EMR CDM 4.3

Requirements

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Contents

1. INTRODUCTION

This specification is part of a suite of provincial specifications that define functional and non-functional requirements for certified EMR offerings in Ontario. Each specification focuses on a particular component, functionality or interoperability and will be updated over time as new requirements and/or enhancements are introduced.

This specification is intended to inform EMR vendors on minimum requirements for incorporating chronic disease management (CDM) functionality into their EMR offerings for the following five chronic diseases:

- Diabetes
- Asthma
- Heart Failure
- Chronic Obstructive Pulmonary Disease (COPD)
- Hypertension

It is not the intent of this specification to define best practices in patient care, but rather to establish a minimum set of requirements based on clinical guidelines published by organizations representing a particular chronic disease (e.g., Canadian Diabetes Association in the case of diabetes).

This specification defines:

- Requirements to support implementation and management of chronic disease flowsheets
- Requirements to support out-of-box views and ad-hoc reporting
- The minimum out-of-box care elements to be tracked for each chronic disease
- Care elements that include:
  - Definition of the care element
  - Default treatment target
  - Default treatment requirements
  - Default unit of measure

2.   SPECIFICATION TRACEABILITY

2.1   Highlights of Changes

EMR – Chronic Disease Management Specification Version 4.2 was used as the basis of this specification.

TYPE	# OF REQUIREMENTS 4.3	# OF REQUIREMENTS 4.2	# OF REQUIREMENTS 4.1
New Requirements	0	4	0
Updated Requirements	0	13	1
Previous Requirements	0	6	17
Retired Requirements	0	0	0
Total Number of Requirements	23	23	18

* NOTE: Due to splitting and/or merging requirements defined in a previous specification, the "Total Number of Requirements" in the most current version is not to be calculated based on the "Total Number of Requirements" in a previous specification version.

2.2   Related Documents and References

This specification includes concepts from various Ontario Ministry of Health and Long-Term Care incentive programs, such as Diabetes Management Incentive and the Heart Failure Management Incentive. The most current information related to these programs is provided by the Ontario Ministry of Health and Long-Term Care's Family Practice Compensation Models.

3. CDM - FUNCTIONAL REQUIREMENTS

This specification defines requirements to be implemented into the EMR offerings in order to support management of the chronic diseases that are in scope for this specification.

For the purposes of this section, the following terms and abbreviations are defined and shall be applied to all tables in this section:

Support:
M = Mandatory. EMR offerings certified for this specification MUST support this requirement
O = Optional. EMR vendors MAY choose to support this requirement in their certified EMR offering

Status:
N = New requirement for this EMR Specification
P = Previous requirement from the EMR-CDM Specification 4.2
U = Updated requirement from the previous EMR-CDM Specification 4.2
R = Retired from the previous EMR-CDM Specification 4.2

OMD #:
Unique identifier that identifies each requirement within OntarioMD's EMR Requirements Repository

CONFORMANCE LANGUAGE
The following definitions of the conformance verbs are used in this document:
- SHALL/MUST: Required/Mandatory
- SHOULD: Best Practice/Recommendation
- MAY: Acceptable/Permitted

The tables that follow contain column headings named: 1) "Requirements", which generally contains a high-level requirement statement; and 2) "Guidelines", which contains additional instructions or detail about the high-level requirement. The text in both columns are considered requirement statements.

OMD#	REQUIREMENT	GUIDELINES	M/O	STATUS
CDM01.01	Provides the ability to capture dated entries for Diabetes care elements, as described in section 4.2 Diabetes – Care Elements	At a minimum, each care element must be defined by the following attributes: - name of the care element - date of recording/collecting the care element value - value of the care element	M	P
CDM01.02	Provides the ability to capture dated entries for Asthma care elements, as described in section 4.3 Asthma- Care Elements	At a minimum, each care element must be defined by the following attributes: - name of the care element - date of recording/collecting the care element value - value of the care element	M	P
CDM01.03	Provides the ability to capture dated entries for Heart Failure care elements, as described in section 4.4 Heart Failure - Care Elements	At a minimum, each care element must be defined by the following attributes: - name of the care element - date of recording/collecting the care element value - value of the care element	M	P
CDM01.04	Provides the ability to capture dated entries for COPD care elements, as described in section 4.5 COPD – Care Elements	At a minimum, each care element must be defined by the following attributes: - name of the care element - date of recording/collecting the care element value - value of the care element	M	P
CDM01.05	Provides the ability to capture dated entries for Hypertension care elements, as described in section 4.6 Hypertension - Care Elements	At a minimum, each care element must be defined by the following attributes: - name of the care element - date of recording/collecting the care element value - value of the care element	M	P
CDM01.06	Provide the initial out-of-the-box chronic disease flowsheets including the initial set up for the treatment target and treatment	The initial out-of-box flowsheet must include: - the name of the care element - the date associated with the care element	M	P

OMD#	REQUIREMENT	GUIDELINES	M/O	STATUS
	intervals as described in section 4 CDM - CARE ELEMENTS	- the value associated with the care element The flowsheets must: - allow tracking of the dated care elements over time - allow the selection of a date-range for which dated care elements to be displayed - must be printable		
CDM01.07	Allows for the construction of custom-defined chronic disease flowsheets at the clinic level	All characteristics of the "initial out-of-box chronic disease flowsheets" apply to the "custom CDM flowsheets". At a minimum, the EMR user must be able to add and/or remove: - Care elements (refer to section 4 - CDM Care Elements) - Lab Results (e.g., urine tests, O2 saturation) downloaded or manually entered in the EMR - medications (name and dosage) The custom-defined flowsheet must be available for further re-use.	M	P
CDM01.08	Allows for the construction of custom-defined chronic disease flowsheets at the physician level	All characteristics of the "initial out-of-box chronic disease flowsheets" apply to the "custom CDM flowsheets". At a minimum, the EMR user must be able to add and/or remove: - care elements (refer to section 4 - CDM Care Elements) - Lab Results (e.g., urine tests, O2 saturation) downloaded or manually entered in the EMR - medications (name and dosage)	M	P

OMD#	REQUIREMENT	GUIDELINES	M/O	STATUS
		Physician's set up takes precedence over clinic's set up. The custom-defined flowsheet must be available for further re-use.		
CDM01.09	Allows for the construction of custom-defined chronic disease flowsheets at the patient level	All characteristics of the "initial out-of-box chronic disease flowsheets" apply to the "custom CDM flowsheets". At a minimum, the EMR user must be able to add and/or remove: - Care elements (refer to section 4 - CDM Care Elements) - Lab Results (e.g., urine tests, O2 saturation) downloaded or manually entered in the EMR - Medications (name and dosage) Patient's set up takes precedence over physician's set up. The custom-defined flowsheet must be available for further re-use.	M	P
CDM01.10	Provides a mechanism to modify the treatment targets and treatment intervals for each care element in the initial out-of-box chronic disease flowsheets	At minimum, the treatment target must be customizable based on patient gender. In order for this requirement to be met this must be user-administered and does not require an EMR vendor to attend the process.	M	P
CDM01.11	Provides the ability for the EMR user to set up and modify the treatment targets and treatment intervals for chronic disease care elements at the clinic level	Must apply to care elements in "custom-defined" chronic disease flowsheets. At the minimum, the treatment target must be customizable based on patient gender.	M	P

