

PDSA worksheet

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Project Lead	Angela Thompson	Title	A1c uncontrolled, not on insulin
Team	Enhanced Care Diabetes	Change	Revise database query
Date Range	March 2008 - April 2008	Cycle #	3
		Key Words	

BACKGROUND:

This is a continuation of cycles 1 and 2. In those cycles we identified patients with a HgbA1c >9% and not on insulin according to their Enhanced Care database medication registries, narrowed our target population in which to intervene, and attempted a method of intervention which we determined was unsuccessful. Our overall goal for this project is to implement a more consistent approach to initiation of insulin therapy in patients with multiple uncontrolled A1c results.

PLAN:

Aim/Objective Statement for this cycle

We will assess our current method of identifying and reviewing patients in need of insulin therapy, and develop a more systematic and automated method which we will perform on a routine basis.

Specific questions to address in this cycle:

1. Is the current database query an accurate and effective way of identifying the target patients?
2. How many patients are currently in need of intervention?

Predictions/Hypotheses:

The chart review process will identify a relatively large percentage of patients who do not meet the criteria for intervention decided upon in previous cycles: having the two most recent Hemoglobin A1c values above 9%, having attended a clinic visit within the past 1 year, and with no WebCIS documentation of discussion of insulin and reason for delay.

Upon review of these patients, we will use this information and collaborate with Shaun McDonald for IT support in refining the database query. We will use the refined query for the next phase of the project.

Plan for change/test/intervention

Who: Patients in the UNC Internal Medicine Clinic with uncontrolled diabetes

What: review of current automated process, update of automatic process

When: March 2008-April 2008

Where: UNC Internal Medicine Clinic, ACC

How: Database updates

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Measures

We will measure the total number of patients identified by the current query and collect data on how many of these patients are appropriate for intervention.

Plan for data collection

Who: Angela Thompson, diabetes care assistant

What: data collected from DM database, WebCIS chart notes, etc

When: March 2008

Where: UNC Internal Medicine Clinic, ACC

How: Chart review and update of DM database

DO:

This process required no intervention on the patient level. Rather, I performed the same process completed in Cycle 1 by running the query in the DM database to identify patients whose most recent Hemoglobin A1c value was above 9% and who were not taking insulin, according to their medication registry. This time the query identified 47 patients. For each patient, I reviewed their electronic medical record in WebCIS and in the Enhanced Care Database. I updated their registries as appropriate, and noted any refusals or reasons for delay of insulin initiation. This was completed with little difficulty, but was once again a time-consuming process.

Upon examining the results of the chart review, a new database query was created by Shaun McDonald, Database Programmer and IT Specialist for the Enhanced Care Program. This new query excludes the following groups: patients with only one HgbA1c value in WebCIS; patients whose second most recent HgbA1c was below 9%; patients with a PCP outside of the Internal Medicine Clinic; and patients with no date of service within the past 1 year. We ran the new query, and the resulting patients identified were more appropriate for intervention.

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

The query identified 47 patients. When I performed this process initially in Cycle 1, the query identified 80 patients. The 45% reduction in target patients identified by the query suggests that the initial chart review was successful at eliminating some patients whose records were incorrect, or who were inappropriate for intervention. In this cycle, after review of these 47 patients, I classified patients into 6 mutually exclusive categories as follows, and summarized in Figure 1:

