

PDSA worksheet plan - do - study - act	team	Carolyn Menzie, Diabetes- CA
	change	Diabetes Quality
	cycle #	1
	title	Statin Utilization

BACKGROUND:

In order to ensure our diabetic patients are receiving the highest standard of care we track the utilization of three key medications: aspirin, statin, and ACEi/ARB. ADA guidelines strongly recommend the usage of these medications in diabetics over the age of 40 meeting certain criteria (laboratory, blood pressure, etc.). Aspirin and ACEi/ARB usage were studied elsewhere.

The standards we use for statin utilization, established by the Heart Protection Study and adopted by the American Diabetes Association (ADA), provide direct evidence that cholesterol-lowering therapy is beneficial for people with diabetes even if they do not already manifest coronary disease or high cholesterol concentrations. As of November 2007, 75% of our diabetic patients over the age of 40 are taking a statin. This does not meet our goal of 90% statin utilization. In order to meet this goal, we will study diabetic patients over the age of 40 to determine the number of patients not taking a statin who are indicated to do so. In addition, we will examine patient and provider barriers for not prescribing statin therapy when indicated.

PLAN: Objective for this cycle (What you hope to learn)

Specific questions to address:

1. How accurate is our database data on patient utilization of statins?
2. How many patients are truly not taking these medications and should be?
3. What are some of the reasons that patients indicated to be taking a statin are not?

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

THIS CYCLE: When looking at the 25% of our diabetic patients over 40 years old not taking a statin, we hypothesize we will identify a high percentage of patients with a total cholesterol (TC) greater than 135 (our target population for intervention). We will evaluate reasons indicated patients are not on statin therapy such as a delay of initiation, financial concerns, provider barriers, or the need for patient education. Identifying these reasons will help us develop our intervention, in addition to helping us identify our target population (i.e. patient, provider or both).

Plan for change or test: who, what, when, how and where

Who: Diabetes patients >40 years old in the UNC Internal Medicine clinic.

What: Identify patients indicated to be on a statin (over the age of 40 with TC >135)

When: Complete data review by January 2008

How: Review WebCIS PCP notes, most recent total cholesterol values and our diabetes database

Where: ACC Internal Medicine clinic

PDSA worksheet plan - do - study - act	team	Carolyn Menzie, Diabetes- CA
	change	Diabetes Quality
	cycle #	1
	title	Statin Utilization

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

Who: Carolyn Menzie, Diabetes CA

What: Review patient records and update the database accordingly for all diabetic patients over the age of 40 who are marked “not assessed”, “no”, “not indicated,” and “delay” in our database. Identify the most common reasons why our target population, diabetic patients over 40 years old with TC >135, are not on a statin.

When: Nov 2008 – Jan 2008

How: Review all relevant information in provider notes, medication lists, lab results, etc.

How long: Approximately 8 – 12 hours

Standards for Key Medication Use

Statin (use labs in past year)

Indication: Over 40 years old AND TC > 135.

Contraindication: H/O rhabdomyolysis previously on a statin, severe liver disease (LFTs > 3x upper limit of normal), pregnancy

