Welcome to an Introduction to Quality Improvement at Alabama Public Health, an online presentation designed for all Alabama Department of Public Health employees.

This course will teach you about the basics of the quality improvement process and its importance to public health.
“Why Quality Improvement”, you may ask?

• The Alabama Department of Public Health is seeking accreditation as a state health department. National public health department accreditation is a process to measure our health department’s performance against a set of nationally recognized, practice-focused, and evidence-based standards. Accreditation requires an on-going commitment to performance management and quality improvement. The accreditation process provides valuable feedback to our department about our strengths (the things we are doing well) and opportunities for improvement.

• It is particularly important in tough economic times to demonstrate to our public that their investment in the work we do is a good one. Quality Improvement offers a platform to demonstrate our commitment to ensuring high quality services and increasing customer satisfaction.

• We know we’re good at what we do, and Quality Improvement tools will help us quantify – or show in numerical terms – that we are getting better all the time.

Achieving accreditation will demonstrate accountability and credibility to our citizens that they can expect to receive the same quality of public health programs and services in the state of Alabama that they would receive in any other state.
At the end of this presentation, you will learn what is meant by quality improvement, or “QI”; you will understand how QI can help you become more efficient and effective in your day-to-day activities at work; and you will learn how you can use QI to increase our customers' satisfaction.

• You will be able to distinguish the difference between Quality Improvement, Quality Assurance, and Evaluation.
• You will be able to understand each phase of the Plan-Do-Check-Act cycle, or “PDCA cycle.”
• You will learn about some of the tools used in QI.
• And, you will see an example of how the PDCA cycle was used in an actual QI project in a local health department.
So let’s take a moment and talk about what IS quality improvement? What does it mean to improve? And what does QI NOT mean?

First, we will define Quality Improvement, and then we will compare it to other activities that are related to, but often confused with, Quality Improvement.
Continuous Quality Improvement is the complete process of identifying, describing and analyzing strengths and weaknesses and then testing, implementing, learning from and revising solutions. It relies on an organizational culture that is proactive and that supports continuous learning and is an ongoing effort to achieve measurable improvements. An important part of this definition is the emphases that QI is an ongoing process. At ADPH, we are all responsible for processes, services, and outcomes. Therefore, QI applies to each of us.
Let’s consider the differences shown here between Quality Assurance and Quality Improvement:

- QA is reactive, going back to check on how things have been done. QI is proactive, thinking about ongoing processes in place and how to make measurable improvements.
- QA often results from regulation, while QI signals an agency’s desire to operate in a culture of always improving.
- Managers typically take the lead in QA, while QI deliberately involves staff at all levels.
- QA is done on a periodic, scheduled basis, while QI is an ongoing effort.
- QA operates on a pass/fail basis – either something was done correctly or not, while QI is all about exceeding expectations – always setting the bar higher.
While evaluation of a process is part of QI, evaluation is not the same as QI.

- Evaluation assesses a program at a moment, or moments, in time, and in a sense is static, while QI is dynamic, seeking to understand processes that are in place – for example, the processes that support a program.
- Evaluation takes a snapshot, and when a problem area is identified it doesn’t go on to examine the problem or consider potential solutions. QI entails conducting an in-depth examination of the problem to uncover root causes, as well as to identify interventions specifically aimed at addressing the root cause.
- Evaluation might drive some changes in a program, but it does not include a method to measure improvements. QI is based on using data to both understand the baseline, and from that to measure, in quantifiable, numeric terms, any improvements that are achieved as a result of the interventions that are implemented. All improvement equals change, but all change doesn’t necessarily equal improvement. QI ensures that you know whether the change you have made results in an improvement.
- Evaluation tends to be focused on a program, and QI is most often focused on the customer, or user, of a process.
- Evaluation is often a component of QI, but in and of itself, evaluation is NOT QI.
The Plan-Do-Check-Act Model, or PDCA, has been embraced by many local and state health departments as their QI model for improvement and is the model adopted by ADPH. PDCA is both simple and powerful:

--Simple because it’s a very basic, 4-phase cycle.
--Powerful because it follows the scientific method of essentially understanding a problem, developing potential solutions, testing the solution, and analyzing the results.

