

ORACLE CERNER® GUIDE

ATHEROSCLEROTIC CARDIOVASCULAR DISEASE

EHR TOOLBOX

PATIENT IDENTIFICATION GUIDE

Collaborating with your organization to enable identification of patients at risk for and with atherosclerotic cardiovascular disease (ASCVD)

- **ASCVD Risk Calculator**
 - Identifying patients at risk for ASCVD and determining their risk level
- **Primary and Secondary Prevention of ASCVD - Create Patient Lists to:**
 - A. Identify patients at risk for ASCVD and high LDL-C (Primary Prevention)
 - B. Identify patients with ASCVD and high LDL-C (Secondary Prevention)
 - C. Identify ASCVD patients by other relevant factors

ASCVD Risk Calculator

Identifying Patients at Risk and Their Risk Level

CONSIDERATIONS^{1*}

The ASCVD Risk Calculator is available in the Oracle Cerner Electronic Health Records (EHR) system. It is based on the risk model published by the American Heart Association and American College of Cardiology.

The ASCVD Risk Calculator estimates a patient's 10-year risk of developing ASCVD based on data from representative population samples. The calculator will stratify patients into 4 categories of percentage of risk as follows:



The calculator is intended for use in patients 40 to 75 years of age with an LDL-C \geq 70 to < 190 mg/dL.² The ASCVD risk score does not require input from end users and can be shown in various areas of the patient chart. The standard ranges for calculation are set to:

- HDL Cholesterol: <20 or >100 mg/dL
- Total Cholesterol: <130 or >320 mg/dL
- Systolic Blood Pressure: <90 or >200 mmHg

¹If patient characteristics fall outside of the applicable data ranges for any entries (ie, age under 40 or over 79), a risk score may not be generated.

This guide describes how to access and use the ASCVD Risk Calculator. Each health system may have a protocol for accessing and using the risk calculator. Please consult your organization for any additional information. The instructions are not intended to replace your health system's protocols, nor an endorsement or recommendation. Any decision related to patient care should be made by their health care provider(s).

These instructions are created specifically to access and utilize the ASCVD Risk Calculator in the Oracle Cerner EHR systems by Novartis and will not work for other conditions, treatments, therapeutic areas, or on other EHR systems.

The process outlined is variable, and not all steps will apply to every health system. Any steps or settings that are not part of a health system's standard process should be excluded or modified accordingly. Any questions should be directed to the appropriate service provider. The practice is solely responsible for implementing, testing, monitoring, and ongoing operation of any EHR tools.

End users of the ASCVD Risk Calculator should be offered training. In most instances, end users will have already been trained on this process, thereby reducing the need for additional training.

INSTRUCTIONS

The ASCVD Risk Calculator Score is available as part of the Physician Experience: EBMcalc (formerly MedCalc 3000).

To access the ASCVD Risk Score, follow the steps below:

1. Open a patient chart
2. In the Navigator, select the **Calculators** tab (if not available, click the **+ sign** and select **Calculators** from the **Select a View** menu)
3. The Calculators window will display the EBMcalc (formerly MedCalc 3000) available clinical calculators
4. Select **All Calcs** or **Criteria** from the menu and scroll down to Cardiovascular Risk Assessment (10-year, ACC/AHA 2013)
5. Click on the **Cardiovascular Risk Assessment** (10-year, ACC/AHA 2013) link to access the calculator
6. Click **Copy to Clipboard** to paste the results in the patient's chart

To add ASCVD Risk Score as a structured data element:

Confirm if a discrete task assay (DTA) is available for the ASCVD Risk Calculator Score. If none is available, create a new DTA:

1. Launch **DCPTools.exe** to access the DTA wizard
2. Click **Clear** in the DTA wizard
3. Create a new DTA with the same Unique Mnemonic and Description (based on the organization's naming conventions, for example ASCVD Risk Calculator Score). Set the Result type and the Result Range to 0-100 (%). Press **OK** once completed
4. Associate the Event Code to the Event Set by clicking on the binoculars icon. Click **Apply** to complete the DTA creation process

Note: The ASCVD Risk Calculator Score can be added to a PowerForm and/or used in Powerchart.

To add the ASCVD Risk Score in reports:

Oracle Cerner has several reporting tools available to identify patients using the ASCVD Risk Calculator Score Result. Dynamic Work List and Discern Analytics 2 (DA2) are reporting tool options and may be used to create this patient query.