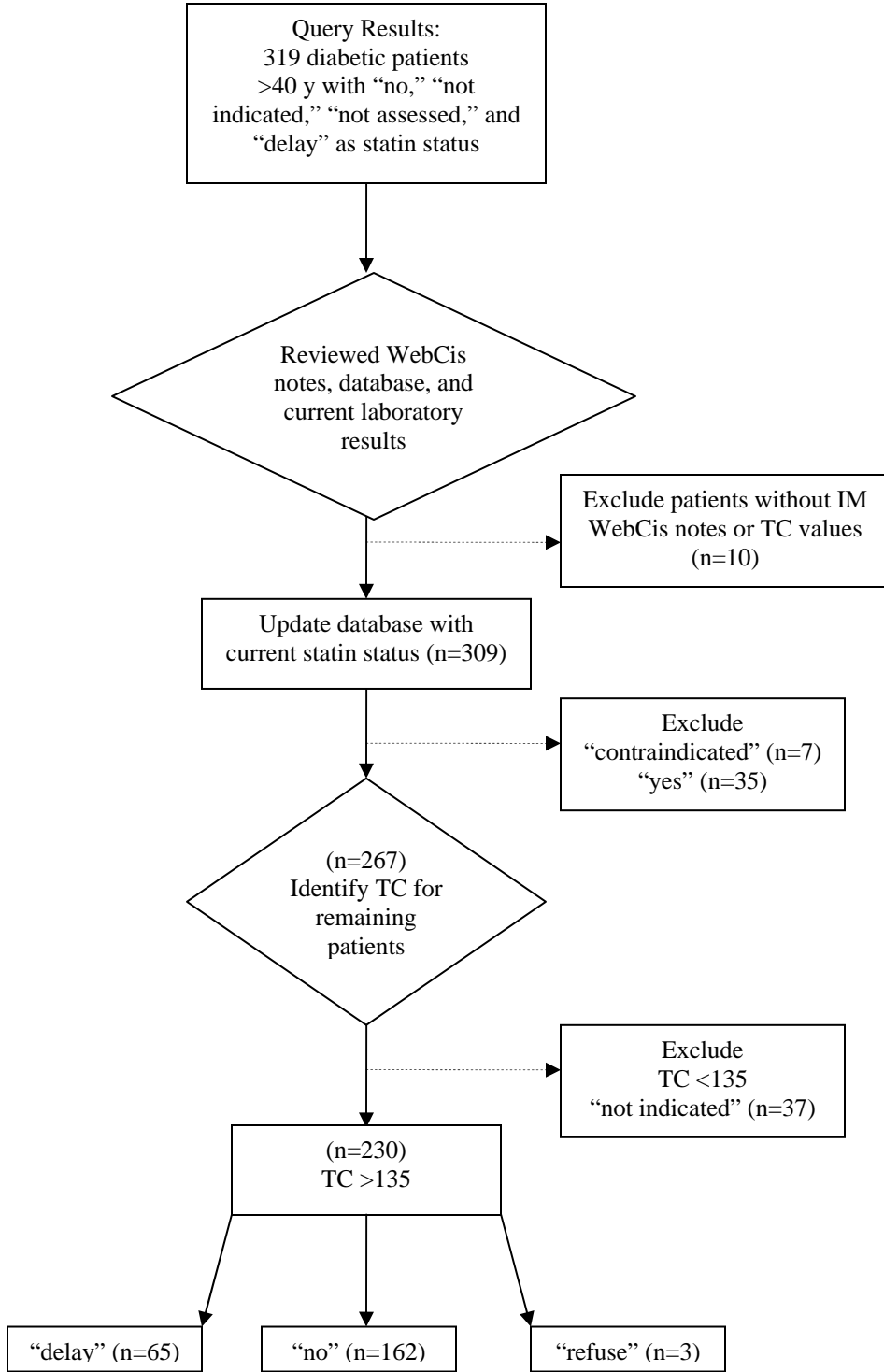
Precaution: Warfarin (Coumadin®) patients (due to drug interaction), beware high doses in frail elderly with kidney disease, high dose statins with Gemfibrozil (Lopid®)

DO:

A query was run to identify all patients over age 40 who have “not assessed,” “no,” “not indicated,” and “delay” as his/her statin in our database. Data was collected and recorded with minimal difficulty. Assessment was very time-consuming, as it required review of hundreds of lab results and clinic visit notes to determine whether statin therapy had been discussed or initiated previously. Relevant details from clinic visits regarding patient history or provider’s reasons for delaying initiation of statin were noted.

PDSA worksheet plan - do - study - act	team	Carolyn Menzie, Diabetes- CA
	change	Diabetes Quality
	cycle #	1
	title	Statin Utilization

See below for the review and assessment breakdown:



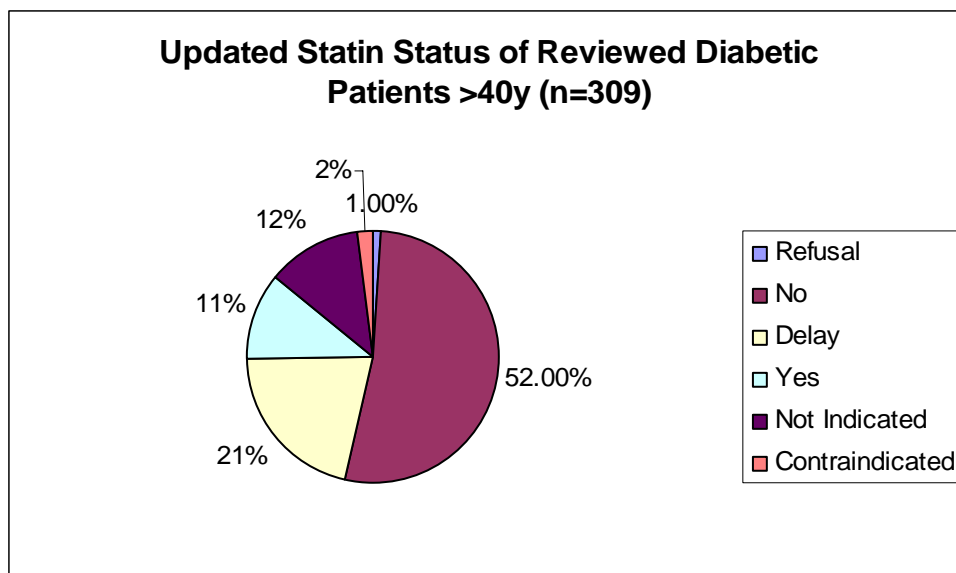
PDSA worksheet plan - do - study - act	team	Carolyn Menzie, Diabetes- CA
	change	Diabetes Quality
	cycle #	1
	title	Statin Utilization

