

Proposed Updates to Existing Measures for HEDIS^{®1} 2020: Digital Measurement Strategy

NCQA seeks comments on our approach to gradually add digital format to HEDIS measures, and to add the *Electronic Clinical Data Systems* (ECDS) reporting standard to three existing measures for voluntary reporting. These efforts are part of a greater [strategy](#) to encourage health information exchange,² which will improve our ability to measure and improve the quality of health care.

NCQA is engaged in several efforts to incorporate electronic clinical data more formally into HEDIS. Two such efforts involve adding the digital format to existing measures and adding the ECDS data collection and reporting standard to a subset of these measures.

Digital Format. NCQA is adding digital format to HEDIS using the Quality Data Model and clinical quality language standards, which align HEDIS specifications with eMeasures used for CMS provider-level reporting. This allows faster implementation in quality reporting systems and lessens the need for interpretation during programming, all of which improve the efficiency and consistency of measure calculations. We anticipate offering several HEDIS measures in digital format in the coming year (Appendix 1). We focused on measures that cross different domains of care and populations. NCQA plans to continue adding digital format to HEDIS measures over the next several years.

Electronic Clinical Data Systems Reporting. As we add digital format to HEDIS, we are assessing measures for the [Electronic Clinical Data Systems](#) (ECDS) reporting method. ECDS reorients HEDIS towards better and more standardized use of electronic clinical data. ECDS relies on structured data within electronic data sources, including 1) electronic health records, 2) health information exchanges/clinical registries, 3) case management systems, and 4) administrative files (claims and enrollment data). ECDS reporting incorporates into the HEDIS report more of the data that are “supplemental” under the traditional HEDIS reporting rules. ECDS removes burdensome manual data collection and expands access to clinical data beyond just claims, which will enhance value for patients, clinicians, payers and plans and move the field towards more meaningful measurement.

NCQA recognizes that plans are in different stages of health information technology integration. **To give plans an opportunity to assess their ability to report existing measures as ECDS, NCQA would like to open three measures for voluntary ECDS reporting alongside their traditional counterparts for HEDIS 2020.** Performance rates using the *traditional* reporting method (i.e., administrative or hybrid) will be used for programs and benchmarks. NCQA will provide technical assistance and best practice resources for plans as they continue to explore different pathways to support data exchange.

Stakeholders with whom we spoke supported this work and recommended NCQA focus this first year of expanded ECDS reporting on a few select measures of high importance to health plans and stakeholders, such as those widely used in programs, with different product lines and populations represented. As such, NCQA is proposing the following measures for voluntary ECDS reporting alongside traditional reporting:

- *Breast Cancer Screening*
- *Colorectal Cancer Screening*
- *Follow-up Care for Children Prescribed ADHD Medication*

Supporting documents for public comment include the draft human readable file for each digital HEDIS measure proposed for HEDIS 2020.

NCQA acknowledges the contributions of the Technical Measurement Advisory Panel, Audit Advisory Panel, Digital Measures Collaborative, and many other stakeholders who commented on this work.

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² The Office of the National Coordinator for Health Information Technology defines *Health Information Exchange* as the appropriate access and secure sharing of a patient’s medical information electronically by health care professionals and patients.

Appendix 1. Digital Measures Planned for Release in 2019 – DRAFT WORKING LIST

Measure	Current Reporting Method ¹	
	Admin	Hybrid
Prevention and Screening		
1 Childhood Immunization Status		✓
2 Immunizations for Adolescents		✓
3 Cervical Cancer Screening		✓
4 Breast Cancer Screening	✓	
5 Colorectal Cancer Screening		✓
Chronic Conditions		
6 Statin Therapy for Patients with CVD	✓	
Acute Care		
7 Appropriate Testing for Children With Pharyngitis	✓	
8 Appropriate Treatment for Children With Upper Respiratory Infection	✓	
9 Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	✓	
10 Follow-up After Hospitalization for Mental Illness	✓	
Medication Management		
11 Medication Reconciliation Post-Discharge		✓
12 Follow-up Care for Children Prescribed ADHD Medication	✓	
Appropriateness/Overuse		
13 Opioids from Multiple Providers	✓	
14 Metabolic Monitoring for Children and Adolescents on Antipsychotics	✓	
15 Non-Recommended Cervical Cancer Screening in Adolescent Females	✓	
16 Non-Recommended PSA-Based Screening in Older Men	✓	
17 Potentially Harmful Drug-Disease Interactions in the Elderly	✓	
18 Use of High-Risk Medications in the Elderly	✓	
Access/Availability of Care		
19 Prenatal and Postpartum Care	✓	

¹HEDIS Data Collection and Reporting Methods

Admin - Administrative *only* method, i.e., claims and enrollment data

Hybrid - Administrative data with medical record review of a sample of the eligible population

Measure Title	Breast Cancer Screening	Measure ID	BCS
Description	The percentage of women 50–74 years of age who had a mammogram to screen for breast cancer.		
Measurement Period	January 1-December 31.		
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<p>Clinical Recommendation Statement</p> <p>Reference</p>	<p>commercial use license directly from the AHA. To inquire about licensing, contact ub04@healthforum.com.</p> <p>Some measure specifications contain coding from LOINC® (http://loinc.org). The LOINC table, LOINC codes, LOINC panels and form file, LOINC linguistic variants file, LOINC/RSNA Radiology Playbook, and LOINC/IEEE Medical Device Code Mapping Table are copyright © 1995–2019, Regenstrief Institute, Inc. and the Logical Observation Identifiers Names and Codes (LOINC) Committee and is available at no cost under the license at http://loinc.org/terms-of-use.</p> <p>“SNOMED” and “SNOMED CT” are registered trademarks of the International Health Terminology Standards Development Organisation (IHTSDO).</p> <p>“HL7” is the registered trademark of Health Level Seven International.</p> <p>© 2019 by the National Committee for Quality Assurance 1100 13th Street, NW, Third Floor Washington, DC 20005</p> <p>NCQA Customer Support: 888-275-7585 NCQA Fax: 202-955-3599 NCQA Website: www.ncqa.org NCQA Policy Clarification Support at: http://my.ncqa.org</p> <p>The U.S. Preventive Services Task Force recommends screening women aged 50 to 74 years for breast cancer every 2 years.</p> <p>U.S. Preventive Services Task Force. (2016). Screening for Breast Cancer: U.S. Preventive Services Task Force Recommendation Statement. <i>Ann Intern Med.</i> 164(4):279-96.</p>
<p>Characteristics</p>	
<p>Scoring</p> <p>Type</p> <p>Item Count</p> <p>Stratification</p> <p>Risk adjustment</p> <p>Improvement Notation</p> <p>Guidance</p>	<p>Proportion.</p> <p>Process.</p> <p>Members.</p> <ol style="list-style-type: none"> 1. Commercial. 2. Medicaid. 3. Medicare: Non-LIS/DE and Nondisability. 4. Medicare: LIS/DE. 5. Medicare: Disability. 6. Medicare: LIS/DE and Disability. 7. Medicare: Other. 8. Medicare: Unknown. <p>None.</p> <p>A higher score indicates better performance.</p> <p>The US Preventive Services Task Force Guideline recommends biennial mammography screenings. This measure includes a 3-month grace period for eligible screenings.</p>

