

Standard 13

People with diabetes admitted to hospital for any reason should be cared for by appropriately trained staff, and provided access to an expert diabetes team when necessary. They should be given the choice of self-monitoring and encouraged to manage their own insulin whenever clinically appropriate.

Key practice points

- The literature clearly demonstrates cost savings and a reduced length of stay for inpatients with diabetes who had access to a diabetes specialist inpatient service.
- All hospitals should have a dedicated diabetes inpatient specialist nurse service at a minimum level 1.0 full-time equivalent per 300 beds (adjusted for local diabetes prevalence).
- Increased costs associated with resourcing inpatient specialist teams are offset by cost savings seen in reduced lengths of stay and reduced rates of complications.
- Clear guidelines should be in place to indicate when a specialist inpatient team should become involved in the person with diabetes' care.
- People with diabetes who can demonstrate their ability to manage their diabetes while in hospital should resume self-management as soon as possible.

Read this standard in conjunction with the equality and diversity section in the Introduction to the Toolkit.

What the quality statement means for each audience

Service providers ensure adequate staff training in diabetes care and access to a specialist diabetes team where required to ensure people with diabetes admitted to hospital are cared for by appropriately trained staff, provided with access to a specialist diabetes team, and given the choice of self-monitoring and managing their own insulin.

Health care professionals ensure they are skilled and appropriately trained to care for people with diabetes and have access to a specialist diabetes team, and ensure that people with diabetes have the choice of self-monitoring and managing their own insulin.

Planners and funders ensure they commission and adequately resource secondary care diabetes services at a level according to national specifications, to provide a consultative service in the inpatient setting. They should also support adequate staff education programmes to ensure people with diabetes admitted to hospital are cared for by appropriately trained staff.

People with diabetes who are admitted to hospital are cared for by trained staff, including a specialist diabetes team if needed, and are given the choice of self-monitoring their blood glucose levels and, for those on insulin therapy, managing their own insulin.

Definitions

Appropriately trained staff: those with specific competencies in caring for people with diabetes (National Institute for Health and Care Excellence 2011).

Expert diabetes team

Specialist diabetes teams will be multidisciplinary, usually comprising physicians, nurses, podiatrists, dietitians, pharmacists and clinical psychologists, all of whom should have received extensive training accredited at a national level. The roles of specialist diabetes teams include direct delivery of clinical outpatient and inpatient care, leadership and coordination across whole system diabetes care, provision of education and training, and research and innovation (Goenka et al 2011, p 1495).

Clinical appropriateness to self-monitor and manage own insulin

People with diabetes admitted to hospital should be given the choice of self-monitoring and managing their own insulin as appropriate to the person with diabetes. Patients who are alert and demonstrate accurate insulin self-administration and glucose monitoring should be allowed to self-manage insulin as an adjunct to standard nurse-delivered diabetes management (Riethof et al 2012).



Introduction

The Quality Improvement Plan (Ministry of Health 2008) identified that people with diabetes tend to have more hospital admissions, stay longer and are more likely to be readmitted than those without diabetes. Inpatient costs for diabetes are high. For example, in the 2005/06 financial year there were 778 hospital admissions for diabetic ketoacidosis (DKA), which cost over \$2 million. DKA admissions had increased by 25% over the five previous years (Diabetes Care Workforce Service Review Team 2011).

Patients with diabetes comorbidities and complications should have access to teams of multidisciplinary experts in diabetes. In the real world, however, teams are rare. An individual nurse or outpatient nurse specialist is often the only resource, and the contribution of the inpatient diabetes nurse to patient management and quality assurance has not been universally appreciated. A good system of care, including patient assessment and education, can be maintained through multidisciplinary cooperation, inpatient diabetes resources, and common goals. Tools and supporting education can be and have been the responsibility of dedicated inpatient diabetes nurses and dietician specialists. Care pathways, standardised assessment tools, and readily available teaching materials can provide guidance in practice (Nettles 2005).

There are three general hospital models to diabetes management:

1. A consultant approach, where the specialised diabetes services are invited by the admitting team to assist with the specific patient's diabetes management.
2. A systematic hospital-wide diabetes programme that improves the identification of inpatients with diabetes and enhances the diabetes management skills of all staff through education and implementation of guidelines. The responsibility of managing the inpatient with diabetes remains with the admitting team.

