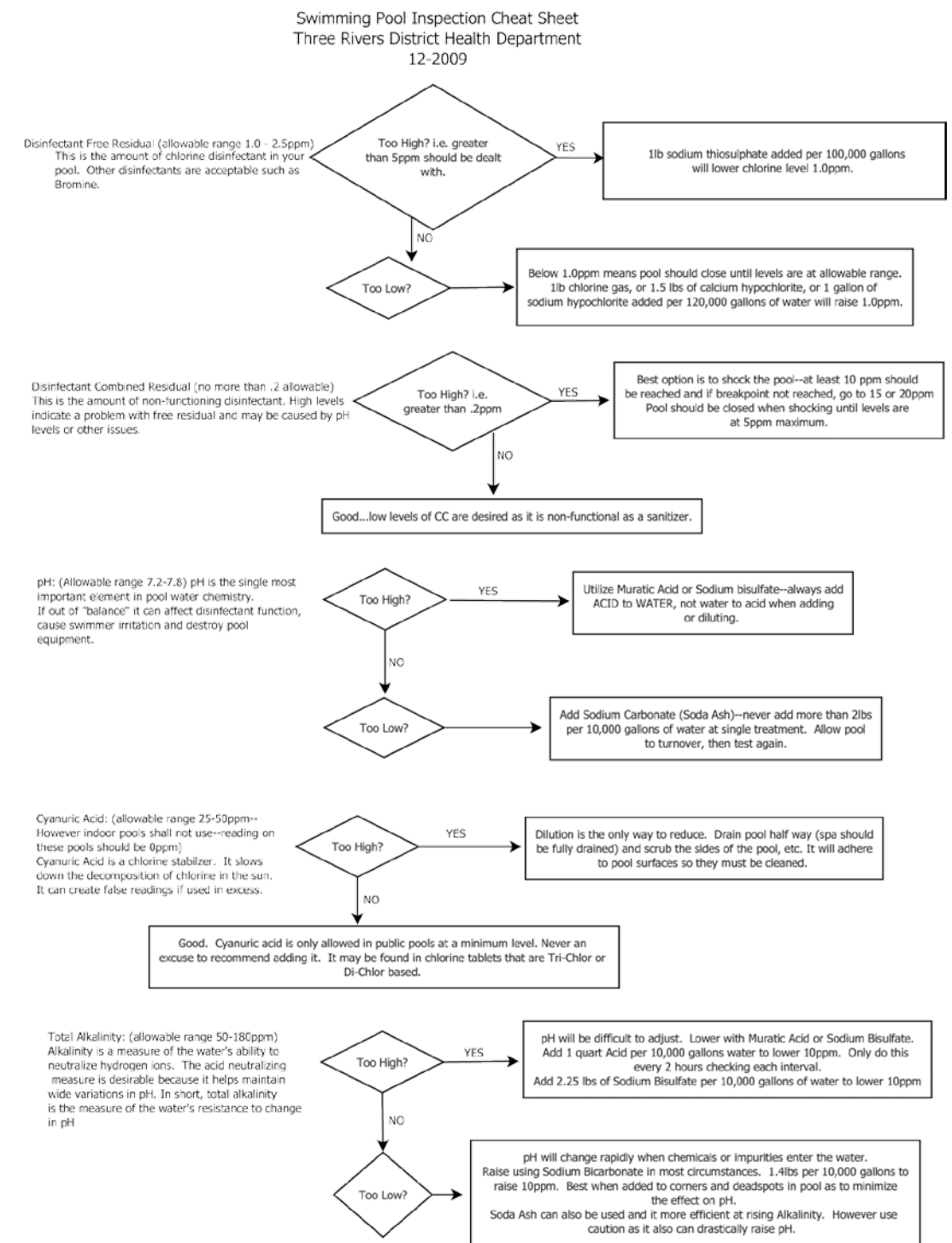
Using upper control limits (UCLs) and lower control limits (LCLs) that are statistically computed, the team can identify statistically significant changes in performance. This information can be used to identify opportunities to improve performance or measure the effectiveness of a change in a process, procedure, or system.

j. **Bench Marking:** A benchmark is a point of reference by which something can be measured, compared, or judged. It can be an industry standard against which a program indicator is monitored and found to be above, below or comparable to the benchmark.



k. **Root Cause Analysis:** A root cause analysis is a systematic process for identifying the most basic factors/causes that underlie variation in performance.