	<p>Allocation: The member was continuously enrolled with a medical benefit throughout the participation period.</p>
Definitions	
Participation	The identifiers and descriptors for each organization's coverage used to define members' eligibility for measure reporting. Allocation for reporting is based on eligibility during the participation period.
Participation Period	October 1 two years prior to the Measurement Period through the end of the measurement period.
Initial Population	Women 52–74 years of age by the end of the measurement period.
Exclusions	<p>Exclude members with any of the following:</p> <ul style="list-style-type: none"> • In hospice or using hospice services during the measurement period. • A bilateral mastectomy or two separate unilateral mastectomy procedures any time during the member's history through the end of the measurement period. • Medicare members 66 years of age and older by the end of the measurement period who meet either of the following: <ul style="list-style-type: none"> ○ Enrolled in an Institutional SNP (I-SNP) any time during the measurement period. ○ Living long-term in an institution any time during the measurement period as identified by the LTI flag in the Monthly Membership Detail Data File. • Members 66 years of age and older by the end of the measurement period with frailty and advanced illness.
Denominator	The initial population, minus exclusions.
Numerator	One or more mammograms any time on or between October 1 two years prior to the measurement period and the end of the measurement period.
Data Criteria (Element Level)	
<p>Value Sets:</p> <ul style="list-style-type: none"> • "Device, Applied: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1004.1530)" • "Device, Order: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1004.1530)" • "Diagnosis: Absence of Left Breast" using "Absence of Left Breast (2.16.840.1.113883.3.464.1004.1329)" • "Diagnosis: Absence of Right Breast" using "Absence of Right Breast (2.16.840.1.113883.3.464.1004.1330)" • "Diagnosis: Frailty Diagnosis" using "Frailty Diagnosis (2.16.840.1.113883.3.464.1004.1531)" • "Diagnosis: History of Bilateral Mastectomy" using "History of Bilateral Mastectomy (2.16.840.1.113883.3.464.1004.1331)" • "Diagnostic Study, Performed: Mammography" using "Mammography (2.16.840.1.113883.3.464.1004.1168)" • "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1004.1810)" • "Encounter, Performed: ED" using "ED (2.16.840.1.113883.3.464.1004.1086)" • "Encounter, Performed: Frailty Encounter" using "Frailty Encounter (2.16.840.1.113883.3.464.1004.1532)" • "Encounter, Performed: Hospice Encounter" using "Hospice Encounter (2.16.840.1.113883.3.464.1004.1761)" • "Encounter, Performed: Nonacute Inpatient" using "Nonacute Inpatient (2.16.840.1.113883.3.464.1004.1189)" 	

- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1004.1191)"
- "Encounter, Performed: Outpatient" using "Outpatient (2.16.840.1.113883.3.464.1004.1202)"
- "Intervention, Order: Hospice Intervention" using "Hospice Intervention (2.16.840.1.113883.3.464.1004.1762)"
- "Intervention, Performed: Hospice Intervention" using "Hospice Intervention (2.16.840.1.113883.3.464.1004.1762)"
- "Medication, Active: Dementia Medications" using "Dementia Medications (2.16.840.1.113883.3.464.1004.1729)"
- "Participation: Commercial" using "Commercial (2.16.840.1.113883.3.464.1004.1518)"
- "Participation: Medicaid" using "Medicaid (2.16.840.1.113883.3.464.1004.1517)"
- "Participation: Medicare" using "Medicare (2.16.840.1.113883.3.464.1004.1516)"
- "Patient Characteristic Payer: Commercial" using "Commercial (2.16.840.1.113883.3.464.1004.1518)"
- "Patient Characteristic Payer: Medicaid" using "Medicaid (2.16.840.1.113883.3.464.1004.1517)"
- "Patient Characteristic Payer: Medicare" using "Medicare (2.16.840.1.113883.3.464.1004.1516)"
- "Procedure, Performed: Bilateral Mastectomy" using "Bilateral Mastectomy (2.16.840.1.113883.3.464.1004.1042)"
- "Procedure, Performed: Unilateral Mastectomy Left" using "Unilateral Mastectomy Left (2.16.840.1.113883.3.464.1004.1334)"
- "Procedure, Performed: Unilateral Mastectomy Right" using "Unilateral Mastectomy Right (2.16.840.1.113883.3.464.1004.1335)"
- "Procedure, Performed: Unilateral Mastectomy" using "Unilateral Mastectomy (2.16.840.1.113883.3.464.1004.1256)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1004.1533)"

Direct Reference Codes:

- "Patient Characteristic Sex: Female" using "Female (AdministrativeGender Code F)"

Attributes:

- valueset "Advanced Illness" (2.16.840.1.113883.3.464.1004.1465)
- valueset "Bilateral Modifier" (2.16.840.1.113883.3.464.1004.1043)
- valueset "Left Modifier" (2.16.840.1.113883.3.464.1004.1148)
- valueset "Right Modifier" (2.16.840.1.113883.3.464.1004.1230)

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Population Criteria

- **Initial Population**
 - exists (["Patient Characteristic Birthdate"] BirthDate
 - where Common."CalendarAgeInYearsAt"(BirthDate.birthDatetime,
 - end of "Measurement Period"
 -)in Interval[52, 74]
 -)
 - and exists ["Patient Characteristic Sex": "Female"]
 - and "Participation Period"
- **Denominator**
 - "Initial Population"
- **Denominator Exclusions**
 - exists "Hospice Exclusion"
 - or "Mastectomy Exclusion"
 - or AdvancedIllnessFrailty."Advanced Illness and Frailty Exclusion Including Under Age 80"
 - //or exists "Medicare I-SNP Exclusion"
 - //or exists "Medicare LTI Flag Exclusion"
- **Numerator**

- exists (["Diagnostic Study, Performed": "Mammography"] Mammogram
 - where (Mammogram.relevantPeriod ends 27 months or less before day of
 - end of "Measurement Period"
 -)
- **Numerator Exclusions**
 - None
- **Denominator Exceptions**
 - None
- **Stratification 1**
 - exists ["Patient Characteristic Payer": Common."Commercial"]
- **Stratification 2**
 - exists ["Patient Characteristic Payer": Common."Medicaid"]
- **Stratification 3**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Non-LIS/DE and Nondisability
- **Stratification 4**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: LIS/DE
- **Stratification 5**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Disability
- **Stratification 6**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: LIS/DE and Disability
- **Stratification 7**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Other
- **Stratification 8**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Unknown.

