Appropriate Testing for Pharyngitis eCQM Title eCQM Identifier (Measure Authoring 13.0.000 146 eCQM Version Number **CBE Number** beb1c33c-2549-4e7f-9567-05ed38448464 Not Applicable GUID Measurement Period January 1, 20XX through December 31, 20XX **Measure Steward** National Committee for Quality Assurance National Committee for Quality Assurance Measure Developer **Endorsed By** None The percentage of episodes for patients 3 years and older with a diagnosis of pharyngitis that resulted in an antibiotic order on or three Description days after the episode date and a group A streptococcus (strep) test in the seven-day period from three days prior to the episode date through three days after the episode date This Physician Performance Measure (Measure) and related data specifications are owned and were developed by the National Committee for Quality Assurance (NCQA). NCQA is not responsible for any use of the Measure. 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"HL7" is the registered trademark of Health Level Seven International. The performance Measure is not a clinical guideline and does not establish a standard of medical care, and has not been tested for all potential applications. THE MEASURE AND SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. Disclaimer Due to technical limitations, registered trademarks are indicated by (R) or [R] and unregistered trademarks are indicated by (TM) or [TM]. **Measure Scoring** Proportion **Measure Type Process** - 3-17 years Stratification - 18-64 years - 65 years and older **Risk Adjustment** None None **Rate Aggregation** Group A streptococcal (GAS) bacterial infections and other infections that cause pharyngitis (which are most often viral) often produce the same signs and symptoms (Shulman et al., 2012). The American Academy of Pediatrics, the Centers for Disease Control and Prevention, and the Infectious Diseases Society of America all recommend a diagnostic test for Strep A to improve diagnostic accuracy and avoid unnecessary antibiotic treatment (Linder et al., 2005). Rationale Estimated economic costs of pediatric streptococcal pharyngitis in the United States range from \$224 million to \$539 million per year, including indirect costs related to parental work losses. At a higher level, the economic cost of antibiotic resistance varies but has extended as high as \$20 billion in excess direct healthcare costs, with additional costs to society for lost productivity as high as \$35 billion a year (2008 dollars) (Pfoh et al., 2008). Infectious Disease Society of America (Shulman et al., 2012) **Clinical Recommendation Statement** The Infectious Diseases Society of America "recommends swabbing the throat and testing for GAS pharyngitis by rapid antigen detection test (RADT) and/or culture because the clinical features alone do not reliably discriminate between GAS and viral pharyngitis except when overt viral features like rhinorrhea, cough, oral ulcers, and/or hoarseness are present" Higher score indicates better quality Improvement Notation Reference Type: CITATION Reference Reference Text: 'Linder, J. A., Bates, D. W., Lee, G. M., et al. (2005). Antibiotic Treatment of Children with Sore Throat. JAMA, 294(18), 2315-2322.' Reference Type: CITATION Reference Reference Text: 'Pfoh, E., Wessels, M.R., Goldmann, D., et al. (2008). Burden and Economic Cost of Group A Streptococcal Pharyngitis. Pediatrics, 121(2), 229-234. doi: 10.1542/peds.2007-0484 Reference Type: CITATION Reference Reference Text: 'Shulman, S. T., Bisno, A. L., Clegg, H. W., et al. (2012). Clinical Practice Guideline for the Diagnosis and Management of Group A Streptococcal Pharyngitis: 2012 Update by the Infectious Diseases Society of America. Clinical Infectious Diseases, 55(10), E86-E102. doi:10.1093/cid/cis629 Definition None This is an episode of care measure that examines all eligible episodes for the patient. The intent is to determine whether antibiotics are being ordered appropriately. Antibiotics should only be ordered if a strep test has been performed to confirm a bacterial infection. Antibiotics should not be ordered for viral infections. Antibiotics should be ordered on or three days after the episode date. Guidance This eCQM is an episode-based measure. An episode is defined as each eligible encounter for patients aged 3 years and older with a diagnosis of pharyngitis that resulted in an antibiotic order from January 1 to December 28 of the measurement period. 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. **Transmission Format** TBD Outpatient, telephone, virtual encounter (i.e., e-visit or virtual check-in), or emergency department (ED) visits with a diagnosis of **Initial Population** pharyngitis or tonsillitis from January 1 to December 28 of the measurement period and an antibiotic order on or three days after the episode date among patients 3 years or older Denominator **Equals Initial Population** Exclude pharyngitis episodes when the patient had hospice care for any part of the measurement period. Exclude pharyngitis episodes when the patient had a comorbid condition during the 12 months prior to or on the episode date. **Denominator Exclusions** Exclude pharyngitis episodes where the patient is taking antibiotics in the 30 days prior to the episode date. Exclude pharyngitis episodes where the patient had a competing diagnosis