GO Project: Glycemic Optimization

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Introduction

The average length of stay for patients with diabetes is 2.0 days longer than those without[1]. Improved glycemic control can result in decreased complications and fewer readmissions. Patients with diabetes admitted under the Calgary Hospitalist Service experience hyperglycemia **37%** of the time during their admission[2]. Poorer glycemic control is associated with usage of the sliding scale insulin (SSI) regimen. Basal Bolus Insulin Therapy (BBIT) is recommended by the Canadian Diabetes Association, to better mimic physiologic levels of insulin and provide improved glycemic control[3]. The baseline BBIT order rate was **15%** for Hospitalist patients requiring insulin[4].

AIM

To foster *optimization* of Calgary Hospitalist Service inpatient glycemic control as measured by decreasing the incidences of hypoglycemic and hyperglycemic point of care (POC) glucose tests.

Anticipated Outcomes

- **Primary Impact**: increase euglycemic POC glucose testing from 65% to 80%
- **Secondary Impact:** increase the percentage of BBIT being ordered from 15% to 65%
- **Tertiary Impact:** decrease the length of stay for insulin requiring patients by 0.25 days

Methods

A series of interventions to encourage active inpatient glycemic optimization will be utilized:
- Multidisciplinary team engagement (physicians, nursing, pharmacy & leadership)
- Education sessions/forums
- Promotion and marketing of BBIT
- Individualized, audited physician feedback
- Ongoing glycemic data to inform project progress

## Measures: Glycemic Data Dashboard

Baseline data was collected from April 2015 - March 2016. Aggregate measures will be collected from April 2016 - September 2017 and updated monthly in a dashboard gathered from Calgary's information system, Sunrise Clinical Manager (SCM).

Inclusion Criteria:
- Patients with 5 or more POC glucose tests
- Admission to a Calgary acute care facility
- Age equal to or greater than 18 years
- A minimum of 1 test ordered by applicable Hospitalist physician groups

Data in the dashboard is filterable based on hospital site, individual hospital unit, patient age under or greater than 75, and insulin order type.

