

EPIC® 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

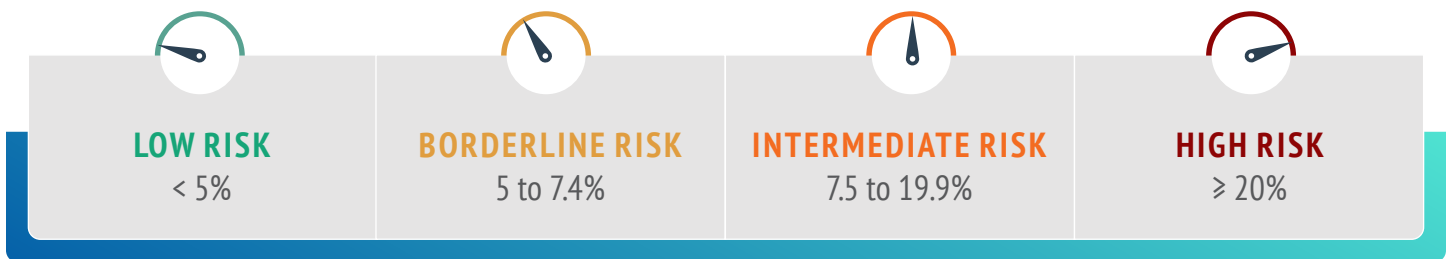
ASCVD Risk Calculator

Identifying Patients at Risk and Their Risk Level

CONSIDERATIONS^{1*}

The ASCVD Risk Calculator is available in the Epic 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 ≥ 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

^{1*}If 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 Epic 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

To add the ASCVD Risk Score in a progress note:

Enter .ASCVDRISK to add the detailed 10-year ASCVD risk calculation in any patient note (SmartPhrase option) or leverage the SmartLink (6701 – ASCVD 10-Year Risk Score [mnemonic ASCVDRISK]). An abbreviated SmartPhrase is available too; enter .ASCVDRISKSHORT to insert only the ASCVD score

To add the ASCVD Risk Score In a Visit Summary Report, Chart Review, or Patient Summary Report:

1. Access **Clinical Administration** and access **Reports, Print Groups > Reports** and open the desired report (Visit Summary, Chart Review, or Patient Summary)
2. Select the **Report Definition** screen and add the ASCVD print group (56701)

To display ASCVD risk scores by default using HealthyPlanet and Storyboard:

Shows the ASCVD risk score by default, no further setup required (Print Group 56701 – ASCVD 10-Year Risk Score)
The ASCVD risk score is included in the Diabetes and Wellness-All registries

To create a patient list using the ASCVD Risk Score In Reporting WorkBench Reports:

1. Access **Reporting Workbench (Epic logo > Reporting > My Reports)**
2. Select the **Library** tab in the left menu
3. Select a desired report (for example, the Find Patients-Generic Report template)
4. Click the **Display** tab and add column **4708 – ASCVD 10-Year Risk Score** to the **Selected Column**
5. **Option:** Click the **Display** tab and column “**Last LDL**” to the **Selected Column**. Set the range to greater than or equal to XX mg/dL
6. Complete any other desired report settings and save the report

To leverage the ASCVD Risk Score In BestPractice Advisories (BPAs):

1. Create a Criteria record and select **Other Criteria**
2. Enter **6761-ASCVD Risk Score** BPA in the extension field
3. Complete the Base records as desired to complete the BPA build

Primary and Secondary Prevention of ASCVD

CONSIDERATIONS

Atherosclerotic cardiovascular disease (ASCVD) 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 Epic 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 Epic 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 refers 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

Step 1: ASCVD Diagnosis Grouper

(This step is optional and only needs to be completed if no diagnosis grouper records are available.)