on or three days after the episode date. A group A streptococcus test in the seven-day period from three days prior to the episode date through three days after the episode Numerator date **Numerator Exclusions** Not Applicable **Denominator Exceptions** None **Supplemental Data Elements** For every patient evaluated by this measure also identify payer, race, ethnicity and sex **Table of Contents** Population Criteria **Definitions Functions** Data Criteria (QDM Data Elements) Supplemental Data Elements **Population Criteria** ▲ Initial Population "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis where AgeInYearsAt(date from start of "Measurement Period") >= 3 return EncounterWithPharyngitis **▲ Denominator** "Initial Population" **▲ Denominator Exclusions** "Encounters and Assessments with Hospice Patient" union "Encounter With Comorbid Condition Prior" union "Encounter With Antibiotic Active In 30 Days Prior to Episode Date" union "Encounter With Competing Diagnosis for Upper Respiratory Infection" ▲ Numerator "Group A Streptococcus Lab Test With Result" GroupAStreptococcusTest, "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis where (Global."NormalizeInterval" (GroupAStreptococcusTest.relevantDatetime, GroupAStreptococcusTest.relevantPeriod) starts during day of Interval[(end of EncounterWithPharyngitis.relevantPeriod) - 3 days, (end of EncounterWithPharyngitis.relevantPeriod) + 3 days]) return EncounterWithPharyngitis Numerator Exclusions None ■ Denominator Exceptions None ■ Stratification 1 "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis where AgeInYearsAt(date from start of "Measurement Period") in Interval[3, 17] return EncounterWithPharyngitis "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis where AgeInYearsAt(date from start of "Measurement Period") in Interval[18, 64] return EncounterWithPharyngitis **▲** Stratification 3 "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis where AgeInYearsAt(date from start of "Measurement Period") >= 65 return EncounterWithPharyngitis **Definitions** Denominator "Initial Population" ▲ Denominator Exclusions "Encounters and Assessments with Hospice Patient" union "Encounter With Comorbid Condition Prior" union "Encounter With Antibiotic Active In 30 Days Prior to Episode Date" union "Encounter With Competing Diagnosis for Upper Respiratory Infection" ▲ Encounter With Antibiotic Active In 30 Days Prior to Episode Date "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis with ["Medication, Active": "Antibiotic Medications for Pharyngitis"] ActiveAntibiotic such that (Global."NormalizeInterval" (ActiveAntibiotic.relevantDatetime, ActiveAntibiotic.relevantPeriod) overlaps day of Interval[start of EncounterWithPharyngitis.relevantPeriod - 30 days, start of EncounterWithPharyngitis.relevantPeriod - 1 day]) return EncounterWithPharyngitis ▲ Encounter With Antibiotic Ordered Within Three Days "Qualifying Encounters" EDOrAmbulatoryVisit with ["Medication, Order": "Antibiotic Medications for Pharyngitis"] AntibioticOrdered such that (start of EDOrAmbulatoryVisit.relevantPeriod) 3 days or less on or before day of AntibioticOrdered.authorDatetime ▲ Encounter With Comorbid Condition Prior "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis with ["Diagnosis": "Comorbid Conditions for Respiratory Conditions"] ComorbidCondition such that start of ComorbidCondition.prevalencePeriod in day of Interval[start of EncounterWithPharyngitis.relevantPeriod - 1 year, start of EncounterWithPharyngitis.relevantPeriod] return EncounterWithPharyngitis ▲ Encounter With Competing Diagnosis for Upper Respiratory Infection "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis with ["Diagnosis": "Competing Conditions for Respiratory Conditions"] CompetingCondition such that CompetingCondition.prevalencePeriod starts 3 days or less on or after day of start of EncounterWithPharyngitis.relevantPeriod return EncounterWithPharyngitis **▲** Encounter With Pharyngitis or Tonsillitis With Antibiotic "Encounter With Antibiotic Ordered Within Three Days" VisitWithAntibiotic, "Pharyngitis or Tonsillitis" AcutePharyngitisTonsillitis where AcutePharyngitisTonsillitis.prevalencePeriod starts during day of VisitWithAntibiotic.relevantPeriod return VisitWithAntibiotic ▲ Encounters and Assessments with Hospice Patient "Initial Population" EligibleEncounters where Hospice."Has Hospice Services" ["Laboratory Test, Performed": "Group A Streptococcus Test"] GroupAStreptococcusTest where GroupAStreptococcusTest.result is not null ▲ Hospice.Has Hospice Services exists (["Encounter, Performed": "Encounter Inpatient"] InpatientEncounter where (InpatientEncounter.dischargeDisposition ~ "Discharge to home for hospice care (procedure)" or InpatientEncounter dischargeDisposition ~ "Discharge to healthcare facility for hospice care (procedure)" and InpatientEncounter.relevantPeriod ends during day of "Measurement Period" or exists (["Encounter, Performed": "Hospice Encounter"] HospiceEncounter where HospiceEncounter.relevantPeriod overlaps day of "Measurement Period" or exists (["Assessment, Performed": "Hospice care [Minimum Data Set]"] HospiceAssessment where HospiceAssessment.result ~ "Yes (qualifier value)" and Global."NormalizeInterval" (HospiceAssessment.relevantDatetime, HospiceAssessment.relevantPeriod) overlaps day of "Measurement Period"