OMD#	REQUIREMENT	GUIDELINES	M/O	STATUS
		In order for this requirement to be met this must be user-administered and does not require an EMR vendor to attend the process.		
	Provides the ability for the EMR user to setup and modify the treatment targets and treatment intervals for chronic disease care elements at the physician level	Must apply to care elements in "custom-defined" chronic disease flowsheets. At the minimum, the treatment target must be customizable based on patient gender. In order for this requirement to be met this must be user-administered and does not require an EMR vendor to attend the process. Custom settings at the physician level take precedence over clinic's set up.	M	P
CDM01.12	Provides the ability for the EMR user to setup and modify the treatment targets and treatment intervals for chronic disease care elements at the patient level	Must apply to care elements in "custom-defined" chronic disease flowsheets. At the minimum, the treatment target must be customizable based on patient gender. In order for this requirement to be met this must be user-administered and does not require an EMR vendor to attend the process. Custom settings on a patient level take precedence over physician's set up.	M	P
CDM01.13	Provides visual alert(s) to the EMR user when recorded chronic disease care elements for a patient are outside of treatment target or treatment interval	Must apply to care elements in the "initial out-of-box" and "custom-defined" chronic disease flowsheets.	M	P

OMD#	REQUIREMENT	GUIDELINES	M/O	STATUS
		The alert(s) are based on the treatment targets and treatment intervals as set up for each of the care elements in the corresponding flowsheet. The visual alert(s) are integrated into the flowsheet and applies to all care elements over time. Requiring the EMR user to execute additional steps is not an accepted solution. Following implementations are not an accepted solution: - pop-up alerts - creating a task		
CDM01.14	Provides the ability to associate co-morbid conditions from the patient's problem list with diabetes, asthma, COPD, heart failure, or hypertension diagnoses	Co-morbid conditions list must be clearly viewable any time within the "initial out-of-box" and "custom-defined" chronic disease flowsheet view. Adding the co-morbid condition as a care element is not an accepted solution.	O	P
CDM01.15	Data entered from any of the chronic disease flowsheets automatically populates the "progress note" for the current encounter.	Requiring user to re-enter data will not meet the requirement.	M	P
CDM01.16	Chronic disease care element information entered from EMR data fields automatically creates the appropriate dated entry/entries in each of the chronic disease flowsheets where these care elements are tracked.	At a minimum applies to care elements recorded: - in the SOAP / Progress Notes - lab results - vital signs (generic care elements) - medication (name and dosage)	M	P

OMD#	REQUIREMENT	GUIDELINES	M/O	STATUS
		For information regarding the date associated with a specific care element refer to section 4 – CDM Care Elements.		
CDM01.17	Provides the ability to view all care elements and their dated entries for a selected chronic disease that are outside of: - treatment target - treatment interval	At a minimum, must support: - Out of range treatment target view – display only those care elements and the values that are outside of treatment target - Out of range treatment interval - displaying only those care elements and the values that are outside of treatment interval The functionality must be available from within the selected flowsheet. Requiring the user to navigate outside the flowsheet in order to access the functionality is not an acceptable solution.	M	P
CDM01.18	Provides the ability to view all care elements and their dated values for a selected chronic disease by a selected number of previous dated entries	At a minimum, must support: - latest result view – display only the latest entry for all care elements in a selected flowsheet - last two results view - display only the last two results recorded for each of care elements in the selected flowsheet - last three results view - display only the last three results recorded for each of care elements in the selected flowsheet The functionality must be available from within the selected flowsheet. Requiring the EMR user to navigate outside the flowsheet in order to access the functionality is not an acceptable solution. The EMR user must be able to print the "view".	M	P
CDM01.19	Provide the ability to view and select care elements and their dated entries for a	At a minimum must support: - latest result view – display only latest entry for selected care	M	P

OMD#	REQUIREMENT	GUIDELINES	M/O	STATUS
	selected chronic disease: - by a selected number of previous dated entries - over a selected time span	elements in the selected flowsheet - last two results view - display only the last two results recorded for selected care elements in the selected flowsheet - last three results view - display only the last three results recorded for selected care elements in the selected flowsheet - time span view - display the dated entries recorded for the selected care elements in the selected flowsheet for the selected time span The functionality must be available from within the selected flowsheet. Requiring the EMR user to navigate outside the flowsheet in order to access the functionality is not an acceptable solution. The EMR user must be able to print the "view".		
CDM01.20	Supports the construction of ad hoc reports for chronic disease care elements and dated entries: - across the entire patient population contained within the EMR - across one or more cohorts	At a minimum, the EMR user must be able to: - select the date range for dated entries - select the reported fields (care elements) - allow for filtering based on Boolean logic At the minimum, the report must display: - the name of the patient - the name of the care element - the value of the dated entry In order for this requirement to be met: - must be user-administered and does not require an EMR vendor to attend the process	M	P

OMD#	REQUIREMENT	GUIDELINES	M/O	STATUS
		- able to search the entire EMR patient population without vendor intervention		
CDM01.21	System provides chronic disease management flowsheets Diabetes and Heart Failure per the effective MOHLTC incentive guidelines.	At a minimum, the Diabetes flowsheets must include: - Lipids, cholesterol, HgbA1C, blood pressure, weight and body mass index (BMI), and medication dosage - Discussion and offer of preventive measures including vascular protection, influenza and pneumococcal vaccination - Documentation of health promotion counselling and patient self-management support - ACR (albumin to creatinine ratio) - Discussion and offer of referral for dilated eye examination - Documentation regarding foot examination and neurologic examination At a minimum, the Heart Failure flowsheets must include: - Comprehensive physical examination - Laboratory monitoring of: Na+, K+, serum creatinine and eGFR - Patient education for modifiable risk factor reduction and self-management - Pharmacologic management for appropriate use of first-line, symptom relief and preventive medications Refer to MOHLTC incentive guidelines.	M	P
CDM01.22	Provides a mechanism to manage the display of the care elements in the chronic disease flowsheets	At a minimum, the system must allow: - grouping of selected care elements under custom created "category" - order the care elements within the "category"	O	P

4. CDM - CARE ELEMENTS

The tables below define the care elements to be captured by certified EMR offerings related to each of the chronic diseases that are in scope for this specification. This is not a comprehensive list of all care elements to be tracked with respect to a chronic disease, but an initial set up for EMR users to get started in tracking against a particular chronic disease. These tables are also not meant to define the display of the care elements within the EMR. Vendors are expected to leverage their existing user interfaces or workflows to best accommodate the capture of dated entries.

Where initial set up treatment target or initial set up treatment interval is indicated as N/A, this means there is no initial set up target or interval. However, EMR users are expected to have the ability to create their own targets or intervals, if desired. EMR Vendors are expected to leverage their existing user interface and system workflow in order to best provide this functionality to EMR users.

Every care element in this specification is mandatory.

For the purposes of this section, the following terms and abbreviations are defined and shall be applied to all tables in this section:

DE#	Unique identifier that identifies each discrete data element within Ontario EMR Requirements Repository
CDM#	Unique identifier that identifies each care elements within this specification
Initial Set up - Treatment Target:	The default set up for the Treatment Target
Initial Set up - Treatment Interval:	The default set up for the Treatment Interval
Status:	**N** = New care element for this EMR Specification **P** = Previous care element from EMR-CDM Specification v4.2 **U** = Updated care element from a previous EMR-CDM Specification v4.2 **R** = Retired care element from previous EMR-CDM Specification v4.2
YEAR:	The year the care element became part of the Ontario EMR Requirements Repository
UM:	Unit of Measure
COPD:	Chronic Obstructive Pulmonary Disease
HT:	Hypertension
HF:	Heart Failure

4.1 Care Elements - Terminology

Care Element means a discrete piece of information related to a chronic disease. Care Elements are characterized by one or more of the following attributes:

- Care Element Name
- Care Element Value
  - numeric value (e.g., HbA1c=4%; BMI=16 kg/m²)
  - non-numeric value (e.g., Smoking Status [Yes/No]);
    - the care elements with non-numeric value are flagged by "[ ]" and
    - assumes that the patient has been asked and provided an answer regarding the status of a care element
  - no value (e.g., Diabetes Education, ECG); the care elements with no values can be translated to "YES" in the flowsheets to indicate that the service was provided
- Care Element Date:
  - the date the specimen has been collected for lab test results (e.g., HbA1c=4%)
  - the date the test has been performed for non-lab tests (e.g., ECG)
  - the Start Date for a medication
  - the date the immunization has been provided
  - the date a service has been performed by the physician that does not require the physician inquiring the patient (e.g., Diabetes Education)
  - the date a service has been performed by the physician that does require an answer to be provided by the patient (e.g., Smoking Status)
  - the date a service has been performed by the physician that does require the physician to execute certain procedures/measurements (e.g., BMI)
- Treatment Target
- Treatment Interval

Chronic disease care elements are not currently standardized, and vendors may implement as consistent with their product. Comparison of dated entries from different sources (e.g., from different labs) may require some logic which must be managed by the vendor.