POC Tests for Hospitalist Patients (July 2016)
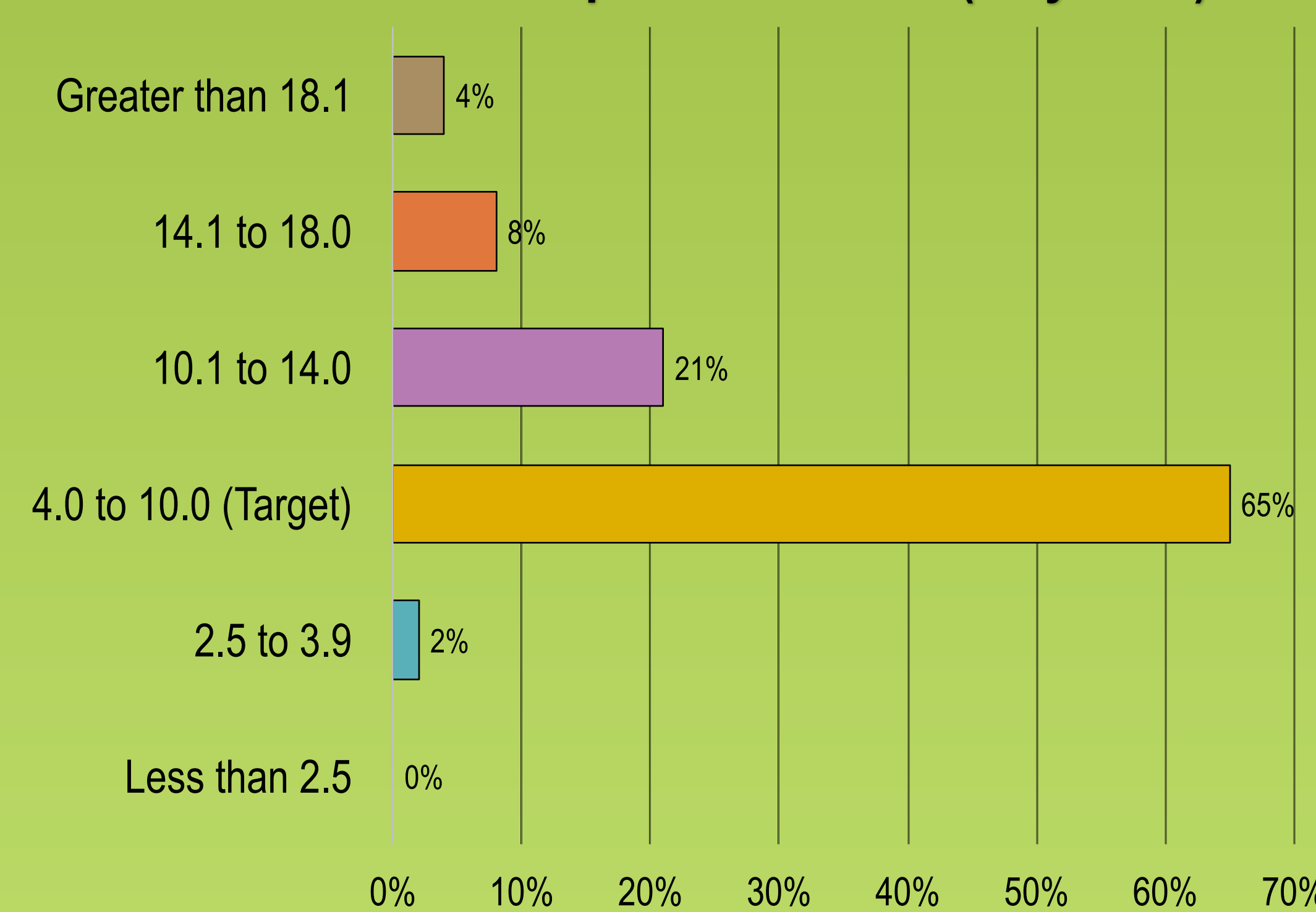
% Patients Treated by Insulin Order Type
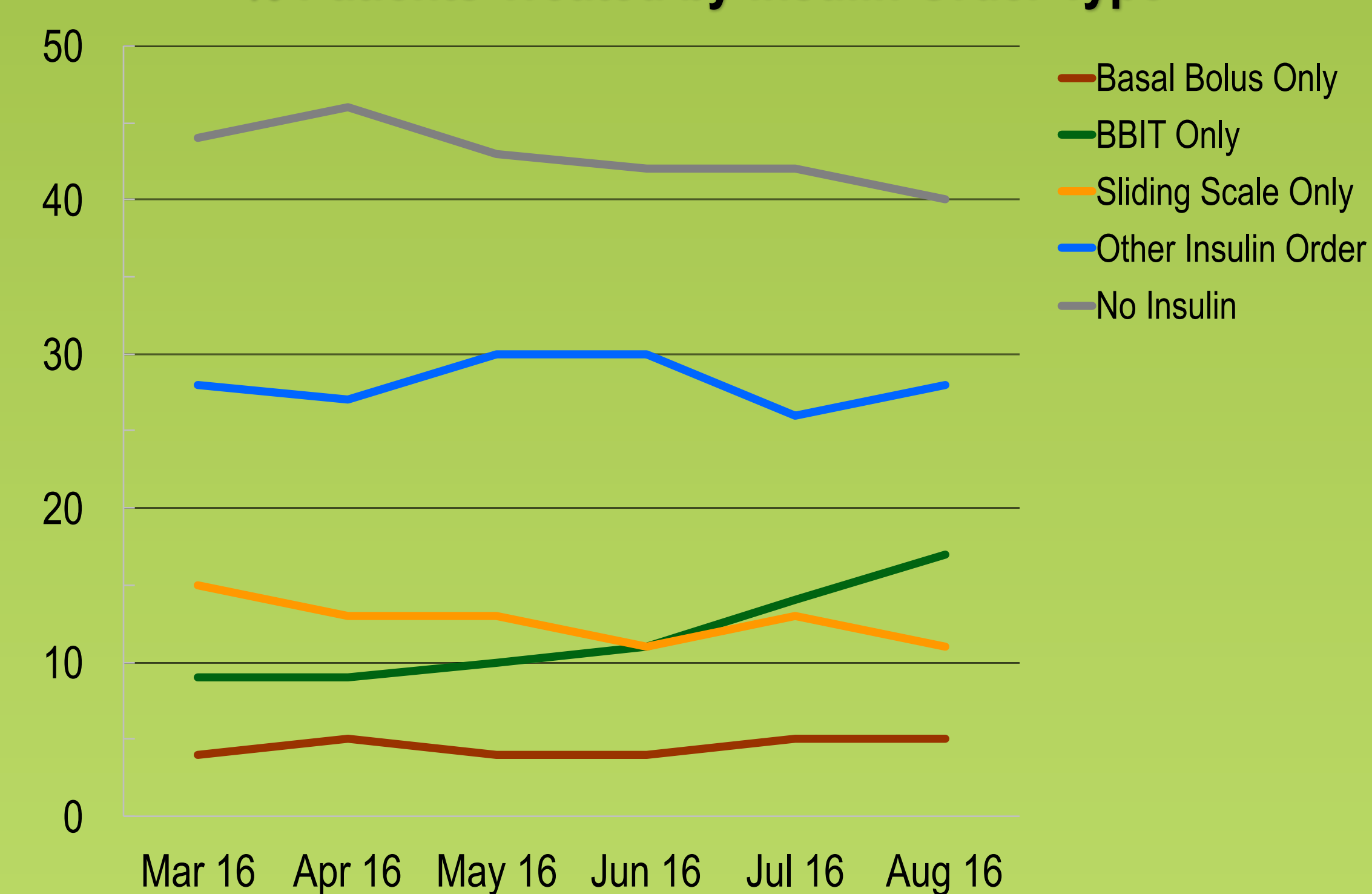
Innovative Interventions and Information Dissemination

