**BACKGROUND**

- Incidence of type 1 diabetes (T1D) varies globally with many regions reporting rate increases of 3-4% per year.
- Range up to over 60/100,000 for age 0-14 in Finland.
- Canadian rates are relatively high in 20's/100,000.
- Recently a rate of over 45/100,000 for age 0-14 was reported from the province of Newfoundland.

**PURPOSE**

To determine the T1D incidence rate and trends from 1994-2013 in the Canadian province of Nova Scotia (NS).

**METHODS**

- The population based DCPNS Registry contains about 100,000 records for Diabetes Centre attendees from 1992 onward.
  - Captures 100% of paediatric DM cases (0-19 y) and ~ 70% adult DM cases.
- All registry cases of T1D under age 20 years (n=1283) diagnosed between 1994 and 2013 were included.
- Incidence and 95% confidence intervals (95% CI) were calculated per 100,000 population based on national census data.
  - Reported by sex and 5-year age group at diagnosis.

**RESULTS - INCIDENCE TRENDS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Incidence per 100,000</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>94-98</td>
<td>33.43</td>
<td>31.42, 35.45</td>
</tr>
<tr>
<td>94-98</td>
<td>26.71</td>
<td>23.35, 30.08</td>
</tr>
<tr>
<td>99-03</td>
<td>34.04</td>
<td>30.08, 37.99</td>
</tr>
<tr>
<td>04-08</td>
<td>38.88*</td>
<td>34.40, 43.35</td>
</tr>
<tr>
<td>09-13</td>
<td>35.65*</td>
<td>31.20, 40.11</td>
</tr>
</tbody>
</table>

**RESULTS - INCIDENCE TRENDS FOR AGE GROUPS BY 5 YEAR TIME PERIOD**

- Incidence was high at 33.43 per 100,000 per year for children age 0-14 over the entire time period.
- The highest incidence at 38.88 per 100,000 per year for children age 0-14 occurred in 2004-2008 and appeared to plateau after that.
- Incidence was 33% higher in the most recent compared to the earliest time period.
- Incidence was higher in males than females after age 10.
- Incidence increased with age up to 10-14, then declined sharply for those age 15-19.

**DISCUSSION**

- Incidence of T1D in Nova Scotia is high, but lower than our neighbouring province of Newfoundland.
  - This high incidence is consistent with our predominantly Northern European ancestry.
- Similar to reports from Sweden and Finland, the incidence of T1D appears to be plateauing in the most recent time period.
  - This plateauing is unlikely to be explained by population changes such as immigration.
- Similar to past reports, the rise in rate was steepest for those age 0-4 but only up to 2008.
- Similar to some past studies in high risk populations, rates were higher in males above age 15 but even at 10-14 this difference was striking.
  - Reasons for this difference are unclear.

**INCIDENCE IS HIGHER IN MALES THAN FEMALES AFTER AGE 10**

- *Significantly different from 1994-98*
- Rates did not change over time for those age 15-19 years.
  - Overall Rate for this age group was 17.85 (15.50, 20.20)*