

## INTRODUCTION TO QUALITY IMPROVEMENT IN PUBLIC HEALTH SCRIPT

*(Est. length 35 minutes w/o quizzes – GF 14.9 – 17.2. av.w/s=25)-assuming 45 minutes with quizzes and evaluations.*

### Slide 1

Welcome to Introduction to Quality Improvement in Public Health, an online course designed for all California Department of Public Health employees. This course was developed by CDPH's Office of Quality Performance and Accreditation in partnership with the Institute for Population Health Improvement at the UC Davis Health System. It is funded by the Centers for Disease Control and Prevention's National Public Health Improvement Initiative.

The course will teach you about the basics of the quality improvement process and its importance to public health. It will take about 45 minutes, and after completing the course, you will be asked to take a brief survey. When you have completed that survey, you will be eligible to receive your certificate of completion.

### Slide 2

At the end of the course, you will understand how quality improvement, or "QI," can help you become more efficient and effective at work in your day-to-day activities. Second, you'll be able to describe key QI concepts and third, you will be able to describe the Plan-Do-Check-Act cycle, or "PDCA cycle." The PDCA cycle is like many of the QI processes you may have already heard about. Total Quality Management, Six Sigma and Lean, as well as the PDCA cycle, or PDSA, where "S" stands for "Study" instead of "Check," are just a few examples of QI tools. Each of these tools has a similar process at its core. CDPH uses the Plan-Do-Check-Act process which you will learn more about in this course. So, let's get started.

### Slide 3

Let's begin by looking at how the California Department of Public Health uses the Plan-Do-Check-Act, or PDCA, cycle to support our mission to optimize the health and well-being of the people of California. A good example of this is the Birth and Beyond California Project, which used the PDCA cycle and training to help improve maternity care. Through the Regional Perinatal Programs of California, Birth and Beyond California provided support and resources to hospitals in those regions that had the lowest rates of exclusive breastfeeding, which means babies are fed only breast milk. They helped the hospitals adopt evidence-based policies and practices (e.g. applying the best available results or evidence) when making decisions about health care and public health). All of this is designed to increase the rate of exclusive breastfeeding. The Birth and Beyond Program helped hospitals develop effective hospital

maternity QI teams that had individuals at every level. These teams reviewed and revise their hospital's maternity policies. The program also provided technical assistance and tools to help hospitals collect data and to learn from it.

#### Slide 4

The Birth and Beyond California project was developed over a six month time period. This was followed by three, six-month cycles of implementation, during which improvements were made as lessons were learned and applied. Birth and Beyond California encouraged hospitals to implement California Model Hospital Breastfeeding Policy Recommendations by developing QI practices in the maternity setting. In all, 23 hospitals and 200 administrators participated in the project. As a result, a total of 685 hospital staff was trained. About 90 of those trained became Birth and Beyond California trainers who then went on to train their co-workers. Over 2,000 healthcare workers received training from the new hospital trainers, and hospital QI teams made progress in implementing evidence-based practices.

#### Slide 5

The Birth and Beyond California project and the supporting materials that were developed helped hospital staff in implementing a widely-used QI method, the Plan-Do-Check-Act (PDCA) cycle, in their work. You will learn more about the PDCA cycle in this course.

#### Slide 6

### Definition of QI in Public Health

QI in public health is the use of a deliberate and defined improvement process, such as Plan-Do-Check-Act, 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.

*Accreditation Coalition Quality Improvement Subgroup Consensus, 2009*



The definition of QI in public health is, “the use of a deliberate and defined improvement process, such as Plan-Do-Check-Act, 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.”

An important part of this definition is the emphases that QI is an ongoing process. At CDPH we are all responsible for processes, services, and outcomes. Therefore, QI applies to us all.

## Slide 7

What exactly is QI? In general, it refers to various practices or processes that can be applied to any situation in your daily life and work. The QI process allows us to take a closer look at how things are done, and how they could be done better. It’s a continuous process that starts by identifying areas for improvement in our existing systems, figuring out what the underlying problems are, or the “root causes” of the problems, finding possible solutions, applying a solution, and then testing to see if the solution addresses the opportunity for improvement. QI is a highly adaptable process that has been used for decades in many other industries, such as automobile and other manufacturing processes, aviation, education, and more recently, health care.

## Slide 8

CDPH can use QI to achieve its vision of healthy individuals and families in healthful communities by developing a strategy for building better systems that give all people what they need to reach their full potential for health. The key phrase here is **better systems**.

