Chronic Disease: Centering Support for Patients with Diabetes

Background
- Diabetes is a high cost chronic disease
- 42% of Iowans have prediabetes or diabetes
- Outcomes are determined by self-management activities occurring in the 5K annual waking hours outside of clinic visits
- In diabetes management, glucose measurement directly correlates to diabetes control

Project Aims
The purpose of this project was to explore the question: Can:
- addressing barriers to diabetes self-management
- remote monitoring & continuous decision support
- reach goals of care & reduce unnecessary health care expenditures

Project Strategy and Implementation
Enrolled 41 patients over span of 6 months with Type 1 or Type 2 diabetes with the following criteria:
- 3 or more ED visits or hospitalizations over a 12 month period OR
- 1 ED or hospitalization over previous 12 months with a HgA1c > 9%
- Targeted patient education based on the following validated survey measurements to assess and understand barriers to self-management care
  - PHQ9
  - Patient Activation Measure (PAM) - 13™
  - Morisky Medication Adherence Scale
  - Michigan Diabetes Knowledge Test
- Incorporated web-enabled blood glucose meter for ease of testing and remote monitoring
- Glucose reading transmitted over HIPAA compliant FDA approved cloud to care team web portal allowing for real-time decision support

Outcomes
- Improvements in clinical measures and utilization
- Reduced cost of ED visits and admissions by $102K
- Improved efficiency & lower cost of clinical decision support
- Value from the patients’ perspective

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Management by exception allows efficient monitoring and support of patients

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How this Differs from Other Programs
- A self care focus working with patients to assess and identify their barriers to self care
- Actively seeks to reduce the burden of disease through ease of test reporting
- Promotes an iterative, self learning system of care for patients via timely feedback of adherence and control
- Coordinates and integrates with the provider and patient
- Not based upon “rear view mirror” approaches of hemoglobin A1C testing or billing data but instead the single factor measuring and assessing daily control… the blood glucose levels

Lessons Learned
- Improves control and decreases utilization
- Identify other factors to increase engagement
- Re-design care teams and processes
- Align financial model and incentives

Next Steps
Integration
- Link cloud based server to EHR via API
- Incorporate patient surveys directly into EHR

Implementation
- Create rapid-cycle EHR dashboard

Scaling
- Expand to other populations
- Disseminate to multiple sites

AIM@Diabetes: Ambulatory Intensive Management of Diabetes