Option 1 – Dynamic Work List

1. Select **Dynamic Work List** from the menu. The Dynamic Work List wizard will display
2. Select **Create Work List** from the **List Actions** drop-down menu
3. The Create New Work List wizard has 3 tabs: 1. **Work List Type**, 2. **Criteria**, and 3. **Summary**

1. Work List Type

- a. Enter a name in the **Name Your Work List** to define the patient list
- b. Select the radio button for **Group/Provider** or **Location** as desired and complete the **Group/Provider's Relationship Type** or the **Location's Facility, Building, and Unit**

INSTRUCTIONS (cont)

1. Work List Type (cont)

- c. In the **Relationship Type**, select all desired roles (for example, Primary Care Physician, Nurse Practitioner, etc). This may vary based on how the EHR was set up
- d. Click **Next**

2. Criteria

- a. Select the **Results** criteria. Depending on the setup of Dynamic Work List by the organization, the ASCVD Risk Calculator Score can be added to the Results filter. With admin privileges, access the Bedrock wizard and set up the Clinical Event Concept and the Event Filters. Add the previously created Event Set (see step 1 above)
- b. Click **Next**

3. Summary

- a. Review the selected criteria and click **Finish** to run the patient list
- b. The names of patients will display. Clicking on the **List Actions** drop-down menu allows you to export the list of patients to Excel by clicking **Export**

Option 2 – Discern Analytics 2 (DA2)

1. Launch **Discern Analytics 2.0**. Look for **DA2.exe** in the Oracle Cerner applications folder
2. Click the **Domains** tab to access available domains
3. Select **File > New > Query** or select the desired domain by double-clicking it
4. The query wizard will display available categories
5. For the clinical criteria:
 - a. **Clinical Events > Clinical Events Results criteria**. Search for and select the previously created ASCVD Risk Calculator Score
 - b. Click **Include** once satisfied with the selected range
6. Select all the desired columns to include in the report by clicking the right arrow or dragging the selected folders to the **Columns** window
7. Consider a column that uses the **Date** and **Date/Time** qualifications to set the look-back period
8. Set the general criteria for the report (name, version, time-out range, etc) and save the query
9. Click **Query > Query review** or **Run Query** in **Viewer** in the **Query** tab to run the query
10. The results will display. The results may be further manipulated if desired (once exported to Excel, for further manipulation of the data)

Primary and Secondary Prevention of ASCVD

CONSIDERATIONS

Atherosclerotic cardiovascular disease is caused by the formation of atherosclerotic plaque in arterial walls and is composed of multiple conditions, such as coronary artery disease/acute coronary syndrome, cerebrovascular disease, and peripheral artery disease.^{3,4}

These instructions are created by Novartis for health system customers to create a Patient List and to use the demographic and clinical variables from the 2018 Guideline on the Management of Blood Cholesterol from the American College of Cardiology specifically in the Oracle Cerner EHR system, and will not work for other conditions, treatments, therapeutic areas, or on other EHR systems.

The process outlined is variable, and not all steps will apply to every health system. Any steps or settings that are not part of a health system's standard process should be excluded or modified accordingly. Any questions should be directed to the appropriate service provider. The practice is solely responsible for implementing, testing, monitoring, and ongoing operation of any EHR tools.

Diagnosis groupers can be used in Oracle Cerner reporting solutions to build patient lists. Health systems may already have a diagnosis grouper for ASCVD that they would like to use. If no such groupers are available, consider creating a diagnosis grouper for ASCVD.

End users of the Patient List should be offered training on the use of the reporting solutions. In most instances, end users will have already been trained in this process, thereby reducing the need for additional training.

A. Identify Patients at Risk for ASCVD and High LDL-C (Primary Prevention)

Primary prevention refers to a group of patients where the aim is to attempt to prevent or delay the onset of clinical ASCVD.

Inclusion Criteria for Primary Prevention of ASCVD should include more than one code(s) for:

Hyperlipidemia + Diabetes and LDL-C > 100 mg/dL

Or

Familial Hypercholesterolemia (HeFH) and LDL-C > 100 mg/dL

Hyperlipidemia	Diabetes	Familial Hypercholesterolemia (HeFH)	LDL-C
E78.00 Pure Hypercholesterolemia, Unspecified	E08 Diabetes Mellitus due to underlying condition	E78.01 Familial Hypercholesterolemia	LDL-C > 100 mg/dL
E78.2 Mixed Hyperlipidemia	E09 Drug or chemical induced Diabetes Mellitus	Z83.42 Family History of Familial Hypercholesterolemia	
E78.4 Other Hyperlipidemia	E10 Type 1 Diabetes Mellitus	E75.5 Other Lipid Storage Disorders	
E78.49 Other Hyperlipidemia	E11 Type 2 Diabetes Mellitus		
E78.5 Hyperlipidemia, Unspecified	E13 Other specified Diabetes Mellitus		

B. Identify Patients With ASCVD and High LDL-C (Secondary Prevention)

Secondary prevention may refer to a group of patients where the aim is to attempt to treat a diagnosis of ASCVD without prior myocardial infarction (MI) or stroke and clinical ASCVD with prior MI or stroke.