## Slide 9

Adopting a comprehensive and continuous QI approach can you help do your job even better. You have probably already applied some QI concepts to your daily work. It can be used each and every day, by every employee, in every process or program. QI can **increase** the effectiveness and efficiency of your work. Many QI projects have already been done at CDPH, and other elements of QI processes can be found all across CDPH. As one team leader from a CDPH QI project said, “QI can be applied to just about anything.”

## Slide 10

Here are a few examples of QI “Pioneer” projects that have already been done at CDPH. The first project’s goal was to improve communicable disease reporting. This would mean that both state and national public health agencies could have better information to support their efforts to reduce the occurrence of these diseases. The second project aimed to improve internal communications within CDPH in response to employee survey about workplace satisfaction.

The third project addressed improving documentation and matching of infant birth and death certificates, and the fourth project sought to reduce the time needed to complete the processing of several key human resources functions related to hiring and transfers. These four QI projects illustrate the broad spectrum of opportunities for which our departmental processes can be improved. As we move through the course, reflect back on these examples and think about how you might use what you will learn in your own daily work.

#### Slide 11

First and foremost, CDPH can use QI to achieve its vision for public health quality. It can be applied to important public health issues such as obesity prevention or tobacco prevention and can help accelerate current progress we are making in those areas. It can also be used to enhance day-to-day administrative or financial processes. These are just some reasons why QI is relevant and important, not only to CDPH and its public health vision, but to each and every employee at CDPH.

#### Slide 12

Because QI can be applied to just about anything, it has been used by some public health departments to improve employee morale, increase customer satisfaction, improve efficiencies by streamlining processes, and to enhance productivity. Each of these functions, whatever their scope or scale, makes a real difference in our work at CDPH. In the words of one Pioneer Team member at CDPH, each and every one of CDPH's employees can use QI to move more efficiently and effectively towards our mission of improving the health and well-being of the people in California.

#### Slide 13

*(Questions and answers should be read)*

#### Answer: Why is Quality Improvement Important to CDPH and its Employees?

- A. To better address ongoing and new public health issues
- B. To improve the efficiency of administrative practices at CDPH
- C. To achieve CDPH's mission and vision
- D. To enhance the effectiveness of CDPH's functions
- E. To improve the health of the community
- F. All of the above

Let's see what you have learned so far. Why is QI important to CDPH and its employees?

- A. To better address ongoing and new public health issues
- B. To improve the efficiency of administrative practices at CDPH
- C. To achieve CDPH's' mission and vision
- D. To enhance the effectiveness of CDPH's functions
- E. To improve the health of the community
- F. All of the above

Select your answer and click the submit button.

That is correct, the answer is F... all of the above.

That is incorrect, the answer is F all of the above.

Slide 14

Now that you have learned more about QI and how it relates to work here at CDPH, let's focus on the five key concepts of QI.

Slide 15

Five key concepts of QI are:

One, QI involves all employees,

Two, QI is continuous and ongoing,

Three, QI is data driven,

Four, QI is team based and five,

QI focuses on improving processes and systems

Let's look at these concepts in more detail.

Slide 16

QI involves ALL employees at CDPH. It is not just the job of a few designated people. Staff who are closest to the daily tasks of a job have a very rich knowledge about the program or process and can draw from their own experience to suggest ideas for improvement. When ALL employees regularly use QI, we promote a culture of QI within CDPH. It becomes a way of life. In the words of one QI team member at CDPH: "QI should be a part of your daily lives."

## Slide 17

QI is continuous and ongoing.

Have you ever thought “there must be a better way to do this?”

Since QI can be used to improve any process, big or small, it can integrate well into your daily work at CDPH. By continually working to improve one or more processes that are part of your job at CDPH, you contribute to making QI a way of life in the department. This can easily translate into improvements in the public health system and improvements in population health. This allows us to continuously strive to make positive differences in the people’s lives.

## Slide 18

QI is data-driven. Collecting and using data effectively improves decision-making, especially when data are used to target areas for improvement. In QI initial observations, information or actions happening now (e.g. baseline information) are collected and this data is then used to monitor progress over time. Data helps us to analyze processes, identify opportunities for improvement, and measure and track how we are doing. Just as we use data on our car’s dashboard to drive safely and to keep our car running, we can use data in our daily job at CDPH to see if what we are doing is helping us achieve our vision and mission. And remember, data does not need to always involve complex technology. A pen and paper, or a simple computer program is sometimes all it takes to collect and track useful data.

