



Diabetes in Schools

A Report on the issues related to a safe and supported environment for children and young people in schools and preschools in Australia

January 2017

1. Introduction

Diabetes is a serious, complex health condition requiring constant management, support and care. It affects around 11,000 school-aged children and young people in Australia. More than 96 per cent of these children and young people have type 1 diabetes, one of the highest rates in the world.¹ If not treated appropriately diabetes can pose immediate life-threatening health risks and must be considered with the same seriousness as acute asthma attacks and anaphylaxis.

While type 1 diabetes is the most prevalent type of diabetes seen in young people of school age, the incidence of type 2 diabetes amongst young people is increasing.

This report considers all types of diabetes across all education settings (preschool, primary and secondary schools) and across all education providers (public, independent and religious). Throughout this report, the term 'preschool' is used to refer to all early childhood, childcare and kindergarten settings.

All people with type 1 diabetes, including children and young people, need to check their blood glucose levels frequently and manage their diabetes with insulin injections multiple times daily or via an insulin pump (a wearable electronic device that delivers insulin via a tube), as well as eating regular meals and snacks.

In the short to medium term, if diabetes is not appropriately managed, a child's ability to concentrate, learn and perform to their full potential can be adversely affected. Additionally, children and young people can be at an increased risk of serious and immediate complications associated with diabetes, such as unconsciousness and coma, as a result of very low or high blood glucose levels.

Over the long term, persistently high blood glucose levels can contribute to an increased risk of long-term complications of diabetes, such as eye, nerve and kidney damage².

Under the Federal Government's *Education and Care Services National Law* and supporting Regulations, all services providing or intending to provide education and care must have a diabetes policy³.

Currently, there is no nationally consistent approach to the support of children and young people with diabetes in schools and preschools.

¹ Speight, J, Hagger V, Trawley S, Hendrieckx C, Browne JL, Cheney J, Pouwer F, Cameron F, Skinner TC, Scibilia R on behalf of the Diabetes MILES Youth reference group (2015) Diabetes MILES Youth Study 2014 Survey Report. Diabetes Victoria, Melbourne.

² Intensive Diabetes Treatment and Cardiovascular Disease in Patients with Type 1 Diabetes The Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications (DCCT/EDIC) Study Research Group

³ The Australian Children's Education and Care Quality Authority is the national, independent statutory authority governing the National Quality Framework www.acecqa.gov.au/national-quality-framework/national-law-and-regulations

Some states and territories have a specific policy regarding aspects of diabetes support in schools, some do not. Some states and territories mandate the need for schools to have individual diabetes management plans in place for children and young people with diabetes, some do not.

In some states and territories, individual health professionals and local diabetes organisations have attempted to address diabetes training needed for teachers and schools, but this is variable and not supported with sufficient funding. There is also variability across and within the public, private and religious school sectors.

Parents often report a lack of understanding from teachers and schools regarding appropriate day-to-day diabetes support in schools. Some of the commonly reported issues include:

- a lack of easy access by their child to the diabetes equipment they need throughout the day;
- a lack of adequate supervision of insulin injections or insulin pump dosing;
- a lack of timely access to drinking water or toilet privileges when a child has high blood glucose levels;
- a lack of appropriate blood glucose support and supervision around sport leading to hypoglycemia;
- a lack of consideration of diabetes around illness, excursions, camps and examinations.

Teachers are often concerned about their own limited knowledge of diabetes which means they may not be able to confidently support a child with diabetes in their care.

Diabetes management requires frequent insulin injections and blood glucose checks, some of which need to be undertaken during the school day. Sometimes parent care and attendance is required, but family members should not be expected to forego employment or to be totally relied upon to go to school to manage their child's routine diabetes care.