3. Through a multidisciplinary team approach, with the role of the inpatient diabetes team varying from an advisory role to active management of the patient's diabetes for all people with diabetes, and commences at the time of the patient's admission.

The third model has been shown to reduce the average length of stay and medical costs following intervention by an inpatient diabetes management team that primarily involves a specialist diabetes nurse (Australian Diabetes Society 2012).

The UK Diabetes Inpatient audit revealed people with diabetes did not receive timely input from a diabetes specialist team and only 54.4% of inpatients with diabetes were seen by an expert team that should have been seen (National Health Service [NHS] 2011). The National Inpatient Diabetes Audit (NaDIA) examines data about inpatients with diabetes collected by hospital teams in England and Wales on a nominated day in a defined week in September. It covers issues such as staffing levels, medication errors, patient harm and patient experience. The 2013 audit involved 14,198 patients with diabetes in 142 trusts in England and six local health boards in Wales. In 2014 the repeated audit shows large gaps in care remain:

- Over a fifth (22.0%) of patients with diabetes in hospital would have experienced a largely avoidable hypoglycaemic episode in hospital within the previous seven days.
- One in 10 (9.3%) would have experienced a severe hypoglycaemic episode.
- One in 50 (2.2%) required injectable treatment due to the severity of the hypoglycaemia.
- This is despite the fact that only 8.1% of respondents had been admitted for their diabetes or a diabetic complication.
- More than a third (37.0%) of patients with diabetes experienced a medication error, down from 39.9% in 2011.
- Patients who had experienced a medication error were more than twice as likely to suffer a severe hypoglycaemic episode (15.3%) compared to those with no error in their medication (6.8%).

For more information: www.hscic.gov.uk/4806.

As well as providing expert clinical input to the care of people with diabetes whilst in hospital, clinical nurse specialists should be available for the education of general nurses and medical staff (Brooks et al 2013). Delayed involvement of specialist diabetes services, along with inappropriate diabetes management and poor blood glucose control are factors that all contribute to increased lengths of stay and poorer outcomes for the inpatient with diabetes (Australian Diabetes Society 2012).

The literature clearly demonstrates cost savings and reduced lengths of stay for inpatients with diabetes who had access to diabetes specialist inpatient service versus no access or traditional models of care (Australian Diabetes Society 2012; Davies et al 2001). The diabetes specialist team can play a pivotal role through teaching, training and support, to ensure that other members of staff are able to facilitate the pathway. Any increased costs associated with resourcing specialist teams to provide inpatient care, are offset by the savings through reduced lengths of stay, reduced rates of complications and overall reduced health care costs associated with inpatient care (Kerr 2011; NHS 2011).

A dedicated inpatient diabetes team raises the quality of care for patients, enhances patient and professional education and lowers the incidence of prescription and management errors (Brooks et al 2011). Pharmacist input prior to discharge improves adherence to medications (Shah et al 2013).

Resulting conclusions drawn from preliminary analysis of data from the Diabetes InPatient Length of Stay (DipLoS) study undertaken in three New Zealand District Health Boards (Auckland, MidCentral Health and Lakes) found the following:

- Diabetes in patients admitted to hospital is even more common than recognised previously.
- The Virtual Diabetes Register is far more complete, sensitive and accurate than previous admission coding for diabetes.
- There is a major unmet need for inpatient advice, at least in Mid-Central and Auckland. The interventions were perceived as excellent but unsustainable by the nursing teams.
- Diabetes is associated with (but not necessarily causative of) increased lengths of stay.
- Delay in initial referral to diabetes teams is potentially a major cause of delay in discharge.
- Simple prioritisation of inpatient work is ineffective.
- Automated referral methods, without waiting for manual referrals, are effective in reducing delays in seeing patients and may prove effective in reducing the length of stay (Drury 2011).

Self-management in the inpatient setting

The diabetes inpatient satisfaction (DIPSat) study demonstrated hyperglycaemia and hypoglycaemia episodes were often linked to timing of insulin and meals. Self-administration of insulin and time spent with a diabetes specialist nurse was associated with higher treatment satisfaction (Rutter et al 2013). Up to 40% of people with diabetes who wanted to were unable to monitor and manage their insulin while in hospital (NHS 2011).