## Slide 19

QI is a team-based process. QI teams typically include a diverse group of people - people who are involved in the many different steps of a process. You can be a valuable member of a QI team at CDPH. Think about your job at CDPH. You are closest to this job and have rich knowledge about the program or process you work with. You can use your diverse expertise to suggest ideas for improvement. As one QI team leader at CDPH put it, “Not only is it important to include everyone's opinion and experience, it's crucial that we **do.**”

## Slide 20

Data collected from QI activities, focuses on improving processes and systems. It does not focus on blaming individuals for problems that are identified. Data collected as part of QI help inform CDPH about which processes need to be improved. Changes to processes improve the entire system. In addition to QI, some public health programs use Quality Assurance (or “QA”) to monitor and change processes.

## Slide 21

It is important to understand that QA is different from QI. QA determines if services meet a set of requirements. It's a periodic look-back or evaluation, and usually is reactive. QI goes beyond QA to proactively make systems work better in the future. QI focuses on processes and systems, not people and proactively selects a process to improve.

## Slide 22

**Question: Which of the following describes a key concept in QI?**

- A. QI involves all employees,
- B. QI is continuous and ongoing
- C. QI is data driven
- D. QI is team-based
- E. QI focuses on improving processes and systems
- F. All of the above

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Let's take a moment to review. Which of the following describes a key concept in Quality Improvement?

- A. Quality improvement involves all employees
- B. Quality improvement is continuous and ongoing
- C. Quality improvement is data driven
- D. Quality improvement is team-based
- E. Quality improvement focuses on improving processes and systems
- F. All of the above

Select your answer and click the submit button.

That is correct. All of the above.

Remember that Quality Improvement is a process that: involves all employees; is continuous and ongoing; is data-driven; is team-based; and focuses on improving processes and systems.

That is incorrect, the correct answer is F all of the above.

## Slide 24

Now that you've learned about 5 key concepts in QI, it is time to talk in more detail about the QI process used by CDPH: the Plan-Do-Check-Act cycle, or the PDCA cycle.

## Slide 26

This is the PDCA cycle. CDPH uses this tool to guide its improvement process. The PDCA cycle is a four-step model for improving processes or implementing a solution. 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 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.

## Slide 27

The first step in the PDCA cycle is "Plan." It is the step where we identify the "who", "what", "when", "where" and "why" in the QI process. This step includes selecting an improvement opportunity and then collecting data to determine why things are not working. Next, we use that data to brainstorm the main reason for why things are not working, or, identifying a root cause. We then identify all potential solutions based on the root cause. Next, we pick a solution and develop a strategy to test the solution. In other words, how will we know if the solution worked or not? Planning is an essential and critical step and is one of the most important parts of the QI process.

## Slide 28

In the next step, "Do", we try out the proposed change on a small scale. There are many reasons for testing changes on a small scale. Small tests help improvement teams understand if the solution will work in their setting, and if the solution needs to be adapted in any way. Small tests also help teams see if the test actually resulted in the outcome they were aiming for. Successes in early small tests of change also help convey the value of the solution to those who may be affected by the changes. With this approach, solutions may be more readily adopted and scaled-up. Remember to collect data along the way that will show if the change is working or not.

## Slide 29

Next we "Check." This means that we analyze our data to check if things happened according to plan. We compare results to what we predicted and then summarize and reflect on what was learned. Keep in mind that QI is not about passing or failing, or being right or wrong. It is

about testing a solution or an idea to find out if the results are predicted or expected. If you find unexpected results, this is a learning opportunity.

### Slide 30

Finally, we “Act.” In this step, the QI team decides if it should adopt, adapt, or abandon the tested change. The team may choose to adapt the change to make it more effective and then do another small-scale test Or, it may want to abandon the change if it did not produce the desired results, and instead go back to the Plan step and start again. The team could also decide to adopt the change if it produces the desired results. A key point here is that PDCA works as a dynamic cycle. The process should respond to what happened in the prior step and go back to make changes if needed. As one CDPH QI team member said, “QI helped in keeping us focused and on task so that we didn’t get ahead of ourselves.”

### Slide 31

Now that we’ve reached the last step in the PDCA cycle, what next? PDCA works best when it is used again and again as multiple cycles. These PDCA cycles should start with a small-scale test, which build and scale up. This diagram shows the ongoing, continuous nature of QI. The key message here is that PDCA is a continuous process, not a one-time effort. Each successive PDCA cycle improves and expands on the previous one, eventually moving from an idea to action. With each cycle, you learn more about what to do better. Over time, PDCA cycles build on one another and QI becomes a routine way of moving from a situation that needs improvement toward a better way of doing things. The more often you apply the PDCA cycle the sooner you will see continuous improvement and you will continue to learn more and more. To quote a QI team leader at CDPH: “Stay true to the process. It's not going to be perfect the first time, but that's okay.”

