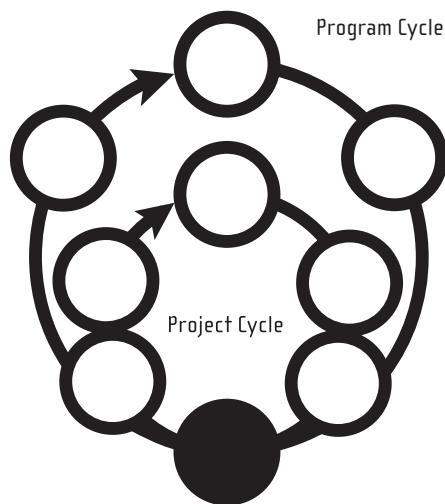


Project Step 4: Plan and Test Changes.



The Big Picture

Improvement changes are tried through 'pilot tests' on a small-scale before committing valuable time and resources to system wide implementation. Those pilot tests are often described as Plan-Do-Study-Act (PDSA) cycles. Selecting and planning pilot tests and evaluating pilot test results are probably the most critical activities in quality improvement projects.

What To Do

- Plan-Do-Study-Act (PDSA) cycles.
- Plan for pilot tests.
- Conduct pilot tests



Snapshot of HIV Care

Experimenting with changes to create lasting improvements

Investigating the process often generates a long list of ideas for changes. "One of our biggest challenges in planning a change was to get the improvement team to think small. Our investigation of the process identified so many possible underlying causes. The team wanted to take them all on," reports a quality manager. "While they all seemed compelling, we finally agreed to focus on only a handful and to prioritize these for our first PDSA cycles."

Often, good ideas don't work as planned. One clinic seeking to improve patient appointment keeping decided to implement a process for reminder telephone calls the day prior to the appointment. Through a PDSA cycle they discovered that over half of the phone numbers they had for their patients were no longer working and that much of the alternative contact information was incorrect. Implementing regular reminder calls with the currently documented



Snapshot of HIV Care...*Continued*

contact information was not likely to improve appointment keeping and would use a lot of staff resources. They decided that they next needed to test and implement a process for updating patient contact information so that they would have useful telephone numbers to begin reminder phone calls.

Creating a competition between teams has been used effectively to plan and test changes. The Albany Medical Center created some excitement about an improvement project to increase the number of annual comprehensive exams conducted. “We needed to find a way to jumpstart the improvement project and to create a commitment to quality improvement in the facility,” reports Sheila Boyle, Process Improvement Coordinator. “We created two teams who competed against each other. Each team had to develop and document an improvement process for identifying patients who were due for their annual comprehensive exam and getting these patients into the clinic.” The competition worked, doubling the number of exams usually provided. While the results were still less than the initial goal, it was still successful because “patients received high quality care, and staff became enthusiastic about their work and a commitment and interest in quality improvement took hold in the facility.”

Small or big, improvements need to be tested and studied

Improvement efforts can also be small and focused changes. Sometimes changes can be as simple as changing one item on a flow sheet, changing the order of who sees a patient first in the clinic, or placing a reminder sheet on top of a chart.

“Regardless the size of the change—big or small—each cycle needs to be assessed against the predicted improvements and team members involved in deciding the next steps,” advises a quality consultant. “The team should learn from both successes and failures and use this knowledge to inform their process.”

Improvement efforts can sometime yield bigger results than expected. The quality team at St. John Riverside Hospital developed a simple graphic presentation of patient labs for CD4 and viral loads to help patients better understand their lab results and their relationship to care. The results from this change were better than expected. According to Kay Scott, “The patients were elated with the service. For the first time patients didn’t have ‘blank looks’ on their faces when providers reviewed their lab results with them. Patients were so excited about receiving the graphic printout that they told their case managers and other providers about them.”

In Scott’s words, “Patient enthusiasm was the turning point—and it spread quickly throughout the hospital. Providers and staff were energized, and this was exactly the kind of buy-in needed to systematize the change.” According to Scott, “the initial boost in consumer satisfaction with the change provided a catalyst for making quality improvements.”