Definitions

- **AdvancedIllnessFrailty.Advanced Illness and Frailty Exclusion Including Under Age 80**
 - //If the measure does NOT include populations age 80 and older, then use this logic:
 - exists (["Patient Characteristic Birthdate"] BirthDate
 - where "AgeInYearsAt"(start of "Measurement Period")>= 66
 - and "Frailty Condition"
 - and (Count("Outpatient encounters with advanced illness")>= 2
 - or Count("Inpatient encounter with advanced illness")>= 1
 - or exists "Dementia Medication"
 -)
- **AdvancedIllnessFrailty.Dementia Medication**
 - ["Medication, Active": "Dementia Medications"] DementiaMed
 - where DementiaMed.relevantPeriod overlaps Interval[(start of "Measurement Period" - 1 year),
 - end of "Measurement Period"]
- **AdvancedIllnessFrailty.Frailty Condition**
 - exists (["Device, Order": "Frailty Device"] FrailtyDeviceOrder
 - where FrailtyDeviceOrder.authorDatetime during "Measurement Period"
 -)
 - or exists (["Device, Applied": "Frailty Device"] FrailtyDeviceApplied
 - where FrailtyDeviceApplied.relevantPeriod overlaps "Measurement Period"
 -)
 - or exists (["Diagnosis": "Frailty Diagnosis"] FrailtyDiagnosis
 - where FrailtyDiagnosis.prevalencePeriod overlaps "Measurement Period"
 -)
 - or exists (["Encounter, Performed": "Frailty Encounter"] FrailtyEncounter
 - where FrailtyEncounter.relevantPeriod overlaps "Measurement Period"
 -)
 - or exists (["Symptom": "Frailty Symptom"] FrailtySymptom

- where FrailtySymptom.prevalencePeriod overlaps "Measurement Period"
-)
- **AdvancedIllnessFrailty.Inpatient encounter with advanced illness**
 - ["Encounter, Performed": "Acute Inpatient"] InpatientEncounter
 - where InpatientEncounter.diagnoses in "Advanced Illness"
 - and InpatientEncounter.relevantPeriod starts 2 years or less before
 - end of "Measurement Period"
- **AdvancedIllnessFrailty.Outpatient encounters with advanced illness**
 - (["Encounter, Performed": "Outpatient"]
 - union ["Encounter, Performed": "Observation"]
 - union ["Encounter, Performed": "ED"]
 - union ["Encounter, Performed": "Nonacute Inpatient"]) OutpatientEncounter
 - where (OutpatientEncounter.diagnoses in "Advanced Illness"
 - and OutpatientEncounter.relevantPeriod starts 2 years or less before
 - end of "Measurement Period"
 -)
- **Bilateral Mastectomy Procedure**
 - (["Procedure, Performed": "Bilateral Mastectomy"]
 - union (["Procedure, Performed": "Unilateral Mastectomy"] UnilateralMastectomyProcedure
 - where UnilateralMastectomyProcedure.anatomicalLocationSite in "Bilateral Modifier"
 -)) BilateralMastectomyPerformed
 - where BilateralMastectomyPerformed.relevantPeriod ends before
 - end of "Measurement Period"
- **Denominator**
 - "Initial Population"
- **Denominator Exclusions**
 - exists "Hospice Exclusion"
 - or "Mastectomy Exclusion"
 - or AdvancedIllnessFrailty."Advanced Illness and Frailty Exclusion Including Under Age 80"
 - //or exists "Medicare I-SNP Exclusion"
 - //or exists "Medicare LTI Flag Exclusion"
- **History Bilateral Mastectomy**
 - ["Diagnosis": "History of Bilateral Mastectomy"] BilateralMastectomyHistory
 - where BilateralMastectomyHistory.prevalencePeriod starts before
 - end of "Measurement Period"
- **Hospice Exclusion**
 - (["Intervention, Performed": "Hospice Intervention"] Hospice
 - where Hospice.relevantPeriod overlaps "Measurement Period"
 -)
 - union (["Intervention, Order": "Hospice Intervention"] HospiceOrder
 - where HospiceOrder.authorDatetime during "Measurement Period"
 -)
 - union (["Encounter, Performed": "Hospice Encounter"] HospiceEncounter
 - where HospiceEncounter.relevantPeriod overlaps "Measurement Period"
 -)
- **Initial Population**
 - exists (["Patient Characteristic Birthdate"] BirthDate
 - where Common."CalendarAgeInYearsAt"(BirthDate.birthDatetime,
 - end of "Measurement Period"
 -)in Interval[52, 74]
 -)
 - and exists ["Patient Characteristic Sex": "Female"]
 - and "Participation Period"
- **Left Mastectomy Diagnosis**
 - ["Diagnosis": "Absence of Left Breast"] LeftMastectomy
 - where LeftMastectomy.prevalencePeriod starts before
 - end of "Measurement Period"
- **Left Mastectomy Procedure**
 - (["Procedure, Performed": "Unilateral Mastectomy Left"]
 - union (["Procedure, Performed": "Unilateral Mastectomy"] UnilateralMastectomyProcedure
 - where UnilateralMastectomyProcedure.anatomicalLocationSite in "Left Modifier"
 -)) LeftMastectomy

- where LeftMastectomy.relevantPeriod starts before
- end of "Measurement Period"
- **Mastectomy Exclusion**
 - (Count("Unilateral Mastectomy Procedure")= 2)
 - or ((exists "Right Mastectomy Diagnosis"
 - or exists "Right Mastectomy Procedure"
 -)
 - and (exists "Left Mastectomy Diagnosis"
 - or exists "Left Mastectomy Procedure"
 -)
 -)
 - or exists "History Bilateral Mastectomy"
 - or exists "Bilateral Mastectomy Procedure"
- **Common.Commercial Product**
 - 'commercial'
 -
 - //parameter "Measurement Period" Interval
 -
 - //parameter "Product Line" String
 -
- **Common.Medicaid Product**
 - 'medicaid'
 -
 - //parameter "Measurement Period" Interval
 -
 - //parameter "Product Line" String
 -
- **Common.Medicare Product**
 - 'medicare'
 -
 - //parameter "Measurement Period" Interval
 -
 - //parameter "Product Line" String
 -
- **Common.Participation**
 - ["Participation": "Commercial"]
 - union ["Participation": "Medicaid"]
 - union ["Participation": "Medicare"]
 -
 - /*
 - Report in the product line based on which product they are enrolled in at a given date
 - (generally the end of the measurement period) but continuous enrollment calculations
 - should consider all participation periods, regardless of product
 -
 - Input parameters:
 - Index Date: Generally measurement period, but could be tied to an event
 - Participation Period: Generally one year, two years, or twenty seven months, but could be based on an event
 - Allowed Gap Days: Generally 45 days, but could be 0
 -
 - Example 1 - One year continuously enrolled
 - "Is Enrolled"(ProductLine, end of "Measurement Period", "Measurement Period", 45)
 -
 - Example 2 - Two years continuously enrolled
 - "Is Enrolled"(ProductLine, end of "Measurement Period", Interval[start of "Measurement Period" - 1 year, end of
 - "Measurement Period"], 45)
 -
 - Example 3 - Twenty seven months continuously enrolled
 - "Is Enrolled"(ProductLine, end of "Measurement Period", Interval[start of "Measurement Period" - 2 years - 3
 - months, end of "Measurement Period"], 45)
 -