Treatment Target refers to the recommended treatment goal associated with the care element based on evidence-based guidelines for chronic disease care elements. Differences in treatment targets may exist due to factors such as:

- type of chronic disease: BP (< 130/80 mmHg) in Diabetes versus BP (< 140/90 mmHg) in Hypertension
- gender: ACR test (male < 2.0 mg/mmol versus female < 2.8 mg/mmol)
- age

A treatment target can be defined by:

- a numeric value
  - HbA1c <= 7.0%); values that are greater than 7% are considered outside the treatment target
  - # Of Hypoglycemic Episodes = 0 (zero); values greater than 0 are considered outside the treatment target
  - BMI 18.5 - 24.9 kg/m²; values that are less than 18.5 or greater than 24.9 are considered outside the treatment target
- a non-numeric value
  - Self-Monitoring BG = YES; values that are "NO" are considered outside the treatment target

Treatment Interval refers to the recommended time interval for testing, monitoring or recording a care element based on evidence-based guidelines for chronic disease care elements.

Differences in treatment intervals may exist due to factors such as different best practices for chronic diseases. For example, patients with diabetes have a blood pressure treatment interval of three months whereas patients with hypertension have an undefined blood pressure treatment interval.

CDM Flowsheet is a tri-dimensional representation (Care Element Name, Care Element Date, Care Element Value) of the selected care elements for a particular chronic disease.

4.2 Diabetes – Care Elements

Referenced Sources: MOHLTC - Diabetes Management Incentive, GAC Guidelines, BC CDM Physician Toolkit.

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
LAB VALUES						
N/A	1	HBA1c	Records the value of the HBA1c test. UM: % Alternate Name: Glycosylated Hemoglobin	<= 7.0%	3 months	P
N/A	2	Date - HBA1c	The date the specimen was collected.			P
N/A	3	FPG	Records the value of the FPG test. UM: mmol/L Alternate Name: Fasting Plasma Glucose	4 - 7 mmol/L	3 months	P
N/A	4	Date - FPG	The date the specimen was collected.			P
N/A	5	2 hr PC BG	Records the value of the 2 hr PC BG test. UM: mmol/L	5 - 10 mmol/L	3 months	P
N/A	6	Date - 2 hr PC BG	The date the specimen was collected			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
N/A	7	LDL-C	Records the value of the LDL-C test. UM: mmol/L	<= 2.0 mmol/L	Annual	P
N/A	8	Date - LDL-C	The date the specimen was collected.			P
N/A	9	HDL-C	Records the value of the HDL-C test. UM: mmol/L	N/A	Annual	P
N/A	10	Date - HDL-C	The date the specimen was collected.			P
N/A	11	TC: HDL-C Ratio	Records the value of the TC: HDL-C Ratio test. UM: mmol/L	< 4.0	Annual	P
N/A	12	Date - TC: HDL-C Ratio	The date the specimen was collected.			P
N/A	13	Triglycerides	Records the value of the Triglycerides test. UM: mmol/L	< 2.0 mmol/L	Annual	P
N/A	14	Date - Triglycerides	The date the specimen was collected.			P
N/A	15	ACR	Records the value of the ACR test.	M: < 2.0 mg/mmol F: < 2.8 mg/mmol	Annual	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
			UM: mg/mmol Alternate Name: Albumin to Creatinine Ratio			
N/A	16	Date - ACR	The date the specimen was collected.			P
N/A	17	eGFR	Records the value of the eGFR test. UM: ml/min/1.73m²	N/A	Annual	P
N/A	18	Date - eGFR	The date the specimen was collected.			P
N/A	19	Urinary Microalbumin Screen	Records the value of the Urinary Microalbumin test. UM: mg/L	N/A	N/A	P
N/A	20	Date - Urinary Microalbumin Screen	The date the specimen was collected.			P
CLINICAL DOCUMENTATION						
N/A	21	Influenza Vaccine	Records whether the Influenza Vaccine was administered.	N/A	Annual	P
N/A	22	Date - Influenza Vaccine	Date the Influenza Vaccine was administered.			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
N/A	23	Pneumococcal Vaccine	Records whether the Pneumococcal Vaccine was administered.	N/A	N/A	P
N/A	24	Date - Pneumococcal Vaccine	Date the Influenza Vaccine was administered.			P
GENERIC CARE ELEMENTS						
DE16.001	25	Blood Pressure	The blood pressure as measured by the physician.

Blood pressure is out of target if either systolic or diastolic BP is out of target.

UM: mmHg | < 130/80 mmHg | 3 months | P |
| DE16.002 | 26 | Date - Blood Pressure | Date the blood pressure was measured by the physician. | | | P |
| DE16.005 | 27 | Height | The height as measured by the physician.

UM: cm | N/A | N/A | P |
| DE16.006 | 28 | Date - Height | Date height was measured by the physician. | | | P |
| DE16.007 | 29 | Weight | The weight as measured by the physician. | N/A | N/A | P |

