

# PDSA worksheet

plan - do - study - act - plan - do - study - act - plan - do - study - act

<b>Project Lead</b>	Andrew MacLennan (PGY-1)	<b>Title</b>	Reevaluation of POC testing implementation
<b>Team</b>	Annie Whitney, Robb Malone	<b>Change</b>	Identify problem for missed POC testing
<b>Date Range</b>	June 2008	<b>Cycle #</b>	2
		<b>Key Words</b>	POC, Hemoglobin A1C, Cholesterol, Lipids

**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 collected. Include relevant information from literature.

Care providers use surrogate markers of patient health, such as Hgb A1C and lipid profiles, to guide therapy. The goal of UNC Internal Medicine Clinics is to test the surrogate markers in at least 90% of patients with indications based on current guidelines. To facilitate this monitoring, the Clinics established Point of Care (POC) testing for Hgb A1C and lipids. In 2006, the clinics implemented POC protocols to ensure that at least 90% of patients with indications for testing of surrogate markers actually were tested.

A quality improvement study in March 2008 demonstrated that, over a 10 day period, only 49% of ordered POC HgbA1C tests were actually carried out. This percentage falls short of the 90% goal.

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## **PLAN:**

**Aim/Objective Statement** for this cycle What do you hope to learn? What are you trying to improve (aim), by how much (goal) and by when (timeframe)?

The aim of this study is to quantify the effectiveness of the current system for POC testing and to identify areas where patients are “falling through the cracks” and not receiving indicated POC testing.

Specific questions to address in this cycle:

1. Has the rate of POC testing improved since March 2008?
2. Where is the breakdown occurring—in ordering the POC tests or in carrying out the orders?

**Predictions/Hypotheses** (What do you think will happen?)

I suspect that the lion’s share of the problem is that patients are not having POC testing ordered, rather than ordered tests not being carried out. Once the exact location of the breakdown is identified, steps can be made to rectify the problem.

## **Plan for change/test/intervention**

*Who (target population):* Patients with diabetes requiring POC HgbA1C or cholesterol testing.

*What (change/test):* Quantify the number of indicated POC tests that were ordered and carried out.

*When (dates of test):* 5/23/08 -- 6/30/08

# PDSA worksheet

plan - do - study - act - plan - do - study - act - plan - do - study - act

*Where (location):* UNC Internal Medicine clinics – diabetes, anticoagulation, pain and primary care clinics.

*How (description of plan):* Data will be collected using the POC testing database and WebCIS.

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

## **Plan for data collection**

*Who (will collect):* Andrew MacLennan (during Continuity Elective)

*What (measures):* POC HbA1c and lipid measurements indicated and obtained

*When (time period):* May/June 2008

*Where (location):* UNC Internal Medicine clinics.

*How (method):*

1. Calculate the percentage of indicated POC testing that actually occurred.
2. Determine whether indicated POC tests were actually ordered in the system.
3. Evaluate the list of patients with indications for POC who didn't have orders entered or who had orders and didn't have the tests carried out—what patterns are there? Where did the breakdown occur?

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

Note when completed, observations, problems encountered, and special circumstances. Include names and details.

I evaluated the number of patients with an indication for POC testing who actually received it. Shaun McDonald, in IT, gave me thirteen days worth of data. These days are not consecutive because he was out of the office for several days during the collection period. During some of these days data were not collected; this oversight was not noticed until his return.

I also spoke with Mark, the POC lab technician, to understand the patient flow. I spoke with Johnnie Satterfield and Rob Hartman at the two front desks to ask how POC orders are entered into the computer. Charlene Watson combed through the lab order entries in A2K to determine whether or not POC tests were ordered into the system. Finally, I used WebCIS to look up patient records.

