Investigating current workflow management of patients with uncontrolled diabetes

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1 Background

As of 2014, 29 million people in the US have diabetes. By 2050, one-third of the adult US population could have diabetes, increasing the risk for dangerous complications: heart disease, stroke, blindness, renal damage, and leg and foot amputations[1].

The American Diabetes Association (ADA) recommends that adults with uncontrolled Type 2 diabetes have their hemoglobin A1C (HbA1C) levels checked every 3 months. Regular point-of-care A1C testing allows healthcare providers to adjust and change treatments suitable to the patients' needs promptly.

According to the ADA, the HbA1C treatment goal for adults is less than 7%. However, a more flexible HbA1C treatment goal of lower than 8% is acceptable for patients who have difficulties in controlling their glycemic levels[2].

2 Objectives

1. Understand the current practice workflow for diabetes management and its gaps.
2. Improve the workflow of visits for diabetes management and A1c testing.
3. Ultimately increase the proportion of patients with A1c >= 8 who are receiving follow up and A1c checks consistent with guidelines.

3 Methods

We conducted chart reviews in EPIC of patients with A1c >= 9 to address the following variables:

Appointment data:
- Last appointment date and type
- Diabetes addressed during visit
- PCP's recommended follow up time frame
- Follow up scheduled

Care management status:
- ACO coverage
- Care management involvement

Labs:
- Last and next A1c order date

Specialty services:
- Diabetes
- Nutrition

Pivot tables were used to analyze the relationships between the variables.

4 Results

	Frequency n=36
Follow ups	
Follow up recommended	22
Within 3 months	18
Appt scheduled	18
No follow up recommended	13
No appt scheduled	7
Diabetes addressed last appt	
Yes	29
No	7
Acute visit	4
POC testing	
A1c ordered within 3 months	11
Primary care management	
Diabetes service	19
Care manager	3
ACO	8
Nutrition	6

Table 1. Findings from chart reviews.

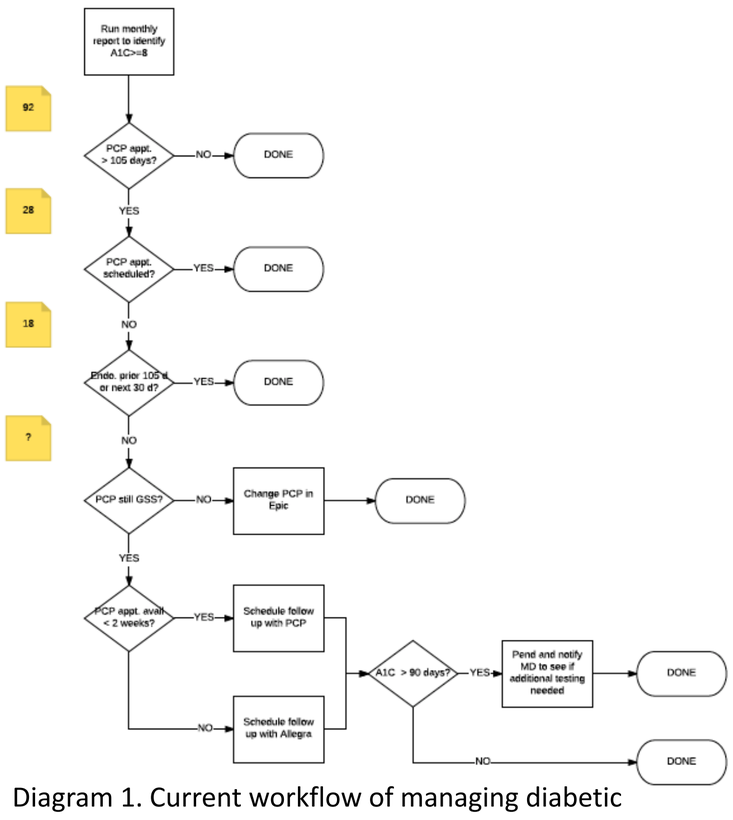

Diagram 1. Current workflow of managing diabetic patients.

36 patients had an A1c >= 9. Majority of the patients, approximately 80%, had diabetes addressed during their last appointment. Of those who did not have diabetes addressed, more than half came in for urgent care.

22 out of the 36, or 61%, had a follow up recommended by their primary care provider. Of those, 82% had a recommendation to come back within the next 3 months—they were treated according to ADA guidelines. 82% of those who had a recommendation also had a follow up scheduled. In contrast, more than half of the 13 who did not have a follow up recommendation had no appointment scheduled.

Only 11 of the 36, or 31%, had an HbA1c ordered within 3 months of their last point of care testing.

19 of the 36, or 53%, were co-managed with diabetes service. Only 3 had a care manager coordinating their care, most likely due to only 8 having their services managed by ACO. Lastly, 6 out of the 36, or 17%, had a nutrition appointment within the last year.

5 Conclusions

- Majority of patients who had a follow up appointment scheduled had a recommendation. If patients receive follow up recommendations, then patients are more likely to have a next appointment scheduled.
- Many diabetic patients are not getting A1c testing as per ADA's guidelines. Future workflows will need to encourage patients to be regularly tested.
- Patients are discussing their diabetic condition with their PCPs and are being co-managed by diabetes service. Despite this, their diabetes is still uncontrolled, suggesting the need for improved coordination between the facilities.
- Patients who are managed by diabetes service do not need regular 3 month follow ups at GSS. The workflow will need to track which patients are treated by diabetes service and schedule their follow ups at GSS within a reasonable amount of time.

6 Future Directions

- Create a workflow that identifies patients who do not regularly follow up with GSS or diabetes service every 3 months and schedules an appointment for them.
- Identify services the diabetes practice provides and collaborate with the facility to improve coordination of care and ensure proper management of diabetic patients.
- Adjust workflow to schedule patients for regular POC testing.

7 References

[1]Centers for Disease Control. (2014). *Diabetes 2014 report card*. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services. Retrieved from http://www.cdc.gov/diabetes/pdfs/library/diabetesreportcard2014.pdf

[2]American Diabetes Association. (2017). Standards of medical care in diabetes—2017. *Diabetes Care, 70*(Suppl. 1), S48-S56.

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