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
			UM: kg			
DE16.008	30	Date - Weight	Date weight was measured by the physician.			P
DE16.009	31	BMI	The Body Mass Index automatically calculated by the EMR system, based on the Height and Weight recorded by the physician. UM: kg/m²	18.5 - 24.9 kg/m²	3 months	P
DE16.010	32	Date - BMI	Date the BMI was recorded by the physician.			P
DE16.011	33	Waist Circumference	The waist circumference as measured by the physician.	M: <102 cm F: < 88 cm	3 months	P
DE16.012	34	Date - Waist Circumference	Date the waist circumference was measured by the physician.			P
DE16.013	35	Smoking Status *(Yes/No)*	Records whether the patient is currently smoking or not. Default values are not accepted. Smoking Status recorded in the Risk Factor must flow in all the flowsheet where the data element	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
			is used, based on the recorded date.			
DE16.014	36	Date - Smoking Status	Date the "smoking status" was reported by the patient.			P
DE16.015	37	Smoking Packs/Day	The number of packs per day smoked as reported by the patient. It is assumed that 1 pack=20 cigarettes.	N/A	N/A	P
DE16.016	38	Date - Smoking Packs/Day	Date the patient reported the number of packs/day is smoking.			P
DE16.019	39	Erectile Function *(Normal/Abnormal)*	Records whether the "Erectile Function" is normal or abnormal. Default values are not accepted.	N/A	Annual	P
DE16.020	40	Date - Erectile Function	Date the patient reported that the "erectile function" is normal or abnormal.			P
NON-GENERIC CARE ELEMENTS						
DE16.057	41	Self-Monitoring BG *(Yes/No)*	Records whether the patient was self-monitoring his/her blood glucose level or not. Default values are not accepted.	yes	3 months	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.058	42	Date - Self Monitoring BG	Date the "Self-Monitoring BG" was reported by the patient.			P
DE16.059	43	# Of Hypoglycemic Episodes (since last assessed)	The number of hypoglycemic episodes since last assessed as reported by the patient.	0	3 months	P
DE16.060	44	Date - # Of Hypoglycemic Episodes	Date the patient reported the number of hypoglycemic episodes.			P
DE16.061	45	Dilated Eye Exam	Records whether the patient was completed the "Dilated Eye Exam" test. Default values are not accepted. Alternative name: Retinal Exam	N/A	Annual	P
DE16.062	46	Date - Dilated Eye Exam	Date the "Dilated Eye Exam" was performed.			P
DE16.063	47	Foot Examination *(Normal/Abnormal)*	Records whether the result of the "Foot Examination" performed by the physician is normal or abnormal. Default values are not accepted.	N/A	Annual	P
DE16.064	48	Foot Examination *[Indicate Findings]*	Records the findings of the "Foot Examination".	N/A	Annual	P
DE16.065	49	Date - Foot Examination	Date the "Foot examination" was performed by the physician.			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.066	50	Neurological Examination *(Normal/Abnormal):* - 10-g monofilament - 128 Hz tuning fork D1	Records whether the result of the "Neurological Examination" performed by the physician is normal or abnormal. Default values are not accepted.	N/A	Annual	P
DE16.067	51	Neurological Examination - *[Indicate Findings]*	Records the findings of the "Neurological Examination".	N/A	Annual	P
DE16.068	52	Date - Neurological Examination	Date the "Neurological Examination" was performed by the physician.			P
DE16.069	53	Fasting Glucose Monitor / Lab Result Comparison *(Calibrated Yes/No).*	Records whether patient reported that the "Fasting Glucose Monitor / Lab Result" is calibrated or not (Yes - is calibrated, NO - is not calibrated). Default values are not accepted.	N/A	Annual	P
DE16.070	54	Date - Fasting Glucose Monitor / Lab Result Comparison	Date the patient reported that the "Fasting Glucose Monitor / Lab Result" is calibrated or not.			P
DE16.071	55	ASA Use	Records whether the physician has recommended ASA use (ASA 81mg daily use).	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.072	56	Date - ASA Use	Date the "ASA Use" was recommended by the physician.			P
DE16.073	57	ECG	Records whether the ECG test was performed. Alternate Name: Electrocardiogram	N/A	Biennial	P
DE16.074	58	Date - ECG	The date the ECG test was performed.			P
DE16.075	59	Diabetes - Motivational Counselling Completed - Smoking Cessation - Nutrition - Exercise - Other	Records whether the "Diabetes-Motivational Counselling" was completed by the physician. Each item must be independently identifiable.	N/A	3 months	P
DE16.076	60	Date - Diabetes Motivational Counselling	Date the "Diabetes Motivational Counselling" was completed by the physician.			P
DE16.077	61	Diabetes - Education - Diabetes - Nutrition (lipids) - Nutrition (diabetes)	Records whether the "Diabetes-Education" was completed by the physician. Default values are not accepted.	N/A	Annual	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.078	62	Date - Diabetes Education	Date the "Diabetes Education" was completed by the physician.			P
DE16.079	63	Diabetes - Collaborative Self-Management Goals [Indicate Goal]	Records patient goals as recorded by the physician.	N/A	3 months	P
DE16.080	64	Date - Diabetes Collaborative Self-Management Goals	Date the "Diabetes - Collaborative Self-Management Goals" was recorded by the physician.			P
DE16.081	65	Diabetes - Self Management Challenges [Indicate Challenge]	Records patient challenges as recorded by the physician.	N/A	3 months	P
DE16.082	66	Date - Diabetes Self-Management Challenges	Date the "Diabetes - Self-Management Challenges" was recorded by the physician.			P
DE16.083	67	Psychosocial Screening	Records whether the "psychosocial screening" was performed by the physician.	N/A	N/A	P
DE16.084	68	Date - Psychosocial Screening	Date the "Psychosocial Screening" was performed by the physician.			P

4.3   Asthma- Care Elements

Referenced Sources included: Lung Association Asthma Care Map for Primary Care.

