

# Improved Glycemic Management in Hospital

## Project Bulletin

### Project Scope

The DON SCN is leading a provincial initiative: with the goal of improving and standardizing how patients with diabetes are cared for in Alberta's hospitals. This is a multipronged quality improvement initiative, in collaboration with AHS provincial Pharmacy, AHS provincial Nutrition and Food Services, and the Zone operational areas. It involves a multidisciplinary approach to diabetes management, with the patient and family as key team members.

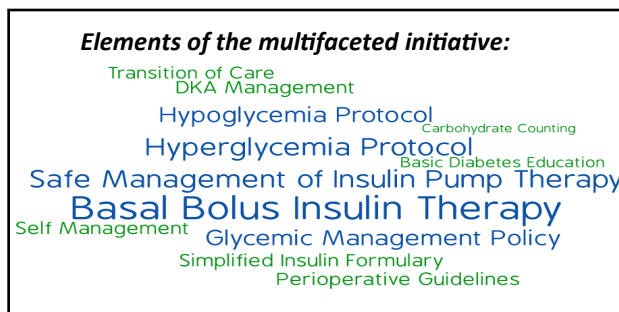
The inpatient diabetes management initiative is a priority for the DON SCN as hyperglycemia (high blood sugar) continues to be common in hospitals and increases the risk of complications including: post-operative infections, pneumonia, diabetic ketoacidosis (DKA), and delays in wound healing. Literature suggests that patients with diabetes experience hyperglycemia over 1/3 of the time while they are in hospital. Alberta data is consistent with this figure; with hyperglycemia experienced approximately 36% of the time blood sugars are tested.

Improving blood sugar control in hospital has been associated with shorter length of stay in hospital and decreased rates of readmission. National Guidelines recommend blood glucose targets of 5-10mmol/L for patients with diabetes in hospital. See more information in the Canadian Diabetes Association (CDA) [Clinical Practice Guidelines \(CPGs\) for In-Hospital Management of Diabetes](#)

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**Elements of the multifaceted initiative:**



Transition of Care  
DKA Management  
Hypoglycemia Protocol  
Carbohydrate Counting  
Hyperglycemia Protocol  
Basic Diabetes Education  
Safe Management of Insulin Pump Therapy  
Basal Bolus Insulin Therapy  
Self Management  
Glycemic Management Policy  
Simplified Insulin Formulary  
Perioperative Guidelines

### Safe Management of Insulin Pump Therapy In Hospital

New Website  
[www.ipumpit.ca](http://www.ipumpit.ca)

The safe management of insulin pump therapy in hospital guidelines are now available on the AHS public website via [www.ipumpit.ca](http://www.ipumpit.ca)

A reminder that the guidelines for safe management of IPT in hospital can also be found on the DON website, as well as the AHS Policy website.

The guidelines were developed to support patients that use IPT to manage their blood glucose to continue using their pumps in hospital, when appropriate; or to safely transition them to an alternative regime.

### Calgary Zone Nursing Education Day Inpatient Diabetes Management

*Helping your patients achieve their glycemic targets*

...An interactive education day for LPN, RN and RPN's who work in acute care



March 31, 2017

8:00am-4:00pm

South Health Campus, Auditorium

For more information about the day; please contact: Leta Philp (Clinical Practice Lead, DON SCN) at: [Leta.Philp@ahs.ca](mailto:Leta.Philp@ahs.ca)

## Update from Provincial Pharmacy

Unsafe use of insulin pens may result in harm to patients or staff. An updated [Safer Practice Notice](#) was distributed at the end of October that reminds staff of the correct technique when using insulin pens. In addition, the Pharmacy Services Medication Quality and Safety Team continues to monitor events in RLS related to insulin pens and/or safety needs. The reporter of the event is directed to educational resources available on Insite, and additional support is offered if needed. If you have any other suggestions for follow up, or if you are aware of a specific practice area that might be experiencing difficulties, please forward the information to Nancy Louis, Medication Safety Pharmacist at [nancy.louis@ahs.ca](mailto:nancy.louis@ahs.ca).

# BBIT (Basal Bolus Insulin Therapy)

BBIT is a way of ordering multiple daily injections of subcutaneous (sc) insulin that better replicates how our body naturally produces insulin. BBIT has been shown to be an effective way to manage patients' diabetes during their hospital stay, and is similar to how many patients manage their diabetes in the community.

Sliding Scale Insulin (SSI) continues to be commonly used in the treatment of diabetes within the inpatient setting. Unfortunately, the use of the "sliding scale" regime treats hyperglycemia after it has occurred. SSI does not align with current practice guideline recommendations.

**Knowledge translation (KT)** is a term used to describe how we integrate research into our every day work. To change practice, it is important to think about what might get in the way of change - before we try to implement the change. Research shows that if we think through these barriers, and have a plan to address these, we are more likely to achieve our change goals.

