

<b>PDSA worksheet</b> <b>plan - do - study - act</b>	Team	Abigail Miller (Pharmacy student)
	Change	Collect Performance Data
	Cycle #	1
	Title	Reevaluate POC testing process
	Date range	March 2008

**BACKGROUND:** (What led you to start this project? Is this cycle a continuation of another cycle? Why is this topic relevant? Include any baseline data that has already been collections)

Appropriate monitoring of patients requires scheduled testing of surrogate markers such as total cholesterol, LDL cholesterol, and A1C values. It is the goal of the UNC Internal Medicine Clinics to attain a 90% rate of appropriately testing patients for such markers when indicated. In 2006, point-of-care (POC) testing protocols were put into place. These protocols were assessed for the percent of patients who appropriately received POC testing when indicated. Although the new protocol yielded an increase in POC testing, the clinic remained significantly below the goal of 90%.

As a follow-up to previous quality initiative assessments, POC testing should be evaluated as whole to determine whether or not a change in the current procedure of ordering and obtaining tests should be made.

**PLAN:**

**Aim/Objective** for this cycle (What you hope to learn)

The study is designed to evaluate the effectiveness of the current system in ordering and obtaining POC testing.

Specific questions to address:

1. How often are ordered POC tests obtained prior to provider visit?
2. How often are ordered POC tests not obtained during a clinic visit?
3. How often are providers ordering regularly scheduled tests when POC tests are not obtained?

**Predictions/Hypotheses** (What do you think will happen when test is done?)

By evaluating the percent of ordered POC tests obtained, the effectiveness of the current model will be assessed. Based on the outcomes of such results, suggested improvements would then be made to test the impact on POC testing.

Plan for change or test:

Who: Identify patients with ordered POC tests based on daily generated sheets

What: Quantify POC tests obtained for each patient before and after the provider visit

When: March 6, 2008 – March 19, 2008

Where: UNC Internal Medicine Clinics including diabetes, anticoagulation, nutrition, and primary care physician care

How: Data will be collected via WebCIS and POC testing database

**Measures** (What will you measure in order to meet your aims? How will know that a change is an improvement? Will you use outcome or process measures?)

Plan for data collection: who, what, when, how and how long

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Who: All patients with an ordered POC test

What: Total cholesterol, HDL cholesterol, and A1C tests

When: March 2008

Where: UNC Internal Medicine Clinics

How: 1. Calculate percent success rate of obtaining A1C and TC/HDL tests.  
 2. Evaluate the frequency of regular A1C testing when POC not obtained.  
 3. Calculate percent of missed opportunities to evaluate patient status.

**DO:** Carry out the change/test. Collect data.

Note when completed, observations, problems encountered, and special circumstances:

Data observations were collected based on daily POC test order sheets. Each identified patient for testing was then found via WebCIS to confirm that the appointment was attended and if A1C or TC/HDL labs were obtained. Corresponding clinic notes were then reviewed to assess whether or not the POC test was available to guide clinical decision making during the provider visit. Lab tests ordered after the provider visit were counted as "regular" tests ordered.

On March 17<sup>th</sup>, the POC test order sheet delivered to the front desk contained data for patients scheduled on March 18<sup>th</sup>. This occurred due to a glitch in the computer system that was generated when improvements were being made. The problem was caught in the middle of the day, and the proper sheet was printed for all of the following days.

I spoke with various clinic personnel to see if they had ideas of where there might be problems in the system. I spoke with Laura Hutchins at the east side front desk and Eva Wamagata, a nurse who handles a lot of patients getting POC testing. Shaun McDonald described the computer processes behind the printing of the POC list.

**STUDY:** Summarize and Analyze data (quantitative and qualitative).

A total of 10 days of data were collected, which reflects two business weeks of data. The UNC Internal Medicine Clinic goal is that each day 90% of ordered tests would be obtained. The data analyzed identified the total number of opportunities to obtain POC tests in patients who attended their clinic appointment. Data obtained is graphed below. During data collection, there were days where no patients attended appointments for which labs were ordered. This was due to cancellations, rescheduled appointments, or no shows. On these days, no point is graphed.

In respect to A1C testing, the rate of POC testing ranged from 0-70%. The average daily rate was 45%. There does not appear to be a correlation between the percentage of tests obtained and the day of the week. Number of tests ordered in a given day ranged from 4-17 tests, yet 0-10 opportunities presented themselves based on attended appointments.