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
CLINICAL DOCUMENTATION						
GENERIC CARE ELEMENTS						
DE16.021	1	FEV1 (before puff) - (personal best of 3)	Forced Expiratory Volume -the volume of air that was exhaled by the patient at the end of the first second of forced expiration.	N/A	N/A	P
DE16.022	2	Date - FEV1 (before puff)	Date the "FEV1 (before puff)" was measured.			P
DE16.023	3	FVC (before puff)	Forced Vital Capacity - the volume of air that was forcibly and maximally exhaled out by the patient until no more can be expired.	N/A	N/A	P
DE16.024	4	Date - FVC (before puff)	Date the "FVC (before puff)" was measured.			P
DE16.025	5	FEV1% (before puff)	The ratio of FEV1 to FVC calculated for the patient. Alternate Name: FEV1 / FVC ratio	N/A	N/A	P
DE16.026	6	Date - FEV1% (before puff)	Date the "FEV1% (before puff)" was measured.			P
DE16.027	7	FEV1 predicted	The FEV1 calculated in the population with similar characteristics (e.g., height, age, sex, race, weight, etc.)	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.028	8	Date - FEV1 predicted	Date the "FEV1" predicted was measured.			P
DE16.029	9	FVC predicted	Forced Vital Capacity predicted - calculated in the population with similar characteristics (height, age, sex, and sometimes race and weight).	N/A	N/A	P
DE16.030	10	Date - FVC predicted (before puff)	Date the "FVC" predicted was measured.			P
DE16.031	11	FEV1% predicted	The ratio of FEV1 predicted to FVC predicted, calculated in the population with similar characteristics (height, age, sex, and sometimes race and weight). Alternate Name: FEV1 / FVC predicted ratio	N/A	N/A	P
DE16.032	12	Date - FEV1% predicted	Date the "FEV1% predicted" was measured.			P
DE16.033	13	FEV1% of predicted (before puff)	FEV1% (before puff) of the patient divided by the average FEV1% predicted in the population with similar characteristics (e.g., height, age, sex, race, weight, etc.) Alternate Name: FEV1 ratio (before puff)	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.034	14	Date - FEV1% of predicted (before puff)	Date the "FEV1% of predicted (before puff)" was measured.			P
DE16.035	15	FVC ratio (before puff)	FVC actual (before puff) / FVC predicted.	N/A	N/A	P
DE16.036	16	Date - FVC ratio (before puff)	Date the "FVC ratio (before puff)" was measured.			P
DE16.037	17	FEV1 / FVC ratio (before puff)	FEV1 / FVC (before puff) actual divided by FEV1 / FVC predicted	N/A	N/A	P
DE16.038	18	Date - FEV1/FVC ratio (before puff)	Date the "FEV1/FVC ratio (before puff)" was measured.			P
DE16.041	19	FEV1 (after puff) - (personal best of 3)	Forced Expiratory Volume - the volume of air that was exhaled by the patient at the end of the first second of forced expiration.	N/A	N/A	P
DE16.042	20	Date - FEV1 (after puff)	Date the "FEV1 (after puff)" was measured.			P
DE16.043	21	FVC (after puff)	Forced Vital Capacity - the volume of air that was forcibly and maximally exhaled out by the patient until no more can be expired.	N/A	N/A	P
DE16.044	22	Date - FVC (after puff)	Date the "FVC (after puff)" was measured.			P
DE16.045	23	FEV1% (after puff)	The ratio of FEV1 to FVC calculated for the patient.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
			Alternate Name: FEV1 / FVC ratio			
DE16.046	24	Date - FEV1% (after puff)	Date the "FEV1% (after puff)" was measured.			P
DE16.047	25	FEV1% of predicted (after puff)	FEV1% (after puff) of the patient divided by the average FEV1% predicted in the population with similar characteristics (e.g., height, age, sex, race, weight, etc.) Alternate Name: FEV1 ratio (after puff)	N/A	N/A	P
DE16.048	26	Date - FEV1% of predicted (after puff)	Date the "FEV1% of predicted (after puff)" was measured.			P
DE16.049	27	FVC ratio (after puff)	FVC actual (after puff) / FVC predicted	N/A	N/A	P
DE16.050	28	Date - FVC ratio (after puff)	Date the "FVC ratio (after puff)" was measured.			P
DE16.051	29	FEV1 / FVC ratio (after puff)	FEV1 / FVC (after puff) actual divided by FEV1 / FVC predicted.	N/A	N/A	P
DE16.052	30	Date - FEV1/FVC ratio (after puff)	Date the "FEV1/FVC ratio (after puff)" was measured.			P
NON-GENERIC CARE ELEMENTS						
DE16.085	31	Spirometry Test	Records whether the "Spirometry Test" was performed by the physician.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
			Default values are not accepted.			
DE16.086	32	Date - Spirometry Test	Date the "Spirometry Test" was performed by the physician.			P
DE16.087	33	Asthma - Symptoms *[frequency/week]*: - dyspnea, - cough, - wheeze, - chest tightness, - night time symptoms	The number of each individual "Asthma Symptoms" per week as reported by the patient. Each item must be independently identifiable and have its own "treatment target" and "treatment interval". Displaying each item as a care element within the flowsheet is not an accepted solution.	DY: < 4 days/wk CO: < 4 days/wk WH: < 4 days/wk CT: < 4 days/wk NTS: (0)	N/A	P
DE16.088	34	Date -Asthma Symptoms	Date the "Asthma-Symptoms" have been recorded.			P
DE16.089	35	Asthma - # Of Exacerbations Requiring Clinical Evaluation (since last assessment)	The number of exacerbations since the last assessment requiring clinical evaluations reported by the patient.	0	N/A	P
DE16.090	36	Date - Asthma # Of Exacerbations Requiring Clinical Evaluation	Date the "Asthma - # Of Exacerbations Requiring Clinical Evaluation" and was recorded by the physician.			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.091	37	Asthma - School/Work Absence (since last assessment)	Records whether patient missed school/work since the last assessment.	N/A	N/A	P
DE16.092	38	Asthma - # Of School/Work Absence (since last assessment)	Records the number of times the patient reported as missing school/work due to asthma since the last assessment.	0	N/A	P
DE16.093	39	Date - Asthma # Of School/Work Absence	Date the "Asthma # Of School/Work Absence" was recorded by the physician.			P
DE16.094	40	Asthma - Limits Physical Activity (Yes/No)	Records whether asthma limits patient physical activity or not. Defaulted values are not accepted.	NO	N/A	P
DE16.095	41	Date - Asthma Limits Physical Activity	Date "Asthma Limits Physical Activity" was recorded by the physician.			P
DE16.096	42	Asthma - Reliever Use [frequency/week]	Records the number of times the asthma reliever was used per week as reported by the patient.	< 4 doses/week or < 2 times/week	N/A	P
DE16.097	43	Date - Asthma Reliever Use	Date the "Asthma Reliever Use " was recorded by the physician			P
DE16.098	44	Asthma - Action Plan (Provided / Revised / Reviewed)	Records whether the educational document was provided to the patient, revised or reviewed.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
			Default values are not accepted.			
DE16.099	45	Date - Asthma Action Plan	Date the "Asthma Action Plan" was provided, revised or reviewed.			P
DE16.100	46	Asthma - Medication Review	Records whether medication adherence for the Asthma purpose was discussed with the patient. Default values are not accepted.	N/A	N/A	P
DE16.101	47	Date - Asthma Medication Review	Date the "Asthma Medication Review" was performed by the physician.	N/A	N/A	P
DE16.102	48	Asthma - Smoking Cessation Discussed	Records whether smoking cessation was discussed with the patient. Default values are not accepted.	YES	N/A	P
DE16.103	49	Date - Asthma Smoking Cessation Discussed	Date the "Asthma Smoking Cessation" was discussed with the patient.			P
DE16.104	50	Asthma - Optimal Device Technique Review	Records whether the optimal device technique was reviewed by the physician.	N/A	N/A	P
DE16.105	51	Date - Asthma Optimal Device Technique Review	Date the "Asthma Optimal Device Technique Review" was recorded by the physician.			P
DE16.106	52	Asthma - Education Referral	Records to whether the patient was referred to an asthma educator (e.g.,	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
			respiratory therapist, nurse). Default values are not accepted.			
DE16.107	53	Date - Asthma Education Referral	Date the patient was referred to an asthma educator.			P
DE16.108	54	Asthma/COPD-Specialist Referral	Records whether the patient was referred to a "respirologist" or "allergist". Default values are not accepted.	N/A	N/A	P
DE16.109	55	Date -Asthma/COPD-Specialist Referral	Date the patient was referred to the "respirologist".			P
DE16.110	56	Asthma - Environmental Control	Records whether "Asthma - Environmental Control" was reviewed by the physician	N/A	N/A	P
DE16.111	57	Date - Asthma Environmental Control	Date the "Asthma - Environmental Control" was recorded by the physician.			P
DE16.112	58	Asthma - Coping Strategies	Records whether "Asthma - Coping Strategies" have been reviewed by the physician	N/A	N/A	P
DE16.113	59	Date - Asthma Coping Strategies	Date the "Asthma Coping Strategies" was recorded by the physician.			P
DE16.114	60	Asthma - Trigger Avoidance	Records whether "Asthma - Trigger Avoidance" was reviewed by the physician	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.115	61	Date - Asthma Trigger Avoidance	Date the "Asthma Trigger Avoidance" was recorded by the physician.			P
DE16.116	62	Asthma - Definition Review	Records whether the "Asthma Definition" was reviewed by the physician. Default values are not accepted.	N/A	N/A	P
DE16.117	63	Date - Asthma Definition Review	Date the "Asthma - # Of Definition Review" was recorded by the physician.			P

4.4 Heart Failure - Care Elements

Referenced Sources: MOHLTC - Heart Failure Incentive

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
LAB VALUES						
N/A	1	eGFR	Records the value of the eGFR test. UM: ml/min/1.73m²	Caution if < 60 mL/min	N/A	P
N/A	2	Date - eGFR	The date the specimen was collected.			P
N/A	3	Na+	Records the value of the Na+ test. UM: mmol/L Alternate Name: Serum Sodium	N/A	N/A	P
N/A	4	Date - Na+	The date the specimen was collected.			P
N/A	5	K+	Records the value of the K+ test. UM: mmol/L Alternate Name: Serum Potassium	N/A	N/A	P
N/A	6	Date - K+	The date the specimen was collected.			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
N/A	7	Serum Creatinine	Records the value of the Serum Creatine test. UM: umol/L	M: < 110 umol/L F: < 90 umol/L	N/A	P
N/A	8	Date - Serum Creatinine	The date the specimen was collected.			P
CLINICAL DOCUMENTATION						
GENERIC CARE ELEMENTS						
DE16.001	9	Blood Pressure	The blood pressure as measured by the physician. Blood pressure is out of target if either systolic or diastolic BP is out of target. UM: mmHg	N/A	N/A	P
DE16.002	10	Date - Blood Pressure	Date the blood pressure was measured by the physician.			P
DE16.003	11	Heart Rate	The hearth rate as measured by the physician. UM: bpm (beats per minute)	N/A	N/A	P
DE16.004	12	Date - Heart Rate	Date the hearth rate was measured by the physician.			P
NON-GENERIC CARE ELEMENTS						