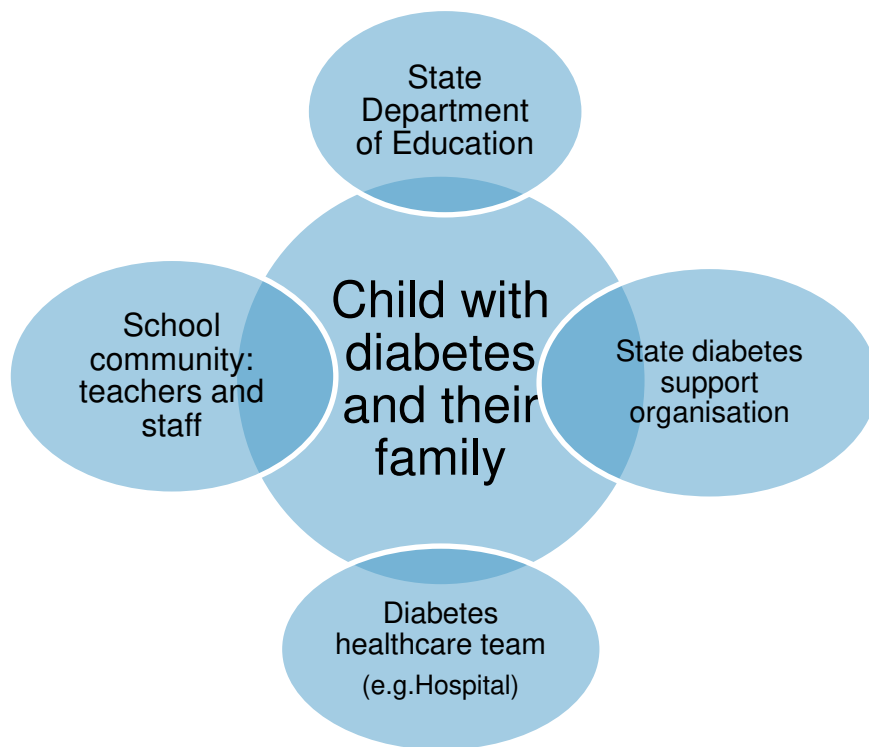
Children and young people can be safely supported in their diabetes care by appropriately trained staff at the school. Many schools do coordinate training for staff. However teachers and staff come and go, or may be absent through illness.

2. Rights and responsibilities

It is illegal to discriminate against children and young people because they have diabetes.

Children and young people with diabetes have the fundamental right to a normal school experience in a safe and inclusive environment, and they must be able to enjoy the same level of education opportunities and participation in school activities, including sport and physical education as other children.

There are five key groups involved in providing children and young people with diabetes an optimal education experience. The child and family should be the central focus, supported by the school (Principal, staff and teachers), the diabetes health care team, the state or territory diabetes organisation, and Education Departments.



Family and child are responsible for:

- ❖ providing the school with the current diabetes care plan for their child
- ❖ providing all diabetes supplies the child requires for use at school, including insulin, blood glucose meter/s, lancet device and strips, insulin pump consumables and foods to treat low blood glucose (hypo)
- ❖ facilitating communication between the school and the diabetes healthcare team and the state diabetes organisation regarding the implementation of the child's diabetes care plan.

School Principal is responsible for:

- ❖ ensuring a diabetes care policy, incorporating overarching principles for care requirements (rather than individual care needs), is in place and implemented
- ❖ selecting/nominating staff to undertake standardised diabetes training.

Nominated school teachers/staff are responsible for:

- ❖ understanding and implementing the child's diabetes management plan for school
- ❖ undertaking specific diabetes training as required (e.g. insulin injection administration or supervision, insulin pump button pushing, glucagon administration)
- ❖ communicating with parents as required.

Diabetes healthcare team/professionals (including endocrinologist, credentialed diabetes educator and others) are responsible for:

- ❖ working with the child with diabetes and families to develop the child's individual diabetes management plan
- ❖ supporting school staff training for insulin and/or glucagon administration, hypo treatment if required

- ❖ providing advice to families and schools on specific activities such as camps, sports days and exam provisions.

State-based diabetes organisations are responsible for:

- ❖ coordinating the statewide access for families and schools to standardised diabetes training for school staff by linkage to the NDSS database and other services
- ❖ working with the diabetes healthcare team to provide the diabetes training programs for school staff
- ❖ providing advice and support to families of children and young people with diabetes.

State Education and Health Departments are responsible for:

- ❖ the development and implementation of relevant regulatory and indemnity provisions and frameworks, policy and guidelines to ensure appropriate and consistent standards of safety, access and opportunity for all children and young people with diabetes at school
- ❖ funding diabetes-specific training for teachers and school staff.