The inclusion criteria are:

ICD-10 suggesting ASCVD:

- I20, I21, I22, I23, I24, and I25: Ischemic heart diseases

- Note: This is designated to be a range of codes inclusive of the code series I20-I25

- I63: Cerebral infarction

- I70: Atherosclerosis

- I73.9: Peripheral vascular disease, unspecified

- I74: Arterial embolism and thrombosis

- I75: Atheroembolism

AND

LDL-C \geq 70 mg/dL

INSTRUCTIONS

Oracle Cerner has several reporting tools available to identify patients with ASCVD and an LDL-C \geq 70 mg/dL. A Dynamic Work List or Discern Analytics 2 (DA2) report are reporting tool options and may be used to create this patient query.

Option 1 – Dynamic Work List

1. Select **Dynamic Work List** from the menu. The Dynamic Work List wizard will display
2. Select **Create Work List** from the **List Actions** drop-down menu
3. The Create New Work List wizard has 3 tabs: 1. **Work List Type**, 2. **Criteria**, and 3. **Summary**

1. Work List Type

- a. Enter a name in the **Name Your Work List** to define the patient list (ie, ASCVD Patients_Dr.ABC)
- b. Select the radio button for **Group/Provider** or **Location** as desired and complete the **Group/Provider's Relationship Type** or the **Location's Facility, Building, and Unit**
- c. In the **Relationship Type**, select all desired roles (for example, Primary Care Physician, Nurse Practitioner, etc). This may vary based on how the EHR was set up
- d. Click **Next**

2. Criteria

- a. Click on the **Conditions** criteria
- b. Set the operator logic to **AND**
- c. Select all ASCVD conditions
- d. Click on **Laboratory**

INSTRUCTIONS (cont)

2. Criteria (cont)

- e. Set the operator logic to **AND**
- f. In the Name field, enter **LDL-C**
- g. Set the **Quantity** field to **At Least 1**
- h. Set the **Value** to **≥ 70 or 100 (depending on primary or secondary prevention)**
- i. Set the desired **Lookback Range (for example, 1 year)**
- j. Click **+Add**
- k. Click **Next**

3. Summary

- a. Review the selected criteria and click **Finish** to run the patient list
- b. The names of patients will display. Clicking on the **List Actions** drop-down menu allows you to export the list of patients to Excel by clicking **Export**

*Note: If ASCVD Conditions in step 2 Criteria are not available, they may be created or modified in the **Bedrock wizard** (Care Management under the Solutions Column). Double-click **Registry** and **Conditions Set Set-up**. Click **Add** to create a new Condition Set or modify an existing Condition Set, and enter a unique name for the Condition Set and move all desired conditions. Click **Save** to complete the build process.*

*Optional: Patients can be reached by clicking **Generate Communication**. A new window will open, where a letter template can be created and sent to the patient.*

Option 2 – DA2

1. Launch **Discern Analytics 2.0**. Look for **DA2.exe** in the Oracle Cerner applications folder
2. Click the **Domains** tab to access available domains
3. Select **File > New > Query** or select the desired domain by double-clicking it
4. The query wizard will display available categories
5. In the **Qualifications** window, select the **Diagnosis Code Filter** and click **Modify Filter List**
6. Type **desired ICD-10 codes** in the search box and select the desired codes. Click **Include**
7. In the **Qualifications** window, select the **Clinical Events Results Filter**
8. Select **LDL-C** from the available list of qualifications
9. Set the range to **≥ 70 or 100**. Click **Include**
10. To include one of the selected diagnoses (set in step 6) and an LDL-C value **≥ 70 or 100** (set in step 9), set the operator logic to **AND**
11. Select all the desired columns to include in the report by clicking the right arrow or dragging the selected folders to the **Columns** window (ie, First Name, Last Name, Primary Care Physician, Diagnoses, etc)

INSTRUCTIONS (cont)

