

# CAD Identification

## OntarioMD i4C Dashboard Indicator

For more information regarding OntarioMD Indicators or the EMR i4C Dashboard Specification, please refer to:

<https://www.ontariomd.ca/emr-certification/emr-specification/ontariomd-indicator-library>

## 1. VERSION HISTORY

INDICATOR VERSION	PUBLICATION DATE	REMARKS
1.0	2019-02-18	<ul style="list-style-type: none"> <li>Initial release</li> </ul>
2.0	2019-07-09	<ul style="list-style-type: none"> <li>Added Indicator ID, Indicator Segment ID and Display Indicator Segment properties</li> <li>Changed format and content of Indicator User Help</li> <li>Changed format of Source property</li> <li>Indicator Segment IDs re-sequenced to provide consistency across indicators</li> <li>Indicator Segment Query Criteria clarifies that query result from a segment should produce a count of patients</li> </ul>

## 2. INDICATOR DEFINITION

### 2.1 Indicator Properties

PROPERTY	VALUE
Indicator ID	CDM-CAD-001
Indicator Name	CAD Identification
Indicator Version	2.0
Date Published	2019-07-09
Description	<p><b>Purpose:</b></p> <p>This indicator is used to identify patients with Coronary Artery Disease.</p> <p><b>Base Population:</b></p> <p>All patients with an Active demographic status recorded in the EMR who have a confirmed CAD diagnosis or who may be considered for CAD diagnosis based on other EMR data.</p> <p><b>Indicator Segments:</b></p> <p>Indicator segments provide the following patient summaries:</p> <ul style="list-style-type: none"> <li>• Count of patients confirmed with CAD diagnosis through the entry of appropriate diagnosis code;</li> <li>• Count of patients without a confirmed CAD diagnosis but who may be considered for diagnosis based on the text entered in the cumulative patient profile;</li> <li>• Count of patients without a confirmed CAD diagnosis but who may be considered for diagnosis based on two or more bills with a CAD diagnosis attached;</li> <li>• Unique count of patients without a confirmed CAD diagnosis but who may be considered for diagnosis;</li> <li>• Count of patients without a confirmed CAD diagnosis who are excluded from consideration for CAD diagnosis.</li> </ul>

PROPERTY	VALUE
	<p><b>Suggested Indicator Use:</b></p> <p>Physician or Practice use of this indicator is to review charts in the consider segments and add the appropriate diagnosis code to the patient chart.</p> <p><b>Measurements of Interest:</b></p> <p>Percentage of patients with a confirmed CAD diagnosis out of all patients who either have a confirmed CAD diagnosis or who may be considered for diagnosis.</p>
Source	OntarioMD
Source Description	
Status	Active
Category	CDM
Subcategory	Coronary Artery Disease
Indicator Order	1
Indicator Graphic Type	Table
Indicator Graphic Notes	
Indicator User Help	<p><b>Identification Prospects for CAD</b></p> <p><b>Purpose:</b></p> <p>This indicator is used to identify patients with Coronary Artery Disease.</p>

PROPERTY	VALUE
	<p><b>Base Population:</b></p> <p>All patients with an Active demographic status recorded in the EMR who have a confirmed CAD diagnosis or who may be considered for CAD diagnosis based on other EMR data.</p> <p><b>Indicator Segments:</b></p> <p>Indicator segments provide the following patient summaries:</p> <ul style="list-style-type: none"> <li>• Count of patients confirmed with CAD diagnosis through the entry of appropriate diagnosis code;</li> <li>• Count of patients without a confirmed CAD diagnosis but who may be considered for diagnosis based on the text entered in the cumulative patient profile;</li> <li>• Count of patients without a confirmed CAD diagnosis but who may be considered for diagnosis based on two or more bills with a CAD diagnosis attached;</li> <li>• Unique count of patients without a confirmed CAD diagnosis but who may be considered for diagnosis;</li> <li>• Count of patients without a confirmed CAD diagnosis who are excluded from consideration for CAD diagnosis.</li> </ul> <p><b>Suggested Indicator Use:</b></p> <p>Physician or Practice use of this indicator is to review charts in the consider segments and add the appropriate diagnosis code to the patient chart.</p> <p><b>Measurements of Interest:</b></p> <p>Percentage of patients with a confirmed CAD diagnosis out of all patients who either have a confirmed CAD diagnosis or who may be considered for diagnosis.</p>