Many national organizations support use of the PDCA model and offer resources to help health departments use the process to make improvements.
This is the PDCA cycle. ADPH uses this tool to guide its improvement process. The PDCA cycle is a four-step model for improving processes or implementing a solution. Like a circle, cyclical and continuous in nature, the PDCA cycle is a systematic way to turn ideas into action and to connect that action to improving systems and processes. Public health teams or even an individual can learn how to use the PDCA cycle. In most cases, this is a simple and straightforward process that can lead to very positive results. This picture shows the 4 steps of the PDCA cycle.
The first phase in the PDCA cycle is Plan.

The purpose of this phase is to investigate the current situation, fully understand the nature of any problem to be solved, and to develop potential solutions to the problem that will be tested.

There are several steps involved in the “Plan” phase. The first is to identify all of the opportunities for quality improvement then prioritize them. You can’t do everything at once so you must identify what needs to come first.
Once you have identified what needs to come first, you are ready to develop your AIM statement. An aim statement is essentially a precise, measurable objective, that answers the questions what, when, how much and for whom are we looking to improve? You will want to be specific as you answer each of these questions.

When you get to this point, it will be important to construct an aim statement that is possible to achieve within your time frame. It may well go through many revisions as you proceed through your planning cycle and become more narrowly focused.

When you determine a QI project for your location, you will find a template for writing your AIM statement on the Quality Improvement page of the Accreditation section of the ADPH web site.
Here are two examples of an AIM statement for the same QI project as an illustration of how your AIM statement should be developed.

• Statement 1 is fairly ambiguous. For example, exactly what does “improve” mean? Who will be receiving the hearing tests? When is this improvement expected to occur? What specific measure will indicate success?
• Statement 2 answers these questions. First grade students in the county’s schools are the “who” receiving the hearing tests. The improvement is expected to occur “Between September 1 and December 15”, and “90%” will be the specific measurement of success.
The next step of the planning process is to analyze the current process to find the root cause of the problem. There are many analytical tools that you may use, but one of the most common is a flowchart.

• Flowcharts are used to map the sequence of events in a process, from beginning points to end points, as well as all tasks, activities, and decision points in between. This allows you to see where you may have bottlenecks, or slow-downs along the way, or if there are any duplication of efforts in your processes.

• Remember that a distinction between evaluation and QI is understanding and improving upon a process. A flowchart is an important foundation to QI efforts.

• You will see an example of a flowchart as used in the process analysis of the QI project shown later in this presentation.
Data can take many forms. The important thing in this step is to carefully consider the measurable objective you set in the aim statement. You will need to ensure that you can measure any improvements, and therefore you need to think carefully about baseline data. For example, if you are seeking to improve the number of adults who receive an annual influenza vaccine, you need to know the percentage of adults who received it this year.
This is a critical step in quality improvement – one where you will carefully examine the problem you choose and conduct a root cause analysis. Here we will discuss some of the tools you may use in this process.

• The Cause and Effect Diagram, also called an Ishakawa diagram or fishbone diagram, helps team members think in a systematic way to identify, sort, and display all the possible causes related to a process, procedure, or system failure. The problem, or effect, is displayed as the head of the fish. Possible causes are identified and entered on the “bones” along the spine, with possible contributing reasons listed on the smaller “bones”. A fishbone diagram can be helpful in identifying possible causes for a problem that might not otherwise be considered by directing the team to look at the categories and think of alternative causes.
Brainstorming is a tool used by teams in order to generate a large number of ideas at one time. Brainstorming is advantageous because: it brings team members' diverse experience and perspective into play; it encourages creativity; and it fosters a sense of ownership in the project by the participants because they feel they have actively participated in the process.
• The Five Whys is a simple tool used to explore the cause and effect relationships underlying a problem to determine the root cause. By repeatedly asking the question "Why?", the team can follow a logical progression from the effect back to the original cause. 5 is the general number of times “why” is asked before arriving at the root cause. It may take more or less, depending on the problem.
These tools are often used in combination when performing a root cause analysis.

You can learn more about these and other QI tools from the Quality Improvement Plan found by visiting the Quality Improvement section of the Accreditation page on the Department’s web site.
Once you’ve identified the root cause, it’s time to determine what interventions to test – what improvement or improvements to try out. You will come up with improvements, and consider their costs and impacts. You will also think about what could go wrong, and actions you can take to minimize problems and maximize your chance of success.