1. Create a **Grouper Record** for the ICD-10 diagnosis codes
2. Access the **Grouper Record Editor** in **Tools > Management Console > Concept Related** (an existing diagnosis grouper may already exist; confirm before creating a new version)
3. Select the **Diagnoses (EDG) master file**, set the type to **ICD-10 codes**, and find and select the desired ICD-10 codes
4. Save the diagnosis grouper

Step 2: Option 1 – SlicerDicer

1. Access **SlicerDicer** (click the **Epic logo > Reports > SlicerDicer**)
2. Click **New** to start a new query
3. Click the **drop-down arrow** next to **All Patients** and select **My Patients** from the list
4. Click **+ Add Criteria**. A new window will display
5. Select the **All** tab on the bottom of the SlicerDicer window to display all filters
6. Click the **Diagnosis** folder
7. Select the **Diagnosis** filter from the available options

INSTRUCTIONS (cont)

8. Enter the **ASCVD Diagnosis Grouper** created in step 1 in the search field
9. Select the **ASCVD Diagnosis Grouper** to add it as a filter
10. Click **+ Add Criteria**. A new window will display
11. Select the **All** tab on the bottom of the SlicerDicer window to display all filters
12. Click the **Lab Components** folder
13. Click in the **Lab component field** and enter **LDL-C**
14. Set the value to ≥ 70
15. Click **Save As** to save the query and refine the query results
16. **“Unlink”** the Lab Component from the Diagnosis criteria by clicking the **“link icon”** in order to **“unlink”** the two, to ensure that any lab component will be pulled historically
17. Export the new report to **Reporting Workbench**
18. In the **General** tab, enter the desired **Report Name** and a **Description**
19. Click **Save and Run** to create the patient list. The list will display all patients matching the criteria
20. Select the **Filters** tab to narrow down the results by filter (optional)

Step 2: Option 2 – Reporting Workbench

1. Access **Reporting Workbench** (click the **Epic logo > Reports > My Reports**)
2. Navigate to the **Library** tab from the **Reports** menu
3. Enter **“generic criteria”** or **“find patients”** in the search field and click **Search**
4. Select the **Find My Patients – Generic Criteria** report and click **New** (note: a report template for LDL values may be available. Consider entering the search term “LDL” to see if a report is available)
5. The **Report Settings** field will display. Click the **Criteria** tab in the toolbar
6. Click **Add** new criterion and select a criterion. Enter **“diagnosis”** in the search field (**Filter Criteria**). Click **Finish**
7. Select **Diagnosis by Grouper** in the search field, and click **Finish**
8. In the first row (**Relationship**), enter the **ASCVD Diagnosis Grouper** record (created in step 1 above)
9. Add any other desired criteria
10. Click **Add** and **Select a Property**. Add **Last Result Value** by entering **Last Result Value** in the search field (**Filter Criteria**)
11. Select **LDL-C** (or **Last LDL**) and set the value to ≥ 70 or > 100 (**depending on primary or secondary prevention**). Click **Finish**
12. Click the **Display** tab. Confirm the Selected **Columns** window (ie, First Name, Last Name, Primary Care Physician, Last Visit, Diagnoses, etc)
13. In the **General** tab, enter the desired **Report Name** and a **Description**
14. Click **Save and Run** to create the patient list. The list will display all patients matching the criteria
15. Select the **Filters** tab to narrow down the results by filter (optional)

INSTRUCTIONS (cont)

Step 3 (Optional)

To reach out to patients, click the **Communication** button from the menu. There are 4 options available. Patients will be sorted based on their preferred method of communication (the number indicates the number of patients):

- a. **Mail**
- b. **Phone**
- c. **MyChart**
- d. **Do Not Contact** (patients who have expressed to not be contacted and will not receive any outbound message)

C. Identify ASCVD 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

One of Epic’s reporting solutions, Reporting Workbench or SlicerDicer, may be used to identify patients with ASCVD, elevated LDL-C, and other variables. Consult your organization if administrative user rights are required to access the reporting solutions.

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.

Health systems may have diagnosis groupers that may be leveraged for this report. If no such groupers are available, consider creating the groupers. The grouper record may be used in both reporting solutions and for other reporting purposes.

INSTRUCTIONS

Step 1

(This step is optional and only needs to be completed if no diagnosis grouper records are available.)