# PDSA worksheet

plan - do - study - act - plan - do - study - act - plan - do - study - act

**STUDY:** Summarize and Analyze data (quantitative and qualitative). Include charts, graphs.

Date			# Indicated POC Hbg A1C's	# POC A1C Tests Obtained	% Indicated POC A1C Tests Obtained	Goal	# Indicated POC Lipid Tests	# POC Lipid Tests Obtained	% Indicated POC Lipid Tests Obtained	Goal
1	5/28/2008	Wednesday	6	6	100%	90%	5	2	40%	90%
2	6/3/2008	Tuesday	6	5	83%	90%	1	1	100%	90%
3	6/5/2008	Thursday	8	8	100%	90%	2	2	100%	90%
4	6/9/2008	Monday	15	10	67%	90%	9	6	67%	90%
5	6/10/2008	Tuesday	8	8	100%	90%	3	2	67%	90%
6	6/11/2008	Wednesday	12	7	58%	90%	3	0	0%	90%
7	6/12/2008	Thursday	8	5	63%	90%	4	2	50%	90%
8	6/13/2008	Friday	10	8	80%	90%	4	4	100%	90%
9	6/16/2008	Monday	9	9	100%	90%	2	2	100%	90%
10	6/17/2008	Tuesday	12	8	67%	90%	2	2	100%	90%
11	6/18/2008	Wednesday	8	8	100%	90%	2	2	100%	90%
12	6/19/2008	Thursday	4	4	100%	90%	1	0	0%	90%
13	6/23/2008	Monday	3	2	67%	90%	0	0	100%	90%
<b>Total</b>			<b>109</b>	<b>88</b>	<b>81%</b>	<b>90%</b>	<b>38</b>	<b>25</b>	<b>66%</b>	<b>90%</b>

Table 1.

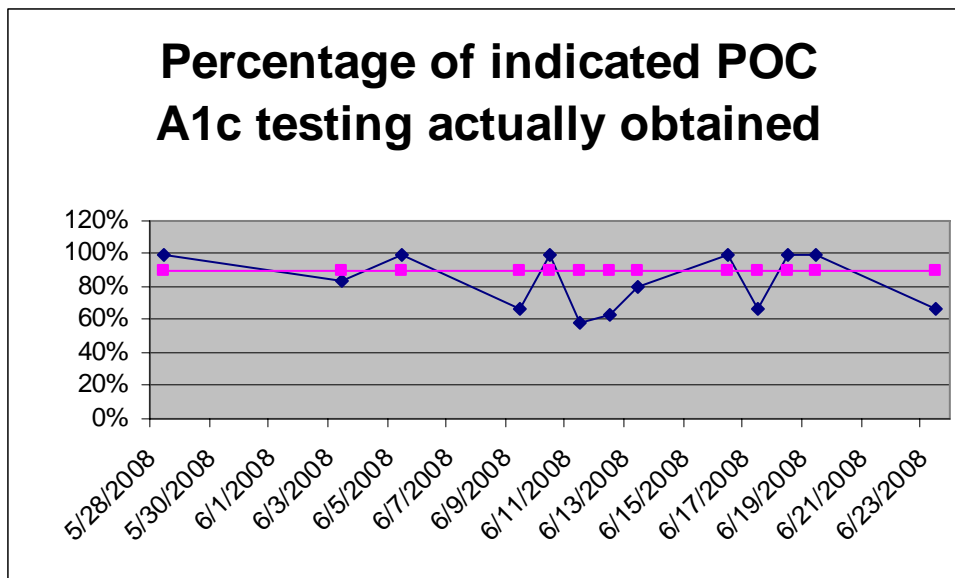


Figure 1

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plan - do - study - act - plan - do - study - act - plan - do - study - act