- Example 4 - Continuously enrolled surrounding an index event such as a heart attack
- "Is Enrolled"(ProductLine, "Date of Heart Attack", Interval["Date of Heart Attack", "Date of Heart Attack" + 18 months], 45)
-
- Example 5 - Continuously enrolled with no gaps during the 9 months prior to a birth and for the following year, allowing for a gap
- "Is Enrolled"(ProductLine, "Date Of Delivery", Interval["Date Of Delivery" - 9 months, "Date Of Delivery"], 0)
- and "Is Enrolled"(ProductLine, "Date Of Delivery", Interval["Date Of Delivery", "Date Of Delivery" + 1 year], 45)
- */
- **Numerator**
 - exists (["Diagnostic Study, Performed": "Mammography"] Mammogram
 - where (Mammogram.relevantPeriod ends 27 months or less before day of
 - end of "Measurement Period"
 -)
 -)
- **Participation Period**
 - ((Common."Is Enrolled"(Common."Commercial Product",
 - end of "Measurement Period", Interval[start of "Measurement Period" - 2 years - 3
 - months,
 - end of "Measurement Period"], 45
 -)
 -)
 - or (Common."Is Enrolled"(Common."Medicaid Product",
 - end of "Measurement Period", Interval[start of "Measurement Period" - 2
 - years - 3 months,
 - end of "Measurement Period"], 45
 -)
 -)
 - or (Common."Is Enrolled"(Common."Medicare Product",
 - end of "Measurement Period", Interval[start of "Measurement Period" - 2
 - years - 3 months,
 - end of "Measurement Period"], 45
 -)
 -)
 -)
- **Right Mastectomy Diagnosis**
 - ["Diagnosis": "Absence of Right Breast"] RightMastectomy
 - where RightMastectomy.prevalencePeriod starts before
 - end of "Measurement Period"
- **Right Mastectomy Procedure**
 - (["Procedure, Performed": "Unilateral Mastectomy Right"]
 - union (["Procedure, Performed": "Unilateral Mastectomy"] UnilateralMastectomyProcedure
 - where UnilateralMastectomyProcedure.anatomicalLocationSite in "Right Modifier"
 -)) RightMastectomy
 - where RightMastectomy.relevantPeriod starts before
 - end of "Measurement Period"
- **Stratification 1**
 - exists ["Patient Characteristic Payer": Common."Commercial"]
- **Stratification 2**
 - exists ["Patient Characteristic Payer": Common."Medicaid"]
- **Stratification 3**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Non-LIS/DE and Nondisability
- **Stratification 4**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: LIS/DE
- **Stratification 5**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Disability
- **Stratification 6**
 - exists ["Patient Characteristic Payer": Common."Medicare"]

- // SES stratification logic for: LIS/DE and Disability
- **Stratification 7**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Other
- **Stratification 8**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Unknown.
- **Unilateral Mastectomy Procedure**
 - ["Procedure, Performed": "Unilateral Mastectomy"] UnilateralMastectomyProcedure
 - where UnilateralMastectomyProcedure.relevantPeriod ends before
 - end of "Measurement Period"

Functions

- **Common.CalendarAgeInYearsAt(BirthDateTime DateTime, AsOf DateTime)**
 - years between ToDate(BirthDateTime)and ToDate(AsOf)
- **Common.EnrollmentPeriods(ParticipationPeriod Interval<DateTime>)**
 - ({ 3 years, 2 years, 1 year }) Year
 - where
 - end of ParticipationPeriod - (Year - 1 year) after start of ParticipationPeriod
 - return Interval[Max({ successor of(
 - end of ParticipationPeriod - Year
 -), start of ParticipationPeriod }
 -),
 - end of ParticipationPeriod - (Year - 1 year)]
- **Common.Gap Days In Period(ParticipationPeriod Interval<DateTime>, Periods List<Interval<DateTime>>)**
 - case Count(Periods)
 - when 1 then if Periods[0]starts day of ParticipationPeriod then difference in days between
 - end of Periods[0]and
 - end of ParticipationPeriod
 - else if Periods[0]ends day of ParticipationPeriod then difference in days between start of
 - ParticipationPeriod and start of Periods[0]
 - else maximum Integer
 - when 2 then if Periods[0]starts day of ParticipationPeriod
 - and Periods[1]ends day of ParticipationPeriod then difference in days between
 - end of Periods[0]and start of Periods[1]
 - else maximum Integer
 - else maximum Integer
 - end
- **Common.Is Continuously Enrolled In Period(EnrollmentPeriod Interval<DateTime>, AllowedGapDays Integer)**
 - "Gap Days In Period"(EnrollmentPeriod, "Participation In Period"(EnrollmentPeriod))<= AllowedGapDays
- **Common.Is Enrolled(ProductLine String, IndexDate DateTime, ParticipationPeriod Interval<DateTime>, AllowedGapDays Integer)**
 - case
 - when ProductLine is null then true
 - else "Is Enrolled On Date"(ProductLine, IndexDate)
 - and AllTrue(("Enrollment Periods"(ParticipationPeriod))EnrollmentPeriod
 - return "Is Continuously Enrolled In Period"(EnrollmentPeriod, if duration in months of
 - EnrollmentPeriod >= 6 then AllowedGapDays
 - else 0
 -)
 -)
 - end
- **Common.Is Enrolled On Date(ProductLine String, IndexDate DateTime)**
 - exists ((
 - case ProductLine
 - when "Commercial Product" then ["Participation": "Commercial"]
 - when "Medicare Product" then ["Participation": "Medicare"]
 - when "Medicaid Product" then ["Participation": "Medicaid"]
 - else null
 - end) P
 - where IndexDate during P.participationPeriod
 -)

-
-
- //Returns enrollment periods of up to a year ending at the end of the participation period.
- //Note that this will not return more than 3 years (would need the expand from 1.3 to support more generally)
-
- //For example, given the following participation period:
-
- // 10/1/16 1/1/17 1/1/18 12/31/18
- // [--||-----||-----]
-
- //The function will return the following enrollment periods:
- //
- // [--][-----][-----]
- //
- //In values:
- //Participation Period: Interval[@2016-10-01, @2018-12-31]
- //Enrollment Periods: { Interval[@2016-10-01, @2016-12-31], Interval[@2017-01-01, @2017-12-31] Interval[@2018-01-01, @2018-12-31] }
- **Common.Participation In Period(ParticipationPeriod Interval<DateTime>)**
 - collapse (Participation P
 - let I: P.participationPeriod
 - intersect ParticipationPeriod
 - where P.participationPeriod overlaps ParticipationPeriod
 - return all Interval[ToDate(start of I), predecessor of (ToDate(
 - end of I
 -)+ 1 day
 -)]
 -)
- **Common.ToDate(Value DateTime)**
 - DateTime(year from Value, month from Value, day from Value, 0, 0, 0, 0, timezone from Value)

