

## CPSP: Study looks to children with type 2 diabetes

Childhood on-set type 2 diabetes mellitus (T2DM) has only appeared within the last 15 to 20 years, yet its worldwide prevalence has been rapidly gaining momentum. One of the most serious complications of T2DM is the progression to end-stage renal failure (ESRF) — leading at best to a lifetime on dialysis, at worst to death.

The presence of albumin, in the urine is a key indicator that T2DM is leading to ESRF. While it is well-understood how quickly this progression happens in adults, much less is known about what occurs in young people. The new study under the Canadian Paediatric Surveillance Program (CPSP) will look to provide some answers.

The principal investigators are Dr. Elizabeth Sellers, a paediatrician in the section of paediatric endocrinology and metabolism at Winnipeg Children's Hospital and Dr. Stasia Hadjiyannakis, a paediatrician in the section of paediatric endocrinology at the Children's Hospital of Eastern Ontario in Ottawa. Starting April 1 and for the next two years, they will be examining complications of T2DM in people under 18, in the study

entitled *Persistent Albuminuria in the Paediatric Population with Type 2 Diabetes Mellitus*.

“We know with adults that the first sign of the progression to ESRF is microalbuminuria, which then can increase to macroalbuminuria. And we know that with adults you can do something to prevent or delay the progression of micro- to macroalbuminuria, and thus prevent ESRF,” says Dr. Sellers.

“The problem is that we have very little long-term follow-up on [T2DM] in children. The first group of children diagnosed with type 2 diabetes in adolescence are now just in their mid thirties, so we have very little understanding of its natural history.”

“We’ve done studies in Manitoba that suggest that renal complications occur earlier in children with T2DM than in adults,” she says. “And year for year, the onset of complications seems to happen more rapidly. There are young people in Manitoba who were diagnosed with T2DM as adolescents who are now on dialysis in their twenties.” Other complications associated with child

on-set T2DM are high blood pressure and high cholesterol.

Manitoba is home to the largest concentration of young Canadians affected by T2DM. While this gives the research team a ripe population for study, it also poses the challenge of uncovering findings that reflect the entire country.

### ‘Huge societal impact’

One thing that is known is the serious risk of *not* understanding the course of child on-set T2DM, because once someone is at the point of needing dialysis, Dr. Sellers emphasizes, their life expectancy is very short.

“If you’re 25 or 35,” she says, “the impact on your family, and society at large, is very significant.” Learning more about how to slow or prevent that course could hold promise for the length and quality of life for young people with T2DM, at a time when they are at the height of their productivity and child bearing years.

“If we can identify who is at risk and understand how big the problem is, then we can plan intervention trials.” After all, she concludes, “it makes much more sense to look at prevention than to provide resources to dialyze people.”

To learn more about this study, visit [www.cps.ca](http://www.cps.ca) and follow the links to Surveillance or e-mail [cpsp@cps.ca](mailto:cpsp@cps.ca).