

Diabetes Care Program of Nova Scotia (DCPNS) Diabetes Registry (Information Management System) Description

- To help determine the magnitude of diabetes mellitus and its related complications in Nova Scotia.
- To provide useful information to the Diabetes Centre (DC) staff, referring physicians, and NSHA Management Zones/IWK/facility administration. Evidence produced should be used to improve patient/family care and influence program delivery, operations, and diabetes management decisions.
- To allow for limited cross comparisons and an overview of provincial trends and practices in efforts to discover and apply best/better practice approaches.

Time Frame:	April 1, 1994 to present.
Owner:	NSHA (to 2016, former DHW)
Custodian:	NSHA/Diabetes Care Program of Nova Scotia (Steward)
Access:	<ul style="list-style-type: none">• Through the DCPNS Data Access Policy and Procedure (under review)• Written requests to DCPNS Program Manager/System Analysts.
Database Format:	Re-written in 2012/13 using the CAISIS platform (open source, web-based application) with SQL Database Server.
Unique Identifier:	Health card number.
Data Source:	DCs in Nova Scotia (36 in total)—NSHA and IWK. Consists of three main components: <ul style="list-style-type: none">• DC daily statistics—a count of encounters (numbers seen) by diabetes type, treatment type, visit type, area seen, and age grouping.• Demographics—from the physician referral form (standard)/Meditech/STAR /IWK Meditech Magic interface.• Indicators of care—from the standardized flow sheet used in DCs across NS/Meditech interface.
Contains:	<ul style="list-style-type: none">• All new referrals to DCs since April 1, 1994.• Information on follow-up cases prior to 1994 for DCs using the on-site registry.• Newly diagnosed cases of diabetes in children < age 19 since 1992.• IWK Health Centre Pregnancy and Diabetes Program data (new referrals from 1995-Mar. 31, 2006) and again starting in Sept. 2015 (new referrals and follow-up)• Indicators of care data:<ul style="list-style-type: none">- 15 months of data on 1300 cases with diabetes from 13 DCs- variable collection period 1998-2002- on going collection for those DCs using onsite Registry (from 2002 onward).• Nova Scotia Insulin Pump Program (NSIPP)—NSIPP module (since 2013)
Completeness:	Does not include: <ul style="list-style-type: none">• Information on persons with diabetes not seen by DC staff.• Eskasoni (First Nations Community) diabetes program data.• Stadacona (Department of National Defense) other than number of encounters.
Reports:	Produces: <ul style="list-style-type: none">• Annual reports and data reports for DCs, NSHA Management Zones, IWK, and the Province (DC statistics).• Specialized reports from the indicators of care component (Follow-up, Newly Diagnosed, and pediatric populations, and the re-referral population--pending).• Standardized reports generated on site by DCs—i.e., physician/NP follow-up report, referring physician patient list, summary of visits, active and inactive patient lists, advanced clinical indicator report, unattached patient list, time to first appointment, etc.
Analysis Capabilities:	The DCPNS Registry System is a “filter” for the DCPNS database making this data clean, accurate, and reliable for research purposes. Unique identifier allows for linkage with other administrative databases and the data easily transfers to SPSS, SAS, etc., for analysis.
Interfaces:	Interface with Meditech and Star is complete and runs on an hourly basis (Phase 1 and 2 complete). Phase 1 interface (registration) with Meditech Magic (IWK) is complete, and lab interface (Phase 2) is still in progress. All interfaces reduce double documentation and capture demographic, visit, and applicable lab data.
Additional comments:	

To December 2014, the on-site Registry is now used on-site in all DCs in all NSHA Zones and the IWK. The new CAISIS environment allows for more controlled data collection and completeness of information in terms of continuity of care (shared view across sites being accessed by a specific individual).

DCPNS Registry Information collected:

Demographics:

Health card number Gender
 Date of birth City, municipality of residence, province, country, and postal code
 Date of diagnosis Co-morbid (complications) conditions at time of referral and ongoing
 Date of referral Date of death
 Name, address, phone and hospital ID to be included upon move to central server (for user use) as well as guardian name.

Diabetes Centre: By age grouping, children/youth (< age 19 years) or adults (≥ age 19 years)

Area seen:	Diabetes type:	Treatment	Visit type:
<ul style="list-style-type: none"> • Inpatient • Outpatient • Virtual Care 	<ul style="list-style-type: none"> • Type 1 • Type 2 • Impaired fasting glucose (IFG) • Impaired glucose tolerance (IGT) • IFG and IGT • Pregnant--preexisting diabetes (date of dx) • Gestational diabetes mellitus (GDM) (date of dx) • Prior to 2018, Impaired glucose tolerance of pregnancy (IGT Preg) • Other 	<ul style="list-style-type: none"> • Lifestyle only • Non-insulin therapies: <ul style="list-style-type: none"> ○ Oral agents (OAs) ○ Injectables • Insulin • Insulin and non-insulin therapies 	<ul style="list-style-type: none"> • <i>New referral:</i> <ul style="list-style-type: none"> - Newly diagnosed (ND) - Not newly diagnosed - Not newly diagnosed re-referral • <i>Follow-up (FU) visit:</i> As well, subcategories: <ul style="list-style-type: none"> - <i>Insulin start</i> - <i>Pump start</i> - <i>Continuous glucose monitoring (instruct)</i> - <i>Pre-pregnancy counseling</i> - <i>Postpartum care</i>

