

# Managing diabetic patients in primary care: baseline procedures and implications for change



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## 1 Background

Management of chronic illnesses in the primary care setting relies on care coordination at multiple levels<sup>1</sup>. Providers and staff at Green Spring General Internal Medicine sought to improve the delivery of patient centered, evidence-based care for their patients with diabetes.

**Goal:** To understand the process and shortcomings of current chronic illness management practices at Green Spring General Internal Medicine, using the Chronic Care Model<sup>1</sup>.

## 2 Methods

An interdisciplinary team was developed out of the practice's Comprehensive Unit Based Safety Program (CUSP) including physicians, nurses and administrative staff. The DMAIC process (Define, Measure, Analyze, Improve, Control) was used to understand the current process and plan for change

### Data collection and analysis

#### 1. Quantitative survey

**Participants:** All staff and providers at Green Spring Station

**Survey instrument:** The Assessment of Chronic Illness Care<sup>2</sup> plus 2 qualitative free response questions

Domains:

- Organization of the healthcare delivery system
- Community Linkages
- Decision Support
- Delivery System Design
- Clinical Information System
- Total Integration

**Analysis:** Median scores were calculated for each question and used to identify priority areas for improvement

#### 2. Electronic health record data

**Patients**

- Identified through EPIC report
- Last visit to the practice within 2 years
- Diagnosis of diabetes in problem list

**Data collected**

- Hemoglobin A1C (HgbA1C) level and date
- Last visit date

**Analysis**

- HgbA1C:  $\geq 8.0$  was defined as uncontrolled diabetes
- Follow up: categorized as  $\leq 3$  months, 3 – 6 months, and  $> 6$  months
- $\leq 3$  months established as standard for follow up if patient's HgbA1C  $\geq 8.0$ <sup>3</sup>
- Description of distribution of HgbA1C and follow up

### Lean Sigma Analysis

**Baseline process map**

- Created following direct observation and qualitative interviews
- Revised following input from team members

**Root cause analysis (RCA)**

- Qualitative interviews with providers and staff to create fishbone diagram
- Used to identify initial priority for improvement

**Proposed improvement**

- Iterative qualitative interviews were used to inform the proposed intervention

## 3 Results

### Survey Results

- 19 of 37 participants completed the ACIC survey
- 51% answered all questions
- 5 areas identified with "limited support for chronic illness care" (median score 0-2) (Table 1).

Table 1. Areas with limited support for chronic illness care

Survey Response	Participants	Median Score	Implications for change
Follow-up is scheduled by patients and providers in an ad-hoc fashion	N=16	2	Create a more standardized process for scheduling follow-up
Planned visits for chronic illness care is scheduled by patients	N = 17	2	Create a more proactive process for scheduling planned visits
Registry of patients with specific conditions is not available	N = 14	2.5	Devise a diabetic patient registry for improved data analysis and tracking
Information systems/registries do not include patient self-management goals	N = 14	2.5	Include self management
Community programs do not provide feedback to the health care system/clinic about their patients' progress in their programs	N = 14	2	Communicate and collaborate with community support programs

### Electronic health record data

Of 391 total diabetic patients

- 21.5% (N=84) had HgbA1c  $\geq 8.0$ .
- Of these, 47.6% (N=40) had follow up at  $\geq 3$  months

## 4 Conclusions

- The first step in providing chronic care management is to ensure that our patients have disease management visits at the recommended intervals<sup>3</sup>
- We plan to intentionally manage patients with diabetes through the use of principles of safe design:
  - Setting standards for patient appointment intervals
  - Independent checks at the front desk and through the use of a monthly report
  - Learning from our defects by ongoing monitoring of our performance
- Using a team based model of care, we seek to empower staff at the front desk and medical office coordinators by establishing clear roles and responsibilities for them in the process

## 5 Future Directions

- Pilot the proposed process and evaluate its impact
- Engage patients to understand barriers to the scheduling process
- Obtain feedback from patients, providers, and administrative staff on changes implemented
- Additional work is needed to address other priorities identified through this process