## APPENDIX B. QI TOOLS SPECIFIC TO TRDHD



### NOTES:

Turnover Rate: 6 hours for most pools  
8 hours for deep diving pools  
2 hours for handicap or special needs pools

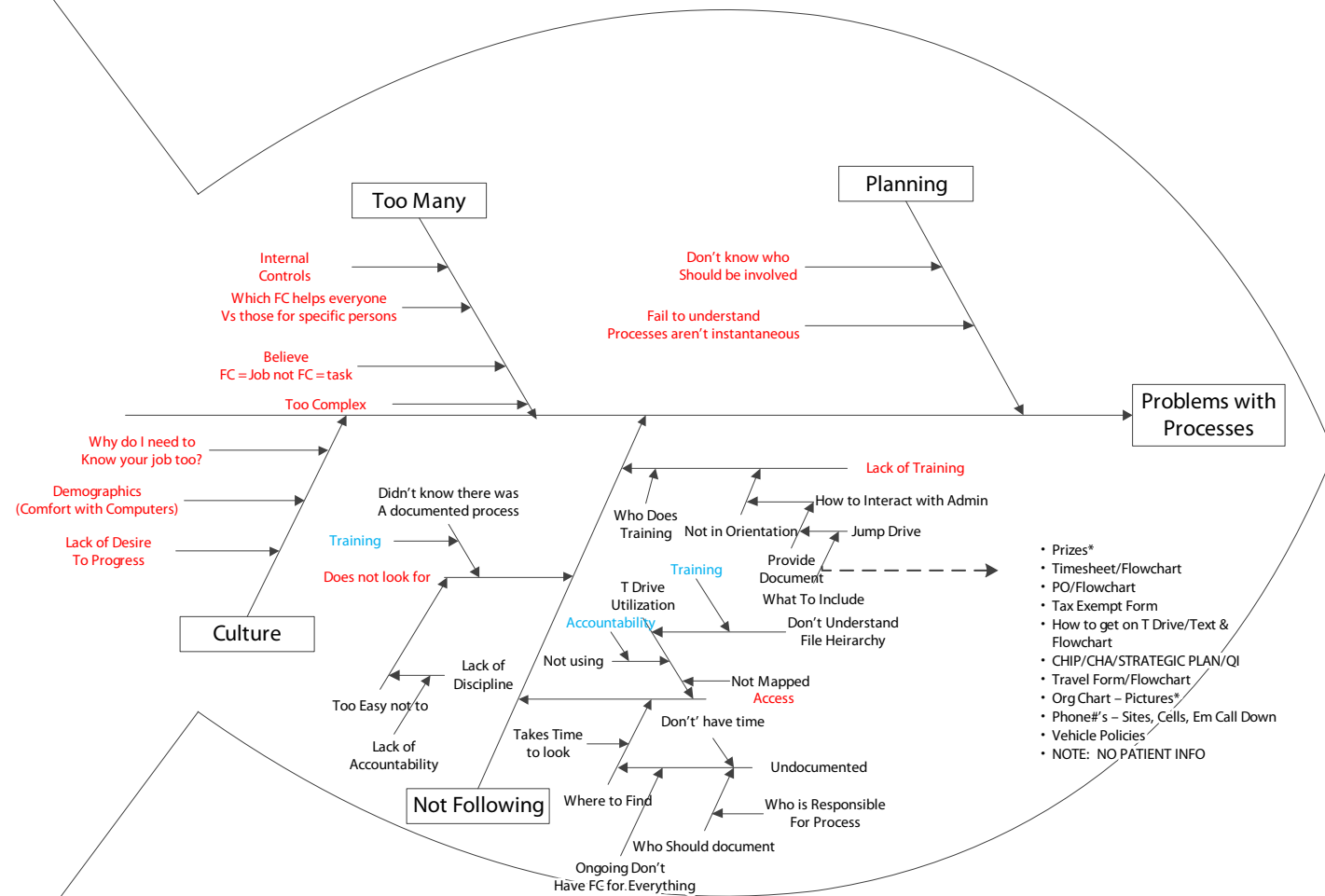
Gallon Capacity in pool:  
Length X Width X Avg. Depth X 7.5 = Gallons

Total gallons/360 min. (if 6 hour turnover required = 360min) =  
Required Gallons per minute or "flow rate"

Flow meter will give Actual Gallons per Minute.

