

Understanding the measure 'Percentage of people with diabetes admitted to hospital for hypoglycaemia'.

Indicator name (short)

Admissions for hypoglycaemia (diabetic ketoacidosis)

Why this measure is important

Diabetes care is complex and often delivered by several care providers in various settings across the health care system. Better coordination through all levels of care is generally believed to result in better health outcomes and fewer hospitalisations (Van Loenen et al 2016). In most countries, including Aotearoa New Zealand, diabetes care is provided in primary care. Primary care is supposed to provide care close to patients, with no access barriers; be comprehensive for the needs of patients; coordinate care through all health care levels; and be continuous over time.

Reducing hospitalisations is essential to increase the quality of care for patients and to reduce hospital costs. Patients with a continuous relationship with their care providers have better health outcomes, fewer emergency department visits and better control of chronic diseases. Some studies showed that patients frequently visiting a primary care provider have less chance of being hospitalised for diabetes complications. For these reasons, diabetes-related hospital admissions are commonly used as a quality indicator for health services and primary care settings.

What 'good' looks like

A reduction in the number of admissions for hypoglycaemia events is ideal. Such decreases can indicate better access to and continuity of services that support self-management of blood glucose for people with diabetes. This is particularly useful for patients newly diagnosed with diabetes, those changing medications to manage glucose levels and pregnant patients.

Potential causes of variation in this measure

Diabetes management is complex. Our health care system is oriented more towards acute care and is poorly equipped to meet chronic disease management needs. This requires a focus on primary and community care to deliver self-management support, patient engagement, team-based care and population management.

Diabetes management should also extend beyond glycaemic control. Optimal diabetes management requires control of not only blood glucose levels but also blood pressure and cholesterol, which is critical for the prevention of cardiovascular disease – the leading cause of mortality for those with diabetes. In addition, screening for early complications through annual eye and foot exams and lifestyle modifications, such as physical activity, diet and smoking cessation, require extensive counselling and coordination. Without appropriate tracking, these items are likely to be missed.

Measures that influence outcomes

Measures that may directly influence or be impacted by admissions for hypoglycaemia are:

- diabetes prevalence in the population
- wait times for and access to insulin initiation
- patient efficacy/confidence in diabetes self-management
- proportion of medical/surgical bed-days for people with diabetes.

What improves this measure

Symptom management and self-management support

A recent study identifying factors influencing hospitalisation rates in patients with diabetes demonstrated a significant reduction in short-term complications and uncontrolled diabetes among the population with diabetes (Di Martino et al 2021). Such reductions could be explained by improved outpatient diabetes care, drug and lifestyle interventions and personalised care. Providing diabetes management support in the community, such as insulin initiation and diabetes education group visits (or shared medical appointments [SMAs]), may improve the ability and confidence of patients with diabetes to undertake self-management. Shifting diabetes management out of hospitals, involving general practitioners and having multidisciplinary and personalized care are essential factors in improving diabetes care and avoiding short-term complications (Shen et al 2017).

Self-management supports – SMAs

Shared medical appointments are a series of consecutive individual medical consultations in a supportive group where everyone can listen, interact and learn. An SMA is both a personal consultation and an informal group education session and is particularly useful in supporting diabetes self-management. Specifically, SMAs have been identified as a successful treatment modality in patients with prediabetes who have experienced more significant weight loss and reductions in glycated haemoglobin, cholesterol and systolic blood pressure (Papadakis et al 2021).

SMAs provide the following advantages for patients.

- Group visits combat isolation and can remove doubt about one's ability to manage illness.
- Patients learn vicariously by witnessing others' illness experiences.
- Patients feel inspired by seeing others who are coping well.
- Patients receive professional expertise from the provider and first-hand information from peers, resulting in more robust health knowledge.
- Patients have the opportunity to see how the physicians interact with fellow patients, which allows them to get to know the physician and better determine their level of trust.
- The adequate time allotment compared with a regular scheduled appointment means patients feel supported.

For providers, SMAs:

- develop more equitable relationships with patients
- support increased appreciation of and rapport with colleagues, leading to increased efficiency
- enable learning from patients to better meet their patients' needs.

Read more on undertaking SMAs in your practice [here](#).

Home monitoring of blood glucose

Regular blood glucose testing for people with type 2 diabetes can be done at home using a blood glucose test meter. This is generally not needed unless patients are changing medications or are taking insulin for the first time. In particular, home monitoring can be helpful for patients who are:

- starting or already taking glipizide, gliclazide or glibenclamide – this is because the risk of hypoglycaemia (low blood glucose) is higher with these medicines
- starting or already taking insulin
- at risk of frequent episodes of low blood glucose (hypoglycaemia)
- planning a pregnancy or are pregnant.

An improvement story

Taumarunui Community Kokiri Trust (TCKT): He Mate Huka Oranga – A project to keep well with diabetes

Taumarunui Community Kokiri Trust is a kaupapa Māori health and social services provider delivering holistic care following a whānau ora approach. The disease state management nursing service supports whānau to self-manage medical conditions through health promotion, health and disability service coordination, Māori housing repairs and maintenance and Pou Hākinakina (healthy lifestyle) programmes. This service identified that many of the community's whānau who weren't engaged with health services also had type 2 diabetes. Accessing services through a general practice can be a barrier for many whānau.

This programme sought to deliver a weekly education and support clinic through a diabetes support group in a community setting that was open to anyone, whether or not they were a TCKT client. The clinic gave whānau the confidence to take control of their health, talk to their general practitioner about what they wanted for themselves and improve their diabetes control.

Further information about this case study can be found [here](#).

Related resources

- [Health Pathways media release](#) on the updated type 2 diabetes pathway for the Te Manawa Taki (Midland) region covering Bay of Plenty, Lakes, Taranaki, Waikato and Hauora Tairāwhiti health localities.
- [He Ako Hiringa article](#) on the updated pathway for type 2 diabetes, which is endorsed by The Royal New Zealand College of General Practitioners (RNZCGP) and approved for up to 0.25 continuing medical education credits.
- [Glycaemic targets in the treatment of diabetes](#). Type 2 diabetes management guidelines from the New Zealand Ministry of Health and the New Zealand Society for the Study of Diabetes, 2020.

References

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