It is a deliberate, planned approach that the DON SCN is using to help operational teams adopt BBIT, and improve glycemic management, into their routine management of patients with diabetes in hospital.



<http://www.bbit.ca/> is the website that that the DON is using to share resources with early adopter sites and stakeholders.

Watch for a **self directed learning module** for Nursing in the upcoming months. The goal is to eventually have this module as an interactive learning module available on My Learning Link.

## Provincial Order Set and BG Record

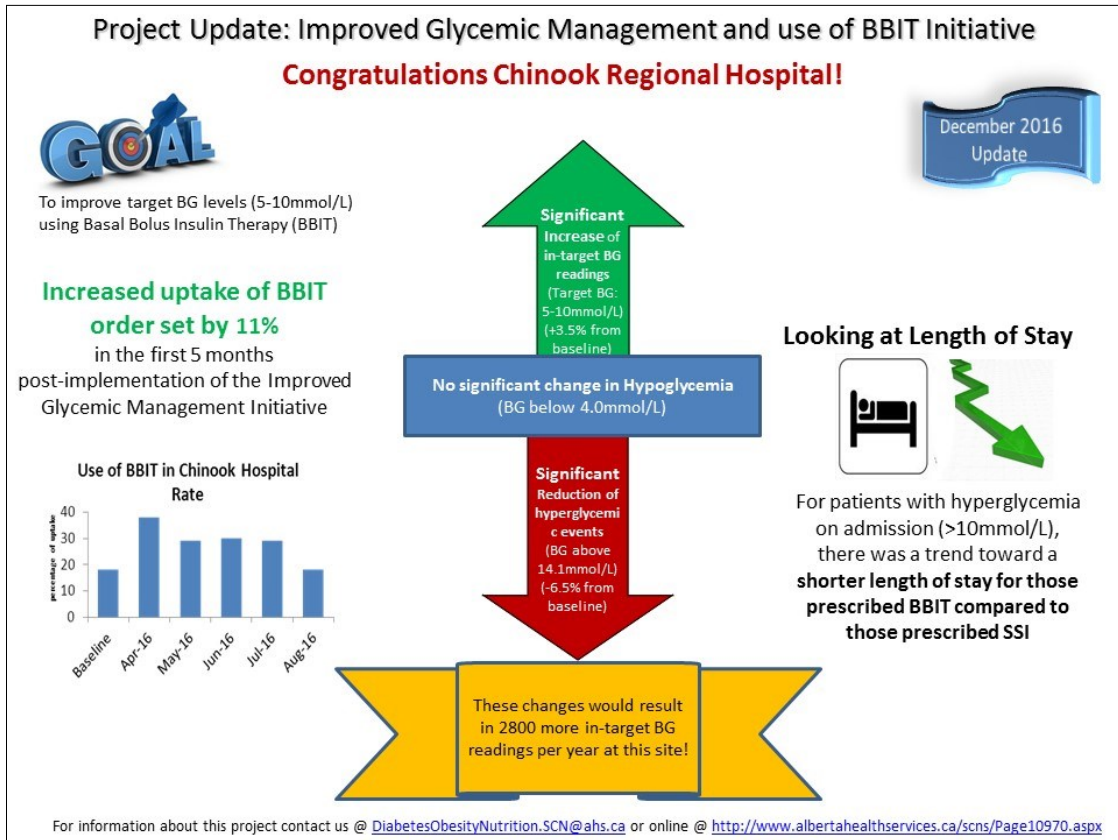
The paper based order set (form #19885) and blood glucose (BG) and insulin administration record (form #20115) are now available provincially from DATA group. Minor revisions were made to the provincial BBIT Order Set and the BG record. Updates were made based on feedback provided by our first three paper based early adopter sites. For more information on the Provincial Order Set and BG and Insulin Administration form please contact the DON SCN. Thank you to Canmore General Hospital, Oilfields General Hospital and Chinook Regional Hospital Teams for using these forms during your implementation and providing feedback.

Form # 20115

Form #19885

## Early Data

Data is one of the tools being used to support clinicians and teams in their transition to basal bolus insulin therapy. An audit tool has been created in Tableau. Below is some promising data from Chinook Regional Hospital.



## Early Adopter Sites

**Canmore General Hospital** and **Oilfields General Hospital** (Black Diamond, AB) 2 rural sites in Calgary Zone were the first early adopter sites, both implementing in early 2016.