If Actual GPM does not meet or exceed Required GPM  
Turnover is not being met. Usually indicates pump/piping issues or filters need backwashing. Check hair strainers as well.

### Administrative Team Issues Diagram



October 4, 2011  
Three Rivers District Health Department

Enter Title and Name of employees responsible for functions listed below >>>>>	Administrative Supervisor	BOH Admin	Purchasing Agent	Personnel Specialist	Receptionist	District Director	IT Manager	Dept. Managers/Staff
Admin Supervisor – M. Wilburn Purchasing Agent – M.Boisseau Receptionist – TBD IT Manager – Greg Ramey Departmental Managers – Denise Bingham, Jennifer Johnson, Allison Napier, and Justin Pittman								
BOH Admin – TBD Personnel Specialist – Carolyn Stewart/TBD District Direct – Georgia Heise								

(Enter "P" or "A" for employee(s) assigned responsibility for each function or "N/A" to the right of each function that is not applicable)

#### Payroll/Personnel:

Prepares pwk for new employee appointments		A			P			
Prepares pwk for all other personnel actions		A			P			
Prepares contracts for personal service employees		P						
Approves pwk for new employee appointments						P		A
Approves pwk for all other personnel actions						P		A
Executes personal service contracts						P		
Process data entry for personnel actions		A			P			
Approves employee overtime						P		
Reviews/Approves Leave Requests						A/P		P/A
Processes data entry for payroll		A			P			
Authorizes changes to employee time worked and leave records						P		A
Processes quarterly reporting for payroll		A			P			
Approves quarterly reporting for payroll						P		
Signs payroll checks 1 of 2 signatories					P		A	
Signs payroll checks 2 of 2 signatories		P						A
Custodian of personnel files						P	A	
Maintains leave records		A			P			
Executes electronic transfer of funds for employee direct deposit		A			P			
Prints and maintains control of paper payroll checks		A			P			
Maintains custody of payroll check stock					P			
Maintains custody of unclaimed paper payroll checks					P			
Compares monthly payroll expenses to budgeted amounts & reports results to management		A			P			
Reviews monthly payroll expenses to budget						P		A

#### Procurement:

Prepares general purchase order requisitions		A		P				
Prepares departmental purchase requisitions				A				P
Reviews/Approves purchase order requisitions						P		
Processes purchase order requisitions and assigns PO#					P			
Receives materials ordered (ensuring all items have been received undamaged and goods meet quality standards)					P			
Matches purchase order, receiving document and invoice					P			
Prepares invoice payment authorizations			A	P				
Verifies invoice accuracy, terms and account distribution		P	A					
Approves invoice payment authorizations		P				A		
Prepares hand-check authorizations			A	P				

P=Primary Responsibility

A=Alternate

N/A=Function/Duty is Not Applicable



## GLOSSARY OF TERMS

**BOH:** Board of Health, form of governing entity

**Internal Network Drive:** TRDHD uses an internal network drive which allows each employee, no matter the location in our five worksites, to access folders containing information specific to Three Rivers. This is also referred to as the "T-drive."

**NACCHO:** National Association of County and City Health Officials. Also the source of the Introduction to Quality Improvement Training template used during new employee orientation.

**Process Excellence:** term used interchangeably with quality improvement at TRDHD, term used to represent

**QI:** Quality Improvement

**The TEAM Handbook:** the resource used by TRDHD staff to teach Quality Improvement  
Scholtes, Peter R., Brian L. Joiner, and Barbara J. Streibel. The TEAM Handbook. Third Edition. Madison, WI: Oriol Incorporated, 2003. Print.

**TRDHD:** Three Rivers District Health Department, Owenton, KY, 40359