Measure Title	Colorectal Cancer Screening	Measure ID	COL
Description	The percentage of members 50–75 years of age who had appropriate screening for colorectal cancer.		
Measurement Period	January 1-December 31.		
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Clinical Recommendation Statement	<p>The U.S. Preventive Services Task Force recommends screening for colorectal cancer starting at age 50. Potential screening methods include an annual guaiac-based fecal occult blood test (gFOBT), annual fecal immunochemical test (FIT), multitargeted stool DNA test (FIT-DNA) every 3 years, colonoscopy every 10 years, CT colonography every 5 years, flexible sigmoidoscopy every 5 years, or flexible sigmoidoscopy every 10 years with FIT every year.</p>
Reference	<p>U.S. Preventive Services Task Force. (2016). Screening for Colorectal Cancer: US Preventive Services Task Force Recommendation Statement. <i>JAMA</i>. 315(23): 2564-2575.</p>
Characteristics	
Scoring	Proportion.
Type	Process.
Item Count	Members.
Stratification	<ol style="list-style-type: none"> 1. Commercial. 2. Medicare: Non-LIS/DE and Nondisability. 3. Medicare: LIS/DE. 4. Medicare: Disability. 5. Medicare: LIS/DE and Disability. 6. Medicare: Other. 7. Medicare: Unknown.
Risk adjustment	None.
Improvement Notation	A higher score indicates better performance.

Guidance	<p>Allocation: The member was continuously enrolled with a medical benefit throughout the participation period.</p>
Definitions	
Participation	The identifiers and descriptors for each organization’s coverage used to define members’ eligibility for measure reporting. Allocation for reporting is based on eligibility during the participation period.
Participation Period	The measurement period and the year prior to the measurement period.
Initial Population	51–75 years of age by the end of the measurement period.
Exclusions	<p>Exclude members with any of the following:</p> <ul style="list-style-type: none"> • In hospice or using hospice services during the measurement period. • Colorectal cancer or a total colectomy any time during the member’s history through the end of the measurement period. • Medicare members 66 years of age and older by the end of the measurement period who meet either of the following: <ul style="list-style-type: none"> ○ Enrolled in an Institutional SNP (I-SNP) any time during the measurement period. ○ Living long-term in an institution any time during the measurement period as identified by the LTI flag in the Monthly Membership Detail Data File. • Members 66 years of age and older by the end of the measurement period with frailty and advanced illness.
Denominator	The initial population, minus exclusions.
Numerator	<p>One or more screenings for colorectal cancer. Any of the following meet criteria:</p> <ul style="list-style-type: none"> • Fecal occult blood test during the measurement period. • Flexible sigmoidoscopy during the measurement period or the four years prior to the measurement period. • Colonoscopy during the measurement period or the nine years prior to the measurement period. • CT colonography during the measurement period or the four years prior to the measurement period. • FIT-DNA test during the measurement period or the two years prior to the measurement period.
Data Criteria (Element Level)	
<p>Value Sets:</p> <ul style="list-style-type: none"> • "Device, Applied: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1004.1530)" • "Device, Order: Frailty Device" using "Frailty Device (2.16.840.1.113883.3.464.1004.1530)" • "Diagnosis: Colorectal Cancer" using "Colorectal Cancer (2.16.840.1.113883.3.464.1004.1065)" • "Diagnosis: FIT DNA Test Result or Finding" using "FIT DNA Test Result or Finding (2.16.840.1.113883.3.464.1004.1750)" • "Diagnosis: Frailty Diagnosis" using "Frailty Diagnosis (2.16.840.1.113883.3.464.1004.1531)" 	

- "Diagnostic Study, Performed: CT Colonography" using "CT Colonography (2.16.840.1.113883.3.464.1004.1421)"
- "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1004.1810)"
- "Encounter, Performed: ED" using "ED (2.16.840.1.113883.3.464.1004.1086)"
- "Encounter, Performed: Frailty Encounter" using "Frailty Encounter (2.16.840.1.113883.3.464.1004.1532)"
- "Encounter, Performed: Hospice Encounter" using "Hospice Encounter (2.16.840.1.113883.3.464.1004.1761)"
- "Encounter, Performed: Nonacute Inpatient" using "Nonacute Inpatient (2.16.840.1.113883.3.464.1004.1189)"
- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1004.1191)"
- "Encounter, Performed: Outpatient" using "Outpatient (2.16.840.1.113883.3.464.1004.1202)"
- "Intervention, Order: Hospice Intervention" using "Hospice Intervention (2.16.840.1.113883.3.464.1004.1762)"
- "Intervention, Performed: Hospice Intervention" using "Hospice Intervention (2.16.840.1.113883.3.464.1004.1762)"
- "Laboratory Test, Performed: FIT DNA Lab Test" using "FIT DNA Lab Test (2.16.840.1.113883.3.464.1004.1749)"
- "Laboratory Test, Performed: FOBT" using "FOBT (2.16.840.1.113883.3.464.1004.1093)"
- "Medication, Active: Dementia Medications" using "Dementia Medications (2.16.840.1.113883.3.464.1004.1729)"
- "Participation: Commercial" using "Commercial (2.16.840.1.113883.3.464.1004.1518)"
- "Participation: Medicare" using "Medicare (2.16.840.1.113883.3.464.1004.1516)"
- "Patient Characteristic Payer: Commercial" using "Commercial (2.16.840.1.113883.3.464.1004.1518)"
- "Patient Characteristic Payer: Medicare" using "Medicare (2.16.840.1.113883.3.464.1004.1516)"
- "Procedure, Performed: Colonoscopy" using "Colonoscopy (2.16.840.1.113883.3.464.1004.1064)"
- "Procedure, Performed: Flexible Sigmoidoscopy" using "Flexible Sigmoidoscopy (2.16.840.1.113883.3.464.1004.1102)"
- "Procedure, Performed: Total Colectomy" using "Total Colectomy (2.16.840.1.113883.3.464.1004.1250)"
- "Symptom: Frailty Symptom" using "Frailty Symptom (2.16.840.1.113883.3.464.1004.1533)"

Attributes:

- valueset "Advanced Illness" (2.16.840.1.113883.3.464.1004.1465)

Table of Contents

- Population Criteria
- Definitions
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Population Criteria

- **Initial Population**
 - exists (["Patient Characteristic Birthdate"] BirthDate
 - where Common."CalendarAgeInYearsAt"(BirthDate.birthDatetime,
 - end of "Measurement Period"
 -)in Interval[51, 75]
 -)
 - and "Participation Period"
- **Denominator**
 - "Initial Population"
- **Denominator Exclusions**
 - exists "Hospice Exclusion"
 - or exists "Malignant Neoplasm Exclusion"
 - or exists "Total Colectomy Exclusion"
 - or AdvancedIllnessFrailty."Advanced Illness and Frailty Exclusion Including Under Age 80"
 - //or exists "Medicare I-SNP Exclusion"
 - //or exists "Medicare LTI Flag Exclusion"