### Slide 32

**Question: Which of the Following Best Defines the PDCA Cycle?**

- A. Plan around who/what/when/where/why, Do what’s needed, Check data, and Act upon results
- B. Prepare a goal statement, Develop a plan, Change existing processes, and Assess data
- C. Produce a master plan, Design an improvement strategy, Compare with past results, and Analyze current results
- D. Penalize those who are causing the problem, Document causes and effects, Confirm using small scale tests, and Appraise staff performance
- E. None of the above

Time for another quick review. Which of the following best defines the PDCA Cycle?

- A. Plan around who/what/when/where/why, Do what's needed, Check data, and Act upon results.
- B. Prepare a goal statement, Develop a plan, Change existing processes, and Assess data
- C. Produce a master plan, Design an improvement strategy, Compare with past results, and Analyze current results
- D. Penalize those who are causing the problem, Document causes and effects, Confirm using small scale tests, and Appraise staff performance
- E. None of the above.

Select your answer and click the submit button.

That is correct. A. PDCA stands for Plan, Do, Check, and Act – a simple framework that can guide you through the Quality Improvement process.

That is incorrect. The correct answer is A.

Slide 34

Now let's think through a PDCA cycle using an example from an actual QI project at CDPH. The project concerned how CDPH collects and reports data on certain communicable diseases to the U.S. Centers for Disease Control and Prevention (CDC). Each week, CDPH's Division of Communicable Disease Control (or DCDC) gets data on these communicable diseases from a number of sources – including state and local systems. The Division wanted to improve its ability to consistently merge all the incoming data so that it could be submitted to CDC in the right format, and within the required time frame. Essentially, CDPH wanted to improve its reporting process, and improve the quality of the data available for DCDC's use. This would result in better tracking methods and help develop prevention activities to reduce the impact of communicable diseases, like influenza.

Slide 35

The DCDC QI team benefitted greatly from using the PDCA cycle to approach its improvement opportunity. As one of the team members said, "QI gives you useful tools that should be a part of everyday work."

## Slide 36

Remember, in the Plan step, we select an improvement opportunity, analyze the current situation or process, identify root causes of the problems, and then generate and choose a change to test.

## Slide 37

The QI team was formed around an identified improvement opportunity, the communicable disease data reporting process. The team included various stakeholders in the process who were selected for their diverse expertise. The team's goal was that 100% of reportable disease surveillance data for California will be in one standardized data set and available for analysis by a specific deadline. Beginning with the "Plan" step, the QI team got started by reviewing all incoming data sources, the data products that were generated, and the methods used to compile and create data sets. Next, the QI team brainstormed on root causes of the problem. Their findings showed that the specific areas for improvement fell into four broad categories: physical data input issues, data transfer, incomplete data, and computer programming issues.

Then, the QI team brainstormed possible solutions. As one team member said, "Having the ability to look at your everyday work and see ways to improve it is great. But it takes more than that, of course. It takes communicating." The team identified several possible solutions, such as correcting coding errors, reducing the time to reporting, and standardizing the incoming data. The team prioritized specific tasks and chose measures to evaluate their progress. These mostly focused on increasing the completeness of incoming data. The project's improvement team found this step of the PDCA cycle especially valuable. As the team leader put it, "Part of what this process brings is the emphasis on planning."

## Slide 38

In the next step, "Do", the team tried out a small-scale change and collected data along the way.

## Slide 39

The team pilot-tested some process changes with a local health department and noted the issues and unexpected results. The team shared these findings at their team meeting. The process helped the QI team to develop new data submission guidelines for incoming data files.

## Slide 40

Next, the team “Checked” results of the test. This means that they analyzed their data to check if things happened according to plan. They then compared their results to what they predicted, summarized what happened, and reflected on what they learned.

## Slide 41

What they saw an improvement. Before implementing the newly revised guidelines, the local health department that tested the solution had been submitting only about 15% of the data elements needed, and they were submitted in a non-standard format. After the first PDCA change, the team identified that the local health department had the capacity to submit 98% of the needed data, and in the preferred standard format – an improvement.

