

Background

- Type 1 diabetes (T1D) has increased in the pediatric population over the past 25 years
- Recent reports vary as to whether this trend is ongoing or has reached a plateau
- In NS, there is one tertiary pediatric centre and multiple secondary centres
- T1D care has become more complex which may impact where care occurs

Objectives

- To examine the incidence of T1D in Nova Scotia (NS) youth age 0-19 years, from 1994 to 2018
- To describe trends in the location where youth with T1D receive care

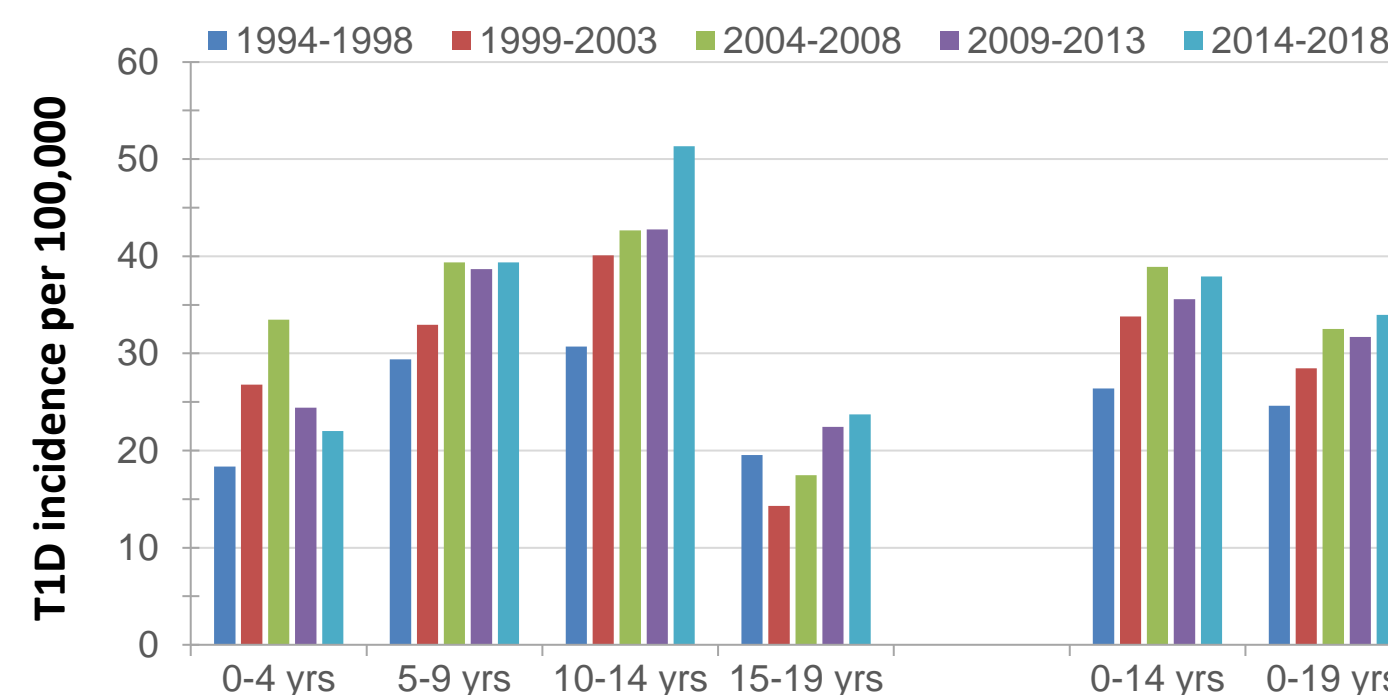
Methods

- Diabetes Care Program of NS (DCPNS) Registry
 - Population based records for all pediatric cases of diabetes (0-19 years) in NS since 1992
- Incidence of T1D (95% confidence intervals) calculated per 100,000 population for 5-year periods from 1994-1998 to 2014-2018 based on population estimates (0-19 years) from the national census
- Cases age 0-16 years were analyzed by location of care, classified as tertiary only, secondary only, or shared (tertiary and secondary)

