

# PDSA worksheet

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

Project Lead	Angela Thompson	Title	A1c uncontrolled, no insulin
Team	Enhanced Care Diabetes	Change	Letter intervention
Date Range	February 2008	Cycle #	2
		Key Words	

## **BACKGROUND:**

This is a continuation of cycle 1. In that cycle we ran a query from the Enhanced Care database to identify patients with HgbA1c above 9% and not on insulin therapy. We completed a chart review of each of these patients, updated their database records as appropriate, and identified a target group of patients in which to intervene. 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.

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## **PLAN:**

In this cycle we hope to create an effective way of notifying both the providers and the patients of their poor control, to encourage the patient to schedule an Enhanced Care visit or attend a visit already scheduled, and to initiate insulin if appropriate.

Develop letter intervention and evaluate results to determine if it was effective.

### **Specific questions to address in this cycle:**

1. Is the letter intervention effective? If not, what further steps should we take, if any?
2. What are the barriers to the success of this intervention?
3. Should the goals of this project be revised?

### **Predictions/Hypotheses**

We predict that asking each patient's PCP to sign the letter will raise awareness in both the providers and the patients that more aggressive treatment is necessary for glycemic control. Additionally, we predict that the patient will be more likely to respond to a letter directly from his or her PCP than from the Enhanced Care Program care assistants alone. Ultimately, we predict that the number of patients in this target group who initiate insulin therapy will increase.

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

Who: Active (seen in clinic in last year) diabetes patients in the UNC Internal Medicine Clinic with 2 consecutive A1c values greater than 9% not on insulin therapy.

What: Letter signed by PCP and sent to patient's home address, followed by phone contact from Diabetes Care Assistant.

# PDSA worksheet

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

When: November 2007-February 2008

Where: ACC Internal Medicine Clinic

How: Contact PCP to sign letter; send letter to patient's home mailing address on file; contact patient by phone to determine if letter was received and to schedule an appointment; collect data to determine if insulin was initiated at follow-up visit.

## **Measures:**

We will measure the number of letters signed and sent to the patient; the number of patients who attend a clinic visit within the decided time period; the number of cases in which the provider documented discussion of insulin at that visit; and the number of patients who initiate insulin at the follow-up visit. These measures will provide an idea of whether the letter intervention is a worthwhile effort.

## **Plan for data collection**

Who: Angela Thompson, Diabetes Care Assistant

What: Chart review of patient records

When: Completed February 27, 2008 (3 months after initial review and intervention)

Where: UNC Internal Medicine Clinic

How: Review patient records in the Enhanced Care database and WebCIS to determine if intervention occurred; if targeted patients scheduled and attended follow-up; if insulin therapy was discussed; and if insulin therapy was initiated.

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## **DO:**

In the first cycle, I identified 36 patients to target for intervention by running a query that identified patients with a HgbA1c >9% and not on insulin therapy. Upon further review, I determined that only 19 of these patients were appropriate for intervention. I targeted only those patients who met all of the following criteria: the two most recent, consecutive HgbA1c values >9%; had attended a clinic visit within the past 1 year; and not yet on insulin with no WebCIS documentation of a reason for delay of insulin therapy. I excluded patients who met some but not all of these criteria from the target group for this cycle. The initiation of insulin therapy is unique from other medical therapies in that patients often have more preconceived fears of the medication and the burden it places on their lifestyle, and providers are often hesitant to start insulin therapy in patients with questionable adherence or who do not monitor frequently. Therefore, I chose to limit my focus in the first cycle to a narrow group of patients who would be most likely to benefit from this intervention.

I printed letters for all 19 of these patients. A sample of the letter is included below:

# PDSA worksheet

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

Dear [Patient Name],

I have reviewed your records and I am concerned about your diabetes.

Your two most recent A1c lab values were [A1c] on [date] and [A1c] on [date].

The A1c is a test we do every 3 to 6 months that gives me an idea of how well your diabetes is controlled. These values are not good, and it means that your diabetes is uncontrolled. High blood sugars put you at risk for developing problems from diabetes over the next several years. These problems may include damage to your eyes, kidneys, and nerves.

I want to work with you to improve your blood sugars. I would like your A1c to be below 7% and most home blood sugars to be between 80 and 120 before meals. If we can do this, you will be at lower risk for developing these problems. I want you to make an appointment with our diabetes management team to talk about ways to get your blood sugars under better control.

A diabetes care assistant will call you in about week to discuss this and help schedule an appointment. Please call 1-866-633-8002 if you have questions.