People with diabetes using multiple daily injections or insulin pump therapy, who can demonstrate their competence at self-management, can be treated in the hospital under defined conditions with continuation of their usual programme of self-management. This is utilising the skills of advanced carbohydrate counting to permit the matching of mealtime insulin bolus doses to carbohydrate intake, and the use of a rule for the establishment of correctional doses for treatment of hyperglycaemia (Braithwaite et al, 2007).



Guidelines

Appropriately trained staff

According to the Health Workforce New Zealand 'Diabetes workforce service review' (Health Workforce New Zealand 2011):

Nursing staff

All nurses deliver care to people with diabetes. This National Diabetes Nursing Knowledge and Skills Framework (NDNKSF) has been developed to assist all registered nurses to demonstrate that they are adequately prepared to provide the required care and education for the person with diabetes and related comorbidities, whatever their practice setting. To promote best practice the NDNKSF is linked to national guidelines, standards of practice and the Nursing Council of New Zealand's competencies for registration:

www.nzssd.org.nz/documents/dnss/National%20Diabetes%20Nursing%20Knowledge%20and%20Skills%20Framework%202009.pdf.

Dietitians

Implementation of an integrated knowledge, skills and career framework for New Zealand dietitians is planned: www.health.govt.nz/system/files/documents/pages/diabetes-workforce-service-review.pdf.

Expert diabetes teams

- The Australian Diabetes Society (2012) indicates an expert team comprises of diabetes inpatient specialist nurses led by a consultant in diabetes.
- The role of the specialist diabetes inpatient team includes:
 - improving diabetes management expertise throughout the hospital
 - development and implementation of specific diabetes management protocols
 - direct management of diabetes with specific referral criteria
 - ward liaison, troubleshooting, management advice
 - discharge planning.
- Clear guidelines should indicate when the diabetes specialist team should become involved (early involvement = reduced length of stay [LoS]), consider referral.
- All hospitals should implement a diabetes inpatient specialist nurse service of 1.0 whole-time equivalent per 300 beds (reduces LoS whatever the reason for admission).
- Inpatient education by the diabetes inpatient specialist nurse, with the support of generalist nurses, can provide education improving discharge outcomes and achieving earlier discharge (Dhatariya et al 2012).

Guidelines for referral to inpatient specialist diabetes teams

Royal Cornwall Hospitals have the following guidelines for referral to the inpatient specialist nurse team.

Priority referral

- Diabetic ketoacidosis (DKA)/hyperosmolar hyperglycaemic state (HHS).
- Patients who are receiving IV Sliding Scale Infusion.
- New type 1 diabetes mellitus.
- Patients requiring emergency Insulin start.
- Profound/prolonged hypoglycaemia or patients admitted with primary cause of admission as hypoglycaemia.
- Acute diabetes foot problems.

Routine referral

- New/existing type 2 diabetes mellitus commencing insulin/sulphonylurea.
- Enteral/ parental feeding regimens.
- Recurrent hypoglycaemia.
- Advice pre procedures ie, bowel prep, day case surgery.
- Declining glycaemic control (blood glucose level <4 mmol/l or >12 mmol/l) where primary intervention and medical review has been unsuccessful.

Consider referral

- Newly diagnosed type 2 diabetes on diet or starting Metformin.
- Multiple complications of diabetes.
- Education/equipment advice.
- Patients undergoing bariatric surgery.

The full guidelines can be found here:

www.rcht.nhs.uk/DocumentsLibrary/RoyalCornwallHospitalsTrust/Clinical/EndocrineAndDiabetes/DiabetesInPatientSpecialistNurseReferralCriertiaDISN.pdf

Inpatient management

The National Institute for Health and Care Excellence (NICE) Guideline CG15 Type 1 diabetes: Diagnosis and management of type 1 diabetes in children, young people and adults has specific guidance for management in the inpatient setting (refer section 1.12.3):

www.nice.org.uk/guidance/cg15/resources/guidance-type-1-diabetes-pdf

Diabetes Inpatient Management American Association of Diabetes Educators (AADE) Position Statement:

www.diabeteseducator.org/export/sites/aade/_resources/pdf/general/Inpatient_PS_2011.pdf