- a. Consider a column that uses the **Date** and **Date/Time** qualifications to set the look-back period
12. Set the general criteria for the report (name, version, time-out range, etc) and save the query
13. Click **Query > Query review** or **Run Query** in **Viewer** in the **Query** tab to run the query
14. The results will display. Export to Excel for further manipulation of data

*Optional: Patients can be reached by clicking **Generate Communication**. A new window will open, where a letter template can be created and sent to the patient.*

C. Identify Patients by Other Relevant Factors

While high LDL-C is an important driver of ASCVD and a cause of atherosclerosis, other factors contribute as well and can increase a patient’s level of risk, such as age, cigarette smoking, hypertension, dysglycemia, and other lipoprotein abnormalities.⁵

In addition to the previous criteria, the inclusion criteria[†] and associated ICD-10 code categories[†] are:

Column A		Column B		Column C
I11.0	Hypertensive heart disease and heart failure	E78.01	Heterozygous familial hypercholesterolemia	F17.2, Z72 Current smoker
I12	Hypertensive chronic kidney disease	E08, E09, E10, E11, E12, E13	Diabetes Mellitus	Age ≥ 65 years (see selection instructions below)
I13.1	Hypertensive heart and chronic kidney disease	Z95.5, Z98.61, I25.810	History of prior coronary artery bypass surgery or PCI outside of the major ASCVD event(s)	
I13.0, I13.2	Hypertensive heart disease, heart failure, and chronic kidney disease	I10, I11.9, I13.1, I15	Hypertension	
		N18	Chronic kidney disease (eGFR 15-59mL/min/1.73m ²)	
		I13.2, I50	History of congestive heart failure	

[†]One inclusion criterium from **Column A** or two or more of the inclusion criteria from **Column B and/or C** should be selected to identify patients with elevated risk.

[†]Codes may require additional subcategories.

A Dynamic Work List or Discern Analytics 2 (DA2) report are reporting tool options and may be used to create this patient query.

INSTRUCTIONS

Option 1 – Dynamic Work List

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2. Select **Create Work List** from the **List Actions** drop-down menu
3. The Create New Work List wizard has 3 tabs: 1. **Work List Type**, 2. **Criteria**, and 3. **Summary**
 1. **Work List Type**
 - a. Enter a name in the **Name Your Work List** to define the patient list
 - b. Select the radio button for **Group/Provider** or **Location** as desired and complete the **Group/Provider’s Relationship Type** or the **Location’s Facility, Building, and Unit**
 - c. In the **Relationship Type**, select all desired roles (for example, Primary Care Physician, Nurse Practitioner, etc). This may vary based on how the EHR was set up
 - d. Click **Next**

INSTRUCTIONS (cont)

2. Criteria

- a. For the demographic criteria:
 - i. Select the **Age** criterium. Set the range to ≥ 65
- b. For the clinical criteria:
 - i. Select the Conditions and Laboratory criteria. Enter the desired lab results and ranges. Click **+Add**. Continue to set the other clinical criteria
- c. Once criteria is finalized, click **Next**

3. Summary

- a. Review the selected criteria and click **Finish** to run the patient list
- b. The names of patients will display. Clicking on the **List Actions** drop-down menu allows to export the list of patients to Excel by clicking **Export**

Option 2 – Discern Analytics 2 (DA2)

1. Launch **Discern Analytics 2.0**. Look for **DA2.exe** in the Oracle Cerner applications folder
2. Click the **Domains** tab to access available domains
3. Select **File > New > Query** or select the desired domain by double-clicking it
4. The query wizard will display available categories
5. For the demographic criteria:
 - a. Select the **Person > Age** criterium. Set the range to ≥ 65
6. For the clinical criteria:
 - a. Select the **Qualifications for Encounter > Diagnosis Codes, Encounters > Procedures, Clinical Events > Clinical Events Results criteria**. Enter the desired lab results and ranges. Click **Include**. Repeat for any additional criteria as needed
7. Set the operator logic to **AND** to indicate that all qualifications must be satisfied
8. Select all the desired columns to include in the report by clicking the right arrow or dragging the selected folders to the **Columns** window
9. Consider a column that uses the **Date** and **Date/Time** qualifications to set the look-back period
10. Set the general criteria for the report (name, version, time-out range, etc) and save the query
11. Click **Query > Query review** or **Run Query** in **Viewer** in the **Query** tab to run the query
12. The results will display. The results may be further manipulated if desired (once exported to Excel, for further manipulation of the data)

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