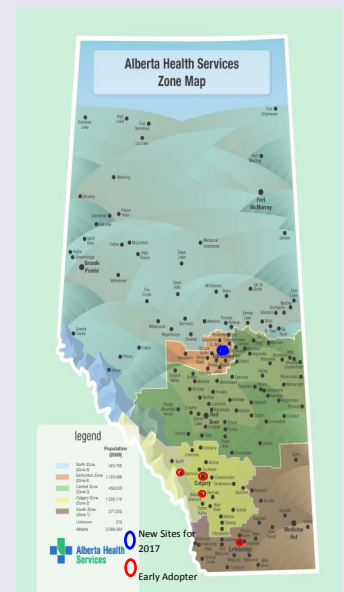
**Chinook Regional Hospital**, in Lethbridge, implemented BBIT and improved glycemic management across their site in April 2016.

**Calgary Zone Hospitalist Program**, who care for over 800 patients in hospital daily, are focused on glycemic optimization through the implementation of BBIT and multidisciplinary collaboration. They have partnered with the Physician Learning Program to support them in their Glycemic Optimization initiative.

**University of Alberta Hospital** site champions (Physician, Nursing, Pharmacy and Administration) are currently providing information sessions about BBIT and are preparing for BBIT implementation early 2017.

**Grey Nuns Community Hospital (Covenant Health)** have started their pre-implementation work. Implementation planned for Spring 2017.

All of the early adopter sites have identified site champions (Physician, Nursing, Pharmacy and Administration) working collaboratively to support the implementation of this clinical practice change. They are currently collecting data that will be populated into an audit tool that has been created in Tableau, so the teams can see the outcomes of their practice changes.



## Provincial Policy and Procedures

The DON SCN provincial glycemic management policy working group circulated the draft glycemic management policy and accompanying procedures for hypoglycemia and hyperglycemia management for broad stakeholders consultation throughout the month of November. We heard back from over 225 stakeholders. The feedback was overwhelmingly positive.

5. Are the Objectives and Principles of the Glycemic Management Policy logical and clear?

	Response Total	Response Percent	Points	Avg
Yes	113	93%	n/a	n/a
No	9	7%	n/a	n/a
Total Respondents		122		
(skipped this question)		321		

We received great suggestions for revisions and further clarification within the documents. We are now incorporating the feedback into all the documents, and will then forward the documents up to the Clinical Operations Executive Committee (COEC), for endorsement.

## Peri-operative Guidelines for Patients with Diabetes

The DON SCN is excited to be collaborating with the Surgery SCN and Clinical Knowledge and Content Management (CKCM) to develop guidelines for patients with diabetes that are having surgery. We will be building on work already done in the province including:

- Work done by the nutrition working group creating guidelines for pre-op carb loading (including patients with diabetes)---modern fasting guidelines (part of Enhanced Recovery after Surgery [ERAS] initiative)
- Work done by Dr. Colin MacDonald (Edmonton GNCH) around peri-operative guidelines for patients with diabetes

The Perioperative Guidelines working group to commence next month.



Is 2017 is the year of Improved Glycemic Management for your hospital site?

*Please feel free to contact the DON SCN™ to learn more about how we might support your initiative.*

## Carbohydrate Content of Foods

Lorna Driedger, Director Nutrition Services Calgary Zone

Nutrition and Food Services (NFS) is rolling out their initiative to provide the available carbohydrate content of foods served on AHS diabetic diets to patients in adult acute care sites. This information will assist patients that self-manage their diabetes by matching their insulin dose to carbohydrate intake and promote what patients do at home. This is complementary to the Diabetes Obesity Nutrition (DON) SCN Inpatient Diabetes Management Initiative that includes basal bolus insulin therapy (BBIT).

Three adult acute care sites in Calgary Zone – PLC, RGH and SHC - began a trial of providing available carbohydrate content of foods on diabetic meal tray tickets in December. A tray ticket appears on each meal tray delivered to a patient. The diabetic meal tray ticket lists the grams of available carbohydrate for each food that contains  $\geq 5$  grams of carbohydrate and the total grams of available carbohydrate of all foods on the meal tray. The trial was successful and FMC will provide available carbohydrate of foods on diabetic meal tray tickets in mid-January.

NFS also has a patient handout – *Carbohydrate Content of Foods in Hospital* – that lists the available carbohydrate of foods on the AHS hospital menu. It is intended for patients with diabetes who carbohydrate count to manage their insulin dose. The available carbohydrate information on diabetic meal tray tickets and menus can occur only at sites that use the CBORD menu software. However, the *Carbohydrate Content of Foods in Hospital* handout can be used at all sites and is available for distribution to appropriate patients by all staff. The handout is on the AHS internal web (Insite), and can be found by searching 'Provincial Medication Safety / Insulin Safety and Diabetes Management'.

Edmonton Zone will start to provide available carbohydrate information to patients on diabetic meal tray tickets and menus at the University site in mid- January.

For more information, contact Janet Nielsen, RD, Program Lead, Standards and Practice, Nutrition Services at [janet.nielsen@ahs.ca](mailto:janet.nielsen@ahs.ca).