3. Core principles for ensuring a safe and inclusive schools and preschool environment for children and young people with diabetes

□ Safety

Safety, diabetes management and support procedures must be clearly documented for individual children and young people with diabetes. This includes a diabetes-specific management plan detailing the support needed for the child at school and what specific support is required to be provided by trained school staff.

This should include clear, step-by-step directions about how to manage predictable diabetes emergencies (such as hypoglycaemia and hyperglycaemia). The plans should be updated annually or more frequently if there are significant changes in the child's diabetes treatment.

Management plans relevant to school should be developed consultatively by parents, the child's diabetes healthcare team and the school. This consultative approach helps ensure all parties have a clear and agreed understanding of their roles and responsibilities in supporting the child at school.

Diabetes supplies and equipment must be stored in accessible, readily available locations that are available to the child and young person at all times to allow for easy access. This may include storing diabetes equipment at multiple locations across the school such as higher-risk areas including play areas, gymnasiums and spaces where children and young people undertake physical activity. Diabetes equipment can include one or more blood glucose meters, blood glucose and ketone strips and lancets, insulin injection equipment, insulin pump consumables, hypo treatment foods and other sources of carbohydrates, and glucagon. **It is important to remember that a child may need rapid access to this equipment to prevent the effects of hypoglycaemia.**

A child with diabetes has a right to undertake their diabetes management in a manner in which they are comfortable. This may occur in either a public or private place, chosen by the child in consultation with their parents and the school. Children and young people should also have the right, where appropriate, to contact their parents if they require advice about diabetes management.

A child may need permission to leave the classroom ahead of the rest of the class (e.g. 5 - 10 minutes) to attend to their diabetes care needs uninterrupted by noise, distraction or interference from others, with supervision provided as required.

Schools should provide a safe, sanitary physical space for children and young people to take their medication, inject insulin and monitor blood glucose levels. Schools should ensure they have an appropriate 'sharps' (needle) disposals policy in place

Communication

Clear communication between families, school and the diabetes healthcare team is essential to ensure all parties understand their roles and responsibilities in the child's diabetes care at school.

Inclusion

Children and young people with diabetes should be given the opportunity to participate in and enjoy all school and extracurricular activities, free from diabetes-related stigma. This includes school activities that take place off school grounds, such as excursions, sports days and camps.

According to the Diabetes MILES Youth Study (2014) more than one in four children with diabetes report some kind of psychological distress relating to their diabetes, including anxiety, depression and eating disorders.⁴ This is particularly relevant during puberty when young people are under increased pressure to 'fit in'.

Sensitivity is required to manage diabetes and to encourage the child and young person's classmates and friends to provide emotional support where appropriate. Peers can play an important role in ensuring the safety of the child and young person with diabetes and building a supportive and inclusive school environment.

Supporting learning potential

Evidence shows diabetes management has the potential to affect learning and academic school outcomes. This can include the time involved in diabetes care, health appointments and, on occasion, hospital admissions, as well as the impacts of both hypoglycaemia and hyperglycaemia, associated mental health, other medical conditions, and a lower school completion rate.⁵

⁴ Ibid.

⁵ Northam EA, Lin A, Finch S, Werther GA, Cameron FJ. Psychosocial Well-Being and Functional Outcomes in Youth With Type 1 Diabetes 12 years After Disease Onset. *Diabetes Care*. 2010;33(7):1430-1437. doi:10.2337/dc09-2232.

Schools should provide additional support during examination periods, allowing for monitoring of blood glucose levels and treatment of low or high blood glucose levels if required. Access to water and toilets must be provided, and additional completion time allowed where appropriate. Children and young people with diabetes must have access to their blood glucose meter and hypo food during examinations and be supported to treat hypoglycaemia if it occurs.

Children and young people should be allowed additional recovery time in the event of significant hypoglycaemia from which it takes a minimum of 30-60 minutes for the brain to recuperate (Zammit et al, 2008).

□ **Staff training**

Teachers and school staff should have a level of knowledge, understanding and confidence that enables them to provide a safe and supported learning environment for children and young people with diabetes.

