

eCQM Title	HIV Screening		
eCQM Identifier (Measure Authoring Tool)	349	eCQM Version Number	7.0.000
CBE Number	Not Applicable	GUID	ed78899d-2375-4d68-aa63-58e1734f5694
Measurement Period	January 1, 20XX through December 31, 20XX		
Measure Steward	Centers for Disease Control and Prevention (CDC)		
Measure Developer	Mathematica		
Endorsed By	None		
Description	Percentage of patients aged 15-65 at the start of the measurement period who were between 15-65 years old when tested for human immunodeficiency virus (HIV).		
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Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	<p>HIV is a communicable infection that leads to a progressive disease with a long asymptomatic period. There were an estimated 32,100 new HIV infections in the United States in 2021 (Centers for Disease Control and Prevention, 2023a). Without treatment, most persons develop acquired immunodeficiency syndrome (AIDS) within 10 years of HIV infection. Antiretroviral therapy (ART) delays this progression and increases the length of survival, but it is most effective when initiated during the asymptomatic phase. Persons living with HIV who use ART and achieve viral suppression can have a nearly normal life expectancy (Samji et al., 2013). The Department of Health and Human Services (DHHS) Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents recommends immediate antiretroviral therapy for all HIV-infected individuals, regardless of CD4 count at diagnosis, to reduce the risk of disease progression (Panel on Antiretroviral Guidelines for Adults and Adolescents, 2022).</p> <p>CDC estimates that, in 2021, approximately 13% of the 1.2 million adults and adolescents living with HIV infection in the United States were unaware of their infection (CDC, 2023a). Among persons diagnosed with HIV in 2021, approximately 21% were diagnosed with Stage 3 HIV (AIDS) at the time of HIV diagnosis (CDC, 2023b), which is when there is a CD4 lymphocyte count of less than 200 cells/mm3 or a CD4 percentage of total lymphocytes of less than 14 or documentation of AIDS-defining condition at diagnosis (CDC, 2023b). HIV screening identifies infected persons who were previously unaware of their infection, which enables them to seek medical and social services that can improve their health and the quality and length of their lives. Additionally, using ART with high levels of medication adherence has been shown to substantially reduce the risk of HIV transmission (Panel on Antiretroviral Guidelines for Adults and Adolescents, 2022).</p> <p>Based on the Behavioral Risk Factor Surveillance System (BRFSS), the percentage of ever tested for HIV increased from 42.9% in 2011 to 45.9% in 2017. Despite this increase, less than half of US adults have ever been tested for HIV over ten years after CDC's recommendations (Patel et al., 2019).</p> <p>The US Preventive Services Task Force recommends that clinicians screen for HIV infection in adolescents and adults aged 15 to 65 years. Younger adolescents and older adults who are at increased risk should also be screened (A Recommendation) (Owens et al., 2019).</p> <p>Since 2006, the CDC has recommended routine opt-out HIV screening (i.e., patient is notified that testing will be performed unless the patient declines) in healthcare facilities of adolescents and adults 13-64 years of age and HIV diagnostic testing of adolescents and adults with clinical signs or symptoms consistent with HIV infection (Centers for Disease Control and Prevention, 2006).</p>		
Clinical Recommendation Statement	<p>Higher score indicates better quality</p>		
Reference	<p>Reference Type: CITATION</p> <p>Reference Text: 'Centers for Disease Control and Prevention. (2023a). Estimated HIV incidence and prevalence in the United States, 2017–2021. HIV Surveillance Supplemental Report, 2023; 28 (No.3). Retrieved from http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html'</p>		