Results

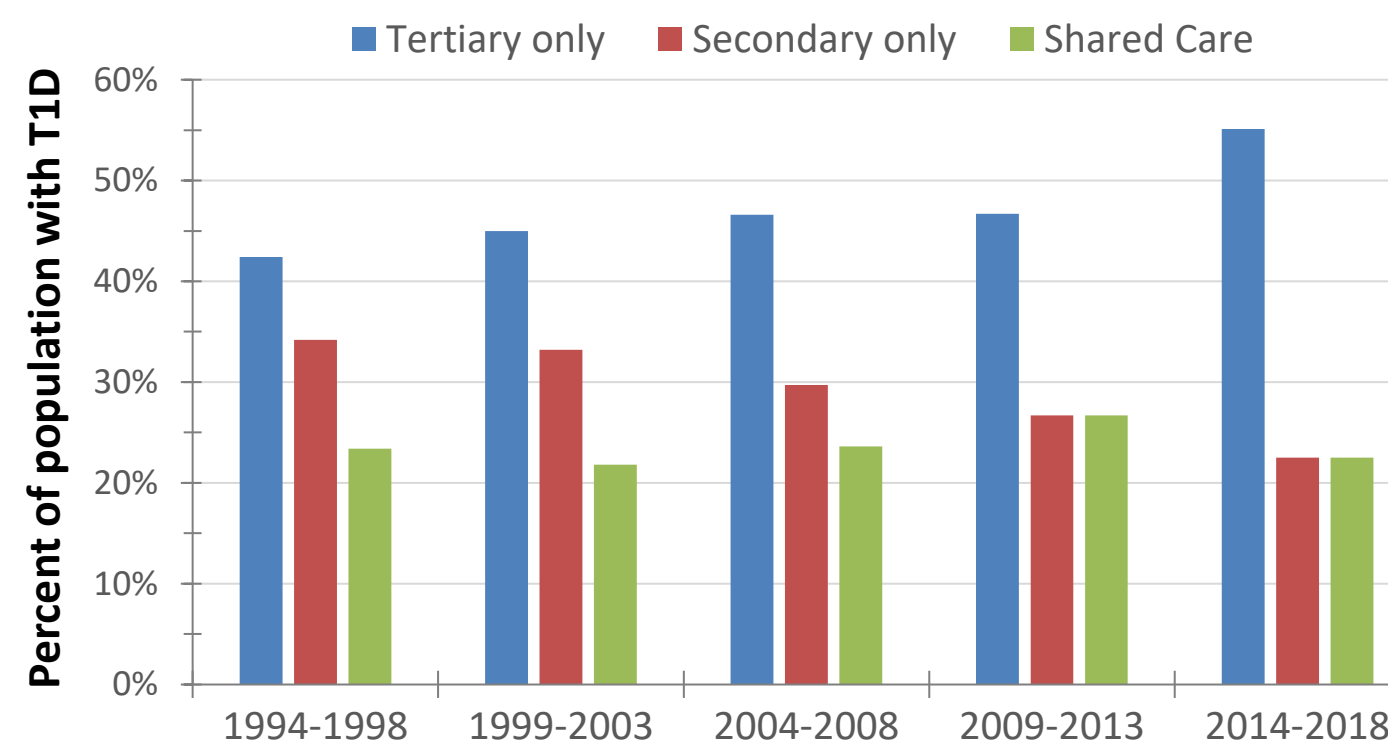
- Incidence/100,00 for 2014-2018
 - 0-19 years – 33.96 (30.22, 37.70)
 - 0-14 years – 37.93 (33.73, 42.58)

Incidence Trends by Age and 5-Year Time Period (N=1601)



- Incidence for 0-19 year olds increased 38% from 1994-98 to 2014-18
 - The increase was greatest in the 10-14 year age group, particularly among males rising from 36.24 (26.92,45.57) to 59.62 (45.66,73.58)

Trends in Location of Care by 5-Year Time Period (N=1444)



- There was a steady shift to tertiary care only and a decline in secondary only care for youth with T1D from 1994-98 to 2014-18

Discussion

- The recent incidence for 0-14 year olds in NS (37.93) is between the 3rd (Kuwait, 41.7) and 4th (Norway, 33.6) highest incidence per 100,000 worldwide³ and is higher than Canada, ranked 6th.
- The trend in incidence varied by age:
 - 0-4 years: increased through 2004-2008, as reported elsewhere, then declined
 - 5-9 years: increased through 2004-2008, then plateaued
 - 10-14 years: increased through 2014-2018
 - 15-19 years: relatively stable
- A pattern of a greater increase in 10-14 year olds has also been reported in British Columbia and the US SEARCH study
- The shift in location of care from secondary only care to tertiary only care is important to recognize and plan for
 - Increases burden on families travelling to tertiary centers
 - Impacts health care resource allocation
 - Has potential implications for maintenance of care-related skills in secondary centres
- Given the technological advances in T1D care and the time and patient numbers required to stay current, this shift in care may be appropriate

References

1. Divers J, et al. Trends in Incidence of Type 1 and Type 2 Diabetes Among Youths — Selected Counties and Indian Reservations, United States, 2002–2015. *MMWR Morb Mortal Wkly Rep* 2020;69:161–165.
2. Fox DA et al. Type 1 diabetes incidence and prevalence trends in a cohort of Canadian children and youth. *Pediatric Diabetes*:2018; 19:501-3
3. International Diabetes Federation. *IDF Diabetes Atlas*, 9th edn. Brussels, Belgium: 2019. Available at: <https://www.diabetesatlas.org>