The Diabetes, Obesity and Nutrition Strategic Clinical Network (DON SCN), in collaboration with AHS Provincial Pharmacy, AHS Provincial Nutrition and Food Services, and Zone operational areas, are leading a multifaceted quality improvement initiative to improve and standardize how patients with diabetes are cared for in Alberta hospitals.

**Elements of the Multifaceted Initiative:**

- **Transition of Care**
- **DKA Management**
- **Hypoglycemia Protocol**
- **Hyperglycemia Protocol**
- **Safe Management of insulin Pump Therapy**
- **Basal Bolus insulin Therapy**
- **Self Management**
- **Glycemic Management Policy**
- **Simplified Insulin Formulary**
- **Perioperative Guidelines**

**What Will Be Achieved?**

- Improving blood sugars in hospital will:
  - Reduce rates of infection
  - Reduce length of stay
  - Reduce rates of readmission

**How Can Current Practice be Changed?**

Basal Bolus Insulin Therapy (BBIT) is a way of ordering insulin injections that better replicates how the body naturally produces insulin.

**Facilitators / Enablers**
- Standardized order set
- Site Champions (MD, RN, Pharmacist, Administrative Support / sponsor)
- Communication - ongoing multi-modal multidisciplinary
  - MD to MD
  - Nursing to Nursing
  - Pharmacy to Pharmacy
- Engage medical learners and practitioner students
- Building in direction about appropriate holding of insulin
- Follow up with clinicians that order SSI on its own (either by Pharmacy, Nursing, or MD lead)
- Linking glycemic control to order set
- Using data to measure and support change and share progress with the front line team
- Eliminate sliding scale option

**Barriers**
- Personal preference of the prescriber
- Availability and continued use of SSI order set
- BBIT orders not being given as prescribed
- Fear of hypoglycemia
- Lack of communication between care team and/or patients
- Lack of ongoing education and monitoring
- Practice progression in the absence of ongoing support

**Implementation Strategy**

**Pre-Implementation**
- Site readiness assessment
  - Building awareness
  - Identifying and preparing multidisciplinary team
- Baseline data collection and analysis
- Multidisciplinary education
- Assessment and mapping of site specific barriers and facilitators

**Implementation**
- Mobilizing local champions
- Ongoing discipline specific education
- Audit data

**Post Implementation**
- Sustaining the change through measurement data
- Ongoing education

**Tool Kit for Change**

- Data
  - Baseline Data Collection
  - Audit Data
  - Data collected and reported monthly
  - Audit tool - populated in Tableau dashboard (including hypon and hyperglycemia)
- Evaluation of provincial initiative

**The Data**

<table>
<thead>
<tr>
<th>Blood Glucose (mmol/L)</th>
<th>% of Total Number of Recorded Blood Sugars in Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 4.0</td>
<td>3.2%</td>
</tr>
<tr>
<td>4.0 to 5.5</td>
<td>9.7%</td>
</tr>
<tr>
<td>5.6 to 6.1</td>
<td>11.2%</td>
</tr>
<tr>
<td>6.2 to 7.0</td>
<td>17.8%</td>
</tr>
<tr>
<td>7.1 to 8.0</td>
<td>19.1%</td>
</tr>
<tr>
<td>8.1 to 9.0</td>
<td>12.7%</td>
</tr>
<tr>
<td>Greater than 9.0</td>
<td>67.7%</td>
</tr>
</tbody>
</table>

Demystifies improvement in blood glucose levels following the implementation of BBIT:

- Target blood glucose levels were improved from baseline (baseline = black line in graph)
- Out of target blood glucose levels were improved or sustained from baseline (baseline = black line in graph)

**References**

2. Helmle, K. et al. (2015). Basal Bolus Insulin Therapy (BBIT) is a way of ordering insulin injections that better replicates how the body naturally produces insulin.

**Website:** http://www.ahs.ca/don

**Email:** DiabetesObesityNutrition.SCN@ahs.ca

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*Alberta Health Services (AHS), Diabetes Obesity Nutrition (DON) Strategic Clinical Network (SCN), University of Calgary*