- **Numerator**
 - exists "Colonoscopy Performed"
 - or exists "Fecal Occult Blood Test Performed"
 - or exists "Flexible Sigmoidoscopy Performed"
 - or exists "Fecal Immunochemical Test DNA Performed"
 - or exists "CT Colonography Performed"
- **Numerator Exclusions**
 - None
- **Denominator Exceptions**
 - None
- **Stratification 1**
 - exists ["Patient Characteristic Payer": Common."Commercial"]
- **Stratification 2**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Non-LIS/DE and Nondisability
- **Stratification 3**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: LIS/DE
- **Stratification 4**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Disability
- **Stratification 5**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: LIS/DE and Disability
- **Stratification 6**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Other
- **Stratification 7**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Unknown

Definitions

- **AdvancedIllnessFrailty.Advanced Illness and Frailty Exclusion Including Under Age 80**
 - //If the measure does NOT include populations age 80 and older, then use this logic:
 - exists (["Patient Characteristic Birthdate"] BirthDate
 - where "AgeInYearsAt"(start of "Measurement Period")>= 66
 - and "Frailty Condition"
 - and (Count("Outpatient encounters with advanced illness")>= 2
 - or Count("Inpatient encounter with advanced illness")>= 1
 - or exists "Dementia Medication"
 -)
- **AdvancedIllnessFrailty.Dementia Medication**
 - ["Medication, Active": "Dementia Medications"] DementiaMed
 - where DementiaMed.relevantPeriod overlaps Interval[(start of "Measurement Period" - 1 year),
 - end of "Measurement Period"]
- **AdvancedIllnessFrailty.Frailty Condition**
 - exists (["Device, Order": "Frailty Device"] FrailtyDeviceOrder
 - where FrailtyDeviceOrder.authorDatetime during "Measurement Period"
 -)
 - or exists (["Device, Applied": "Frailty Device"] FrailtyDeviceApplied
 - where FrailtyDeviceApplied.relevantPeriod overlaps "Measurement Period"
 -)
 - or exists (["Diagnosis": "Frailty Diagnosis"] FrailtyDiagnosis
 - where FrailtyDiagnosis.prevalencePeriod overlaps "Measurement Period"
 -)
 - or exists (["Encounter, Performed": "Frailty Encounter"] FrailtyEncounter
 - where FrailtyEncounter.relevantPeriod overlaps "Measurement Period"
 -)
 - or exists (["Symptom": "Frailty Symptom"] FrailtySymptom
 - where FrailtySymptom.prevalencePeriod overlaps "Measurement Period"

-)
- **AdvancedIllnessFrailty.Inpatient encounter with advanced illness**
 - ["Encounter, Performed": "Acute Inpatient"] InpatientEncounter
 - where InpatientEncounter.diagnoses in "Advanced Illness"
 - and InpatientEncounter.relevantPeriod starts 2 years or less before
 - end of "Measurement Period"
- **AdvancedIllnessFrailty.Outpatient encounters with advanced illness**
 - (["Encounter, Performed": "Outpatient"]
 - union ["Encounter, Performed": "Observation"]
 - union ["Encounter, Performed": "ED"]
 - union ["Encounter, Performed": "Nonacute Inpatient"]) OutpatientEncounter
 - where (OutpatientEncounter.diagnoses in "Advanced Illness"
 - and OutpatientEncounter.relevantPeriod starts 2 years or less before
 - end of "Measurement Period"
 -)
- **Colonoscopy Performed**
 - ["Procedure, Performed": "Colonoscopy"] Colonoscopy
 - where Colonoscopy.relevantPeriod ends 10 years or less on or before
 - end of "Measurement Period"
- **CT Colonography Performed**
 - ["Diagnostic Study, Performed": "CT Colonography"] Colonography
 - where Colonography.relevantPeriod ends 5 years or less on or before
 - end of "Measurement Period"
- **Denominator**
 - "Initial Population"
- **Denominator Exclusions**
 - exists "Hospice Exclusion"
 - or exists "Malignant Neoplasm Exclusion"
 - or exists "Total Colectomy Exclusion"
 - or AdvancedIllnessFrailty."Advanced Illness and Frailty Exclusion Including Under Age 80"
 - //or exists "Medicare I-SNP Exclusion"
 - //or exists "Medicare LTI Flag Exclusion"
- **Fecal Immunochemical Test DNA Performed**
 - (["Laboratory Test, Performed": "FIT DNA Lab Test"] FitDNALab
 - where FitDNALab.result is not null
 - and FitDNALab.authorDatetime occurs 3 years or less on or before
 - end of "Measurement Period"
 -)
 - union (["Diagnosis": "FIT DNA Test Result or Finding"] FitDNADiagnosis
 - where FitDNADiagnosis.prevalencePeriod starts 3 years or less on or before
 - end of "Measurement Period"
 -)
- **Fecal Occult Blood Test Performed**
 - ["Laboratory Test, Performed": "FOBT"] FecalOccultResult
 - where FecalOccultResult.result is not null
 - and FecalOccultResult.authorDatetime during "Measurement Period"
- **Flexible Sigmoidoscopy Performed**
 - ["Procedure, Performed": "Flexible Sigmoidoscopy"] FlexibleSigmoidoscopy
 - where FlexibleSigmoidoscopy.relevantPeriod ends 5 years or less on or before
 - end of "Measurement Period"
- **Hospice Exclusion**
 - (["Intervention, Performed": "Hospice Intervention"] Hospice
 - where Hospice.relevantPeriod overlaps "Measurement Period"
 -)
 - union (["Intervention, Order": "Hospice Intervention"] HospiceOrder
 - where HospiceOrder.authorDatetime during "Measurement Period"
 -)
 - union (["Encounter, Performed": "Hospice Encounter"] HospiceEncounter
 - where HospiceEncounter.relevantPeriod overlaps "Measurement Period"
 -)
- **Initial Population**
 - exists (["Patient Characteristic Birthdate"] BirthDate

- where Common."CalendarAgeInYearsAt"(BirthDate.birthDatetime, end of "Measurement Period"
-)in Interval[51, 75]
-)
- and "Participation Period"
- **Malignant Neoplasm Exclusion**
 - ["Diagnosis": "Colorectal Cancer"] ColorectalCancer
 - where ColorectalCancer.prevalencePeriod starts on or before
 - end of "Measurement Period"
- **Common.Commercial Product**
 - 'commercial'
 -
 - //parameter "Measurement Period" Interval
 -
 -
 - //parameter "Product Line" String
 -
- **Common.Medicaid Product**
 - 'medicaid'
 -
 - //parameter "Measurement Period" Interval
 -
 -
 - //parameter "Product Line" String
 -
- **Common.Medicare Product**
 - 'medicare'
 -
 - //parameter "Measurement Period" Interval
 -
 -
 - //parameter "Product Line" String
 -
- **Common.Participation**
 - ["Participation": "Commercial"]
 - union ["Participation": "Medicaid"]
 - union ["Participation": "Medicare"]
 -
 - /*
 - Report in the product line based on which product they are enrolled in at a given date
 - (generally the end of the measurement period) but continuous enrollment calculations
 - should consider all participation periods, regardless of product
 -
 - Input parameters:
 - Index Date: Generally measurement period, but could be tied to an event
 - Participation Period: Generally one year, two years, or twenty seven months, but could be based on an event
 - Allowed Gap Days: Generally 45 days, but could be 0
 -
 - Example 1 - One year continuously enrolled
 - "Is Enrolled"(ProductLine, end of "Measurement Period", "Measurement Period", 45)
 -
 - Example 2 - Two years continuously enrolled
 - "Is Enrolled"(ProductLine, end of "Measurement Period", Interval[start of "Measurement Period" - 1 year, end of "Measurement Period"], 45)
 -
 - Example 3 - Twenty seven months continuously enrolled
 - "Is Enrolled"(ProductLine, end of "Measurement Period", Interval[start of "Measurement Period" - 2 years - 3 months, end of "Measurement Period"], 45)
 -
 - Example 4 - Continuously enrolled surrounding an index event such as a heart attack
 - "Is Enrolled"(ProductLine, "Date of Heart Attack", Interval["Date of Heart Attack", "Date of Heart Attack" + 18 months], 45)
 -