Conduct PDSA (Plan-Do-Study-Act) Cycles.

Because not all changes tested in pilots result in improvements, a project team identifies promising ideas for changes, tests them on a small-scale and assesses the impact on the aspect of HIV care under review. A helpful framework for facilities to implement pilot test changes is the Plan-Do-Study-Act (PDSA) cycle, developed by Walter A. Shewhart. In other words, the PDSA cycle is a "trial-and-learning" method to test changes before system-wide implementation.

Four steps are included in the PDSA cycle:

- Plan (Plan a change). At this point the team identifies a change and plans its implementation on a small-scale; including the number of records, timeframe, responsibilities and predictions of results.
- Do (Try it out on a small-scale). The project team members test the proposed change to see whether it results in an improvement. The goal is to keep the tests as small as possible. The shorter the test cycles, the more tests can be conducted and therefore, more opportunities for learning will emerge.
- Study (Observe the results). Once the results are analyzed and reviewed, the project team will need to find answers to the following questions: Did we meet our goal? What worked and what didn't? Do we need additional test cycles?
- Act (Refine the change as necessary). The project team maximizes the impact of successful changes by increasing the sample size involving providers and expanding the test cycles.

The following example should illustrate the process of the Plan-Do-Study-Act cycle:

A project team that is charged to improve the performance on adherence assessments decides to pilot test a new flowchart that hopefully better documents the adherence discussions with patients. The team predicts a 20% increase. Initially, the team revises the clinical flowsheet and asks just one provider to test the revised flowsheet during one clinic session. Once feedback is received, the flowchart is revised and tested again with three providers over the course of the following week. The results are studied and more changes are made to the new flowsheet. After one more testing cycle, the revised flowsheet is implemented system-wide, ready for all providers for all clinic sessions.

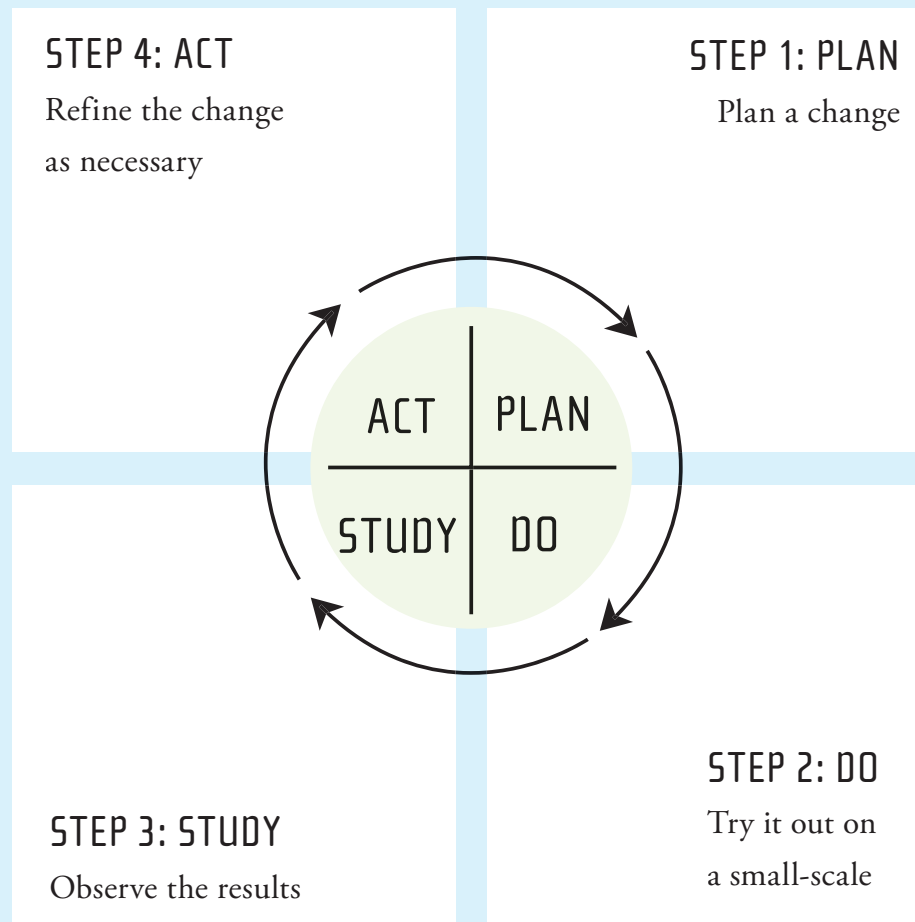
The completion of each PDSA cycle leads directly into the start of the next cycle. A team learns from the test and uses the new knowledge to plan the next pilot tests. The team continues linking PDSA cycles. Often, a team will test more than one change at a time, each change aimed at achieving the ultimate goal of the entire quality improvement project.