where HospiceCareDiagnosis.prevalencePeriod overlaps day of "Measurement Period" **▲ Initial Population**

EncounterWithPharyngitis.relevantPeriod) - 3 days, (end of EncounterWithPharyngitis.relevantPeriod) + 3 days])

union ["Encounter, Performed": "Preventive Care, Established Office Visit, 0 to 17"]) ValidEncounters

where ValidEncounters relevantPeriod ends during day of Interval[start of "Measurement Period", end of "Measurement Period" - 3 days]

"Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis

or exists (["Intervention, Performed": "Hospice Care Ambulatory"] HospicePerformed

where Global. "NormalizeInterval" (HospicePerformed.relevantDatetime, HospicePerformed.relevantPeriod) overlaps day of "Measurement Period"

where (Global."NormalizeInterval" (GroupAStreptococcusTest.relevantDatetime, GroupAStreptococcusTest.relevantPeriod) starts during day of Interval[(end of

or exists (["Intervention, Order": "Hospice Care Ambulatory"] HospiceOrder where HospiceOrder.authorDatetime during day of "Measurement Period"

or exists (["Diagnosis": "Hospice Diagnosis"] HospiceCareDiagnosis

where AgeInYearsAt(date from start of "Measurement Period") >= 3

"Group A Streptococcus Lab Test With Result" GroupAStreptococcusTest, "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis

return EncounterWithPharyngitis

return EncounterWithPharyngitis

(["Diagnosis": "Acute Pharyngitis"] union ["Diagnosis": "Acute Tonsillitis"]