Mastering Diabetes, a new National Diabetes Services Scheme (NDSS) resource has been developed by Diabetes Australia for distribution to all preschools and schools and is available at the NDSS website (www.ndss.com.au). However, this and other resources need to be used to enable training to be provided to nominated staff at specific schools and preschools where children and young people with diabetes are attending.

At schools where a child with diabetes is enrolled, Principals should select/nominate teachers and staff to undertake standardised diabetes training preferably before the child commences, or as soon as possible thereafter, with follow-up training if required. This is essential to ensure teachers feel adequately prepared, children and young people are safe, and that parents have confidence in the school.

Each state and territory diabetes organisation should provide or enable standardised diabetes training for the nominated teachers and other staff by coordinating access using the NDSS database to ensure every child/family and relevant schools can access the services.

Relief teachers should be informed about children and young people with diabetes in their class and, if not confident or appropriately trained, suitable arrangements should be made by the school to ensure the safety and participation of the child with diabetes. Procedures should also be developed by the school to mitigate the effects of staff turnover on the quality of support provided to the child with diabetes.

Diabetes is a lifelong condition and its effects on the body can change as children and young people grow. Accordingly, the management of the condition may also change and care plans must be reviewed and updated at least once per year to reflect these changes, and at times of significant change in diabetes management.

Planning must account for the continuity of care as a child moves from year level to year level, from primary to secondary school, when there are staff changes (including in the case of relief teachers), and at other key junctures.

4. Recommendations

Policies and planning

- All State Departments of Education should have a comprehensive diabetes-specific policy as mandated by the Federal Government's *Education and Care Services National Law* and supporting Regulations, and a clear and supportive position on indemnity for school staff and the diabetes healthcare team in the provision of all aspects of diabetes support in schools.
- All schools should ensure they have developed and implemented a diabetes care policy; and each school should ensure it has available, and can implement, the individual diabetes management plan for each child with diabetes at that school. For consistency, the template for individualised plans should be endorsed for use by the relevant State Department of Education.
- Plans should be developed using current evidence-based diabetes care principles, by appropriately qualified and experienced diabetes professionals. Individual management plan/s should be developed for the child, by the diabetes healthcare team in conjunction with the family, child and school.

Training Support

- State Departments of Education should fund and ensure access to standardised diabetes training for nominated teachers and school staff.
- State Departments of Education together with preschools should consider the benefits of having an education aide employed to support a young child (3-5 years-old) with type 1 diabetes in this early learning education setting, on a case-by-case basis. In some situations, this may be appropriate for older children.

Access to diabetes training

- Schools with a child with diabetes should ensure that a sufficient number of teachers and school staff receive standardised diabetes training.
- Each teacher or supervisor of a child with diabetes should receive appropriate training to ensure they are aware of the signs and symptoms of hypoglycaemia and hyperglycaemia, and the appropriate action required in each case.
- The level of autonomy will vary according to the age and individual child. Younger children will require most assistance with diabetes care – this could include blood glucose checking, insulin injections and insulin pump button pushing, while older children may only require assistance with hypoglycaemia or hyperglycaemia.
- The level of support provided should be agreed upon with parents and the healthcare team and be specified in the individualised management plan.

- Each school should have at least two adults trained to support children and young people with diabetes at any one time. This includes checking of blood glucose levels, assisting, supervising or giving an insulin injection using a pen device or via an insulin pump, and dealing with high or low blood glucose levels appropriately as they occur, or preventing them. This should include how to manage the rare occurrence of a severe unconscious hypoglycaemic episode caused by a very low glucose level, if the ambulance service is more than 30 minutes away. This should be agreed upon with the parents and the healthcare team and be specified in the individualised management plan.

Reducing stigma and discrimination

- No child with diabetes should be excluded from any school-related activities on the basis of having diabetes.
- Consideration and steps must be taken to ensure children and young people with diabetes are not subjected to bullying or stigma because of diabetes
- Diabetes care tasks should be integrated into the child's regular school routine as much as possible.
- Schools should provide children and young people with a clean, convenient and safe area for diabetes self-care (such as monitoring, injections, sharps disposal) and respect the child's personal preference for privacy.
- Schools should take appropriate action to accommodate the child and young person with diabetes with safe and appropriate participation in examinations, tests and quizzes.