Toolbox:

PDSA (Plan-Do-Study-Act) Cycle

The PDSA cycle provides a framework for facilities to plan and test changes before systemwide implementation.



Plan For Pilot Tests.

Pilot tests as PDSA cycles serve to try out potential solutions on a small-scale before system-wide implementation. The project team members initially select ideas for pilot tests that are most likely to succeed and plan their small-scale implementation.

Selecting Ideas For Pilot Tests

A list of potential pilot tests are identified, narrowed down to a manageable number and then prioritized by the project team. The more time a team knows about the process, the easier it is to identify practical solutions for pilot tests.

The following criteria are helpful to make a quick determination with which pilot tests to start:

- **Measurable:** Can improvements be measured to track progress?
- **Immediate:** Will the pilot test produce short term visible results?
- **Focused:** Is the pilot test targeted to the underlying cause?
- **Feasible:** Is the pilot test feasible given available resources?
- **Supportable:** If the test is successful, will staff and facility leaders support successful changes?



The Toolbox on page 121 provides a selection grid that teams can use to score potential pilot tests and determine which are most likely to succeed.



A list of various strategies HIV care facilities have implemented to improve important quality of care aspects is provided in the Toolbox on page 123 and 124. It may be helpful to identify ideas for pilot tests in the following areas:

- Patient retention
- Annual GYN exam
- PPD screening
- Adherence to ARV therapy



Additional Resource

For guidance in teaching small groups about brainstorming potential pilot tests and the purpose of selection criteria in evaluating a potential pilot test, see the HIVQUAL Group Learning Guide "Selecting a Pilot Test" exercise. You can download this publication at www.hivqual.org.



Toolbox:

Pilot Test Selection Grid: Improving the percentage of women receiving HAART therapy.

List the top three pilot tests and score each pilot test from 1 (lowest) to 5 (highest).

CRITERIA	PILOT TEST 1: SPECIAL EDUCATION BY CLINICIAN ABOUT BENEFITS OF HAART THERAPY.	PILOT TEST 2: ESTABLISH PEER SUPPORT GROUP FOR WOMEN TO FOLLOW-UP.	PILOT TEST 3: PROVIDE INCENTIVES FOR WOMEN WHO CONTINUE REGIMEN DURING PREGNANCY.
MEASUREABLE	4	2	5
IMMEDIATE	2	4	2
FOCUSED	5	3	4
FEASIBLE	4	3	2
SUPPORTABLE	4	5	2
TOTAL	19	17	15

Planning Pilot Tests

Project teams plan the implementation of pilot tests to better orchestrate and guide their efforts. A planning approach increases the likelihood of task completion. Team members strategize the following areas:

- Scope of pilot test. What is the working hypothesis for the pilot test? For how long do you want to test your changes before implementation?
- Timetable for pilot test implementation. What are the necessary steps and when will they be completed?
- Accountability for pilot test. Who will measure and follow-up on pilot test results? Who reports?
- Pilot test measurement. How do you measure the pilot success? What indicators are identified?
- Sample Size. How many records will be measured?