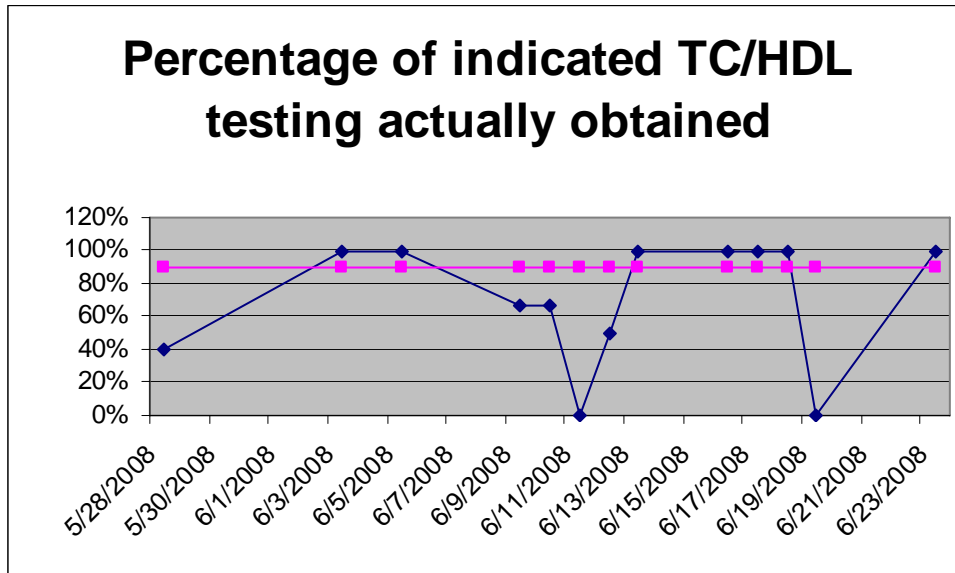


Figure 2.

During these 13 days, there were 21 patients with an indication for Hgb A1C POC testing who did not receive it. 3 of these patients had no record of their visit entered in WebCIS; these were probably no-shows and were excluded from further analysis. Of the remaining 18 patients, 16 (89%) did not receive POC testing because an order for it was not entered into the computer system.

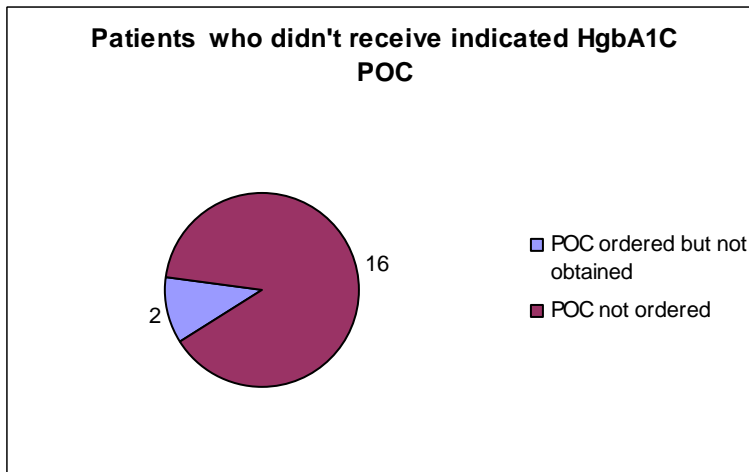


Figure 3.

There doesn't appear to be one particular day of the week where ordering is consistently low or high. There also doesn't appear to be one side of the clinic, east or west, where ordering is consistently low or high.

# PDSA worksheet

plan - do - study - act - plan - do - study - act - plan - do - study - act

It appears that patients are not receiving appropriate testing mostly because the order was not being entered appropriately. To evaluate why this is happening, I enquired how POC testing is actually ordered each day:

	Step in Process	Staff/Location
1	List of pts to get POC labs generated	Enhanced Care Database
2	List auto prints to front desk in AM	Front desk
3	Auto printing is verified in AM	EC Care Assistant
4	Before pts arrive, patients on POC list receive mark for POC labs on physician schedule	Front Desk Staff
5	When pt checks in, staff looks at schedule and orders POC labs if marked	Front Desk Staff
6	POC labs entered in lab entry system	Front Desk Staff
7	Pt remains in lobby until called by lab	Lobby

Table 2.

There are many steps that must occur and many opportunities for error to enter this process.

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**ACT:** Document/summarize what was learned. Did you meet your aims and goals? Did you answer the questions you wanted to address? List major conclusions from this cycle.

1. **Overall POC A1c implementation remains high at 81%.** However, this is short of our goal of 90% of patients with indications for POC testing receiving it.
2. **POC lipid implementation is less reliable at 66%.** However, there are fewer TC/HDL tests indicated than POC A1cs.
3. **Failed order entry at the front-desk accounts for the majority of missed POC testing:** In this cycle, 18 patients failed to get POC A1cs. 89% (n=16) had no lab orders entered into A2k. Only 2 of 18 had labs ordered but not obtained.

Define next steps. Are you confident that you should expand size/scope of test or implement? What changes are needed for the next cycle?

1. Although we know the problem is POC order entry at the front desk, we don't know why these aren't getting ordered. Is it human error? Is it reasons beyond the staff's control? Is there a way for us to figure this out short of standing up there and watching what is happening?
2. We currently don't have a system to identify these failures or built in to get POC labs ordered for the patients that are missed at the front desk.