Reference	<p>Reference Type: CITATION</p> <p>Reference Text: 'Centers for Disease Control and Prevention. (2023b). Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2021. HIV Surveillance Supplemental Report, 2023; 28(4). Retrieved from http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html.'</p>		
Reference	<p>Reference Type: CITATION</p> <p>Reference Text: 'Centers for Disease Control and Prevention. (2006). Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health care settings. Morbidity and Mortality Weekly Report, 55(RR-14), 1-17.'</p>		
Reference	<p>Reference Type: CITATION</p> <p>Reference Text: 'Owens, on behalf of the U.S. Preventive Task Force. (2019). Screening for HIV: US Preventive Services Task Force Recommendation Statement. JAMA, 321(23), 2326-2336.'</p>		
Reference	<p>Reference Type: CITATION</p> <p>Reference Text: 'Panel on Antiretroviral Guidelines for Adults and Adolescents with HIV. (2022). Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Retrieved from https://clinicalinfo.hiv.gov/sites/default/files/guidelines/documents/adult-adolescent-arv/guidelines-adult-adolescent-arv.pdf'</p>		
Reference	<p>Reference Type: CITATION</p> <p>Reference Text: 'Patel, D., Johnson, C.H., Krueger, A. et al. (2019). Trends in HIV Testing Among US Adults, Aged 18–64 Years, 2011–2017. AIDS Behav.'</p>		
Reference	<p>Reference Type: CITATION</p> <p>Reference Text: 'Samji, H., Cescon, A., Hogg, R. S., et al. (2013). Closing the gap: Increases in life expectancy among treated HIV-positive individuals in the United States and Canada. PLoS One, 8, e81355.'</p>		
Definition	None		
Guidance	<p>This measure evaluates the proportion of patients aged 15 to 65 at the start of the measurement period who have documentation of having received an HIV test at least once on or after their 15th birthday and before their 66th birthday. In order to satisfy the measure, the reporting provider must have documentation of the administration of the laboratory test present in the patient's medical record. In cases where the HIV test was performed elsewhere, providers cannot rely on patient attestation or self-report to meet the measure requirements, as previous research has shown that patient self-report is an unreliable indicator of previous HIV testing history. Rather, providers must request documentation of those test results. If such documentation is not available, the patient should be considered still eligible for HIV screening. If such documentation is available, but cannot be provided in a standardized, structured format (such that the lab test and results can be readily incorporated as structured data within the EHR), providers should enter the information into their EHR as a laboratory test in a manner consistent with the EHR in use. If the specific Human Immunodeficiency Virus (HIV) Laboratory Test LOINC code of the test is not known, the entry should use the more generic code LOINC panel code [75622-1].</p> <p>This eCQM is a patient-based measure.</p> <p>This version of the eCQM uses QDM version 5.6. Please refer to the eCQI resource center (https://ecqi.healthit.gov/qdm) for more information on the QDM.</p>		
Transmission Format	TBD		
Initial Population	Patients 15 to 65 years of age at the start of the measurement period AND who had at least one outpatient visit during the day of the measurement period		
Denominator	Equals Initial Population		
Denominator Exclusions	Patients diagnosed with HIV prior to the day of the start of the measurement period		
Numerator	Patients with documentation of an HIV test performed on or after their 15th birthday and before their 66th birthday		
Numerator Exclusions	Not Applicable		
Denominator Exceptions	Patients who die on or before the end of the day of the measurement period		
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity and sex		