You may wish to use a fishbone diagram to help determine a solution to your problem, with the team focusing on the potential effects of each solution.
The next step in the plan phase is to develop an improvement theory.

• An improvement theory is simply an “If…then…” statement that summarizes the effect of your intervention on the problem you are seeking to address. It’s essentially the hypothesis that is guiding your improvement work, and crystallizes what you have decided to do as a result of your planning phase. “If I do this, then that will likely happen.”
The final step in your planning is to develop an action plan. During this step of the Plan phase, you will identify specific tasks and necessary resources, and develop timelines to ensure that your test is on schedule and running according to plan. To assist you with this, you can use a Gantt chart, or other Project Management planning tool. This will allow you to see at a glance what the various activities are, when each activity begins and ends, how long each activity is scheduled to last, where activities overlap with other activities, and the start and end date of the entire project.
The “Do” phase is as it sounds – just do it! This marks the implementation of the improvement, and during this phase it is important to not only collect and document data around the improvement, but also to document any problems that occurred, any unexpected observations, and any lessons learned or knowledge gained. QI efforts generate many learnings and it is important to capture these.
• The “check” phase involves analyzing the effect of the intervention.
• In this phase, you will compare the new data to the baseline data to determine whether an improvement was achieved, and whether the measures in the aim statement were met.
• And again – document all of your results and the lessons you have learned!
Now it’s time to Act.

• This phase marks the culmination of the planning, testing, and analysis regarding whether the desired improvement was achieved as expressed in the aim statement. The purpose is to act upon what has been learned.

• If the improvement was achieved, it’s time to adopt your improvement plan as standard practice.

• If the improvement wasn’t quite achieved, but you feel it was close, you will adapt your “test,” and either extend the testing period or, you will revise something and repeat the testing cycle.

• If the improvement simply wasn’t achieved, you know you will need to start back at the planning phase and reconsider the problem at hand.

• Once you have adopted and standardized the improvement, you still need to monitor the situation and make sure the improvement holds.
Let’s consider a few myths and truths about QI.

• Many people are concerned that because QI involves candid discussions about what’s NOT working, that it’s intended to weed out the bad apples or the poor employees. That simply isn’t so. The truth is, it’s about understanding what’s not working in a process and fixing that – with a focus on measurable improvement.

At ADPH, we want all of our customers to be satisfied with the work we do, so that means we should always be seeking to meet or exceed their expectations. Sometimes that will mean changing the way we do things.
Some people think that they have failed if they don’t achieve their aim statement. Again, this simply isn’t so. It’s much better to test an intervention and find out that it doesn’t result in an improvement than it is to adopt an intervention without testing it. Think of the wasted resources that could be involved with making a change if that change doesn’t lead to an improvement. Author and lecturer Dennis Waitley said, “Failure should be our teacher, not our undertaker.” Learn from those mistakes and develop a new plan.

Which leads us to the final myth…
• All change equals improvement.

In fact, some changes lead to quite the opposite. On the other hand, improvement IS about change. Even though it's change for the better, change can be very challenging for all of us. So even if we know we're doing good things, better things, we need to understand that change is involved, and while it's exciting, at times it might be uncomfortable.
Adopting a comprehensive and continuous QI approach can help you do your job even better, and you have probably already applied some QI concepts to your daily work. It can be used each and every day, by each and every employee, in each and every process or program. Quality Improvement can increase the effectiveness and efficiency of your work, thereby increasing customer satisfaction.

Many QI projects have already been done at ADPH, and other elements of QI processes can be found all across ADPH. So now let’s take a look at a QI project and the PDCA cycle as utilized by a group here in Alabama Public Health.
The Tuscaloosa County Health Department Family Planning Clinic show rate was identified as a potential target for improvement.

Increasingly concerned with the rate of “no shows” in the Family Planning Clinic, staff wanted to investigate ways to increase the number of patients keeping their appointments in the clinic.

With this goal in mind, the team developed the aim statement you see here: “An opportunity exists to improve the show rate in the family planning clinic beginning with patients scheduling return or initial appointments and ending with patients keeping their appointments.”
A flow chart was completed to show the appointment scheduling process, beginning with the patient scheduling an appointment and ending with whether or not the appointment was kept.

