

Assessing the Feasibility of Extracting Clinical Information to Create Quality Indicators from Primary Healthcare Practice EMRs

Appendix 1

Fred Burge, Beverley Lawson, Kristine Van Aarsen and Wayne Putnam

Expansion of Table 1: quality indicators deemed acceptable in Nova Scotia, with associated definitions and exclusions for data extraction

Indicator (No.)	Definition	Exclusions*
Prevention		
<i>Primary prevention</i>		
Childhood immunization (CIHI 44)	Percent of PHC patients who received required primary childhood immunizations by 7 years of age: <ul style="list-style-type: none"> • Course of DPTP including one shot at 2, 4, and 6 months, one at 18 months, and one shot at 4–6 years of age • Course of MMR including one shot at either 18 months or 4–6 years of age 	Patients not with the practice for the entire time period
Cervical cancer screening (CIHI 50)	Percent of women PHC patients, ages 18–69 years, who received a Papanicolaou smear within the past 3 years	Record of a total hysterectomy
Pneumococcal immunization, 65+ (CIHI 42)	Percent of PHC patients, >65 years, who have received a pneumococcal immunization	Record of allergy to vaccine
Breast cancer screening (CIHI 49)	Percent of women PHC patients, ages 50–69 years, who received mammography and clinical breast exam within the past 24 months	
Bone-density screening (CIHI 51)	Percent of women PHC patients, >65 years, who received screening for low bone mineral density at least once	Patients not with the practice for at least 36 months; those who had not made at least one visit during time period An osteoporosis (ICD 733) diagnosis
Dyslipidemia screening for men (CIHI 53)	Percent of male PHC patients, >40 years, who had a full fasting lipid profile measured within the past 24 months	A hyperlipidemia (ICD 272) diagnosis and/or prescribed a lipid-lowering medication
Influenza immunization (CIHI 41)	Percent of PHC patients, >65 years, who received an influenza immunization within the past 12 months	Record of allergic reactions Patients not with the practice for at least 12 months; those without at least one visit during time period
Blood pressure testing (CIHI 54)	Percent of PHC patients, >18 years, who had their BP measured within the past 24 months	
Colon cancer screening (CIHI 48)	Percent of PHC patients, >50 years, who received screening for colon cancer with Hemocult test within the past 24 months	A colon (colorectal) cancer diagnosis (ICD9CM 153, 154, ICD10, C18, C19, C20, C21)
Dyslipidemia screening for women (CIHI 52)	Percent of female PHC patients, >55 years, who had a full fasting lipid profile measured within the past 24 months	A hyperlipidemia diagnosis (ICD9 272) and/or prescribed a lipid-lowering medication
<i>Secondary prevention</i>		
Screening for modifiable risk factors in adults with diabetes (CIHI 57)	Percent of PHC patients, >18 years, with diabetes mellitus who received annual testing, within the past 12 months, for all of the following: <ul style="list-style-type: none"> • Hemoglobin A1c testing (HbA1c) • Full fasting lipid profile screening • Nephropathy screening (e.g., albumin-creatinine ratio, microalbuminuria) • BP measurement • Obesity/overweight screening 	Patients not with the practice for at least 12 months; those without at least one visit during time period: <ul style="list-style-type: none"> • Borderline diabetes • Diabetes insipidus • Gestational diabetes • Impaired glucose tolerance • Impaired fasting glucose
Screening for modifiable risk factors in adults with CAD (CIHI 55)	Percent of PHC patients, >18 years, with CAD who received annual testing, within the past 12 months, for all of the following: <ul style="list-style-type: none"> • Fasting blood sugar • Full fasting lipid profile screening • BP measurement • Obesity/overweight screening 	Patients not with the practice for at least 12 months; those without at least one visit during time period
Screening for modifiable risk factors in adults with hypertension (CIHI 56)	Percent of PHC patients, >18 years, with hypertension who received annual testing, within the past 12 months, for all of the following: <ul style="list-style-type: none"> • Fasting blood sugar • Full fasting lipid profile screening • Test to detect renal dysfunction (e.g., serum creatinine) • BP measurement • Obesity/overweight screening 	Patients not with the practice for at least 12 months; those without at least one visit during time period A diabetes or renal failure diagnosis
Screening for visual impairment in adults with diabetes (CIHI 58)	Percent of PHC clients/patients, 18 to 75 years, with diabetes mellitus who saw an optometrist or ophthalmologist within the past 24 months	
Outcomes		
Treatment of dyslipidemia (CIHI 61)	Percent of PHC clients/patients, >18 years, with established CAD and elevated LDL-C (i.e., >2.5 mmol/L) who were offered within past 12 months: <ul style="list-style-type: none"> • Lifestyle advice • Lipid-lowering medication 	Patients not with the practice for at least 12 months; those without at least one visit during time period
BP control for hypertension (without diabetes or renal failure) (CIHI 40)	Percent of PHC patients, >18 years, with hypertension (without diabetes mellitus or renal failure) for duration of at least 1 year, who have blood pressure measurement control (i.e., <140/90 mm Hg)	Patients not with the practice for at least 12 months; those without at least one visit during time period A diagnosis of diabetes or renal failure
Glycemic control for diabetes (CIHI 39)	Percent of PHC patients, >18 years, with diabetes mellitus in whom the last HbA1c was 7.0% or less (or equivalent test/reference range depending on local laboratory) in the last 15 months	Patients not with the practice for at least 15 months; those without at least one visit during time period If screen was recorded as offered but not performed
Treatment of congestive heart failure (CIHI 60)	Percent of PHC patients, >18 years, with CHF who are using ACE inhibitors or ARBs	
Patient safety		
Maintaining medication and problem lists in PHC (CIHI 70)	Percent of PHC organizations with a process in place to ensure that a current medication and problem list is recorded in the PHC the client/patient health records	

ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blocker; BP = blood pressure; CAD = coronary artery disease; CIHI = Canadian Institute for Health Information; DPTP = diphtheria, tetanus, pertussis, polio; HbA1c = glycosylated hemoglobin; ICD = International Classification of Diseases (9CM = 9th Revision, Clinical Modification; 10 = 10th Revision); LDL-C = low-density lipoprotein cholesterol; MMR = measles, mumps, rubella; PHC = primary healthcare.

*Unless otherwise indicated, patient records were excluded if patients had not been with the practice for at least 24 months and had not made at least one visit during that time period.