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Population Criteria

Initial Population

AgeInYearsAt(date from start of "Measurement Period") in Interval[15, 65] and exists "Qualifying Encounters"

Denominator

"Initial Population"

Denominator Exclusions

exists (["Diagnosis": "HIV"] HIV where HIV.prevalencePeriod starts before day of start of "Measurement Period")

Numerator

("Has HIV Test Performed")

Numerator Exclusions

None

Denominator Exceptions

exists (["Patient Characteristic Expired": "Dead (finding)"] Deceased where ToDate(Deceased.expiredDatetime) occurs on or before day of end of "Measurement Period")

Stratification

None

Definitions

Denominator

"Initial Population"

Denominator Exception

exists (["Patient Characteristic Expired": "Dead (finding)"] Deceased where ToDate(Deceased.expiredDatetime) occurs on or before day of end of "Measurement Period")

Denominator Exclusions

exists (["Diagnosis": "HIV"] HIV where HIV.prevalencePeriod starts before day of start of "Measurement Period")

Has HIV Test Performed

exists (["Laboratory Test, Performed": "HIV Lab Tests"] union ["Laboratory Test, Performed": "HIV 1 and 2 tests - Meaningful Use set"]) HIVTest where HIVTest.result is not null and AgeInYearsAt(Coalesce(date from start of Global."NormalizeInterval"(HIVTest.relevantDatetime, HIVTest.relevantPeriod)) in Interval[15, 65] and (Global."NormalizeInterval" (HIVTest.relevantDatetime, HIVTest.relevantPeriod) starts before day of end of "Measurement Period" or HIVTest.resultDatetime before end of "Measurement Period")

Initial Population

AgeInYearsAt(date from start of "Measurement Period") in Interval[15, 65] and exists "Qualifying Encounters"

Numerator

("Has HIV Test Performed")

Qualifying Encounters

(["Encounter, Performed": "Preventive Care Services, Initial Office Visit, 0 to 17"] union ["Encounter, Performed": "Preventive Care Services Initial Office Visit, 18 and Up"] union ["Encounter, Performed": "Preventive Care, Established Office Visit, 0 to 17"] union ["Encounter, Performed": "Preventive Care Services Established Office Visit, 18 and Up"] union ["Encounter, Performed": "Office Visit"]) Encounter where Encounter.relevantPeriod during day of "Measurement Period"

SDE Ethnicity

["Patient Characteristic Ethnicity": "Ethnicity"]

SDE Payer

["Patient Characteristic Payer": "Payer Type"]

SDE Race

["Patient Characteristic Race": "Race"]

SDE Sex

["Patient Characteristic Sex": "ONC Administrative Sex"]

Functions

Global.NormalizeInterval(pointInTime DateTime, period Interval-DateTime>)

if pointInTime is not null then Interval[pointInTime, pointInTime] else if period is not null then period else null as Interval-DateTime>

Terminology

- code "Dead (finding)" ("SNOMEDCT Code (419099009)")
- code "HIV 1 and 2 tests - Meaningful Use set" ("LOINC Code (75622-1)")
- valueSet "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueSet "HIV" (2.16.840.1.113883.3.464.1003.120.12.1003)
- valueSet "HIV Lab Tests" (2.16.840.1.113762.1.4.1056.50)
- valueSet "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueSet "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueSet "Payer Type" (2.16.840.1.114222.4.11.3591)
- valueSet "Preventive Care Services Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueSet "Preventive Care Services, Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueSet "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueSet "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueSet "Race" (2.16.840.1.114222.4.11.836)

Data Criteria (QDM Data Elements)

- "Diagnosis: HIV" using "HIV (2.16.840.1.113883.3.464.1003.120.12.1003)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Preventive Care Services Established Office Visit, 18 and Up" using "Preventive Care Services Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services Initial Office Visit, 18 and Up" using "Preventive Care Services Initial Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Encounter, Performed: Preventive Care Services, Initial Office Visit, 0 to 17" using "Preventive Care Services, Initial Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1022)"
- "Laboratory Test, Performed: HIV 1 and 2 tests - Meaningful Use set" using "HIV 1 and 2 tests - Meaningful Use set (LOINC Code 75622-1)"
- "Laboratory Test, Performed: HIV Lab Tests" using "HIV Lab Tests (2.16.840.1.113762.1.4.1056.50)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Expired: Dead (finding)" using "Dead (finding) (SNOMEDCT Code 419099009)"
- "Patient Characteristic Payer: Payer Type" using "Payer Type (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)"

Supplemental Data Elements

SDE Ethnicity

["Patient Characteristic Ethnicity": "Ethnicity"]

SDE Payer

["Patient Characteristic Payer": "Payer Type"]

SDE Race

["Patient Characteristic Race": "Race"]

SDE Sex

["Patient Characteristic Sex": "ONC Administrative Sex"]

Risk Adjustment Variables

None

Measure Set	NA