

# Research findings

## *Increasing incidence of Type 2 Diabetes in Indigenous and non-Indigenous children in Western Australia*

### ▶ WHAT WAS THE AIM?

Several countries around the world have shown that, over the past two decades, there has been an increasing number of children and adolescents being diagnosed with Type 2 Diabetes. In Western Australia, children diagnosed with diabetes are managed by paediatric endocrinologists at Princess Margaret Hospital (PMH), the only tertiary children's hospital in the State. This provides a unique opportunity to study the number and characteristics of children being diagnosed with diabetes in the complete population of children living in WA, as opposed to other States in Australia where children are seen at different hospitals depending on where they live. This study aimed to determine the number of children and adolescents being diagnosed with Type 2 Diabetes in WA, and to analyse how this has changed over time.

### ▶ HOW DID WE DO IT?

We identified all children newly diagnosed with Type 2 Diabetes in WA between 1990 and 2012, from the Western Australian Children's Diabetes Database. This clinical database is maintained by the diabetes department at PMH and contains details on children diagnosed with diabetes including the year of diagnosis, their age, gender and Indigenous status. To calculate the incidence we used the number of newly diagnosed cases as the numerator data and the corresponding estimated number of children in the population as the denominator data.

### ▶ WHAT DID WE FIND?

Between 1990 and 2012, there were 135 newly diagnosed cases of Type 2 Diabetes in children and adolescents aged less than 17 years living in WA. On average, the children were about 13 years old at the time of diagnosis. Notably, there were more girls diagnosed than boys (82 girls, 53 boys), and 76% of the children diagnosed identified as being of Indigenous descent. The incidence of Type 2 Diabetes over the study period in children of Indigenous descent was 12.6 per 100,000 person-years compared to 0.6 per 100,000 for non-Indigenous children. However, over this time, the incidence increased by a similar rate in both Indigenous and non-Indigenous children (13% and 11% per year respectively).

### ▶ WHAT DOES THIS MEAN IN PRACTICE?

This study found that there is a significant increase in the number of children and adolescents being diagnosed with Type 2 Diabetes in WA. Importantly, although children of Indigenous descent are grossly overrepresented in the patient cohort, a similar rate of increase is occurring in both Indigenous and non-Indigenous children. As well as being a chronic condition, associated with significant multi-systemic complications, the increasing number of youth being diagnosed with Type 2 Diabetes prior to their reproductive years will contribute not only to their own morbidity and mortality but potentially to that of future generations via trans-generational effects of this life-long disease.