▲ Pharyngitis or Tonsillitis

Numerator

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■ Qualifying Encounters
               ( ["Encounter, Performed": "Emergency Department Evaluation and Management Visit"] union ["Encounter, Performed": "Home Healthcare Services"] union ["Encounter, Performed": "Medical Disability Exam"]
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union ["Encounter, Performed": "Office Visit"]
union ["Encounter, Performed": "Telephone Visits"]

union ["Encounter, Performed": "Virtual Encounter"]
union ["Encounter, Performed": "Virtual Encounter"]
union ["Encounter, Performed": "Outpatient Consultation"]
union ["Encounter, Performed": "Preventive Care Services Established Office Visit, 18 and Up"]
union ["Encounter, Performed": "Preventive Care Services Group Counseling"] union ["Encounter, Performed": "Unlisted preventive medicine service"]
union ["Encounter, Performed": "Preventive Care Services, Initial Office Visit, 0 to 17"] union ["Encounter, Performed": "Preventive Care Services Individual Counseling"] union ["Encounter, Performed": "Preventive Care Services Initial Office Visit, 18 and Up"]

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

▲ SDE Race
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["Patient Characteristic Race": "Race"]

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

"Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis where AgeInYearsAt(date from start of "Measurement Period") in Interval[3, 17]

"Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis

▲ Global.NormalizeInterval(pointInTime DateTime, period Interval<DateTime>)

if pointInTime is not null then Interval[pointInTime, pointInTime]

["Patient Characteristic Ethnicity": "Ethnicity"]

▲ SDE Ethnicity

▲ SDE Sex

■ Stratification 1

▲ Stratification 3

Terminology

▲ Stratification 2 "Encounter With Pharyngitis or Tonsillitis With Antibiotic" EncounterWithPharyngitis where AgeInYearsAt(date from start of "Measurement Period") in Interval[18, 64] return EncounterWithPharyngitis

return EncounterWithPharyngitis

where AgeInYearsAt(date from start of "Measurement Period") >= 65 return EncounterWithPharyngitis **Functions**

> else if period is not null then period else null as Interval<DateTime>

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code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)") code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)") code "Hospice care [Minimum Data Set]" ("LOINC Code (4575-6)") code "Unlisted preventive medicine service" ("CPT Code (99429") code "Yes (qualifier value)" ("SNOMEDCT Code (373066001)") valueset "Acute Pharyngitis" (2.16.840.1.113883.3.464.1003.102.12.1011) valueset "Acute Pharyngitis" (2.16.840.1.113883.3.464.1003.102.12.1012) valueset "Acute Tonsillitis" (2.16.840.1.113883.3.464.1003.102.12.1012) valueset "Comorbid Conditions for Pharyngitis" (2.16.840.1.113883.3.464.1003.102.12.1012) valueset "Competing Conditions for Respiratory Conditions" (2.16.840.1.113883.3.464.1003.102.12.1025) valueset "Competing Conditions for Respiratory Conditions" (2.16.840.1.113883.3.464.1003.102.12.1017) valueset "Emergency Department Evaluation and Management Visit" (2.16.840.1.113883.3.464.1003.101.12.1010) valueset "Encounter Inpatient" (2.16.840.1.113883.3.464.1003.198.12.1012) valueset "Ethnicity" (2.16.840.1.113883.3.464.103.101.12.1016) valueset "Hospice Care Ambulatory" (2.16.840.1.113883.3.464.1003.101.12.1016) valueset "Hospice Care Ambulatory" (2.16.840.1.113883.3.464.1003.101.12.1016) valueset "Hospice Encounter" (2.16.840.1.113883.3.464.1003.101.12.1073) valueset "Medical Disability Exam" (2.16.840.1.113883.3.464.1003.101.12.1073) valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1008) valueset "ONC Administrative Sex" (2.16.840.1.113883.3.464.1003.101.12.1008) valueset "Preventive Care Services Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1026) valueset "Preventive Care Services Individual Counselling" (2.16.840.1.113883.3.464.1003.101.12.1026) valueset "Preventive Care Services Individual Counselling" (2.16.840.1.113883.3.464.1003.101.12.1026) valueset "Preventive Care Services Individual Counselling" (2.16.840.1.113883.3.464.1003.101.12.1026) valueset "Preventive Care Services Indiv
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valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080) valueset "Virtual Encounter" (2.16.840.1.113883.3.464.1003.101.12.1089) **Data Criteria (QDM Data Elements)** "Assessment, Performed: Hospice care [Minimum Data Set]" using "Hospice care [Minimum Data Set] (LOINC Code 45755-6)" "Diagnosis: Acute Pharyngitis" using "Acute Pharyngitis (2.16.840.1.113883.3.464.1003.102.12.1011)" "Diagnosis: Acute Tonsillitis" using "Acute Tonsillitis" (2.16.840.1.113883.3.464.1003.102.12.1012)" "Diagnosis: Comorbid Conditions for Respiratory Conditions" using "Comorbid Conditions for Respiratory Conditions (2.16.840.1.113883.3.464.1003.102.12.1025)