5. Summary

A nationally consistent approach to diabetes support in schools and all education settings will benefit over 11,000 children and young people with diabetes and their families across Australia.

Children and young people with diabetes should be supported to actively and fully participate in all school can offer them along the academic pathway and towards healthy psychosocial and physical development.

Teachers who are trained to support children and young people with type 1 diabetes will be able to support children and young people to perform to their full academic potential. Optimal support of diabetes will assist with maximising the cognitive ability of children and young people with diabetes (Northam 2010b).

Definitions

Type 1 diabetes is an autoimmune condition that attacks the cells in the pancreas that produce insulin. This results in an absolute deficiency of insulin which if not replaced is fatal. Type 1 diabetes can occur at any age but it most frequently occurs in children and young adults. It cannot be prevented. People with type 1 diabetes require multiple daily injections of insulin or the use of an insulin pump for life. There is no known cure.

Type 2 diabetes is a condition where the body produces some insulin but either not enough or it does not work sufficiently to regulate blood glucose levels. Insulin resistance is involved. Type 2 diabetes is a chronic, progressive disease. While it is uncommon in children, type 2 diabetes is increasingly seen in children, adolescents and young adults. It may be treated with tablets. Other medications or insulin injections are commonly required early in the disease in childhood.

Insulin is a hormone produced by the pancreas. The body uses insulin to move glucose from the bloodstream into cells where it is used as energy. All people with type 1 diabetes, and some people with type 2 diabetes, need to take insulin. Some people are best treated with multiple daily injections while others use an insulin pump. There are also a number of different types of insulin. There is no one-size-fits-all approach and the decision about what insulin therapy is best for a person should be made by the person, their family and their diabetes health team.

Glucagon is a hormone produced by the pancreas. It works in counter to insulin to balance blood glucose levels. Glucagon is released into the body when blood glucose levels are low, to help restore blood glucose. After some years of living with type 1 diabetes, the body may become less able to produce and release glucagon naturally. Manufactured glucagon may be injected to help raise blood glucose levels in a person with severe hypoglycaemia (low blood glucose) who is unable to eat due to a low level of consciousness.

Hypoglycaemia occurs when blood glucose levels become too low. This can be caused by missing a meal, having too much insulin or not eating enough carbohydrates for a given dose of insulin or unplanned physical exercise. Symptoms can include weakness, trembling or shaking, sweating, irrational behaviour, light headedness, lack of concentration, irritability, crying and dizziness. It is defined as a blood glucose level < 4.0 mmol/L

Hyperglycaemia occurs when blood glucose levels become too high. It can be caused by not enough insulin or missing an insulin injection, eating extra carbohydrates, sickness or an infection or reduced physical activity. Symptoms can include excessive thirst, tiredness, blurred vision, frequent urination and lack of concentration. It is defined as blood glucose levels recurrently >15 mmol/L or child is unwell or vomiting with a single blood glucose level >15 mmol/L. Blood or urine ketones should be checked and if >0.6 or medium to large, respectively, medical advice sought.

Diabetic ketoacidosis is a potentially life-threatening condition that can occur during illness or as a result of insufficient insulin which results in very high blood glucose levels and the build-up of ketones. Ketones are a potentially toxic by-product of the breakdown of fat. Symptoms can include nausea, vomiting and/or abdominal pain, deep rapid breathing or breathlessness, extreme drowsiness and a 'fruity' odour to the breath. Ketone levels can be measured in the blood (preferably) or in the urine.

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Karen Crawford	Diabetes Victoria
Teresa Di Franco	Diabetes WA
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The National Diabetes Services Scheme (NDSS) is an initiative of the Australian Government administered by Diabetes Australia since 1987.

Links for further information

www.diabetesaustralia.com.au

www.diabetesvic.org.au

www.diabetesnsw.com.au

www.diabetesqld.org.au

www.diabeteswa.com.au

www.diabetestas.org.au

www.diabetessociety.com.au

www.adea.com.au

www.ndss.com.au

<https://education.gov.au>

www.acecqa.gov.au/national-quality-framework/national-law-and-regulations