Inpatient care for people with diabetes in England

**Key points**

- Around 15% of all hospital beds are occupied by people with diabetes. They will tend to be older, sicker, have a longer length of stay and be admitted more often than the general population (1)

- The National Diabetes Inpatient Audit (NaDIA) showed that inpatient support (in the form of Diabetes Inpatient Specialist Nurses (DISN), inpatient dietetic support and inpatient podiatry) was not available to people in 28-71% of eligible sites (1);

- 63 patients developed Diabetic Ketoacidosis (DKA) after their admission to hospital during the week the NaDIA was conducted (1);

- 20% of patients experience a mild hypoglycaemic episode and 9% experienced severe hypoglycaemic episode whilst in hospital (1).

**Introduction**

Around 15 per cent of all hospital beds in the UK are occupied by people with diabetes. They will tend to be older, sicker, have a longer length of stay and be admitted more often than the general population (1). Among hospital inpatients, those with diabetes are 10% more likely to die in hospital than matched patients not recorded as having diabetes (8).

The majority of inpatients with diabetes are admitted for treatment of a specific condition, not due to their diabetes. However, although these inpatients should still be referred to the diabetes specialist team this is only happening in about half of all admissions. This often means their diabetes is being ignored and complications, which would otherwise not have arisen, are being allowed to develop. Issues, such as errors in the administration of insulin and mistreatment of hypoglycaemia, are also arising as a result of patients being prevented from self-managing their diabetes as they would at home (7).

The Department of Health says that, ‘given the large number of patients who are admitted to hospital with diabetes, investment in specialist diabetes teams and general staff education could improve patient outcomes and cut the excess spend resulting from poor
care by over £500 million (3)’.

**Current situation**

Expected standards of care of people with diabetes during admission to hospital are contained within the [NICE Quality Standards](https://www.nice.org.uk/guidance/qs22). Successful implementation of these standards, as well as those included in the [National Service Framework for Diabetes](https://www.nice.org.uk/guidance/qs22), is monitored through the [National Diabetes Inpatient Audit (NaDIA)](https://www.nice.org.uk/guidance/qs22). The NaDIA is intended to identify problem areas and improve the experience of inpatient care for people with diabetes.

Data collected from the NaDIA highlighted the following issues:

- **Harm resulting from the inpatient stay:**
  - **Diabetic Ketoacidosis (DKA):** During the week the audit was conducted, 63 patients developed DKA after their admission to hospital. This suggests that the inpatient’s insulin treatment was omitted for an appreciable time;
  - **Hypoglycaemia:** 20% of patients experienced a mild hypoglycaemic episode and 9% experienced severe hypoglycaemic episode whilst in hospital.

- **Staffing:** The NaDIA collects information on the breakdown of the average number of staff working in an inpatient setting, providing care for people with diabetes. This showed that 31.7% of sites do not have any Diabetes Inpatient Specialist Nurses. The audit also found that, based on ‘Think Glucose Criteria’, 43.3% of inpatients with diabetes should have been referred to the diabetes team, of which 62.5% were actually seen by a member of the diabetes team (1).

- **Multidisciplinary foot-care teams (MDTs):** Despite NICE recommending that a multidisciplinary foot-care team should manage the care pathway of patients with diabetic foot complications who require inpatient care, NaDIA found that in 28% of the sites surveyed no such team was in place.

- **Patient involvement and self management:** 32.9% of those who responded stated that they had not been able to take control of their own diabetes management while in hospital as much as they would have liked to. Although 15.7% stated that they had been able to test their own blood glucose levels whilst in hospital 15.5% stated that they had not been able to, even though they would have liked to.

- **Medicine mismanagement:** Over a third (37%) of patients included in the audit experienced at least one medication error whilst in hospital and 21.9% of patients experienced at least one prescription error. 22.3% of patients experienced a
medication management error. Patients with medication errors were more than twice as likely to experience a hypoglycaemic episode as those who did not have a medication error (1).

- **Inadequate food provision and inappropriate timing of food and medication:** 14.7% of patients reported that the hospital did not provide the right type of food to manage their diabetes and 15.1% stated that they brought in their own food to meet their dietary needs. A cross-sectional study of insulin treated inpatients reported that the inpatients with significant exposure to hyperglycaemia or hypoglycaemia all had significantly poorer satisfaction with the timing of medication in relation to meals (10).