Self-management in hospital

Joint British Diabetes Societies for Inpatient Care Group provide the following guideline on self-management in hospital:

http://diabetologistsabcd.org.uk/JBDS/JBDS_IP_SelfManagement.pdf



Implementation advice

The **New Zealand Society for the Study of Diabetes** (NZSSD) identifies the following points in their consensus statement on their 'Inpatient Consensus Statement' (2013):

Every person with diabetes who is hospitalised has the right to:

- receive optimum diabetes care based on 'best practice'
- have a hospital stay free from harm (especially insulin, medication and food errors) and not inappropriately prolonged as a result of their diabetes management
- have access to specialist diabetes advice/care
- where practically possible, be actively involved in their own diabetes management during their hospital stay
- diabetes care following discharge from hospital that is timely, appropriate and well-informed (www.nzssd.org.nz/documents/misc/13%2007%20NZSSD%20Inpatient%20Consensus%20Statement%20-%20Final%20overion.pdf).

The role of the expert diabetes team should include:

- improving diabetes management expertise throughout the hospital
- development and implementation of specific diabetes management protocols
- direct management of diabetes with clear referral criteria
- ward liaison, troubleshooting, management advice and discharge planning
- a diabetes inpatient specialist service of at least 1.0 whole-time equivalent per 300 beds (Australian Diabetes Society 2012).

The **Diabetes Care** article Pathways to Quality Inpatient Management of Hyperglycemia and Diabetes: A Call to Action provides detailed advice on the implementation of inpatient care: <http://care.diabetesjournals.org/content/36/7/1807.full.pdf+html>.

Self-monitoring and managing own insulin

The Joint British Diabetes Societies for Inpatient Care Group (2012) provide recommendations on how to implement self-management in hospital, including pump therapy.

Key points include the following:

- Allow patients to self-manage their diabetes as soon as possible, where appropriate.
- The ability of the patient or carer to manage the diabetes should be taken into consideration. Discuss with the diabetes specialist team if necessary.
- Prescribe and administer insulin in line with local policies and guidelines, in consultation with the patient wherever possible.
- Involve the diabetes specialist team if diabetes-related delays in discharge are anticipated.
- Provide patient education to ensure safe management of diabetes on discharge.
- Discharge should not be delayed solely because of poor glucose control but appropriate transfer of care and follow-up should occur.
- Systems should be in place to ensure effective communication with community teams, particularly if changes to the patients' preoperative diabetes treatment have been made during the hospital stay.
- Diabetes expertise should be available to support safe discharge and the team that normally looks after the patient's diabetes should be contactable by telephone (www.leicestershirediabetes.org.uk/uploads/123/documents/NHS%20Diabetes%20selfmgt%20of%20diabetes%20in%20hospital.pdf).

The recent American Diabetes Association technical review also refers to inpatient self-management of diabetes. To implement the recommendations proposed therein, patients would have to be well-informed before admission and not in need of basic education. According to Nettles (2005), the technical review's recommended components for safe inpatient self-management include:

- demonstration that the patient can accurately self-administer insulin
- confirmation that the patient is alert and able to make appropriate decisions about insulin doses
- recording in the medical record of all insulin administered by both the patient and nurses
- physician-written order that the patient may perform insulin self-management while hospitalised.

In addition, Dhatariya et al (2012) recommend the following:

- Patients should be assessed as alert and competent at insulin delivery and blood glucose monitoring, ie, not affected by medication or acute illness.
- Treatment requirements may differ from usual in the immediate post-operative period where there is a risk of glycaemic instability and clinical staff may need to make decisions about diabetes management.
- The diabetes specialist team should be consulted if there is uncertainty about treatment selection or if the blood glucose targets are not achieved and maintained.
- Guidelines should be in place to ensure that the ward staff know when to call for specialist help.
- Involve the diabetes specialist team if blood glucose targets are not achieved and maintained.
- Staff skilled in diabetes management should supervise surgical wards routinely and regularly.

Where there are disagreements between patients and ward staff in regards to the level of self-management, the diabetes inpatient specialist team should be available to support the decision (Joint British Diabetes Societies for Inpatient Care Group 2012).



Implementation examples / innovations



Reducing length of stay and improving quality of care for inpatients with diabetes (DIPLoS)

Three parallel prospective controlled studies examined three different process models of delivering inpatient care in Auckland, Lakes and Mid Central Health. Each ran over three consecutive periods: A baseline run-in phase (two months), the intervention period (four months), a return to baseline run-out phase (two months). Data have also been collected from two additional non-intervention sites (Waikato and Wellington) to control for external/seasonal factors.