PROPERTY	VALUE
	<p><b>Metric Criteria:</b></p> <p><u>CAD Coded<sup>1</sup>:</u> Patients WITH a CAD diagnosis code documented as one of the following:</p> <ul style="list-style-type: none"> <li>• 410, 411, 412, 413, 414, 429.2 (ICD-9 Coding System)</li> <li>• I25, I20 (ICD-10 Coding System)</li> <li>• D3-13040, D3-10030 IHD, D3-14016, D3-14017 (SNOMED-RT Coding System)</li> <li>• 414545008, 413439005, 413838009, 194828000 (SNOMED-CT Coding System)</li> </ul> <p><u>Consider CAD: Documented as text but not coded<sup>2</sup>:</u> Patients WITHOUT CAD diagnosis coded who are NOT excluded, AND with CAD documented as one of the following text diagnoses or problems:</p> <p>"CAD," "C.A.D.," "coronary artery dis," "CVD," "C.V.D.," "cardiovascular disease," "IHD," "I.H.D.," "ischemic hrt dis," "ischemic heart dis," "M.I.," "myocardial"</p> <p><u>Consider CAD: Dx in 2+ bills<sup>3</sup>:</u> Patients WITHOUT CAD diagnosis coded who are NOT excluded and have two or more bills containing a diagnosis of 410, 411, 412, 413, 414, or 429</p>

<sup>1</sup> Optional: Implementer may include EMR-specific information on the workflow for documenting diagnosis codes.

<sup>2</sup> Optional: Implementer may include EMR-specific information on the workflow for documenting diagnosis text.

<sup>3</sup> Optional: Implementer may include EMR-specific information on the workflow for submitting patient bills.

PROPERTY	VALUE
	<p><u>Consider CAD: Total:</u> Combined list of all patients WITHOUT CAD diagnosis coded and who are NOT excluded, who have been identified as potentially having CAD by Dx in 2+ bills or by CAD documented with a text diagnosis or problem.</p> <p><u>CAD Exclusion<sup>4</sup>:</u> Patients WITHOUT CAD diagnosis coded who have been intentionally excluded (within EMRs that support this functionality). This group should be reviewed periodically to ensure that the exclusion still applies.</p>

---

<sup>4</sup> Optional: Implementer may include EMR-specific information on the workflow for excluding patients.

## 2.2 Indicator Segment Properties

PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE
Indicator Segment ID	1	2	3	4	5
Indicator Segment Label	CAD Coded	Consider CAD: Documented as text but not coded	Consider CAD: Dx in 2+ bills	Consider CAD: Total	CAD excluded
Display Indicator Segment	Yes	Yes	Yes	Yes	Yes
Indicator Segment Query Criteria	<b>COUNT OF:</b> Active patients age 18 and over  WITH a coded diagnosis of Coronary Artery Disease (CAD)	<b>COUNT OF:</b> Active patients age 18 and over  WITHOUT a coded diagnosis of Coronary Artery Disease (CAD)  <b>AND</b> WITH CAD documented as text diagnosis or problem  <b>AND</b> who are not excluded	<b>COUNT OF:</b> Active patients age 18 and over  WITHOUT a coded diagnosis of Coronary Artery Disease (CAD)  <b>AND</b> WITH two or more bills containing a CAD diagnosis  <b>AND</b> who are not excluded	<b>COUNT OF:</b> Active patients age 18 and over  WITHOUT a coded diagnosis of Coronary Artery Disease (CAD)  <b>AND</b> (WITH CAD documented as text diagnosis or problem  <b>OR</b> WITH two or more bills containing a CAD diagnosis)  <b>AND</b> who are not excluded	<b>COUNT OF:</b> Active patients age 18 and over  <b>WITHOUT</b> a coded diagnosis of Coronary Artery Disease (CAD)  <b>AND</b> who are excluded
Indicator Segment Query Notes	<p><b>Active Patients</b> are patients identified as 'Active' in the <i>Patient Status</i> data element (DE01.016) within <i>Patient Demographics</i>.</p> <p><b>Patient Age</b> can be calculated based on the difference between the current date and the patient's date of birth captured in the <i>Date of Birth</i> data element (DE01.007) within <i>Patient Demographics</i>.</p>				



PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE
	<p><b>CAD Coded Diagnosis</b> is any of the following codes captured in the <i>Diagnosis/Problem</i> (DE06.004) within <i>Ongoing Health</i>:</p> <p>410, 411, 412, 413, 414, 429.2 (ICD-9 Coding System)</p> <p>I25, I20 (ICD-10 Coding System)</p> <p>D3-13040, D3-10030 IHD, D3-14016, D3-14017 (SNOMED-RT Coding System)</p> <p>414545008, 413439005, 413838009, 194828000 (SNOMED-CT Coding System)</p> <p><b>CAD Text Diagnosis or Problem</b> is any of the following text elements captured in the <i>Diagnosis/Problem</i> data elements within <i>Ongoing Health</i> (DE06.004) or <i>Past Medical &amp; Surgical</i> (DE07.004):</p> <p>"CAD," "C.A.D.," "coronary artery dis," "CVD," "C.V.D.," "cardiovascular disease," "IHD," "I.H.D.," "ischemic hrt dis," "ischemic heart dis," "M.I.," "myocardial"</p> <p><b>Bills Containing a CAD Diagnosis</b> are any bills submitted for a patient with any of the following diagnosis codes attached:</p> <p>410, 411, 412, 413, 414, 429</p> <p>All codes correspond to diagnoses within the ICD-9 Coding System.</p> <p><b>CAD Excluded</b> is patients who are identified for exclusion from consideration for a CAD diagnosis. This can be implemented through the creation and utilization of a population cohort specifically created for the purpose of CAD diagnosis exclusion. Adoption of a population cohort for this purpose is optional, and query criteria for CAD exclusion will be bypassed in EMRs where the exclusion cohort is not utilized.</p>				
Patient List Criteria	<p><b>Mandatory</b></p> <p>Patient Name</p> <p>Unique Patient Identifier</p>	<p><b>Mandatory</b></p> <p>Patient Name</p> <p>Unique Patient Identifier</p>	<p><b>Mandatory</b></p> <p>Patient Name</p> <p>Unique Patient Identifier</p>	<p><b>Mandatory</b></p> <p>Patient Name</p> <p>Unique Patient Identifier</p>	<p><b>Mandatory</b></p> <p>Patient Name</p> <p>Unique Patient Identifier</p>

PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE
	<b>Optional</b> Patient Date of Birth Patient Age Patient Phone Number CAD Diagnosis Codes	<b>Optional</b> Patient Date of Birth Patient Age Patient Phone Number CAD Text Diagnoses	<b>Optional</b> Patient Date of Birth Patient Age Patient Phone Number Count of Bills with CAD Diagnosis	<b>Optional</b> Patient Date of Birth Patient Age Patient Phone Number CAD Text Diagnoses Count of Bills with CAD Diagnosis	<b>Optional</b> Patient Date of Birth Patient Age Patient Phone Number
Patient List Notes	<p><b>Patient Name</b> is a combination of First Name (DE01.003) and Last Name (DE01.002) data items from <i>Patient Demographics</i>. Names may be displayed either as separate columns or concatenated into one column.</p> <p><b>Unique Patient Identifier</b> is any data item from <i>Patient Demographics</i> that can be used by a physician or clinic to uniquely identify a patient when displayed. Examples include Health Card Number (DE01.008) or Chart Number (DE01.012).</p> <p><b>Patient Date of Birth</b> is captured into <i>Patient Demographics</i> as <i>Date of Birth</i> (DE01.007).</p> <p><b>Patient Age</b> is a calculated data item representing the difference between the current date and <i>Date of Birth</i> (DE01.007) from <i>Patient Demographics</i>. Age should be displayed in years.</p> <p><b>Patient Phone Number</b> is the preferred phone number for contacting a patient and may include <i>Residence Phone</i> (DE02.007), <i>Cell Phone</i> (DE02.008) or <i>Work Phone</i> (DE02.009) from <i>Patient Address</i>.</p> <p><b>CAD Diagnosis Codes</b> is a delimited listing of all diagnosis codes for CAD that have been captured in the <i>Ongoing Health Diagnosis/Problem</i> data element (DE06.004) for a patient.</p> <p><b>CAD Text Diagnoses</b> is a delimited listing of all text elements for CAD that have been captured in <i>Ongoing Health Diagnosis/Problem</i> (DE06.004) for a patient.</p>				

PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE
	Count of Bills with CAD Diagnosis is a count of bills submitted for a patient with a CAD diagnosis attached.				