At the time, there was no reminder system in place unless the patient was enrolled in the Plan First Program and had an assigned social worker. If enrolled in the program, the patient received a telephone call and a reminder card to remind them of their upcoming appointment. Otherwise, it was up to the patient to remember their appointment.
As part of the data collection process, a Gantt Chart was used to establish patient wait times, the number of appointments versus the number of patient shows, start to finish times for patient visit, etc.

Possible solutions were identified through the use of a solution/effect diagram.

Some of the potential solutions identified were:

• Create a reminder system.
• Provide clients with transportation.
• Provide incentives for keeping appointments.
• Revise scheduling procedures.
• Provide customer service training for staff.
After collecting all of the data and brainstorming for ideas, the team developed an improvement theory. They determined that if family planning patients are reminded of their appointments through a telephone call the day before, family planning clinic show rates should increase.
In order to test their theory, data needed to be collected to see exactly where they were.

Baseline data was collected for the week of September 16th through September 20th of 2013. Data was collected on initial visits, annual visits, periodic or revisits, and problem, lab, or counseling visits. Data from the Public Health Alabama County Operations Network (PHALCON) reported a show rate of 53%.

• On October 8, reminder telephone calls were made to family planning patients for the following day. Of the 70 patients scheduled, 43, or 61% of appointments were kept. That was a 15% increase from the initial data.
• Reminder calls were made on October 16th for appointments scheduled on October 18th. It took approximately 57 minutes to make calls for all of the scheduled appointments. Of the 28 patients scheduled for initial or annual visits, 15, or 54%, were reached. 37% of the 41 of periodic or revisit patients were reached.
• Surveys were given to patients on the 18th to determine if reminder calls were helpful.
• Reminder calls were again made between November 13th and November 15th, and the show rate data was analyzed.
The average show rate for the calls made on the November dates was 74%. Data was compared to baseline data collected earlier. Show rates improved from 53% to 74%. Data was again gathered from January 15th – January 17th, 2014. The average show rate for this time period was 62%. While this was down from 74% noted the previous November, the show rate was still up from the baseline data.
Data suggests that providing reminder calls to all family planning patients prior to their scheduled appointments was beneficial and increased patient show rates. Reminder calls have become a standard practice within this Family Planning Clinic.

Administrative staff is looking into automated systems that will contact patients either by telephone or text message. Reminder calls will continue indefinitely and will be completed by family planning clerical staff until an automated system can be put into place.
To display their process and findings, the team developed a storyboard, which was presented at Central Office and Area Administrator Staff Meetings.

A Quality Improvement Storyboard is an organized way of documenting and showcasing the quality improvement process conducted by a team working systematically to resolve a specific problem or improve a given process. Storyboards use simple, clear statements as well as pictures and graphs to describe a problem, summarize the analysis process while it is underway, describe the solution and its implementation, and display the results and next steps. Storyboards summarize key components of the project onto a one-page document that can be converted to a large poster format to share with department leaders, peers, and stakeholders.

A template to create a Storyboard for your QI project can be found in the Quality Improvement section on the Accreditation page of the Department's web site.
You have now completed this course on Introduction to Quality Improvement in Public Health.

In this presentation, you have learned:

• That QI improves the efficiencies and effectiveness in the day-to-day activities and processes used in the department and leads to improved customer satisfaction.
• That QI is continuous, data-driven, and conducted in teams; it focuses on improving programs, services, and processes; and QI involves all employees.
• And you have learned about the Plan-Do-Check-Act cycle, or “PDCA”, which is the QI process used at ADPH.

This course provided a basic overview about what QI is, why it is useful, and how you can be engaged in QI work – but there is much more to QI. QI has already been used at ADPH, and its use will continue to expand. You may be called upon to be part of a QI team, and if so, you now know what that means.
If you have ideas for things that could benefit from continuous QI improvements, talk to your colleagues about them. The QI Plan, QI Council Roster, and QI training resources can be found on the ADPH Accreditation Website at www.adph.org/accreditation.

Please contact the Office of Performance Management in the Bureau of Professional and Support Services at (334) 206-5703 or send an email to the “Quality Improvement Council” to access further information and assistance if needed.
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