The Toolbox on page 126 provides a written sample form for planning a pilot test.



Real-World Tip Plan for Successful Tests.

Consider the following suggestions when planning for pilot testing:

- 'Steal shamelessly, share senselessly!' - contact other HIV programs, read best practices/success stories at www.hivqual.org and NationalQualityCenter.org.
- Keep individual pilot tests simple—plan to collect only as much data as necessary.
- Reduce the sample size and/or test intervals to a minimum.
- Use the power of '1': one clinic, one provider, one patient.
- Predict results of pilot test results.
- Routinely inform staff about pilot test progress.
- Ask consumers and stakeholders for their input.

Notes



Toolbox: Successful Improvement Strategies

Patient Retention:

- Update patient contact information at every visit.
- Ask for additional contacts to get in touch with patient ("Who knows where you are?").
- Create support systems for patients to keep appointments.
- Peer educators to introduce new patients to clinic.
- New patient luncheons and/or dinners to introduce clinics and staff.
- User-friendly orientation package.
- Providers to emphasize importance of making appointments.
- Combine services as much as possible into one visit ('max-packing').
- When scheduling appointments (sign-out, call), ask directly for barriers, responsive to patient ('what time works best for you?').
- Incentives for patients to come for appointment (transportation, etc.); patient can choose incentive.
- Phone script for staff to make appointments.
- Institute a reminder system, send letters, make reminder calls.
- Contact client within 1 week of missed appointment to reschedule.
- Set up a system to see walk-in patients who don't keep appointments as scheduled.
- Make a provider available with flexible time to accommodate walk-ins.
- Identify and track lost patients.
- Focus groups with patients who were lost to follow-up.
- Use pharmacy to help (patients fill prescriptions but may not keep appointments).
- Use drug treatment providers to help locate patients, especially MMTP.
- Use case managers to 'find' patients.

Annual GYN Exam:

- Have the GYN exam performed by an HIV primary care provider (MD, PA, NP, or midwife).
- Implement a specific campaign to "Get Your GYN Exam" (e.g., 2 times/year during 'low' times in January and June).
- Have multidisciplinary staff implement preventative health education messages (e.g., the importance of routine GYN exams).
- GYN exam right after primary care appointment.
- Better access to female GYN provider.
- Dedicated sessions for HIV patients within the GYN department.
- Evening clinic for GYN exams.
- Provide child care during clinic hours.
- Hold patient care quarterly meetings so that each HIV patient is reviewed at least once per year to identify needs.
- Include the GYN exam during comprehensive annual physical exam.
- Use information systems to identify the list of patients needing GYN exams.
- Flag charts (e.g., use a sticky note) to identify who needs a GYN exam on the day of appointments.
- Provide transportation (e.g., Go get them!).
- Follow up release of information forms by CMs, nurse, etc. with calls and tracking logs.
- Dedicated sessions for HIV patients within the GYN department .



Toolbox:

Successful Improvement Strategies...*Continued*

PPD Screening:

- Provide 24-hour access for reading (e.g., agreement with emergency room).
- Provide no waiting for PPD reading in clinics.
- Train medical assistants to plant and read PPDs.
- Use standing orders for PPDs.
- Improve coordination with external organizations that perform PPDs to get results.
- Make available self-read cards and telephone-read results.
- Do not plant on a Thursday unless the PPD can be read over the weekend.
- Implement vaccine campaigns for PPD twice per year (November and June).
- Make reminder calls 24 to 48 hours following planting.
- Use the PPD log for tracking.
- Schedule other services to coincide with the return for the PPD reading.
- Incorporate PPD into comprehensive annual physicals.
- Flag the chart in advance—use reminder stamp.
- Provide incentives (e.g., phone cards, gas cards, fast-food certificates) for patients who return for PPD reading.