STUDY: Analyze data (quantitative and qualitative).

Summarized data: A total of 319 diabetic patients over the age of 40 were reviewed. Ten patients were excluded from analyses because no cholesterol values or no Internal Medicine WebCis notes were found.

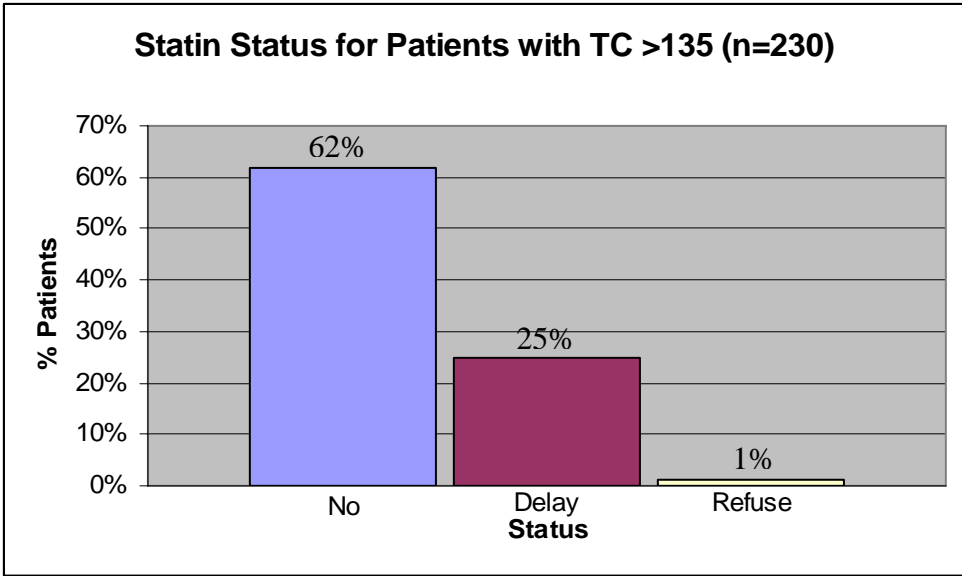
In total, the breakdown of statin status for 309 patients (reflecting the 10 excluded) is as follows:

- Refusal – 3 (1%)
- No (not taking and no reason given) – 162 (52%)
- Delay – 65 (21%)
- Yes (currently taking statin) – 35 (11%)
- Not indicated – 37 (12%)
- Contraindicated – 7 (2%)

