

Is management in school the key to quality improvement?



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National Paediatric Diabetes Audit results published in February 2017 for the first time show a significant improvement in diabetes control, with the median HbA_{1c} nationally being 64.5 mmol/mol (8.1%), see *Figure 1* (Royal College of Paediatric and Child Health [RCPCH], 2017). This exceeded the trajectory that was seen by our European colleges some years ago (Dovc et al, 2014). We need to be aware that we may reach a plateau if we do not continue to evaluate and modify our practice. In recognition of this, the RCPCH is launching two initiatives – clinical service quality measures and the quality improvement programme – to aid continuing improvements.

Clinical service quality measures

The clinical service quality measures initiative, which is funded by the Healthcare Improvement Quality Partnership, aims to enable an understanding of quality at a local level compared to the national average. The clinical service quality measures for paediatric diabetes are based on:

- A processes of care score, i.e. how well units complete the seven key processes of care in the National Paediatric Diabetes Audit (see *Box 1*).
- An outcome of care score, i.e. adjusted mean HbA_{1c} and change in unadjusted median HbA_{1c}, comparing the latest score with the average from the previous 2 years.
- An organisation of care score, i.e. from the Diabetes Quality Improvement Network System peer review. This system is being replaced by the Children and Young People's Diabetes Quality Programme. Draft standards have been sent to diabetes teams for responses.
- A combination of these three scores, which will be used to make an overall composite measure.

Quality improvement programme

The RCPCH is developing a model for a comprehensive quality improvement programme

that, if funded beyond the pilot, will enable every paediatric diabetes unit in England and Wales to participate in training and ongoing support using proven quality improvement methodology to make tangible improvements in outcomes for children. The programme is based on a similar project delivered in Sweden, which engaged with 85% of paediatric diabetes units over a period of 3 years (Peterson et al, 2015). In that time, the Swedish programme significantly improved treatment outcomes and reduced variation between units.

Available resources and staff education

In 2015, the NICE tightened diabetes control from 58 mmol/mol (7.5%) to 48 mmol/mol (6.5%) in children and young people. With teams striving to improve control, we must look at all aspects of care. Children spend a large proportion of their waking day in school, and the care they receive can have a direct impact on their outcomes. Under the Children and Families Act 2014, schools have a duty to support children with medical conditions.

Diabetes UK has some excellent guidance and resources for schools. Its *Type 1 Diabetes at School: School Pack* is available in English and Welsh, and can be downloaded from <http://bit.ly/2rZ8D0m>. The same page has links to residential school trips and examination tools, the School Helpline and information for teachers and staff. Diabetes UK also recognises schools achieving good care through its Good Diabetes Care in School Award scheme.

JDRF, in partnership with Virtual College and the Children and Young People's Diabetes Network, has created a fantastic e-learning course for school staff, who can register at <http://type1diabetestraining.co.uk>. JDRF also has school resources on its website at <https://jdrf.org.uk/school-pack/>.

Paediatric diabetes teams are busiest at times involving school transitions: starting school and nursery, changes in classes and the transition to secondary school. Children and young people

should feel confident in the management of their diabetes in school and in the support they receive (NovoNordisk, 2016). The advent of the National Individual Healthcare Plan (Singleton, 2015) has been a great assistance, but considerable training is still required for school staff. Thankfully there are now staff who are willing to learn how to inject insulin, carbohydrate count and button-push insulin pumps. Guidelines launched in 2017 by the Association of Children's Diabetes Clinicians on the use of continuous glucose monitoring dictates complex decisions that may be beyond those that staff are willing to undertake.

Challenges ahead

One of the quality measures proposed by the RCPCH in the new Children and Young People's Diabetes Quality Programme is to share policy documents with local education authorities. Unfortunately not all schools are under local authority control, as academies can be outside their remit. It may be difficult for teams to distribute their policies to every academy group in their area, especially if it spans multiple local authorities. Academies have to adhere to the Children and Families Act (2014) but not the school food standards (Department for Education, 2015). This can complicate carbohydrate counting and the provision of gluten-free diets, as academies existing at the time the food standards were published are exempt. Many academies have vending machines and more than once our dietitian has had young people tell her they have pizza, cookies, a pie, sausage roll or cakes daily. These do not adhere to the school food standards.