Remember, QI is not about passing or failing or being right or wrong. It is about testing an idea to find out if the results are predicted or expected. If you find unanticipated results, this is a learning opportunity. Because the local health department was able to successfully implement the new guidelines there was a huge improvement in the quality and quantity of incoming data. The QI team concluded that this solution would help achieve the project’s goal.

## Slide 42

In the “Act” step, the team refined their change based on what they learned from the test, they determined what modifications needed to be made, and then they planned for the next test. In this step, the team decided if it should adopt, adapt, or abandon the change. In the words of one team member, “You have to be constantly flexible and modify your project as it goes along.”

## Slide 43

Based on the success of the pilot project, the team determined that the new guidelines should be universally adopted by local health departments. Once a QI team finds a change that’s worth implementing, it’s important to remember to continually monitor progress and maintain improvements. Sometimes, changes that were successful in a pilot test may not be as successful when implemented more broadly. It’s also important to remember that PDCA works as a dynamic cycle. The process should respond to what happened in the previous step and should go back to make changes if needed. In this case, the DCDC QI team did continue to monitor data in the communicable disease reporting process. The team maintains the revised data submission guidelines document and adapts it as necessary. After working through the PDCA cycle, the DCDC QI team lead noted that, “It didn't fit the mold that we were used to, but that's okay, because this approach actually ended up being even better.”

**Question: What does the Plan step of a PDCA cycle include?**

- A. Selection of an improvement opportunity
- B. Trying out the proposed change
- C. Comparing results to what was predicted
- D. Adapt a change to make it more effective
- E. Scaling up the change

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Here's another quiz question to see what you have learned. What does the Plan step of a PDCA cycle include?

- A. Selection of an improvement opportunity
- B. Trying out the proposed change
- C. Comparing results to what was predicted
- D. Adapt a change to make it more effective
- E. Scaling up the change

Select your answer and click the submit button.

That is correct. A: Selection of an improvement opportunity. The Plan step consists of selecting an improvement opportunity, identifying a change to test by analyzing the current situation or process in order to identify root causes, and determining a way to measure the impact of that change. In the Do step we try out the proposed change or scale up the change if appropriate. In the Check step we analyze our data to check if things happened according to plan and compare results to what we predicted. In the Act step we adopt, adapt, or abandon the tested change.

That is incorrect. The correct answer is A.

## Slide 46

Now that you've seen how PDCA was used for one CDPH project, let's talk about how it can be applied in **your** work. Everyone attends team meetings from time to time. Efficient team meetings are needed to keep everyone's day on schedule, and to move projects along more smoothly. Let's look at a hypothetical situation where a team decided to look at the efficiency of their meetings. The team members feel that their meetings sometimes run too long, and the goals of the meeting are sometimes not reached. Let's see how a PDCA cycle would work in this hypothetical example.

## Slide 47

Starting with the Plan step, we would start by bringing together a CDPH QI team to identify the improvement opportunity, which in this example is the need to make team meetings more efficient. The team members would analyze the process of how they currently plan and run team meetings. Then they would brainstorm why the current process might not be working as well as they want it to. In this way they would identify root causes for team meetings not being efficient. The QI team then talks about what changes could be made to improve meeting efficiency.

The team agrees that they need to set an agenda and to follow it. They also want to assign tasks before the meeting. The QI team also decides what should be measured to see if efficiency improves after these changes are made. The team can quickly check on whether those changes were implemented well. The team could also track future meetings to see if they end on-time and meet all the goals of the meeting.

## Slide 48

In the next step, "Do", the team tries out the changes on a small scale – just for the next meeting, for example. The QI team then documents the change process which in this case includes that agendas will be set and specific tasks will be assigned. They share those planned changes with others for comment and feedback. Let's say that others in the office expressed some concern about some of the planned changes. One concern could be that if many different people suggest agenda items for an upcoming meeting, the various topics might not all be of equal priority or relevance for that particular meeting. The team decided to go ahead with the changes for now, since they won't know whether the concerns are actually valid until the new format is tried at least once. The team can always refine any changes they make in a second PDCA cycle, if a problem becomes apparent. They also collect data along the way on whether the meeting ended on-time and met its goals.

## Slide 49

After holding the meeting with the new changes, the QI team checks on the two areas they chose to measure: how well the implementation process went, and how efficient the meeting was. They found that the meeting did not end on time and still did not achieve all its goals. There were simply too many different agenda items to discuss, and some of those did not get discussed at all.

## Slide 50

Since the first set of planned changes did not produce the expected results, the QI team plans and implements their second PDCA cycle, deciding to adapt or modify one of the changes further.