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.071	13	ASA Use	Records whether the physician has recommended ASA use (ASA 81mg daily use).	N/A	N/A	P
DE16.072	14	Date - ASA Use	Date the "ASA Use" was recommended by the physician.			P
DE16.118	15	NYHA Functional Capacity Classification: - Class I – no symptoms; - Class II – symptoms with ordinary activity; - Class III – symptoms with less than ordinary activity; - Class IV – symptoms at rest	The NYHA classification for the patient as recorded by the physician. Each item must be independently identifiable.	N/A	N/A	P
DE16.119	16	Date - NYHA Functional Capacity	Date the "NYHA Functional Capacity" was measured / classified.			P
DE16.120	17	Pitting Edema *(Yes/No)*	Records whether the patient has pitting edema or not. Default values are not accepted.	N/A	N/A	p

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.121	18	Pitting Edema *[Indicate Location]*	Records pitting edema location.	N/A	N/A	P
DE16.122	19	Date - Pitting Edema	Date the patient was identified as having "pitting edema".			P
DE16.123	20	Lung Crackles *(Yes/No)*	Records whether the patient has lung crackles or not. Default values are not accepted.	N/A	N/A	P
DE16.124	21	Lung Crackles *[Indicate Location]*	Records the location of the lung crackles.	N/A	N/A	P
DE16.125	22	Date - Lung Crackles	Date the patient was identified as having "lung crackles".			P
DE16.126	23	Wheezing *(Yes/No)*	Records whether the patient is wheezing or not. Default values are not accepted.	N/A	N/A	P
DE16.127	24	Wheezing *[Indicate Location]*	Records the location of wheezing.	N/A	N/A	P
DE16.128	25	Date - Wheezing	Date the patient was identified as "wheezing".			P
DE16.129	26	JVP Elevation *(Yes/No)*	Records whether the patient has jugular venous pressure elevated or not (yes -elevated, no- not elevated). Default values are not accepted.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.130	27	Date - JVP Elevation	Date the "JVP" was measured.			P
DE16.131	28	HF - Symptoms *(frequency/week):* - Fatigue, - Dizziness - Syncope, - Dyspnea on Exertion, - Dyspnea at Rest, - Orthopnea, - Paroxysmal Nocturnal Dyspnea	Records symptoms of the "Heart Failure" as reported by the patient. Each symptom must be independently identifiable.	N/A	N/A	P
DE16.132	29	Date - Heart Failure Symptoms	Date the "Heart Failure Symptoms" was recorded by the physician.			P
DE16.133	30	HF - # ER Visits (since last assessment)	Records the number of ER (Emergency Room) visits since last assessment as reported by the patient.	0	N/A	P
DE16.134	31	Date - HF # ER Visits	Date the "HF # ER Visits" was recorded by the physician.			P
DE16.135	32	HF - Medication Review	Records whether medication adherence for Heart Failure purpose was discussed with the patient. Default values are not accepted.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.136	33	HF - Signs of Pharmacological Intolerance *[Indicate Intolerance]*	Records medications intolerance as reported by the patient. Refers to intolerance for all medications prescribed for the purpose of "Heart Failure" chronic disease management.	N/A	N/A	P
DE16.137	34	Date - HF Medication Review	Date the patient's medication adherence for HF was reviewed and the signs of pharmaceutical intolerance have been recorded.			P
DE16.138	35	HF - Target Modifiable Risk Factors: - Hypertension - Smoking - Diabetes - Overweight/Obesity - Hyperlipidemia	Records whether Heart Failure - Target Modifiable Risk Factors" was reviewed by the physician. Each item must be independently identifiable. Default values are not accepted.	N/A	N/A	P
DE16.139	35	Date - Heart Failure Target Modifiable Risk Factors	Date the "Heart Failure Target Modifiable Risk Factors" was recorded by the physician.			P
DE16.140	37	HF - Collaborative Self-Management Goals *[Indicate Goal]*	Records patient goals as recorded by the physician.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.141	38	Date - HF Collaborative Self-Management Goals	Date the "Collaborative Self-Management Goals" was recorded by the physician.			P
DE16.142	39	HF - Self Management Challenge [Indicate Challenge]	Records patient challenges as recorded by the physician.	N/A	N/A	P
DE16.143	40	Date - HF Self-Management Challenge	Date the "HF Self-Management Challenge" was recorded by the physician.			P
DE16.144	41	HF Education - Medication Review - Salt/Fluid Balance - Daily Weight Monitoring - Exercise	Record whether "HF Education" was reviewed was reviewed by the physician. Each item must be independently identifiable. Default values are not accepted.	N/A	N/A	P
DE16.145	42	Date - HF Education	Date the "HF Education" was recorded by the physician.			P