Fostering resilience in schools

In this supplement we have two important articles about schools. Both authors have conducted qualitative research. School personnel providing direct support to children with type 1 diabetes are ideally placed to increase children's confidence, resilience and independence with their diabetes self-management skills. This is extremely important, as both actual and perceived support are important in the development of personal resilience. This resilience could be key to supporting long-term improvements in diabetes care and management. ■

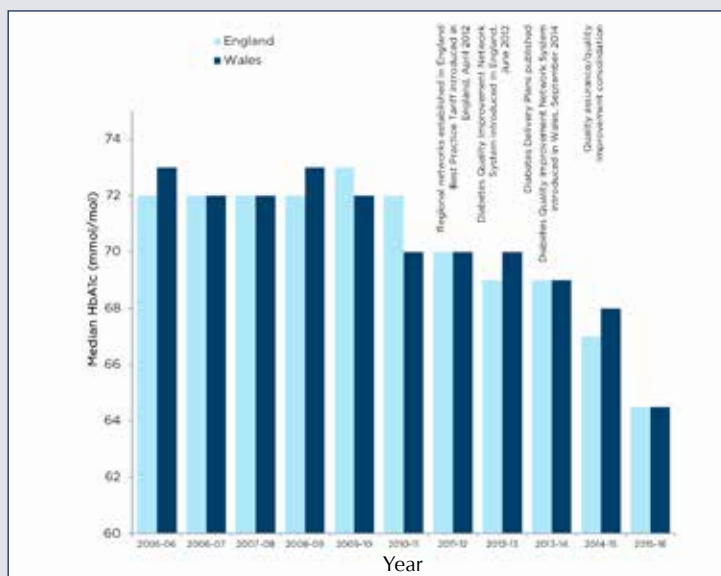


Figure 1. Change in median HbA_{1c} for children and young people with all types of diabetes in England and Wales between 2005/6 and 2015/16 (Royal College of Paediatrics and Child Health, 2017)

- Association of Children's Diabetes Clinicians (2017) *Dexcom G4 CGM Training Leaflet for Healthcare Professionals and Patients*. Available at: www.a-c-d-c.org/endorsed-guidelines/ (accessed 14.08.17)
- Department for Education (2015) *Standards for School Food in England*. Available at: <http://bit.ly/1Kyzm8F> (accessed 14.08.17)
- Dovc K, Telic SS, Lusa L et al (2014) Improved metabolic control in pediatric patients with type 1 diabetes: A nationwide prospective 12-year time trends analysis. *Diabetes Technol Ther* **16**: 33–40
- NICE (2015) *Diabetes (type 1 and type 2) in children and young people: diagnosis and management (NG18)*. NICE, London. Available at: www.nice.org.uk/guidance/ng18 (accessed 14.08.17)
- NovoNordisk (2016) *Goals of Diabetes Education: A structured education programme for children and young people with type 1 diabetes*. Available at: <http://bit.ly/1UfFi4n> (accessed 14.08.2017)
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- Royal College of Paediatrics and Child Health (2017) *National Paediatric Diabetes Audit Report 2015–2016. Part 1: Care Processes and Outcomes*. RCPCH, London. Available at: <http://bit.ly/2m3J4ry> (accessed 14.08.2017)
- Singleton S (2015) Looking after schoolchildren with diabetes: development of the Individual Healthcare Plan. *Journal of Diabetes Nursing* **19**: 223–7

Box 1. Key care processes for infants, children and young people under 25 with diabetes.

- **HbA_{1c}** – blood test to determine diabetes control.
- **Body mass index** to measure cardiovascular risk.
- **Blood pressure*** to measure cardiovascular risk.
- **Urinary albumin*** – urine test to determine kidney function.
- **Thyroid.**
- **Eye screening*** – retinopathy to assess eye risk.
- **Foot examination*** for ulcer risk.

*From age 12 years