# PDSA worksheet

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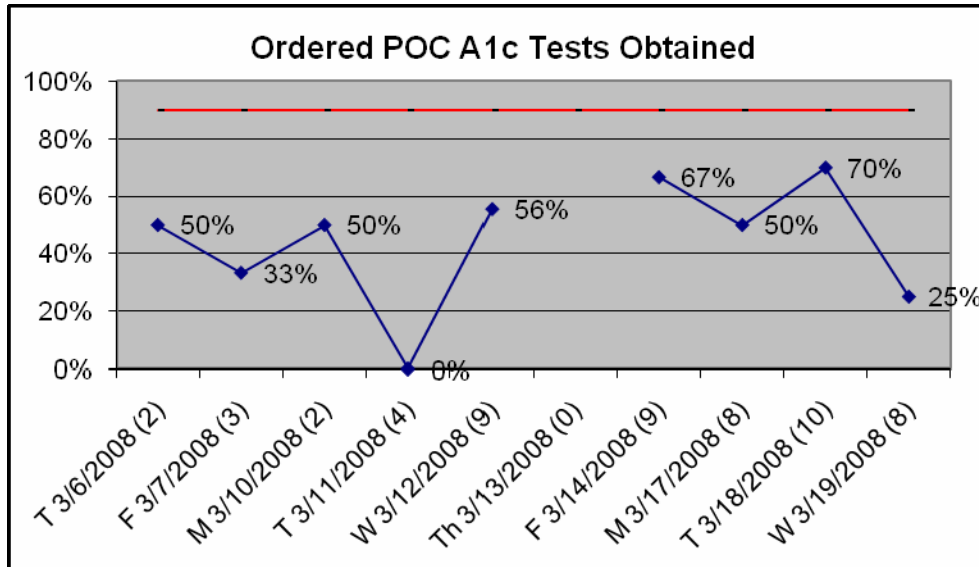


Figure 1. Orderd POC A1c Tests Obtained. Goal: 90% (n)

In respect to TC/HDL testing, the rate of POC testing ranged from 0-100%. The average daily rate was 31%. Number of tests ordered in a given day ranged from 1-8 tests, yet 0-2 opportunities presented themselves based on attended appointments. There does not appear to be a correlation between the percentage of tests obtained and the day of the week. Fewer TC/HDL were ordered for patients; therefore, small changes in the number of tests obtained greatly affected the percent of tests ordered.

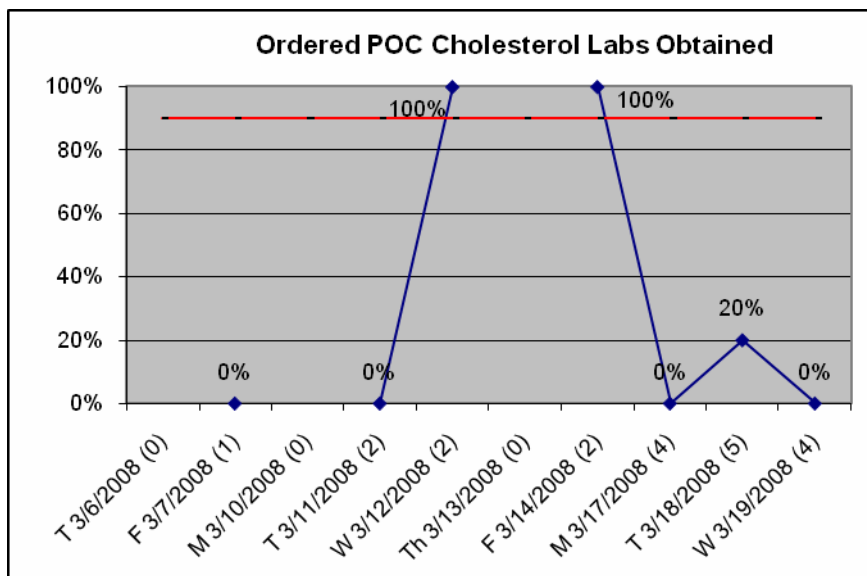


Figure 2. Ordered POC Cholesterol (TC/HDL) Labs Obtained. Goal: 90% (n)

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The overall rate of obtaining POC tests is displayed below. This reflects the current success rate of the clinic in obtaining POC tests. Future data will be used to chart trends and show an improvement in obtaining a goal of 90% accuracy.