Sincerely,

[Provider]

Internal Medicine Clinic

Note that the letter does not mention insulin therapy, or any specific therapy. The purpose of the letter is to alert the patient of their poor glycemic control and to facilitate discussion of the issue. Though this should most likely include the discussion of insulin therapy, I wrote the letter with the awareness that there may be other factors contributing to poor control. I mailed these letters to as many of those patients as I was able. I called the patient 1-2 weeks after I mailed each letter in order to attempt to help them schedule a follow-up visit.

After 3 months, I reviewed the records of each of these patients to determine the following: 1) Did the patient receive a signed letter? 2) Did the patient schedule and attend a follow-up visit? 3) Was insulin therapy discussed and/or initiated?

This data was collected with relative ease and time efficiency.

# PDSA worksheet

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

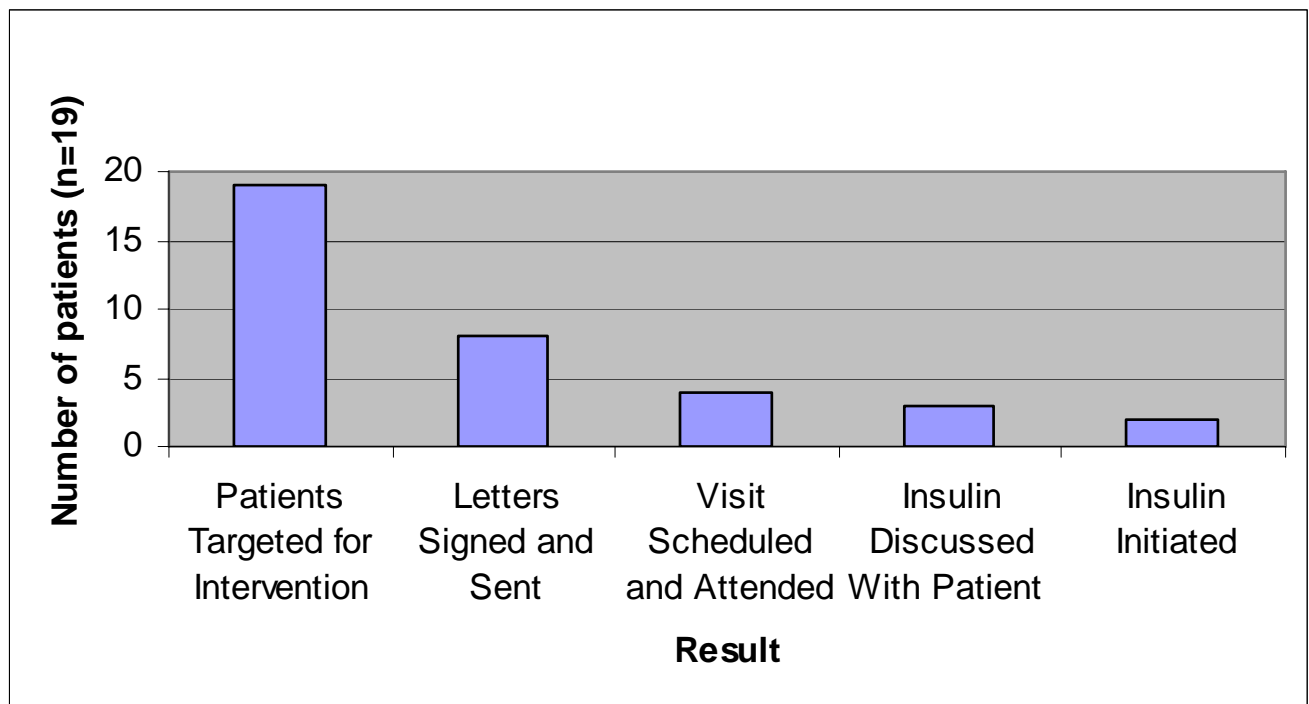
## **STUDY:**

Of the 19 patients targeted, only 8 letters (42%) were signed by the PCP and sent to the patient. There were several unforeseen barriers to this process. Some providers were unwilling to sign the letters. Reasons included that the patient was inherited from a previous PCP and the provider did not feel comfortable signing his or her name on a letter to a patient whom he or she had never met; that the provider cited extenuating circumstances and reasons for not wanting to prescribe insulin; and that the provider did not want the patient to schedule a visit with Enhanced Care because he or she preferred to contact that patient personally.

Additionally, I was unable to send some of the letters because the patient already had a follow-up visit scheduled and the letter would not reach them before that visit, or because I could not contact the provider prior to that clinic visit in order to get a signature.

Of those 8 letters signed and sent to patients, only 4 patients (50%) attended a follow-up visit. Of those 4, only 2 patients initiated insulin at their follow-up visit. This information is summarized in Figure 1.