- **'Train the Trainer' Education Day:** *Champions* for each discipline and facility attended a learning session about BBIT and glycemic management facilitated by Endocrinologists.
- **Continuing Medical Education Sessions:** on glycemic optimization act as a further physician intervention towards changing behavior.
- **Champion Forums:** Meetings involving site champions held on a regular basis discuss progress, barriers and future steps.
- **Individualized Physician Reports:** Collaboration with the Physician Learning Program will allow for individual physician practice reports. Retrieval of electronic prescribing data from the SCM will provide insight into individual and peer practice trends in response to strategies implemented. These reports will pose dually as an intervention and a measure of this project.
- **Multipronged Communication Approach:** Progress feedback delivered back to physicians across multiple media including email, newsletters, monthly meetings, computer screen savers and run-charts.

Partnerships

Diabetes Obesity and Nutrition Strategic Clinical Network (DON SCN) sponsored communication and education interventions.

Analytics (Data Integration, Measurement & Reporting, DIMR) played an integral role in building and maintaining dashboard measurements.

The Physician Learning Program allowed for the production of the individual physician prescribing reports.

Learning Points

Physician Engagement:
- Emphasizing inadequate glycemic control as the root problem instead of low BBIT compliance
- Physicians more readily accepted the need for change with awareness of the current state of glycemic control
- Preserving the ability to tailor treatment plans to individual patient needs

Effective Change and Knowledge Translation Strategies:
- Addressing potential barriers at project initiation
- Tailor intervention strategies to manage obstacles toward success
- Recognition that diabetes management requires a multidisciplinary approach. Hospitalist, Nursing and Pharmacy representatives were invited to participate collaboratively.
- Involve members across professional disciplines for planning, implementation and evaluation stages

References

1. Diabetes, Obesity and Nutrition Strategic Clinical Network. (2015). Key Messages- In Hospital Diabetes Management. Accessed online at www.albertahealthservices.ca/7676.asp
2. Obtained from all Point of Care tests entered in SCM, in collaboration with DIMR
3. Canadian Diabetes Association. (2013). Canadian Diabetes Association 2013 clinical practice guidelines for the prevention and management of diabetes in Canada. *Canadian Journal Of Diabetes*, 37(April)
4. Obtained from order set entries made in SCM, in collaboration with DIMR

Physician Learning Program

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