Diagnosis Grouper:

1. Create a **Grouper Record** for the ICD-10 diagnoses codes
2. Access the **Grouper Record Editor** in **Tools > Management Console > Concept Related** (an existing diagnosis grouper may already exist; confirm before creating a new version)
3. Select the **Diagnoses (EDG) master file** and select the desired **ICD-10 codes**
4. Save the diagnosis grouper
5. Repeat steps 1-4 for the creation of the procedures grouper (an existing procedures grouper may already exist; confirm before creating a new version)

Option 1 – Reporting Workbench

1. Access **Reporting Workbench** (click the **Epic logo > Reports > My Reports**)
2. Navigate to the **Library** tab from the **Reports** menu
3. Enter “generic criteria” or “find patients” in the search field and click **Search**
4. Select the **Find My Patients – Generic Criteria** report and click **New**
5. The Report Settings field will display. Click the **Criteria** tab in the toolbar
6. Click **Add new criterion** and select a criterion
7. For the Demographic Criterion:
 - a. Select the **Age** criterium. Set the range to ≥ 65
8. Click **Add** and **Select a Property**
9. For the Clinical Criteria:

Select the **Diagnosis by Grouper**, and **Results** criteria. Select the desired data elements and set the value ranges. Click **Include**. Repeat for any additional criteria as needed
10. Click **Finish**
11. Click the **Display** tab. Confirm the Selected **Columns** window
12. In the **General** tab, enter the desired **Report Name** and a **Description**
13. Click **Save and Run** to create the patient list. The list will display all patients matching the criteria
14. Select the **Filters** tab to narrow down the results by filter (optional)

INSTRUCTIONS (cont)

Option 2 – SlicerDicer

1. Access **SlicerDicer** (click the **Epic logo** > **Reports** > **SlicerDicer**)
2. Click **New** to start a new query
3. Click the **drop-down arrow** next to **All Patients** and select **My Patients** from the list
4. Click **+ Add Criteria**. A new window will display
5. Select the **All** tab on the bottom of the SlicerDicer window to display all filters
6. For the Demographic Criterium:
 - a. Select the **Age** criterium. Set the range to ≥ 65
7. Click **Add** and **Select a Property**
8. For the Clinical Criteria:
 - a. Select the **Diagnosis by Grouper** and **Lab Component** criteria. Select the desired data elements and set the value ranges. Click **Include**. Repeat for any additional criteria as needed
9. **“Unlink”** the Lab Component from the Diagnosis criteria by clicking the **“link icon”** to **“unlink”** the two, ensuring that any lab component will be pulled historically
10. Click **Save As** to save the query and refine the query results
11. Export the new report to **Reporting Workbench**
12. In the **General** tab, enter the desired **Report Name** and a **Description**
13. Click **Save and Run** to create the patient list. The list will display all patients matching the criteria
14. Select the **Filters** tab to narrow down the results by filter (optional)

REFERENCES

1. ASCVD Risk Estimator Plus. American College of Cardiology Website. Accessed January 16, 2024. <http://tools.acc.org/ASCVD-Risk-Estimator-Plus/#!/calculate/estimate>
2. Grundy SM, Stone NJ, Bailey AL, et al. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA guideline on the management of blood cholesterol. *Circulation*. 2019;139:e1082-e1143.
3. Virani S, Alonso A, Aparicio HJ, et al. Heart disease and stroke statistics—2021 update: a report from the American Heart Association. *Circulation*. 2021;143(8):e254-e743. DOI: 10.1161/CIR.0000000000000950
4. Zhao Z, Zhu Y, Fang Y, et al. Healthcare resource utilization and costs in working-age patients with high-risk atherosclerotic cardiovascular disease: findings from a multi-employer claims database. *J Med Econ*. 2015;18(9):655-665.
5. Feldman DI, Valero-Elizondo J, Salami JA, et al. Is diabetes mellitus equivalent to atherosclerotic cardiovascular disease from a healthcare cost perspective? Insights from the Medical Expenditure Survey: 2010-2013. *Cardiovasc Endocrinol Metab*. 2017;7:64-67.

Novartis is not responsible for the implementation, testing, and ongoing operation of any EHR tools. If you have any questions pertaining to the use of these guides, please refer to your internal IT/IS department. These tools are not designed for, and have not been demonstrated to meet, any accreditation requirements. The instructions included in this brochure are applicable to the Epic platform and are not guaranteed to work for any other software platforms.

Epic® is a registered trademark of Epic Systems Corporation.

For more information on how the Novartis HIT Team can collaborate with your organization to identify shared priorities, please email: HIT.Novartis@novartis.com