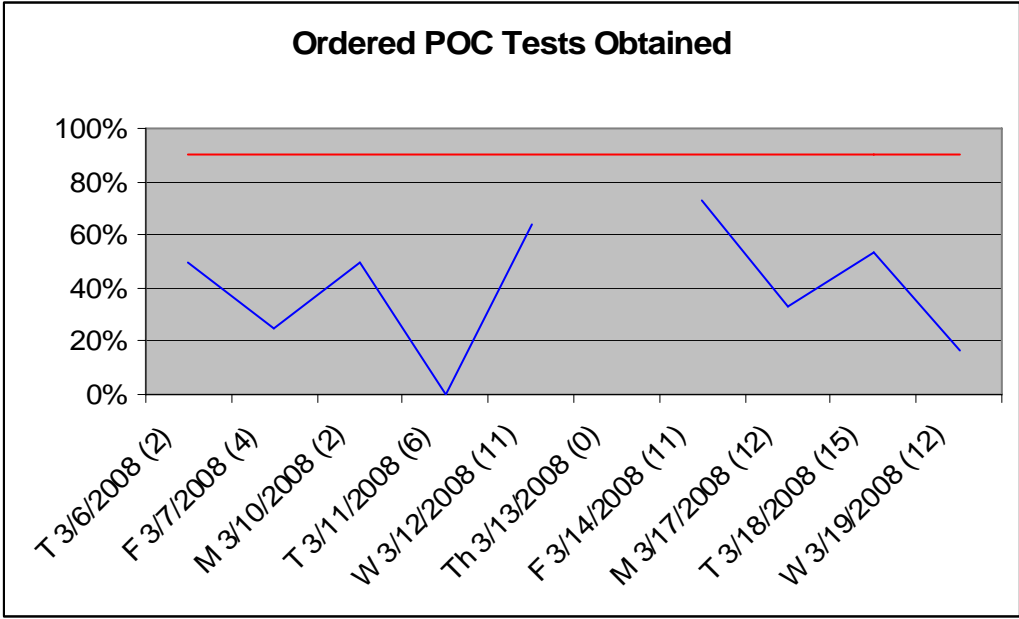


Figure 3. Ordered POC Tests Obtained. A1c and TC/HDL combined data. Goal: 90% (n)

**ACT:** Document/summarize what was learned. Define next steps. Are you confident that you should expand size/scope of test or implement? What changes are needed for the next cycle?

The data collected is sufficient to reveal that the current system of ordering and obtaining POC tests is not effective. When obtained, POC tests were regularly referenced in provider clinic notes. Therefore, the information provided by POC tests is valuable for clinical decision making.

Reevaluating the process of POC testing must be done to identify steps in the current flow that could be optimized or changed to increase efficacy. The current process is outlined below:

1. POC Test sheets are printed at \_\_\_ the morning of each clinic day.
2. POC Sheets are obtained by front desk staff.
3. Front desk staff identifies each patient with indicated POC test.
4. Lab sheets are labeled with indicated test for each patient prior to patient arrival.
5. Patient arrives to clinic.
6. Patient is checked in at front desk.

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7. Lab sheet with appropriate test ordered is placed in center bin.
8. Lab technician retrieves lab papers from bin and calls patient to lab.
9. Patient's sample is drawn.
10. Patient is sent back to waiting room/lab test is run.
11. Patient is called by clinic nurse.
12. Patient taken to clinic room.
13. Provider visit.

Issues to address in next cycle:

**1. Problem: POC list not available to front desk early enough**

After speaking with front desk staff, it became apparent that the POC ordering sheets are not being received in time for all of the appropriate patients to be flagged upon arrival. They have requested to receive the clinic sheets the day before so that the POC ordering process may begin the day prior to clinic.

**Possible Solutions:** One solution is having the list print earlier in the AM or the day before. Another solution is using the yellow provider detail sheets (which are attached to the billing sheet the day before) as the source of information for POC test ordering. If we chose this solution, the POC list could be used as back up.

**2. Problem: Complicated patient flow**

Additionally, the clinic nurses stated that the flow of care through the clinic may interfere with the process. When benches were located outside the POC lab the nurses felt that it was easier to monitor patient POC flow. Now that the benches are removed going back and forth between the waiting room and the East side of clinic slows things down and is confusing for patients. They feel that some patients are being "lost" in this process. In addition it makes it difficult for the nurses to keep track of where patients are.

**Possible solutions:** Benches were removed due to JHCAO requirements. We may need to investigate options other than having the patient return the waiting room. Re-education of the staff involved in POC testing or putting the process described above in a flow diagram may also help.

**3. Problem: Impact of lab personnel**

There is concern that some patients are not taken back to the lab for testing if the lab person does not get the sheet from the bin. After this problem is identified, the patients are often taken directly to a room due to the pace of clinic and the need to move patients through to see providers. In this case the POC testing is missed. In addition, when less experienced lab personnel are present they may be less efficient at obtaining tests therefore slowing down the entire process.

**Possible solutions:** We may need to address some of these issues with the lab supervisor.

**4. Problem: Missed POC labs for certain providers**

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While reviewing the data, it was also noticed that many patients who are scheduled to see a provider for anticoagulation may not have an A1C or TC/HDL tested even if indicated. There is a potential discrepancy in the information perceived to be needed by various providers. **Possible solutions:** Remind the staff that they should follow lab orders as dictated by the POC list as opposed to assuming what labs should be ordered based on the provider. This is especially important because we have providers who see patients for multiple clinics (ex. anticoagulation and diabetes).