## Slide 51

In the Plan step of this 2<sup>nd</sup> PDCA cycle, the QI team implements the adapted solution that tasks will be assigned in advance of the meeting but also decides to include only one topic on the agenda for each team meeting. In the Do step, the team leader creates an agenda by choosing one topic, then assigning roles. The team holds another meeting and checks their results. In the Check step, the QI team finds that the meeting was actually too short – much more could have been accomplished. In analyzing what happened, the team found that it was not clear how to suggest an agenda item, how many items a person could suggest, and who should send in suggestions. In the Act step, the team adapts the change yet again. It creates a form and a standard process for submitting agenda items. For the next meeting, every team member is asked to submit one agenda item using the form. The team will keep repeating PDCA cycles until they are satisfied with the efficiency of their team meetings. They'll know they have reached this point when they see that team meetings are regularly achieving their goals, and end at the planned time.

## Slide 52

Remember that PDCA works best when it is used again and again as multiple cycles. These PDCA cycles could start with a small-scale test, which build and scale up. PDCA is a continuous process, not a one-time effort. Each successive PDCA cycle improves and expands on the previous one, eventually moving from an idea to action. With each cycle, you learn more about what to do better. Over time PDCA cycles build upon one another and QI becomes a routine way of moving from a situation that needs improvement toward a better future state. An increased frequency and number of cycles results in continuous improvement and more learning.

Which of the following statements about PDCA cycles is NOT TRUE?

- A. PDCA is a continuous process
- B. PDCA responds to what happens in the prior step and goes back to the prior step to make changes if needed
- C. Finding unexpected results in a PDCA cycle is a learning opportunity.
- D. PDCA cycles can be used in any of your day-to-day activities at CDPH
- E. Changes made in PDCA cycles should be large and high-impact

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Here's another quiz question. Which of the following statements about PDCA cycles is NOT TRUE?

- A. PDCA is a continuous process
- B. PDCA responds to what happens in the prior step and goes back to the prior step to make changes if needed
- C. Finding unexpected results in a PDCA cycle is a learning opportunity.
- D. PDCA cycles can be used in any of your day-to-day activities at CDPH
- E. Changes made in PDCA cycles should be large and high-impact

Select your answer and click the submit button.

That is correct.

F. Changes made in PDCA cycles should be very large and high impact" is not true. There are many reasons to test changes on a small scale. Small tests of change help teams discover if the change will work in their setting and if the change needs to be adapted in any way. The other statements are true. PDCA is a continuous process. It responds to what happens in the prior step and goes back to the prior step to make changes if needed. Finding unexpected results in a PDCA cycle is a learning opportunity. And most importantly, PDCA cycles can be used in any of your day-to-day activities at CDPH.

That is incorrect. The correct answer is E.

## Slide 55

You have now completed this course on Introduction to Quality Improvement in Public Health. You've learned how QI empowers you to improve efficiencies and effectiveness in your day-to-day activities.

You've also learned the key QI concepts and principles: That QI involves all employees; it's continuous, data-driven and conducted in teams; and it focuses on improving systems;

And finally, you've learned about the Plan-Do-Check-Act cycle, or "PDCA", which is the QI process used at CDPH.

## Slide 56

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 CDPH, and its use will continue to expand. You might be called upon to be part of a QI team, and if so, now you know what that means. If you have ideas for things that could benefit from continuous QI improvements, talk to your colleagues about them. You can contact the Office of Quality Performance and Accreditation to learn about what you can do next, or just to learn more about what's happening with QI at CDPH by sending an email to [OQPA@cdph.ca.gov](mailto:OQPA@cdph.ca.gov).

## Slide 57

Here are some additional resources if you wish to learn more about QI.

## Slide 58(*acknowledgements – music up*)

## Slide 59

Congratulations! You have completed the Introduction to Quality Improvement in Public Health course. Do not close your browser at this time or you will not receive your certificate of completion. Please click on the following link and complete a brief quiz and course evaluation. (Insert link here):

## Evaluation

1. Based on this training, how valuable do you think QI is to CDPH's mission?
2. Based on this training, how useful do you think QI is for improving administrative operations at CDPH?
3. How much did this training increase your knowledge of QI?
4. How well do you understand the PDCA cycle?
5. To what extent did the training improve your *ability* to be part of a QI team, if asked?
6. To what extent did the training increase your *interest* in being part of a QI team?
7. Would you be interested in participating in more in-depth QI training?

[5-point scale response for all questions: 1-not at all, 2-slightly, 3-somewhat, 4-moderately, 5-extremely]