"Encounter, Performed: Emergency Department Evaluation and Management Visit" using "Emergency Department Evaluation and Management Visit (2.16.840.1.113883.3.464.1003.101.12.1010)" "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)" "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"

"Diagnosis: Competing Conditions for Respiratory Conditions" using "Competing Conditions for Respiratory Conditions (2.16.840.1.113883.3.464.1003.102.12.1017)" "Diagnosis: Hospice Diagnosis" using "Hospice Diagnosis (2.16.840.1.113883.3.464.1003.1165)"

"Medication, Order: Antibiotic Medications for Pharyngitis" using "Antibiotic Medications for Pharyngitis (2.16.840.1.113883.3.464.1003.196.12.1001)"

"Encounter, Performed: Hospice Encounter" using "Hospice Encounter (2.16.840.1.113883.3.464.1003.1003)"
"Encounter, Performed: Medical Disability Exam" using "Medical Disability Exam (2.16.840.1.113883.3.464.1003.101.12.1073)"
"Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"

"Encounter, Performed: Outpatient Consultation" using "Outpatient Consultation (2.16.840.1.113883.3.464.1003.101.12.1008)" "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 Group Counseling" using "Preventive Care Services Group Counseling (2.16.840.1.113883.3.464.1003.101.12.1027)" "Encounter, Performed: Preventive Care Services Individual Counseling" using "Preventive Care Services Individual Counseling (2.16.840.1.113883.3.464.1003.101.12.1026)" "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)" "Encounter, Performed: Preventive Care, Established Office Visit, 0 to 17" using "Preventive Care, Established Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1024)" "Encounter, Performed: Telephone Visits" using "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)" "Encounter, Performed: Unlisted preventive medicine service" using "Unlisted preventive medicine service (CPT Code 99429)" "Encounter, Performed: Virtual Encounter" using "Virtual Encounter (2.16.840.1.113883.3.464.1003.101.12.1089)" "Intervention, Order: Hospice Care Ambulatory" using "Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584)"
"Intervention, Performed: Hospice Care Ambulatory" using "Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584)"
"Laboratory Test, Performed: Group A Streptococcus Test" using "Group A Streptococcus Test (2.16.840.1.113883.3.464.1003.198.12.1012)"
"Medication, Active: Antibiotic Medications for Pharyngitis" using "Antibiotic Medications for Pharyngitis (2.16.840.1.113883.3.464.1003.196.12.1001)"

"Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837) "Patient Characteristic Payer: Payer Type" using "Payer Type (2.16.840.1.114222.4.11.3591)"

"Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

"Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"

Supplemental Data Elements ▲ SDE Ethnicity ["Patient Characteristic Ethnicity": "Ethnicity"] ▲ SDE Payer

None

Risk Adjustment Variables None

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

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

Measure Set