The REACTIVE model (Lakes) followed the current usual pattern of ward-initiated referrals with subsequent intervention as above but, for the intervention period, prioritised this activity above other routine tasks with little change in overall inpatient staffing.

The PROACTIVE intervention (MidCentral) employed daily (weekday) ward visits/phone calls and electronic notification seeking to identify a person with diabetes early during an admission. Nursing intervention was then promptly arranged to optimise care and minimise length of stay. This method used increased dedicated nurse inpatient staffing for the period of the study.

In the ELECTRONIC group (Auckland), all admissions of people with known diabetes from previous admission ICD-10 coding were notified by email to the diabetes inpatient team. Central triaging then prioritised patients to arrange intervention as above where needed, but with no change in inpatient staffing.

Headline results included:

- the REACTIVE intervention produced no significant change in time to ward visit or length of stay
- the PROACTIVE method led to an approximate doubling in the number of patients seen but no significant changes in time to ward visit or length of stay
- the ELECTRONIC method led to a 35% increase in patients seen, a >50% reduction in time to ward visit (3.9 to 1.8 days; $p < 0.001$) and an apparent 30% reduction in length of stay (8.6 to 5.9 days; $p < 0.005$). Part of the LoS change could potentially be an artefact caused by earlier visits and further analyses are under way to address this (Drury 2011).



Inpatient Diabetes Specialist Nurses

In the study by Flanagan et al (2008), establishing a team of five diabetes specialist nurses, supported by a consultant and specialist registrar significantly reduced LoS or medical admissions of people with diabetes. Supporting staff also included a link nurse responsible for diabetes on every ward and each individual with a diagnosis of diabetes was identified on admission. The overall length of stay was reduced. The team made daily ward visits to identify people with diabetes and provide advice about blood glucose control throughout their stay in hospital. Flanagan et al (2008) go further to suggest inpatients who are able to manage their own insulin should be encouraged to do so, as they often have a better understanding of their own care requirements.



Insulin safety and reducing errors

Waitemata DHB recognised a problem with insulin errors and developed processes involving hospital pharmacists to reduce errors. The model was presented at the NZSSD Annual Scientific Meeting in 2012 and is summarised on the HIIRC site as follows:

