Audit of Point of Care Glucose Monitoring in the Acute Hospital Setting
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Point of Care Glucose Measurement
Point of Care Testing glucose measurements are widely used to enable the immediate determination of patients' glycaemic state to facilitate rapid treatment/intervention; and is a convenient alternative to the central laboratory measurement.

The FreeStyle Precision Pro (FSPP) Blood Glucose and β-Ketone monitoring system is used within the Northern Health and Social Care Trust (NHSCT) as a monitoring/screening tool to monitor glucose levels in patients in most clinical areas.

POCT glucose measurement should be confirmed by a laboratory glucose when:
• Diagnosing Diabetes Mellitus
• Diagnosis of hypoglycaemia
• In the acute management of unstable diabetic states
• Result is not in keeping with the patient’s clinical status

Aims
To determine compliance by clinical staff in NHSCT with POCT glucose monitoring SOP and local clinical guidelines for management of adults with Diabetic Ketoacidosis (DKA) and Hyperosmolar Hyperglycaemic state (HHS) by:
1. Establishing whether all POC glucose results are uploaded onto the laboratory system (LIMS).
2. Percentage of hospital patients glucose POCT above measuring range followed up with a laboratory glucose measurement.

Methods
All Abbott Freestyle Precision Pro glucose meter results were collated using the POCelator programme for a one week period in 2 consecutive months. Results exceeding the upper limit of measurement were identified and laboratory system checked for laboratory glucose result.

Identification and NIECR Availability

Laboratory Confirmation and Follow-Up

FOLLOW UP OF HYPERGLYCAEMIC EPISODES (MAY 2019)

SOURCE OF FOLLOW UP NON-COMPLIANCE (MAY 2019)

Conclusions
Despite good IT connectivity inadequate identification of POC glucose samples means approximately 1/3 of results have not been available on the electronic patient record which can impact on patient safety.

There is a lack of understanding by clinicians of the need to confirm high POC glucose results with laboratory glucose measurement to ensure patient safety.

These results have been shared with governance and diabetes team. Correct identification of patient POC glucose samples and need for confirmation of high glucose results by laboratory will be highlighted in staff training and e-learning. Ongoing audits are planned to provide feedback to the clinical teams involved to encourage staff compliance.