

Evaluating the impacts of clinical pharmacy interventions in diabetes management in the primary care setting

The Problem

- Diabetes is a highly prevalent and costly disease, currently affecting over 20 million adults in the US and costing the healthcare system an estimated \$174 billion per year.¹
- Healthcare Associates (HCA) is a large academic primary care practice providing care to over 40,000 patients, including approximately 4500 patients with diabetes; 23% of these patients have poorly controlled diabetes, defined as HbA1c \geq 9%.
- In 2012, HCA began a process to transform the practice into a patient centered medical home (PCMH) and is currently NCQA certified as a level 2 PCMH
- A central component to PCMH is team-based care involving non-physician clinicians. Previous studies have demonstrated that pharmacist interventions may result in meaningful reductions in HbA1c.²

Aim/Goal

- Assess impact of diabetes-related pharmacy services currently offered at HCA.

The Team

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The Interventions

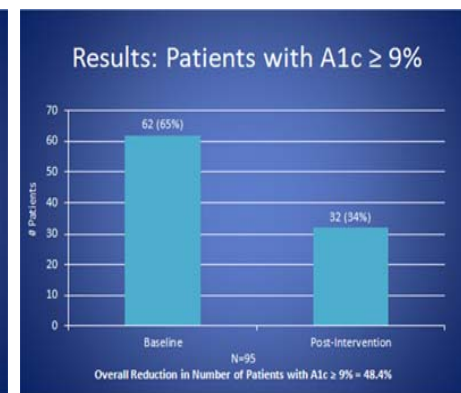
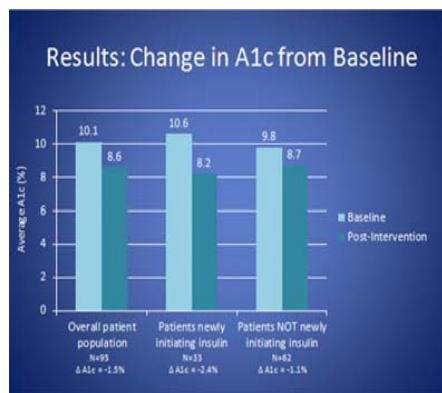
- Patients with diabetes identified with HbA1c \geq 9 were referred by PCP or PNP
- Report identified all progress notes entered by clinical pharmacist from 1/1/12 through 8/1/13; further chart review identified patients followed specifically for diabetes care.
- Inclusion criteria:
 - Minimum of two diabetes-related visits/contacts with pharmacist
 - Minimum of 1 pre- and 1 post-A1c data point available
- Reasons for referral by PCP/PNP and types of pharmacist interventions included:
 - Insulin injection teaching
 - Glucometer teaching
 - Medication adjustments
 - Formulary substitutions
 - Adherence assessment
 - General diabetes education

¹ Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Health Interview Statistics, data from the National Health Interview Survey. Statistical analysis by the Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Diabetes Translation.

² O'Donovan DO, Byrne S, & Sahn L. The role of pharmacists in control and management of type 2 Diabetes Mellitus; a review of the literature. Journal of Diabetology, February 2011; 1:5.
<http://journalofdiabetology.org/Pages/Releases/PDFFiles/FourthIssue/RA-1-JOD-10-023.pdf>

The Results/Progress To Date

Number of patients with diabetes who received intervention	95
Patient Characteristics	
Male/Female	43/52
Average Age	60.4 years
Patients newly started on insulin (%)	33 (34.7%)
Intervention Characteristics	
Average number of contacts per patient	6.7
Face-to-face encounters (%)	37.40%
Telephone encounters	62.60%
Average duration of follow-up per patient (weeks)	19



Lessons Learned

- Team-based care is an effective approach to help patients manage a chronic illness.
- Pharmacist interventions are effective in helping patients to reduce HbA1c and better manage their diabetes.

Next Steps

- Develop database to track diabetes-related pharmacy interventions prospectively
- Standardize pharmacist referral process
- Develop framework and pathway to incorporate LPN, RN, and NP, along with pharmacist, in team-based care approach