### Lean Sigma Analysis:

**Prioritized routine follow up** for patients with HgbA1c  $\geq 8.0$

**Contributing factors:**

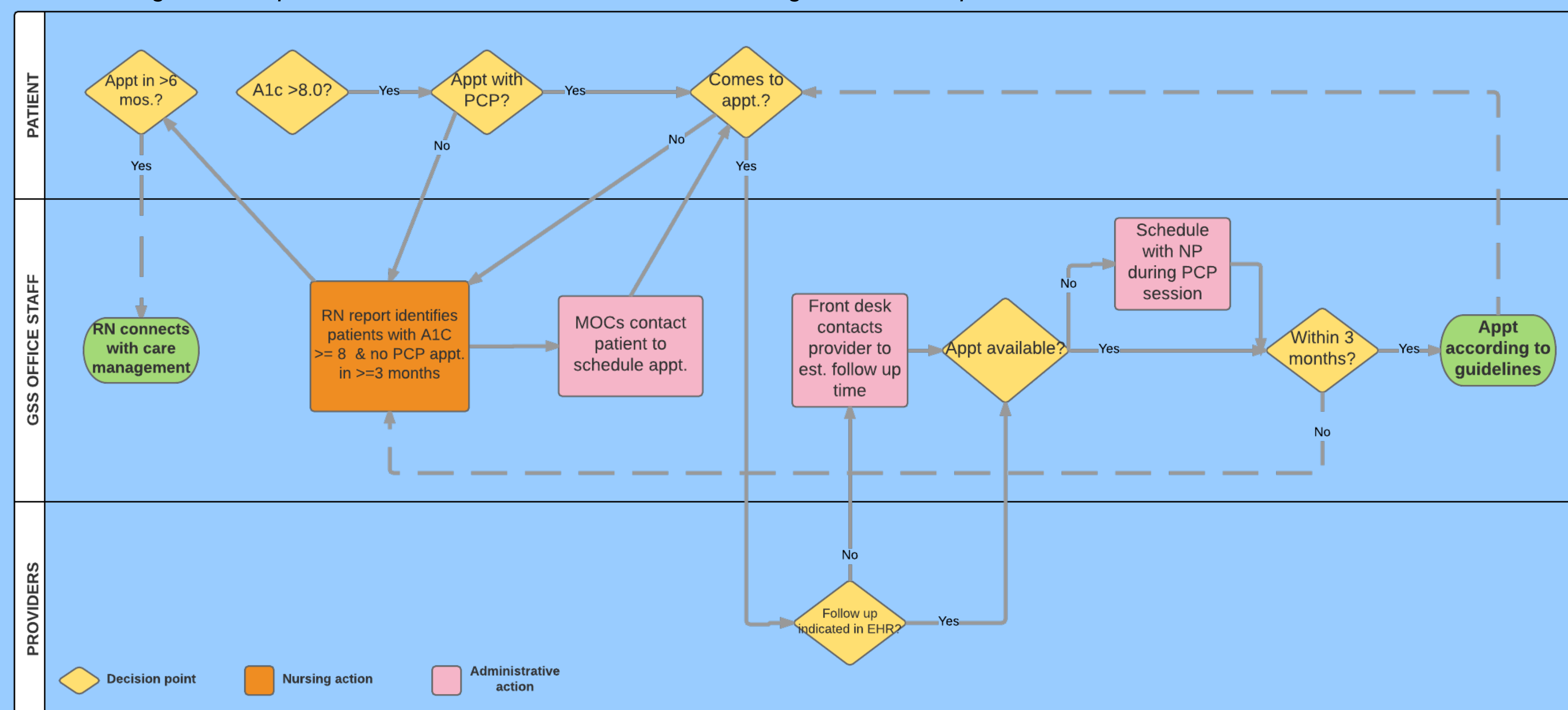
- Lack of protocol for follow up interval
- Ad hoc scheduling procedures

**Established goal:** By August 2017  $>90\%$  of patients with HgbA1c  $\geq 8.0$  will have scheduled follow up appointments every 3 months with a 15 day grace period.

**Proposed interventions:**

1. Front desk staff to contact provider if no routine follow up recommendation is made
2. Develop and implement a monthly report to identify patients with HgbA1c  $\geq 8.0$  who have not been seen within 3 months

Figure 3. Proposed Process for Diabetic Patient Scheduling and Follow-Up.



## 6 References

1. Wagner EH (1998) Chronic disease management: what will it take to improve care for chronic illness? *Effective Clinical Practice* 1(1):2-4
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3. American Diabetes Association (2016) Standards of Medical Care in Diabetes. *The Journal of clinical and applied research and education* 39(1):S1-S109

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