Indicators of Care (Yellow Highlight Indicates SWEET Field)

EncDiabetes & Encounters Tables	
<p>Area Seen</p> <p>Area Seen: Virtual Care</p> <p>Blood Pressure</p> <p style="padding-left: 20px;">Medication</p> <p style="padding-left: 20px;">Systolic 1</p> <p style="padding-left: 20px;">Systolic 2</p> <p style="padding-left: 20px;">Diastolic 1</p> <p style="padding-left: 20px;">Diastolic 2</p> <p style="padding-left: 20px;">Unavailable</p> <p>Diabetes Centre</p> <p>Diabetes Type</p> <p>Diabetes Type - Other</p> <p>Encounter ID</p> <p>Foot Assessment</p> <p style="padding-left: 20px;">Setting</p> <p style="padding-left: 20px;">Risk Score</p> <p>Glucose: Glucometer - Frequency</p> <p style="padding-left: 20px;">Assessment</p> <p style="padding-left: 20px;">Unit</p> <p style="padding-left: 20px;">Value</p> <p>Glucose: Monitoring - Method</p> <p>Height</p> <p>Lipid Medication</p>	<p>Medical Problems</p> <p style="padding-left: 20px;">Alcoholism</p> <p style="padding-left: 20px;">Cardiovascular Disease</p> <p style="padding-left: 20px;">Celiac Disease</p> <p style="padding-left: 20px;">COVID</p> <p style="padding-left: 20px;">COVID - Progression</p> <p style="padding-left: 20px;">COVID - Severity</p> <p style="padding-left: 20px;">DKA at Onset</p> <p style="padding-left: 20px;">Dyslipidemia</p> <p style="padding-left: 20px;">Exercise Restriction(s)</p> <p style="padding-left: 20px;">Exercise Restriction(s) - Description</p> <p style="padding-left: 20px;">Foot Problems</p> <p style="padding-left: 20px;">Hypertension</p> <p style="padding-left: 20px;">Nephropathy</p> <p style="padding-left: 20px;">Neuropathy</p> <p style="padding-left: 20px;">Other</p> <p style="padding-left: 20px;">Other - Description</p> <p style="padding-left: 20px;">Overweight</p> <p style="padding-left: 20px;">Retinopathy</p> <p style="padding-left: 20px;">Smokes</p> <p style="padding-left: 20px;">Thyroid</p> <p>Patient ID</p> <p>Present Treatment</p> <p style="padding-left: 20px;">NSIPP Status</p> <p style="padding-left: 20px;">Pump Status</p> <p style="padding-left: 20px;">Specialty Care</p>

	Treatment Visit Type Weight
EncHypoglycemia Table	
Encounter ID Episode Type	Hypoglycemia ID Patient ID
LabTests Table	
Lab Test Alb.Cre. Ratio Cholesterol Creatinine eGFR-CKD-EPI eGFR-MDRD Fasting Capillary Fasting Venous HbA1C HDL Lan Info LDL Microalbuminuria Non-HDL Other Capillary Other Venous Pro.Cre. Ratio Proteinuria QA Info Triglyceride TSH Two Hours Capillary Two Hours Venous	Lab Result Lab Units Patient ID
Medication Table	
Drug Dosage Frequency Name Unit	Encounter ID Medication Identifier Patient ID
Patients Table	
Health Card Number Patient ID	Patient Sex

Date Fields (Yellow Highlight Indicates SWEET Field)

EncDiabetes & Encounters Tables	
Date of Diabetes Diagnosis Date of Referral to DC Foot Assessment Date Glucose Monitoring Start Date (Month, Year) Insulin/Pump Prescription Date Medical Problems: Date of COVID Onset (Month, Year) Visit Date Visit Date (Text)	Self-Care Last COVID Vaccine Date Last Dental Examination Date Last Electrocardiogram Date Last Eye Examination Date Last Flu Shot Date Last Pneumococcal Vaccine Date
EncHypoglycemia Table	
Date of Glycemic Episode	Date Glycemic Episode Reported to DC
LabsDiabetes & LabTests Tables	
Lab Date	Lab Date (Text)
Patients Table	
Date of Birth	Date of Death
Transitions Table	
Discharge/Transition Date	
Applications (NSIPP) Table	
Clinical Eligibility Date Received Start Date End Date Coverage Start Date End Date Date Application Received	Date DC Notification Sent Date Enrolled Date Enrolment Letter Sent Date of First Contact Financial Agreement Date Sent Date Received Pump Warranty End Date