

NOVA SCOTIA INSULIN PUMP PROGRAM OUTCOME EVALUATION: 2013/14-2015/16 EXECUTIVE SUMMARY

This report provides a comprehensive overview of the Nova Scotia Insulin Pump Program (NSIPP) from September 16, 2013 (go-live date) until March 31, 2016. Data from the Diabetes Care Program of Nova Scotia (DCPNS) Registry, NSIPP Administrative Database, and administrative health records were linked at an individual level to describe the following:

- Characteristics of unique NSIPP enrollees at first enrollment
- Enrollees meeting and maintaining medical eligibility criteria
- A1C values at enrollment and changes over time, and
- Use of healthcare services

Data from the DCPNS Registry allowed for an evaluation of the frequency of Diabetes Centre (DC) visits as well as changes in A1C values and self-care practices. It also enabled the comparison of outcomes for NSIPP enrollees whom renewed versus discontinued their coverage. Although significant efforts were made to collect information regarding quality of life, these data were not available for this report.

KEY FINDINGS

CHARACTERISTICS OF UNIQUE NSIPP ENROLLEES AT FIRST ENROLLMENT

Enrollment has been fairly stable since the inception of NSIPP. Between September 16, 2013 and March 31, 2016, 148 unique individuals enrolled in NSIPP for one or more years of coverage. Of these individuals,

- 49% were male, 51% were female
- 43% were new to insulin pump therapy at first enrollment
- 72% were 18 years or younger, 28% were 19 years or older
- 47% lived in Central Zone, while 69% accessed care at an NSIPP-approved DC in Central Zone (IWK, Mumford and Cobequid Diabetes Management Centres, QEII Endocrinology Clinic)
- 14% lived in Northern Zone, all of who travelled to Eastern or Central Zone to access care at an NSIPP-approved DC

ENROLLEES MEETING AND MAINTAINING MEDICAL ELIGIBILITY CRITERIA

- The majority of enrollees met the medical eligibility criteria at first enrollment and continued to maintain them post-enrollment with the exception of the following:

Please confirm that the following Eligibility Criteria have been met (check all that apply):

- Type 1 diabetes diagnosed for \geq 12 months
- Assessed by NSIPP DC team
- Attended pump education session (initial assessment only)
- \geq 2 DC visits in last 12 months
- \geq 2 A1C tests in the last 12 months
- A1C is at or moving toward personalized target: A1C goal _____
- SMBG \geq 4x/day
- Able to safely manage insulin pump therapy
- \leq 2 DKA episodes in the last 12 months (initial assessment only)
- \leq 1 DKA episodes in the last 12 months (annual renewal only)
- School / daycare plan in place for younger children / those with limited ability to manage their pump

- Only 20% of enrollees met their personalized A1C goal in the 12 months prior to first enrollment, 15% in the first year post-enrollment, and 18% in the second year post-enrollment
- Only 64% of enrollees had 2 or more A1C tests in the 12 months prior to first enrollment, 61% in the first year post-enrollment, and 55% in the second year post-enrollment
- 12% of enrollees had an A1C over 10% in the 12 months prior to first enrollment, 11% in the first year post-enrollment, and 19% in the second year post-enrollment

A1C VALUES AT ENROLLMENT AND CHANGES OVER TIME

- Overall, the average A1C was 8.6% in the 12 months prior to first enrollment, 8.5% in the first year post-enrollment, and 8.8% in the second year post-enrollment
 - Average A1C was lower in the first year post-enrollment for those who renewed their coverage (8.4%) compared to those who discontinued their coverage (8.9%) – by the second year, average A1C was similar for both groups (8.7% and 8.8%, respectively)
- A1C did not change in the first year post-enrollment (vs 12 months prior to first enrollment) for enrollees with at least one A1C in both time periods (8.6% for both periods)
 - A1C increased in the second year post-enrollment (vs 12 months prior to first enrollment) for enrollees with at least one A1C in both time periods (8.8% vs 8.4%, respectively)
- 14% of enrollees met their age-specific target in the 12 months prior to first enrollment; however, this percentage declined post-enrollment

USE OF HEALTHCARE SERVICES

- 89% of enrollees had no hospital admissions in the 12 months prior to first enrollment; this percentage was slightly higher post-enrollment
- 82% of enrollees had 1 or more office visits to a primary care provider in the 12 months prior to first enrollment; this percentage declined slightly post-enrollment for those who renewed coverage and declined dramatically for those who discontinued coverage
- 95% of enrollees *appeared* to have 1 or more office visits to a pediatrician, internist, or endocrinologist with expertise in insulin pump therapy; a review of NSIPP Medical Eligibility Forms revealed that all enrollees had their annual Medical Eligibility Form signed-off by one of these specialist physicians

DIRECTION / CALL TO ACTION

- The low percentage of enrollees age 19 years or older should be examined with an increased emphasis on targeted communication to this population
- There is no local access to care through an NSIPP-approved DC for residents of the Northern Zone – capacity needs to be increased in this Zone for the provision of local specialized diabetes care for this unique population
- A low percentage of enrollees had a personalized A1C goal recorded – additional training about the importance of collecting complete data related to the NSIPP medical eligibility criteria is needed
- The low percentage of enrollees achieving their age-specific A1C targets speaks to the difficulty of achieving these targets in type 1 diabetes and highlights the importance of working with a specialized diabetes care team to set realistic, mutually agreed upon, personalized A1C goals with a focus on improved glycemic management
 - Additional focus with specialty diabetes care teams will be placed on achieving or moving toward more acceptable A1C values to reduce the risk of diabetes complications
- Although processes have been in place to collect information about quality of life, responses have been poor – future efforts will include a 2-item Diabetes Distress Screening Scale on the NSIPP application