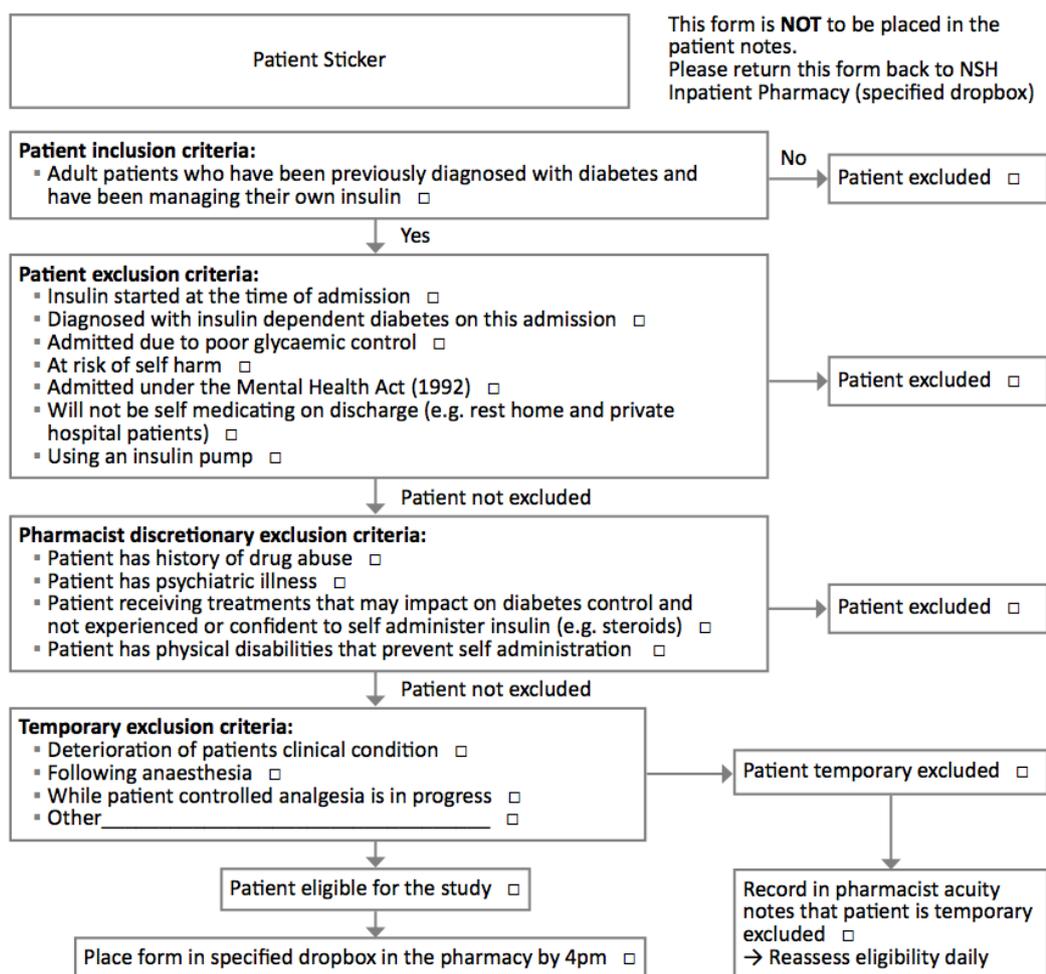
‘Unfamiliarity with new insulin preparations and ‘mixes’ among hospital staff, together with insulin timing errors, food delays and inaccurate drug history, have caused a number of insulin prescribing and administration errors in hospital wards. This clinical governance issue has prompted the diabetes team at Waitemata District Health Board with the help of pharmacy to raise awareness about different insulin preparations and also conduct a review of insulin errors and concerns during 2009. Pharmacists record all medication errors on a database. The number of errors recorded is dependent on the level of pharmacist participation on post-acute ward rounds. The authors analysed the insulin errors recorded from January 2009 to January 2010, relating to prescribing, administering and documentation.

They felt that the errors analysed reflect the majority of events. Seven cases were identified where patients were given Humalog instead of a Humalog Mix (25 or 50), and one when a patient was given Humalog instead of Humulin 30/70. Most of them were recognised early with adverse events prevented, though in 2 cases significant hypoglycaemia occurred. Common insulin errors included: insulin not being charted when known to be on insulin, errors of dose and timing, GIK transfer errors (stopping the GIK without usual/new regimen being charted), and omission of insulin from discharge scripts.

The authors conclude that enhanced awareness about different insulins including Humalog Mix insulins, accurate medicine reconciliation at admissions and greater involvement of the diabetes team should improve patient safety where insulin prescription and administration is concerned. In view of the shortage of diabetes nurse specialists, they see the hospital pharmacists as an important resource to reduce insulin errors. Many diabetes patients themselves may be able to manage their insulin better than hospital staff. They go on to say that a repeat review by the pharmacy after six months will hopefully demonstrate a positive impact of updated educational resources and information.’ (www.hiirc.org.nz/page/20624/insulin-errors-in-a-hospital-setting-abstract/?q=McNamara&highlight=mcnamara§ion=10538).

This included devising a new chart for use in the inpatient setting to determine eligibility for self-administering insulin. A revised version is in development.

**Self-administration of insulin in the management of diabetes in hospital
Phase 3: Patient Assessment Form: Flow Chart of eligibility to self-administer insulin**





ThinkGlucose

ThinkGlucose is designed to improve the care of people with diabetes when they are admitted to hospital. Patients with a secondary diagnosis of diabetes who receive the right care for their diabetes are able to return home fitter, more safely and with a positive patient experience (NHS 2013, p 2).

ThinkGlucose provides a structured development programme for developing and improving the care of people with diabetes who are admitted to hospital. It brings together hospital diabetes specialist teams with colleagues in patient safety, clinical governance, and commissioning, surgical and medical specialties across the hospital to deliver improved effective efficient and patient friendly care to people with diabetes. The programme aims to:

- increase the awareness of diabetes in inpatients and educate staff
- introduce early specialist involvement with an early discharge/follow-up plan to reduce the average length of stay
- reduce prescription errors and improve patient care through publicising updated guidelines from local and national guideline producers, for example NICE.