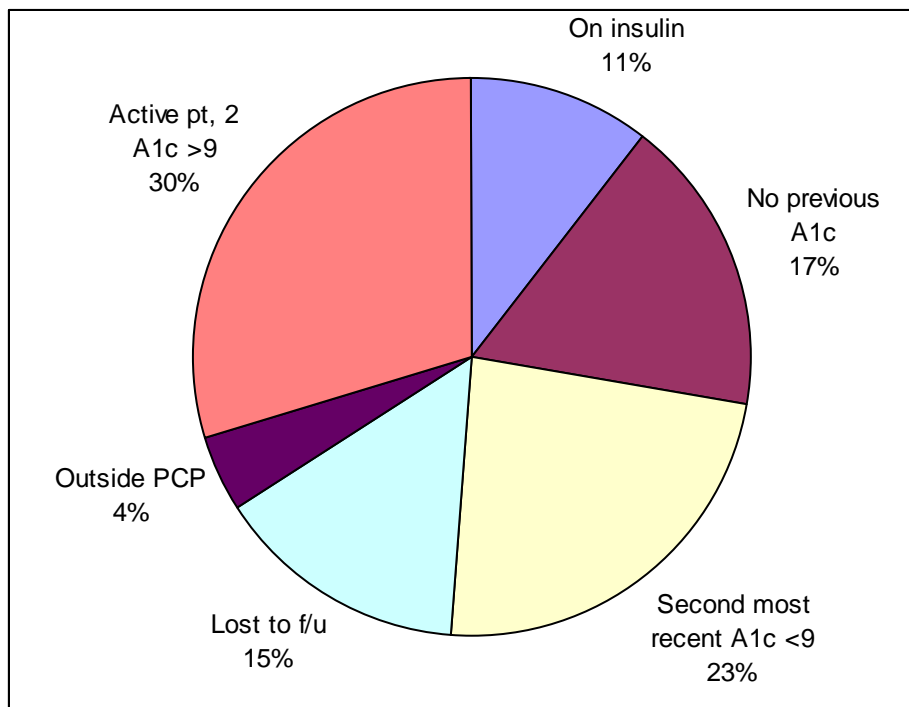
- **5 patients (11%) on insulin** – Insulin has already been prescribed. The patient's medication registry was incorrect.
- **8 patients (17%) New onset or no previous A1c result** – Does not meet criteria for intervention because we only have one HgbA1c result.

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- **11 patients (23%) with the second most recent A1c result <9%** - Does not meet criteria for intervention because in this cycle we are only targeting those patients with two consecutive HgbA1c results >9%.
- **7 patients (15%) lost to follow-up** - Patient has not attended a clinic visit within the past 1 year.
- **2 patients (4%) with a PCP outside of UNC Internal Medicine** - We will not attempt to notify providers outside of the UNC IM Clinic, or include these patients in intervention efforts. We will, however, encourage insulin therapy if these patients attend a visit with Enhanced Care or other clinic provider.
- **14 patients (30%) Active patients with 2 consecutive HgbA1c values >9%** - This will be our target group in which we intervene in the next cycle.

Figure 1: Results of Chart Review - Patient Categories (n=47)



Only 30% of patients identified by the original query were appropriate for intervention. This suggests that the original database query is too broad and does not appropriately identify our target patients.

Shaun McDonald created a new database query which systematically eliminates all but the target patient population, thus making the chart review process unnecessary.

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I ran the new query on 4/18/2008, and 11 patients were identified. After a brief chart review, I verified that all 11 (100%) of these patients were appropriate for intervention according to our established criteria.

ACT:

- 1. The previous database query was too broad and did not accurately identify our target patients.** A new query has been created by Shaun McDonald; this is the query we will use for intervention efforts in future cycles. No chart review will be necessary before intervention.
- 2. The chart review process is time-consuming and inefficient.** We may continue to run the original query in order to correct inaccuracies in the database or continue our efforts to contact patients without recent follow-up. However, this should not be done frequently, and should be separate from our systematic intervention attempts.

Define next steps.

- 1. The refined query will be used in our next phase of intervention.** As described in Cycle 2, I will combine my project with interventions designed in other projects by Carolyn Menzie and Meg Rutledge to send weekly emails to providers notifying them of the need for aspirin, statin, or ACE-i/ARB.
- 2. The original query will be run once every 3 months.** A care assistant will perform chart review on patients with HgbA1c>9% not on insulin but that do not necessarily meet the criteria for inclusion in the weekly provider email, in order to insure that the database is accurate, that care assistants are aware of worsening control, and that we continue our attempts to contact patients with long absences from care. We will incorporate this into the Diabetes Dashboard, which will remind the assigned care assistant to complete this task as part of his or her routine assigned responsibilities.