4.5   COPD – Care Elements

Referenced Sources: GAC Guidelines, BC CDM Toolkit

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
CLINICAL DOCUMENTATION						
N/A	1	Influenza Vaccine	Records whether the Influenza Vaccine was administered.	N/A	Annual	P
N/A	2	Date - Influenza Vaccine	Date the Influenza Vaccine was administered.			P
N/A	3	Pneumococcal Vaccine	Records whether the Pneumococcal Vaccine was administered.	N/A	N/A	P
N/A	4	Date - Pneumococcal Vaccine	Date the Influenza Vaccine was administered.			P
GENERIC CARE ELEMENTS						
DE16.009	5	BMI	The Body Mass Index automatically calculated by the EMR system, based on the Height and Weight recorded by the physician. UM: kg/m²	=< 27 kg/m²	N/A	P
DE16.010	6	Date - BMI	Date the BMI was recorded by the physician.			P
DE16.021	7	FEV1 (before puff) -(personal best of 3)	Forced Expiratory Volume - the volume of air that was exhaled by the patient at the end of the first second of forced expiration.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.022	8	Date - FEV1 (before puff)	Date the "FEV1 (before puff)" was measured.			P
DE16.023	9	FVC (before puff)	Forced Vital Capacity - the volume of air that was forcibly and maximally exhaled out by the patient until no more can be expired.	N/A	N/A	P
DE16.024	10	Date - FVC (before puff)	Date the "FVC (before puff)" was measured.			P
DE16.025	11	FEV1% (before puff)	The ratio of FEV1 to FVC calculated for the patient. Alternate Name: FEV1 / FVC ratio	N/A	N/A	P
DE16.026	12	Date - FEV1% (before puff)	Date the "FEV1% (before puff)" was measured.			P
DE16.027	13	FEV1 predicted	The FEV1 calculated in the population with similar characteristics (e.g., height, age, sex, race, weight, etc.)	N/A	N/A	P
DE16.028	14	Date - FEV1 predicted	Date the "FEV1" predicted was measured.			P
DE16.029	15	FVC predicted	Forced Vital Capacity predicted - calculated in the population with similar characteristics (height, age, sex, and sometimes race and weight).	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.030	16	Date - FVC predicted (before puff)	Date the "FVC" predicted was measured.			P
DE16.031	17	FEV1% predicted	The ratio of FEV1 predicted to FVC predicted, calculated in the population with similar characteristics (height, age, sex, and sometimes race and weight). Alternate Name: FEV1 / FVC predicted ratio	N/A	N/A	P
DE16.032	18	Date - FEV1% predicted	Date the "FEV1% predicted" was measured.			P
DE16.033	19	FEV1% of predicted (before puff)	FEV1% (before puff) of the patient divided by the average FEV1% predicted in the population with similar characteristics (e.g., height, age, sex, race, weight, etc.) Alternate Name: FEV1 ratio (before puff)	N/A	N/A	P
DE16.034	20	Date - FEV1% of predicted (before puff)	Date the "FEV1% of predicted (before puff)" was measured.			P
DE16.035	21	FVC ratio (before puff)	FVC actual (before puff) / FVC predicted	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.036	22	Date - FVC ratio (before puff)	Date the "FVC ratio (before puff)" was measured.			P
DE16.037	23	FEV1 / FVC ratio (before puff)	FEV1 / FVC (before puff) actual divided by FEV1 / FVC predicted	N/A	N/A	P
DE16.038	24	Date - FEV1/FVC ratio (before puff)	Date the "FEV1/FVC ratio (before puff)" was measured.			P
DE16.039	25	PEF personal (before puff) - (best of 3)	Peak Expiratory Flow (or PEFR) - the maximal flow (or speed) achieved during the maximally forced expiration initiated at full inspiration.	N/A	N/A	P
DE16.040	26	Date - PEF personal (before puff)	Date the "PEF personal (before puff)" was measured.			P
DE16.041	27	FEV1 (after puff) - (personal best of 3)	Forced Expiratory Volume -the volume of air that was exhaled by the patient at the end of the first second of forced expiration.	N/A	N/A	P
DE16.042	28	Date - FEV1 (after puff)	Date the "FEV1 (after puff)" was measured.			P
DE16.043	29	FVC (after puff)	Forced Vital Capacity - the volume of air that was forcibly and maximally exhaled out by the patient until no more can be expired.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.044	30	Date - FVC (after puff)	Date the "FVC (after puff)" was measured.			P
DE16.045	31	FEV1% (after puff)	The ratio of FEV1 to FVC calculated for the patient. Alternate Name: FEV1 / FVC ratio	N/A	N/A	P
DE16.046	32	Date - FEV1% (after puff)	Date the "FEV1% (after puff)" was measured.			P
DE16.047	33	FEV1% of predicted (after puff)	FEV1% (after puff) of the patient divided by the average FEV1% predicted in the population with similar characteristics (e.g., height, age, sex, race, weight, etc.) Alternate Name: FEV1 ratio (after puff)	N/A	N/A	P
DE16.048	34	Date - FEV1% of predicted (after puff)	Date the "FEV1% of predicted (after puff)" was measured.			P
DE16.049	35	FVC ratio (after puff)	FVC actual (after puff) / FVC predicted	N/A	N/A	P
DE16.050	36	Date - FVC ratio (after puff)	Date the "FVC ratio (after puff)" was measured.			P
DE16.051	37	FEV1 / FVC ratio (after puff)	FEV1 / FVC (after puff) actual divided by FEV1 / FVC predicted.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.052	38	Date - FEV1/FVC ratio (after puff)	Date the "FEV1/FVC ratio (after puff)" was measured.			P
DE16.053	39	PEF personal (after puff) - (best of 3)	Peak Expiratory Flow (or PEFR) - the maximal flow (or speed) achieved during the maximally forced expiration initiated at full inspiration.	N/A	N/A	P
DE16.054	40	Date - PEF personal (after puff)	Date the "PEF personal (after puff)" was measured.			P
DE16.055	41	O$_2$ Saturation	Records the "O$_2$ Saturation" as measured by the physician or received from laboratory. UM: %	N/A	N/A	P
DE16.056	42	Date - O2 Saturation	Date the O2 Saturation was measured.			P
NON-GENERIC CARE ELEMENTS						
DE16.085	43	Spirometry Test	Records whether the "Spirometry Test" was performed by the physician. Default values are not accepted.	N/A	N/A	P
DE16.086	44	Date - Spirometry Test	Date the "Spirometry Test" was performed by the physician.			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.108	45	Asthma/COPD - Specialist Referral	Records whether the patient was referred to a "respirologist" or "allergist". Default values are not accepted.	N/A	N/A	P
DE16.109	46	Date - Asthma/COPD-Specialist Referral	Date the patient was referred to the "respirologist".			P
DE16.146	47	COPD Classification: - Mild: FEV1 >= 80% predicted; - Moderate:50% <= FEV1 < 80% predicted; - Severe:30% <= FEV1 < 50% predicted; - Very Severe: FEV1 < 30% predicted	The COPD classification based on the spirometry results (FEV1) before the puff was administered to the patient. Each item must be independently identifiable. Default values are not accepted.	N/A	N/A	P
DE16.147	48	Date - COPD Classification	Date the "COPD Classification" was recorded.			P
DE16.148	49	COPD - Date of Last Exacerbation	Records the date of the last COPD exacerbation as reported by the patient.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.149	50	Date - COPD Last Exacerbation	Date the "COPD - Date of Last Exacerbation" was recorded by the physician.			P
DE16.150	51	COPD - # of Exacerbations (since last assessment)	The number of exacerbations due to COPD since last visit, as reported by the patient.	N/A	N/A	P
DE16.151	52	Date - # of Exacerbations	Date the "COPD - # of Exacerbations" was recorded by the physician.			P
DE16.152	53	COPD - Need for Supplemental O$_2$ Review	Records whether need for supplemental O2 was reviewed by the physician. Default values are not accepted.	N/A	Annual	P
DE16.153	54	Date - COPD Need for Supplemental O2 Review.	Date the "COPD Need for Supplemental O2 Review" was recorded by the physician.			P
DE16.154	55	COPD - Need for Nocturnal Ventilation Support - Review	Records whether need for nocturnal ventilated support was reviewed by the physician. Default values are not accepted.	N/A	Annual	P
DE16.155	56	Date - COPD Need for Nocturnal Ventilated Support Review	Date the "COPD Need for Nocturnal Ventilated Support Review" was recorded by the physician.			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.156	57	ABG Test - Recommended *(Yes/ Not Applicable)*	Records whether the" ABG Test" was recommended or is not applicable. Each item must be independently identifiable. Default values are not accepted. Alternate Name: Arterial Blood Gas	N/A	N/A	P
DE16.157	58	Date - ABG Test Recommended	Date the "ABG Test" was recommended or recorded as "not applicable"			P
DE16.158	59	COPD - Medication Review	Records whether medication adherence for COPD purpose was discussed with the patient. Default values are not accepted.	N/A	6 months	P
DE16.159	60	Date - COPD Medication Review	Date the patient's medication adherence for COPD was reviewed by the physician.			P
DE16.160	61	Review pathophysiology, prognosis, treatment with patient	Records whether the pathophysiology, prognosis, treatment was reviewed by the physician. Default values are not accepted.	N/A	6 months	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.161	62	Date - COPD Review pathophysiology	Date the "Review pathophysiology" was recorded by the physician.			P
DE16.162	63	COPD - Smoking Cessation Discussed	Records whether smoking cessation was discussed with the patient. Default values are not accepted.	N/A	N/A	P
DE16.163	64	Date - COPD Smoking Cessation Discussed	Date the "COPD Smoking Cessation" was discussed with the patient.			P
DE16.164	65	Smoking Cessation Program - Referral	Records whether the patient was referred to a "Smoking Cessation Program". Default values are not accepted.	N/A	N/A	P
DE16.165	66	Date - Smoking Cessation Program Referral	Date the patient was referred to a "smoking cessation program".			P
DE16.166	67	COPD - Pulmonary Rehabilitation Referral	Records whether the patient was referred to a "pulmonary rehabilitation program". Default values are not accepted.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.167	68	Date - COPD Pulmonary Rehabilitation Referral	Date the patient was referred to the "respiratory therapist".			P
DE16.168	69	COPD - Exacerbation Plan *(Provided / Revised / Reviewed)*	Records whether the exacerbation plan document was *provided* to the patient, *revised* or *reviewed.* Default values are not accepted.	N/A	6 months	P
DE16.169	70	Date - COPD Exacerbation Plan	Date the "COPD Exacerbation Plan" was provided, revised or reviewed.			P
DE16.170	71	COPD - Collaborative Self-Management Goals *[Indicate Goal]*	Records patient goals as recorded by the physician.	N/A	6 months	P
DE16.171	72	Date - COPD Collaborative Self-Management Goals	Date the "COPD Collaborative Self-Management Goals" was recorded by the physician.			P
DE16.172	73	COPD - Provide patient education materials	Records whether education materials for COPD have been provided to the patient. Default values are not accepted.	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.173	74	Date - COPD Provide patient education materials	Date the "COPD Provide patient education materials" was recorded by the physician.			P