The ThinkGlucose safe use of insulin tool provides education materials and guidance on managing self-administration, which reinforces the importance of self-administration if the patient has the appropriate skills and capabilities (p 2).

ThinkGlucose provides a comprehensive package of service improvement, leading to a clinical pathway that will help to ensure that all staff are better equipped to care for inpatients with diabetes. By improving staff knowledge, patient assessment, management of patient medication and meals, patients will have fewer complications, get better quicker and be discharged earlier (NHS 2013, p 3). Quality outcomes delivered include the significant improvements seen within the impact on quality of care or population health. For example, in York Teaching Hospital NHS Foundation Trust, provision of electronic monitoring of glucose control led to efficient warning of poor glucose control allowing for responsive management of diabetes, including medication and food review, and an increased awareness of diabetes.

ThinkGlucose also improved patient safety achieved through face-to-face and e-learning training for health professionals involved in diabetes prescribing. This resulted in reduced insulin prescription errors from 24.6% (before) to 6.4% (after) in the Dudley Group of Hospitals NHS Trust. The improvement on patients and carer experience are demonstrated through reduced length of stay in hospital.

Comprehensive information can be found here:

www.institute.nhs.uk/quality_and_value/think_glucose/welcome_to_the_website_for_thinkglucose.html



Can an inter-professional education tool improve health care professional confidence, knowledge and quality of inpatient diabetes care?

This was a pilot study (Herring et al 2013) to evaluate an interprofessional education tool designed to improve health care professional confidence, knowledge and quality of inpatient diabetes care. Diabetes specialists designed an education tool for use in the hospital environment to educate qualified pharmacists, nurses, health care assistants and junior doctors. The interprofessional learning enabled professionals to learn from and about each other. The education tool was piloted at four hospitals. Diabetes specialists delivered the education programme to 31 health care professionals over eight hours either as three individual teaching blocks or a whole day. Health care professionals completed a multiple choice questionnaire before and after the education intervention to evaluate acquisition of knowledge; confidence was evaluated using categorical questions, and diabetes specialists used a clinical audit form before and after the education programme to evaluate the quality of diabetes care.

Significant improvements were found in knowledge and confidence, reduction in management errors and improvement in appropriate blood glucose monitoring. Improvement in the number of appropriate diabetes referrals and reduction in prescribing errors did not reach statistical significance. They concluded the education tool improved health care professional confidence and knowledge and may improve the quality of inpatient diabetes care.



Skills for Health – Competencies for Diabetes

According to NICE recommendations, hospital services should have an adequate training programme and a process for monitoring the knowledge and skills of the workforce. ‘Skills for Health – competencies for diabetes’ is a framework that practitioners can be assessed against. The assessment should include appropriate competencies in diabetes-related devices, such as blood glucose monitoring meters, insulin pens and pumps (NHS 2011).



Assessment tools

Structure

Evidence of local arrangements ensuring all inpatients with diabetes are cared for by appropriately trained staff, provided access to an expert diabetes team, given the choice to self-monitor, and manage their own insulin (NICE 2011)

Process

- (a) The proportion of staff on inpatient wards who are appropriately trained to care for people with diabetes.

Numerator	The number of staff in the denominator appropriately trained in the care of people with diabetes
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Denominator	The number of staff on inpatient wards
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Outcome

Reduction in incidents relating to insulin causing harm.

- (b) The proportion of inpatients with diabetes who are provided with access to a specialist diabetes team

Numerator	The number of inpatients in the denominator provided with access to a specialist diabetes team
Denominator	The number of inpatients with diabetes

Outcome

Inpatient length of stay for people with diabetes is similar to people without diabetes.

- (c) The proportion of inpatients with diabetes on insulin therapy who are given the choice of self-monitoring and managing their own insulin

Numerator	The number of inpatients in the denominator given the choice of self-monitoring and managing their own insulin
Denominator	The number of inpatients with diabetes on insulin therapy

Outcome

Increase in patient satisfaction with their care in hospital.



Resources

Health Mentor Online – a self-directed online learning resource for nurses to complete Level 1 and 2 on the National Diabetes Nursing Knowledge and Skills Framework:
<http://pro.healthmentoronline.com/>

Consumer information is also provided: www.healthmentoronline.com



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