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A new Paediatric Model of Care takes Diabetes out of Hospital to the Home and Community

Lea Sorensen

This article describes a change in practice in the management of children with diabetes at Flinders Medical Centre (FMC) since August 2012 following the recruitment of a paediatric diabetes clinical practice consultant to the paediatric unit. The abstract was submitted to the 2014 ADS-ADEA Annual Scientific Meeting and accepted as an oral presentation.

Background

Approximately 200 children and adolescents attend FMC for management of diabetes. The diabetes team consists of four general paediatricians with a special interest in diabetes and a 0.2 FTE paediatric diabetes educator based in the adult division of the hospital. The team see children as inpatients, attend outpatient services on a regular basis and conduct phone calls and review appointments on demand. Specialist paediatric dietitians and a clinical child psychologist also see children as inpatients when required and attend outpatient clinics on a regular basis.

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Prior to August 2012, hospitalisation was the norm for children with diabetes who were newly diagnosed and common for those commencing pump therapy or suffering an acute hypo- or hyperglycaemic event. For routine care, the stress of diabetes for some children and their families is increased by travelling long distances to the hospital, inconvenient clinic hours and difficulty parking. It was recognised and of concern to the team, that there were a number of children who were regularly missing clinic appointments and also a group who were frequently presenting to the Emergency Department (ED) with acute complications. In order to better meet the needs of children and their families, and address a health department aim to reduce potentially preventable admissions and outpatient services, current practice was reviewed.

Intervention

A paediatric diabetes Clinical Practice Consultant (CPC) was recruited to the paediatric unit to review the service and recommend and implement changes. I am fortunate to have been the successful recruit to this inaugural role. Funding for this position is from Primary Health and Transition Services, from money allocated to hospital avoidance programs and initiatives. As such, there are requirements regarding the role of the CPC that needed to be met in order to fulfil the conditions of the funding. These include not duplicating existing services, delivering the services out of hospital and achieving hospital avoidance, which in turn would be expected to result in cost savings for the health service. Initially this posed a number of challenges relating to integrating with a process that had been in place for some time as well as introducing services that were very new for the paediatric unit and different to the conventional management of diabetes in children.

It was important to ensure that the service was not only effective but indeed safe for the children and their families. The development of the service which became the Southern Adelaide Paediatric and Adolescent Diabetes Service (SAPADS) culminated from consultation with the paediatricians, personnel from the FMC Diabetes Centre, the executive of the Womens and Childrens Division of FMC and the families attending the paediatric clinic.

The target groups identified were those children who were regular non-attenders to clinic, frequently presented to the emergency department with acute complications, had social and /or mental health issues, had a HbA1c >9% as well as newly diagnosed children who were deemed suitable for early discharge and those commencing insulin pump therapy.

The biggest change in service provision was the introduction of home visitation. Whilst this isn't a new concept in management of children with diabetes, it is not widely offered by diabetes services and is new for South Australia. The benefits of home visits are the ability to

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reconnect with children who were otherwise missing out on clinical and educational services and increased convenience and reduced stress for the child and family, especially for the newly diagnosed where the stress levels are already extremely high. Having the ability to intensively follow up children with acute needs enabled admission to be avoided for some children who presented to ED in a clinically stable condition, as well as enabling early discharge for those admitted with acute problems or a new diagnosis. It also enabled commencement of insulin pump therapy out of hospital.

An unexpected benefit of the home visit is the opportunity to have a relationship with the family in their own home.

'I consider it a privilege to be trusted enough to be invited to someone's home. It reveals the struggles that some families have and the reasons why they can't fit into conventional care. It also enables the opportunity to engage the family with other services that will assist them, that might not have been communicated through a clinic visit or uncovered through disengagement from the system.'

Other hospital avoidance strategies included changing the after-hours emergency access to include the CPC for expert assistance and streamlining access to the child's paediatrician. This often averted the need to present to hospital and allowed someone known to the family to support them through acute episodes. Difficulties accessing hospital services due to parking issues or restricted clinic times have been overcome by the redeployment of interdisciplinary, extended hours outreach services to primary health sites.

Results

Approximately 60 children have been followed by the service since commencing in August 2012. A requirement of the funding is the collection of data, a part of which reflects hospital avoidance. Categories relating to hospital avoidance are shown in Table 1.

Comparison of data before and during the 12 months after the introduction of the CPC outreach role show reductions of 39% in average length of stay (LOS), 17% in ED presentations and 30% in multiple presentations to ED. Calculation of the cost savings for hospital days saved were close to $200,000 by the end of 2013. Whilst these data are important to the health service, the safety and satisfaction of the families is of utmost importance also. From the safety perspective, no child who had early discharge with home support required re-admission to hospital or had an adverse event as a result of home care.

To assess preliminary consumer response, the parents of the first 20 children to be seen in the program were approached to complete a small questionnaire administered by the paediatric unit consumer representative. Fourteen were able to be contacted and participated in the allotted time. Ninety nine percent of families surveyed answered 'agree' or 'strongly agree' to a series of seven questions regarding the value of the service with regard to increased convenience and confidence in managing diabetes, and when to seek medical assistance. A more comprehensive review is now called for.

Table 1: Categories of data collection

Occasions of Service
ED presentation saved
Avoided admission from ED
Admission saved
Reduction in LOS (length of stay) in days
Outpatient visits saved
Admitted but ICU prevented

Conclusion

The outreach service demonstrates that early intervention, home review and easy to access services can reduce burdens on the health system and increase patient satisfaction in a safe and effective manner.

The targeting of at risk children and those for whom hospitalisation may not be clinically necessary offers benefits for both the individuals and the health service. The success of the program is a result of the integration between the paediatric diabetes CPC and the existing tertiary diabetes services to create a more consumer centred and flexible model of care.