**Improvements in inpatient care**

Since its introduction, NaDIA has recorded some improvements in inpatient care including:

- Medication errors have reduced from 44.5% of inpatients experiencing at least one medication error in 2010 to 37% of inpatients in 2013;

- Safer and more appropriate use of intravenous insulin infusions was noted in 2012. The duration of insulin infusion was deemed inappropriate by the healthcare professionals collecting the data in 7.7% of inpatients. This is a reduction from 12% in 2010. There was no change in 2013;

- 42.4% of patients had their feet examined at any time during their stay this has rise from 26% in 2011;

- The number of inpatients acquiring foot disease in hospital fell from 2.2% in 2010 to 1.4% in 2013.

**Diabetes UK calls to action or Recommendations**

**Diabetes UK believes that Commissioners** must ensure that:

- All acute trusts have an inpatient diabetes specialist team in place. Studies have shown that access to specialist diabetes teams reduces the average length of an inpatient stay by 3 days and can save over £400 per admission (6);

- Specialist diabetes teams comprise of at least one diabetes inpatient specialist nurse (DISN) focussed predominantly on inpatient care per 300 beds and a consultant specialist in diabetes management. In addition there should be access to a diabetes specialist podiatrist and a diabetes specialist dietitian;
• medications and food are appropriately co-ordinated and administered in a timely manner. Access to food and snacks can help to enable good diabetic management and reduce the incidence of hypoglycaemia.

**Diabetes UK believes that Healthcare Professionals** must ensure that:

• Every person with diabetes has an assessment and care plan for their hospital stay, developed in partnership with the person, which is regularly updated as appropriate;

• People with diabetes have the opportunity to discuss any concerns they might have about their diabetes with the appropriate healthcare professional;

• Diabetic foot problems do not develop in hospital. People with diabetes admitted to hospital for any reason should undergo a foot examination on admission, in line with NICE clinical guidance(4);

• Protocols are in place for the timely prevention and management of hypoglycaemia and hyperglycaemia including self management of these complications where appropriate;

• Effective multi disciplinary communication takes place between staff;

• People with diabetes are supported to self manage glucose monitoring and insulin administration in hospital, where appropriate. Self management of these tasks is associated with lower perceived frequency of hyperglycaemia (10). Inpatients wishing to self –manage should have access to their treatment, and equipment including for self monitoring.

**Diabetes UK believes that NHS Managers** must ensure that:

• Pre-assessment planning is undertaken and implemented for elective admissions. A copy of this plan should be sent to the hospital team and a copy given to the patient to keep;

• Diabetes ulceration is considered as part of the wider agenda of zero tolerance of pressure ulcers and preventable safety issues (3);

• People with diabetes are given the choice of, and receive the necessary support for, self-monitoring and managing their own insulin – helping to prevent errors in the administration of insulin and the mistreatment of hypoglycaemia (5);
A discharge and follow up plan should be developed for each individual.

Conclusion

Through the NaDIA, minor improvements in diabetes care have been noted over the last four years. However, Diabetes UK remains very concerned that issues, such as access to appropriate specialists and occurrence of wholly preventable life-threatening conditions, are allowed to continue. Action needs to be taken by commissioners and healthcare professionals to improve this: inpatients must always have access to specialist diabetes teams and should be supported, where appropriate, to self manage their diabetes whilst in hospital.

Further information

Self management of diabetes in hospitals:

Diabetes care in hospital:

NHS Diabetes inpatient Network:

Role of Diabetes Specialist Nurses:

Inpatient management of diabetic foot problems:

Commissioning for diabetes inpatient and emergency care:

Inpatient care for people with Diabetes: the economic case for change:

Improving emergency and inpatient care for people with diabetes:
### References

1. NHS Information Centre (2014), *National Diabetes Inpatient Audit 2013*;
2. Diabetes UK (2012), *State of the Nation 2012*;
3. Department of Health (2013), *Cardiovascular disease outcomes strategy*;
4. NICE (2011), *Quality Standard Six: Diabetes in Adults*;
5. Diabetes UK (2010), *Commissioning Specialist Diabetes Services for Adults with Diabetes*;
7. NHS Diabetes (2012), *Self management of diabetes in hospital*