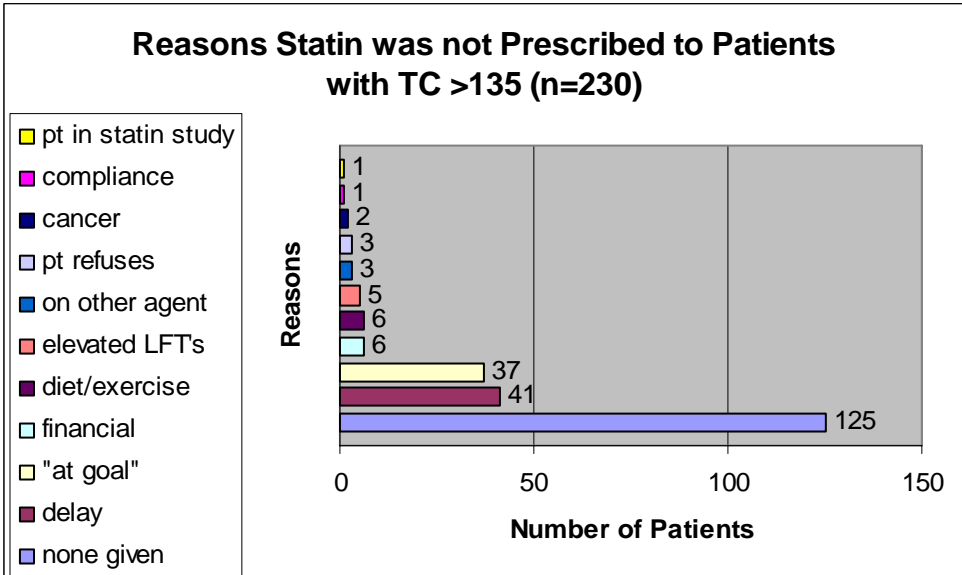


- “Refuse” (n=3) was assigned if the patient refused statin therapy and this was stated in WebCis notes.
- “No” (n=162) was assigned if either the provider stated the patient had “at goal” lipid levels, no reason was given, or if the patient was on another type of lipid-lowering agent (fish oil, fibrates). This category also included a patient enrolled in a statin research study.
- “Delay” (n=65) was assigned if the provider explicitly mentioned delaying the initiation of therapy (financial constraints, elevated LFT’s, etc.).
- “Yes” (n=35) was assigned if the patient was currently taking a statin and this was confirmed in WebCis. “Not Indicated” (n=37) was assigned if the patient had a TC <135 and was not taking a statin.
- “Contraindicated” (n=7) was assigned if the patient had any of the mentioned contraindications and/or if contraindication was mentioned and confirmed in the WebCis note.

<h1 style="margin: 0;">PDSA worksheet</h1> <h2 style="margin: 0;">plan - do - study - act</h2>	team	Carolyn Menzie, Diabetes- CA
	change	Diabetes Quality
	cycle #	1
	title	Statin Utilization



The above graph portrays the statin status reviewed for patients with TC >135 (n=230). “Contraindicated” patients (n=6) with TC >135 and “yes” patients (n=35) with TC >135 were excluded. As shown, the majority of this population is not currently taking a statin despite indication [“no” n=162 (62%), “delay” n=65 (25%), “refuse” n = 3 (1%)].



Lastly, the above graph portrays the provider reasons for not initiating statin therapy to patients with a TC >135. This analysis included all “no”, “delay”, and “refusal” patients (n=230). The majority of patient chart reviews gave no reason for not initiating statin therapy. As previously shown in many cases, providers feel patient total cholesterol is “at goal,” despite not meeting ADA guidelines.

PDSA worksheet plan - do - study - act	team	Carolyn Menzie, Diabetes- CA
	change	Diabetes Quality
	cycle #	1
	title	Statin Utilization

ACT: Document what was learned. Are you confident that you should expand size/scope of test or implement?

Our registry data is accurate. Through this chart review we identified 31 (n=31 out of 35 “yes” patients with TC>135) of 261, 11.8% of patients with a total cholesterol greater than 135 currently taking a statin. Furthermore, 230 of 261 (“no” n=162, “yes” n=31, “delay” n=65, “refuse” n=3,) 88% of patients assessed in this chart review have an indication that we must address. Though it is a very time-consuming process to review patient records, it is worthwhile in order to narrow down the patient population and intervene on those patients who will benefit most. It is also a compelling catalyst to educate and inform providers of the standards of care outlined in the Heart Prevention Study and ADA.

What changes are needed for the next cycle?

We need to create and implement a sustainable intervention for the 230 patients indicated for statin therapy. Due to unavoidable barriers such as cost, contraindications, frequent laboratory monitoring, and the need for a prescription, mailing a letter to patients informing them of their cholesterol level and the need for intervention is not realistic.

Possible methods for sustainable intervention are as follows: categorize the 230 indicated patients into high risk and upcoming visit groups to target those most in need or accessible, provide education on the benefits of statin therapy for only the provider, only the patient, or both, and determine the barriers present for each population (providers=time, knowledge, higher priority health issues; patient=limited visit time, education, cost), and lastly, creating an educational board illustrating the ADA guidelines for statin utilization and the risks/benefits of therapy. The boards could be hung in each exam room easily visible to the PCP and patient.

Lastly, it is evident that providers may need to be reminded of the importance of statin therapy in our target population. This analysis was very time-consuming and in order to be effective and benefit the patient and provider, an intervention to sustain statin utilization long-term would be ideal.