4.6 Hypertension - Care Elements

Referenced Sources: GAC Guidelines, BC CDM Toolkit, JNC 7, CHEP 2007

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
LAB VALUES						
N/A	1	FPG	Records the value of the FPG test. UM: mmol/L Alternate Name: Fasting Plasma Glucose	<= 6.0 mmol/L	N/A	P
N/A	2	Date - FPG	The date the specimen was collected.			P
N/A	3	LDL-C	Records the value of the LDL-C test. UM: mmol/L	< 3.5 mmol/L	N/A	P
N/A	4	Date - LDL-C	The date the specimen was collected.			P
N/A	5	TC: HDL-C Ratio	Records the value of the TC: HDL-C Ratio test. UM: mmol/L	< 5.0	N/A	P
N/A	6	Date - TC: HDL-C Ratio	The date the specimen was collected.			P
N/A	7	Triglycerides	Records the value of the Triglycerides test. UM: mmol/L	N/A	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
N/A	8	Date - Triglycerides	The date the specimen was collected.			P
N/A	9	eGFR	Records the value of the eGFR test. UM: ml/min/1.73m²	N/A	Annual	P
N/A	10	Date - eGFR	The date the specimen was collected.			P
N/A	11	Urinary Microalbumin Screen	Records the value of the Urinary Microalbumin test. UM: mg/L	Male < 2.0 Female < 2.8	Biennial	P
N/A	12	Date - Urinary Microalbumin Screen	The date the specimen was collected.			P
CLINICAL DOCUMENTATION						
GENERIC CARE ELEMENTS						
DE16.001	13	Blood Pressure	The blood pressure as measured by the physician. Blood pressure is out of target if either systolic or diastolic BP is out of target. UM: mmHg	=< 140/90 mmHg	N/A	P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.002	14	Date - Blood Pressure	Date the blood pressure was measured by the physician.			P
DE16.005	15	Height	The height as measured by the physician. UM: cm	N/A	N/A	P
DE16.006	16	Date - Height	Date height was measured by the physician.			P
DE16.007	17	Weight	The weight as measured by the physician. UM: kg	N/A	N/A	P
DE16.008	18	Date - Weight	Date weight was measured by the physician.			P
DE16.009	19	BMI	The Body Mass Index automatically calculated by the EMR system, based on the Height and Weight recorded by the physician. UM: kg/m^2	18.5 - 24.9 kg/m^2	N/A	P
DE16.010	20	Date - BMI	Date the BMI was recorded by the physician.			P
DE16.011	21	Waist Circumference	The waist circumference as measured by the physician.	M: < 100 cm F: < 90 cm	N/A	P
DE16.012	22	Date - Waist Circumference	Date the waist circumference was measured by the physician.			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.013	23	Smoking Status *(Yes/No)*	Records whether the patient is currently smoking or not. Default values are not accepted. Smoking Status recorded in the Risk Factor must flow in all the flowsheet where the data element is used, based on the recorded date.	N/A	N/A	P
DE16.014	24	Date - Smoking Status	Date the "smoking status" was reported by the patient.			P
DE16.015	25	Smoking Packs/Day	The number of packs per day smoked as reported by the patient. It is assumed that 1 pack=20 cigarettes.	N/A	N/A	P
DE16.016	26	Date - Smoking Packs/Day	Date the patient reported the number of packs/day is smoking.			P
DE16.017	27	Alcohol Use *(# drinks/week)*	The number of drinks equivalents per week as reported by the patient.	M > 14 drinks/wk F > 8 drinks/wk	N/A	P
DE16.018	28	Date - Alcohol Use	Date the patient reported the number of drinks/week.			P
NON-GENERIC CARE ELEMENTS						

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.174	29	10 Year CAD Risk (Framingham)	The value of the "10 Year CAD Risk (Framingham) " as recorded by the physician. UM: %	N/A	N/A	P
DE16.175	30	Date - 0 Year CAD Risk (Framingham)	Date the "10 Year CAD Risk (Framingham)" was calculated / measured.			P
DE16.176	31	HT - Medication Review	Records whether medication adherence for Hypertension purpose was discussed with the patient. Default values are not accepted.	N/A	N/A	P
DE16.177	32	Date - HT Medication Review	Date the patient's medication adherence for HT was reviewed by the physician.			P
DE16.178	33	Hypertension - Exercise Reviewed	Records whether "Hypertension Exercise" was reviewed by the physician. Default values are not accepted.	N/A	N/A	P
DE16.179	34	Date - Hypertension Exercise Reviewed	Date the "Hypertension Exercise Review" was completed by the physician.			P

DE#	CDM#	CARE ELEMENT	DEFINITION	INITIAL SETUP TREATMENT TARGET	INITIAL SETUP TREATMENT INTERVAL	STATUS
DE16.180	35	HT- Collaborative Self-Management Goals *[Indicate Goal]*	Records patient goals as recorded by the physician.	N/A	N/A	P
DE16.181	36	Date - HT Collaborative Self-Management Goals	Date the "HT Collaborative Self-Management Goals" was recorded by the physician.			P
DE16.182	37	HT – Self-Management Challenge *[Indicate Challenge]*	Records patient challenges as recorded by the physician.	N/A	N/A	P
DE16.183	38	Date - HT Self-Management Challenge	Date the "HT Self-Management Challenge" was recorded by the physician.			P
DE16.184	38	HY - Salt Intake Reviewed	Records whether the salt intake was reviewed by the physician.	N/A	N/A	P
DE16.185	40	Date - Salt Intake Reviewed	Date the "Salt Intake Reviewed" was recorded by the physician.			P

5. RETIRED REQUIREMENTS / CARE ELEMENTS

For the purposes of this section, the following terms and abbreviations are defined and shall be applied to all tables in this section:

Scoring:

M = Mandatory criteria for funding eligibility

W = Weighted criteria

Status:

N = New requirement for this EMR Specification

P = Previous requirement from EMR-CDM Specification 4.2

U = Updated from a previous EMR-CDM Specification 4.2 requirement

R = Retired from previous EMR-CDM Specification 4.2

OMD #: unique identifier that identifies each requirement within Ontario EMR Requirements Repository

CDM #:unique identifier that identifies each care elements within the EMR-CDM Specification

YEAR: the year the requirement became part of the Ontario EMR Requirements Repository

YEAR Retired: the year the requirement was retired from the Ontario EMR Requirements Repository

5.1   Retired CDM - Functional Requirements

Following functional requirements have been retired from the EMR-CDM Specification.

Refer to EMR-CDM Specification 4.2 for complete information about the following retired requirements.

OMD #	REQUIREMENT	GUIDELINES	M/W	STATUS	YEAR	YEAR RETIRED	RETIREMENT REASON
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

5.2   Retired CDM - Care Elements

Following care elements have been retired from the EMR-CDM Specification.

Refer to EMR-CDM Specification 4.2 for complete information about the following retired CDM care elements.

CDM #	CARE ELEMENT	DEFINITION	YEAR	YEAR RETIRED	RETIREMENT REASON
N/A	N/A	N/A	N/A		N/A