- Example 5 - Continuously enrolled with no gaps during the 9 months prior to a birth and for the following year, allowing for a gap
- "Is Enrolled"(ProductLine, "Date Of Delivery", Interval["Date Of Delivery" - 9 months, "Date Of Delivery"], 0)
- and "Is Enrolled"(ProductLine, "Date Of Delivery", Interval["Date Of Delivery", "Date Of Delivery" + 1 year], 45)
- */
- **Numerator**
 - exists "Colonoscopy Performed"
 - or exists "Fecal Occult Blood Test Performed"
 - or exists "Flexible Sigmoidoscopy Performed"
 - or exists "Fecal Immunochemical Test DNA Performed"
 - or exists "CT Colonography Performed"
- **Participation Period**
 - (Common."Is Enrolled"(Common."Commercial Product",
 - end of "Measurement Period", Interval[start of "Measurement Period" - 1 year,
 - end of "Measurement Period"], 45
 -)
 -)
 - or (Common."Is Enrolled"(Common."Medicare Product",
 - end of "Measurement Period", Interval[start of "Measurement Period" - 1 year,
 - end of "Measurement Period"], 45
 -)
 -)
- **Stratification 1**
 - exists ["Patient Characteristic Payer": Common."Commercial"]
- **Stratification 2**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Non-LIS/DE and Nondisability
- **Stratification 3**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: LIS/DE
- **Stratification 4**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Disability
- **Stratification 5**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: LIS/DE and Disability
- **Stratification 6**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Other
- **Stratification 7**
 - exists ["Patient Characteristic Payer": Common."Medicare"]
 - // SES stratification logic for: Unknown
- **Total Colectomy Exclusion**
 - ["Procedure, Performed": "Total Colectomy"] Colectomy
 - where Colectomy.relevantPeriod starts on or before
 - end of "Measurement Period"

Functions

- **Common.CalendarAgeInYearsAt(BirthDateTime DateTime, AsOf DateTime)**
 - years between ToDate(BirthDateTime)and ToDate(AsOf)
- **Common.EnrollmentPeriods(ParticipationPeriod Interval<DateTime>)**
 - ({ 3 years, 2 years, 1 year }) Year
 - where
 - end of ParticipationPeriod - (Year - 1 year) after start of ParticipationPeriod
 - return Interval[Max({ successor of(
 - end of ParticipationPeriod - Year
 -), start of ParticipationPeriod }
 -),
 - end of ParticipationPeriod - (Year - 1 year)]
- **Common.Gap Days In Period(ParticipationPeriod Interval<DateTime>, Periods List<Interval<DateTime>>)**

- case Count(Periods)
 - when 1 then if Periods[0]starts day of ParticipationPeriod then difference in days between end of Periods[0]and end of ParticipationPeriod
 - else if Periods[0]ends day of ParticipationPeriod then difference in days between start of ParticipationPeriod and start of Periods[0]
 - else maximum Integer
 - when 2 then if Periods[0]starts day of ParticipationPeriod and Periods[1]ends day of ParticipationPeriod then difference in days between end of Periods[0]and start of Periods[1]
 - else maximum Integer
 - else maximum Integer
 - end
- **Common.Is Continuously Enrolled In Period(EnrollmentPeriod Interval<DateTime>, AllowedGapDays Integer)**
 - "Gap Days In Period"(EnrollmentPeriod, "Participation In Period"(EnrollmentPeriod))<= AllowedGapDays
- **Common.Is Enrolled(ProductLine String, IndexDate DateTime, ParticipationPeriod Interval<DateTime>, AllowedGapDays Integer)**
 - case
 - when ProductLine is null then true
 - else "Is Enrolled On Date"(ProductLine, IndexDate) and AllTrue("Enrollment Periods"(ParticipationPeriod))EnrollmentPeriod
 - return "Is Continuously Enrolled In Period"(EnrollmentPeriod, if duration in months of EnrollmentPeriod >= 6 then AllowedGapDays else 0
 -)
 -)
 - end
- **Common.Is Enrolled On Date(ProductLine String, IndexDate DateTime)**
 - exists ((
 - case ProductLine
 - when "Commercial Product" then ["Participation": "Commercial"]
 - when "Medicare Product" then ["Participation": "Medicare"]
 - when "Medicaid Product" then ["Participation": "Medicaid"]
 - else null
 - end) P
 - where IndexDate during P.participationPeriod
 -)
 -
 -
 - //Returns enrollment periods of up to a year ending at the end of the participation period.
 - //Note that this will not return more than 3 years (would need the expand from 1.3 to support more generally)
 -
 - //For example, given the following participation period:
 -
 - // 10/1/16 1/1/17 1/1/18 12/31/18
 - // [---||-----||-----]
 -
 - //The function will return the following enrollment periods:
 - //
 - // [---][-----][-----]
 - //
 - //In values:
 - //Participation Period: Interval[@2016-10-01, @2018-12-31]
 - //Enrollment Periods: { Interval[@2016-10-01, @2016-12-31], Interval[@2017//-01-01, @2017-12-31] Interval[@2018-01-01, @2018-12-31] }
- **Common.Participation In Period(ParticipationPeriod Interval<DateTime>)**
 - collapse (Participation P
 - let I: P.participationPeriod
 - intersect ParticipationPeriod
 - where P.participationPeriod overlaps ParticipationPeriod
 - return all Interval[ToDate(start of I), predecessor of (ToDate(end of I
 -)+ 1 day

-)]
-)
- **Common.ToDateTime(Value DateTime)**
 - DateTime(year from Value, month from Value, day from Value, 0, 0, 0, 0, timezone from Value)