**Figure 1: Results of Letter Intervention**



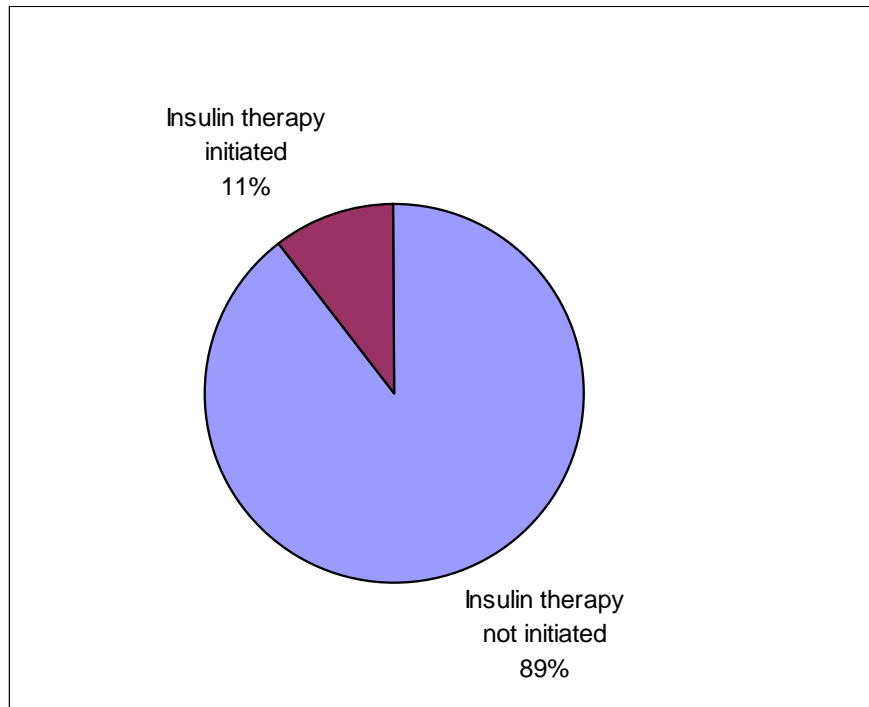
It is important to note that this chart is NOT necessarily representative of total number of patients initiated on insulin therapy during this time. Rather, it represents the total number of patients who received the intervention from Cycle 1 and then initiated insulin. Other patients in the Enhanced Care database may have initiated insulin therapy during the same time period, but not as a result of the developed intervention including the patient letter signed by the PCP and subsequent contact from Enhanced Care.

# PDSA worksheet

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

Out of all patients targeted for intervention (n=19) in Cycle 1, only 11% (2 patients) initiated insulin during the observed follow-up time period of three months.

**Figure 2:** Insulin initiation in target patients (n=19)



However, only 4 (21%) of these patients attended visits during this time period. Two of those 4 patients initiated insulin therapy and 1 patient discussed it with the provider but delayed initiation.

Our intervention was not successful in terms of the number of patients who attended a clinic visit. However, insulin was discussed and/or initiated in 75% of those visits.

## **ACT:**

1. **The patient letter developed in the first cycle was unsuccessful** given the amount of time and effort involved in mailing patient letters. Only 21% of patients originally targeted attended a clinic visit and only 11% initiated insulin. Several factors contributed to the failure of this method including: the dynamic nature of scheduling appointments; providers' limited physical presence in clinic; unwillingness of some providers to sign the patient letter; and difficulty in contacting patients who have been out of care. Another factor may be that the process of initiating insulin is different from other medications (such as aspirin), and is

# PDSA worksheet

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

probably better suited to a face-to-face discussion and consideration of the patient's feelings, past history of compliance, etc.

## **2. We should focus our strongest efforts on patients who schedule regular follow-up visits.**

Seventy-five percent of the patients who attended a clinic visit following our intervention discussed or initiated insulin at that time. While this was a small number (n=4), it suggests that providers were aware of the need to initiate insulin in these patients. Our attempts at intervention should be focused on the time when the patient is in clinic.

**Next Steps:** In the next cycle, we will narrow our target population and our intervention strategy even further by:

- 1. Refining the database query** to save time on unnecessary chart review;
- 2. Eliminating the patient letter** and provider signature; and
- 3. Alerting providers to only their patients with an upcoming appointment scheduled.** This method has been received well in initial testing to improve statin use by Carolyn Menzie. In future cycles, we will include indication for insulin along with provider email alerts for patients who are not taking aspirin, statins, or ACE-i/ARBs. Multiple separate QI projects will come together to utilize the email intervention that has shown potential in Carolyn's statin project.