Adherence to ARV Therapy:

- Designate a person to serve as an adherence counselor/educator.
- Hold multidisciplinary meetings between providers and CMs to review guidelines, develop messages, and decide who says what.
- Promote the use of adherence stamp to improve documentation.
- Increase the frequency of interaction between the patient and adherence counselor for non-adherent patients.
- Promote the use of adherence tools (e.g., pill boxes).
- Promote support group participation.
- Support peer advocacy.
- Provide peer outreach to deliver drugs.
- Ensure all staff involved with a patient delivers a consistent message reinforcing the importance of taking medication on time.
- Hold case conferences to share information.

Conduct Pilot Tests.

Pilot tests allow team members to assess the effectiveness of various solutions before system-wide implementation. A pilot test is intended to be a small-scale trial of a potential solution. The project team should consider the following strategies for successful pilot tests:

- Simplicity of pilot tests. Keep initial pilot tests simple and emphasize the following point: the more pilot tests can be conducted and more opportunities for learning will emerge.
- Series of pilot tests. Allow for multiple pilot tests and build on the success of previous pilot tests.
- Reduced sample size. Reduce the sample size to a minimum and collect as little data as necessary.
- Short-time approach. Reduce the test intervals to a minimum while increasing testing cycles.
- Clear accountability. Ensure that the responsibilities for conducting pilot tests are clearly defined and communicated.



Real-World Tip Conduct Successful Tests.

Simple ideas to get started:

- Keep it simple and collect as little data as possible.
- Quick turnaround is key; conduct a series of pilot tests.
- Test initially with just one provider.
- Always plan two or three pilot tests ahead.
- React right away—if an improvement is very obvious, make a quick decision to implement.
Do not wait for more data.
- Use original predictions to assess which solutions had impact and which needed additional follow-up.

Assess Impact

The improvement team evaluates the changes by answering the following questions:

- Did the changes help us reach our improvement project goal?
- Are additional pilot tests indicated?
- Are there other changes that can be implemented to exceed our goal?
- What prevented us from reaching our goal?

Team members compile data collected during the pilot tests. Based on these results, the team reaches an agreement on how to move forward. Once a decision is made, the improvement team shares the pilot test results with the HIV quality committee.



Additional Resource

Langley Gerald J. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. Jossey-Bass, 1996. For guidance in teaching small groups about the basic steps of pilot test design and implementation, see the HIVQUAL Group Learning Guide "Planning a Pilot Test" exercise. You can download this publication at www.hivqual.org.



Toolbox: Pilot Test Planning Form

GOAL:

- Increase patient knowledge about oral health and its importance as part of care.
- Increase the number of patients receiving oral health care.

DEFINE THE PLOT TEST.

- **Cause of problem:** Although patients are screened for the dental exam and appropriate referrals are made, they do not follow up with their dentists to receive the necessary services.
- **Change to be tested:** Oral Health Awareness Month.
- **Evaluation method(s):** Increase in dental appointments made by patients. Of the appointments made, how many are kept; Number of materials given out to patients; Survey to assess patients' understanding of the importance of oral health.

PLAN THE PLOT TEST IMPLEMENTATION.	WHO IS RESPONSIBLE?	WHEN COMPLETED BY? (WEEK)							
		1	2	3	4	5	6	7	8
a. Develop educational materials.	Fran	X	X						
b. Make a 20-minute presentation to providers during the next staff meeting to discuss what they should tell patients about oral health.			X	X					
c. Put posters in waiting room.		X							
REVIEW RESULTS OF THE PILOT TEST.		1	2	3	4	5	6	7	8
a. Count materials being given out to patients.	Michael				X				
b. Count how many educational sessions are conducted between providers and patients.					X				
c. Survey patients to assess their understanding of the importance of oral health.						X			
d. Look at how many dental appointments are made.					X	X			
DECIDE WHETHER/HOW TO MOVE FORWARD.		1	2	3	4	5	6	7	8
a. Compile results in one report for final presentation.	Catherine					X			
b. Present results to quality committee.						X			
c. Present results to staff.						X	X		