Implementation of a Nurse Practitioner-Led Multidisciplinary Intensive Diabetes Management Care Team in a Primary Care Setting

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Problem

➢ Affecting more than 29 million adults in the U.S., diabetes is a complex, costly, chronic condition requiring a partnership between the patient and care team.1
➢ In Healthcare Associates (HCA), 24% of patients with diabetes have a hemoglobin A1c (A1c) above 8%.
➢ With HCA’s practice transformation, a team based approach is recognized for the provision of high quality, patient-centered care to our diabetes population.
➢ Evidence demonstrates that care teams with the inclusion of nurse practitioners (NPs) are effective in achieving diabetes quality outcome measures.2

Aim/Goal

➢ Improve the hemoglobin A1c (A1c) of high risk patients with diabetes through an NP-led intensive diabetes management multidisciplinary care team in HCA.

Interventions

➢ Patient with diabetes with A1c ≥ 9% or ≥8% with a diabetic complication referred by team PCP. Implementation from July, 1 2014 - January 31, 2015.
➢ Interventions of Diabetes Intensive Management & Education (DIME) included:
   - NP clinic visits for assessment, medication initiation & titration, diabetes self-management education (DSME) & support
   - Nurse telephone management for ongoing DSME & support
   - Pharmacist telephone management for medication titration & DSME

Patient’s Journey

➢ Start of DIME Journey: 58 year old male patient with diabetes:
   - A1c 12.2% on oral medications, not checking blood sugar levels
   - Referred by PCP to DIME team
➢ During visits, partners with NP for:
   - Self-care barriers assessment, diabetes education, start & titrate insulin
   - Between visits, clinical pharmacist & LPN assist with:
     - Insulin titration, ongoing education & support
➢ 4 months later, patient engaged, checking blood sugars, taking insulin, making healthier food choices
   - A1c 9.7%.

Results/Findings to Date

<table>
<thead>
<tr>
<th>Number of patients with diabetes who received intervention</th>
<th>13</th>
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<tbody>
<tr>
<td>Patient characteristics</td>
<td></td>
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<tr>
<td>Gender: Male/Female</td>
<td>62% / 38%</td>
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<tr>
<td>Mean Age</td>
<td>58.2</td>
</tr>
<tr>
<td>Intervention characteristics</td>
<td></td>
</tr>
<tr>
<td>Mean number of contacts with team</td>
<td>8.8</td>
</tr>
<tr>
<td>Mean number of visits/ non-visits</td>
<td>3.1 / 5.7</td>
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<tr>
<td>Mean of number medication adjustments</td>
<td>3.3</td>
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</table>

Results: Change in A1c

<table>
<thead>
<tr>
<th>Mean A1c (%)</th>
<th>12</th>
<th>10</th>
<th>8</th>
<th>6</th>
<th>4</th>
<th>2</th>
<th>1</th>
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<tbody>
<tr>
<td>Post</td>
<td>9.3</td>
<td>9.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Pre</td>
<td>10.8</td>
<td>10.8</td>
<td>10.8</td>
<td>10.8</td>
<td>10.8</td>
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</table>
N=10; p=0.008

Diabetes Treatment

<table>
<thead>
<tr>
<th># of Patients</th>
<th>Oral</th>
<th>Insulin</th>
<th>Both</th>
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<tbody>
<tr>
<td>Pre</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Post</td>
<td>1</td>
<td>2</td>
<td>6</td>
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</table>

Lessons Learned

➢ NP-led multidisciplinary team care can be an effective approach to managing patients with poorly controlled diabetes.
➢ Referring physicians gave lead to NP team for intensive diabetes management.
➢ Encountered barriers to implementing team based care include:
   - Physician preference to manage their patients with diabetes
   - Continuous access to staff resource

Next Steps

➢ Continue pilot, conduct further analysis, plan for expansion to other teams in HCA, and improve education to faculty and residents.

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