Measure Title	Follow-Up Care for Children Prescribed ADHD Medication	Measure ID	ADD
Description	<p>The percentage of children newly prescribed attention-deficit/hyperactivity disorder (ADHD) medication who had at least three follow-up care visits within a 10-month period, one of which was within 30 days of when the first ADHD medication was dispensed. Two rates are reported.</p> <ul style="list-style-type: none"> • <i>Initiation Phase.</i> The percentage of members 6–12 years of age as of the IPSD with an ambulatory prescription dispensed for ADHD medication, who had one follow-up visit with practitioner with prescribing authority during the 30-day Initiation Phase. • <i>Continuation and Maintenance (C&M) Phase.</i> The percentage of members 6–12 years of age as of the IPSD with an ambulatory prescription dispensed for ADHD medication, who remained on the medication for at least 210 days and who, in addition to the visit in the Initiation Phase, had at least two follow-up visits with a practitioner within 270 days after the Initiation Phase ended. 		
Measurement Period	January 1-December 31.		
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<p>Clinical Recommendation Statement</p>	<p>American Academy of Child and Adolescent Psychiatry (AACAP) Practice Parameter for the Assessment and Treatment of Children and Adolescents with ADHD:</p> <p>Recommendation 6: A Well-Thought-Out and Comprehensive Treatment Plan Should Be Developed for the Patient With ADHD. The treatment plan should be reviewed regularly and modified if the patient's symptoms do not respond. Minimal Standard [MS]</p> <p>Recommendation 9. During a Psychopharmacological Intervention for ADHD, the Patient Should Be Monitored for Treatment-Emergent Side Effects. Minimal Standard [MS]</p> <p>Recommendation 12. Patients Should Be Assessed Periodically to Determine Whether There Is Continued Need for Treatment or If Symptoms Have Remitted. Treatment of ADHD Should Continue as Long as Symptoms Remain Present and Cause Impairment. Minimal Standard [MS]</p> <p>American Academy of Pediatrics Clinical Practice Guideline for the Diagnosis, Evaluation and Treatment of ADHD in Children and Adolescents:</p> <p>Action Statement 4: The primary care clinician should recognize ADHD as a chronic condition and, therefore, consider children and adolescents with ADHD as children and youth with special health care needs. Management of children and youth with special health care needs should follow the principles of the chronic care model and the medical home (Grade B: Strong Recommendation).</p>
<p>Reference</p>	<p>American Academy of Pediatrics. 2000. "Clinical Practice Guideline: Diagnosis and Evaluation of the Child With Attention-Deficit/Hyperactivity Disorder." <i>Pediatrics</i> 105(5): 1158-70.</p> <p>American Academy of Pediatrics. 2011. "ADHD: Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents." Subcommittee on Attention-Deficit/Hyperactivity Disorder, Steering Committee on Quality Improvement and Management. <i>Pediatrics</i> Nov 2011, 128 (5) 1007-1022; DOI: 10.1542/peds.2011-2654</p>

Characteristics	
Scoring	Proportion.
Type	Process.
Item Count	Members.
Stratification	1. Commercial. 2. Medicaid.
Risk adjustment	None.
Improvement Notation	A higher score indicates better performance.
Guidance	Allocation: The member was enrolled with a medical and pharmacy benefit throughout the participation period. Requirements: Only one of the two visits during the C&M Phase may be a telephone visit or a telehealth visit.
Definitions	
Participation	The identifiers and descriptors for each organization's coverage used to define members' eligibility for measure reporting. Allocation for reporting is based on eligibility during the participation period.
Intake Period	The 12-month window starting March 1 in the year prior to the measurement period through the last calendar day in February of the measurement period.
Negative Medication History	A period of 120 days prior to the IPSD when the member had no ADHD medications dispensed.
IPSD	Index Prescription Start Date. The earliest prescription dispensing date for an ADHD medication where the date is in the Intake Period and there is a Negative Medication History.
Initiation Phase	The 30 days following the IPSD.
Continuation and Maintenance (C&M) Phase	The 300 days following the IPSD.
Continuous Medication Treatment	The number of medication treatment days during the C&M Phase must be ≥ 210 days.
Treatment days (covered days)	The actual number of calendar days covered with prescriptions during the C&M Phase.
Rate 1 – Initiation Phase	
Initial Population 1	All children aged six years old as of March 1 of the year prior to the measurement period to 12 years old as of the last calendar day of February of the measurement period who were dispensed an ADHD medication during the 12-month Intake Period with a Negative Medication History.

Participation Period 1	120 days prior to the IPSD and 30 days after the IPSD.
Exclusions 1	Exclude members with any of the following: <ul style="list-style-type: none"> • In hospice or using hospice services during the measurement period. • An acute inpatient encounter with a principal diagnosis of mental health or chemical dependency during the Initiation Phase. • A diagnosis of narcolepsy any time during the member's history through the end of the measurement period.
Denominator 1	The Initial Population 1 who were continuously enrolled during Participation Period 1 and minus exclusions.
Numerator 1	An outpatient, intensive outpatient or partial hospitalization follow-up visit with a practitioner with prescribing authority within the Initiation Phase.
Rate 2 – C&M Phase	
Initial Population 2	The members who qualified for Initial Population 1 with a continuous medication treatment.
Participation Period 2	120 days prior to the IPSD and 300 days after the IPSD.
Exclusions 2	Exclude members who qualified one of the following: <ul style="list-style-type: none"> • In hospice or using hospice services during the measurement period. • An acute inpatient encounter with a principal diagnosis of mental health or chemical dependency during the C&M Phase. • A diagnosis of narcolepsy any time during the member's history through the end of the measurement period.
Denominator 2	The Initial Population 2 who were continuously enrolled during Participation Period 2, and minus exclusions 2.
Numerator 2	All members in Numerator 1 who had two follow-up visits on different dates of service with any practitioner during the C&M Phase.
Data Criteria (Element Level)	
Value Sets: <ul style="list-style-type: none"> • "Assessment, Performed: Health and Behavior Assessment/Intervention" using "Health and Behavior Assessment/Intervention (2.16.840.1.113883.3.464.1004.1487)" • "Diagnosis: Narcolepsy" using "Narcolepsy (2.16.840.1.113883.3.464.1004.1182)" • "Diagnosis: Chemical Dependency" using "Chemical Dependency (2.16.840.1.113883.3.464.1004.1059)" • "Diagnosis: Mental Health Diagnosis" using "Mental Health Diagnosis (2.16.840.1.113883.3.464.1004.1178)" • "Encounter, Performed: Acute Inpatient" using "Acute Inpatient (2.16.840.1.113883.3.464.1004.1810)" • "Encounter, Performed: BH Outpatient" using "BH Outpatient (2.16.840.1.113883.3.464.1004.1481)" • "Encounter, Performed: Community Mental Health Center POS" using "Community Mental Health Center POS (2.16.840.1.113883.3.464.1004.1484)" • "Encounter, Performed: Hospice Encounter" using "Hospice Encounter (2.16.840.1.113883.3.464.1004.1761)" • "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1004.1191)" • "Encounter, Performed: Outpatient POS" using "Outpatient POS (2.16.840.1.113883.3.464.1004.1443)" • "Encounter, Performed: Partial Hospitalization/Intensive Outpatient" using "Partial Hospitalization/Intensive Outpatient (2.16.840.1.113883.3.464.1004.1492)" • "Encounter, Performed: Partial Hospitalization POS" using "Partial Hospitalization POS (2.16.840.1.113883.3.464.1004.1491)" • "Encounter, Performed: Telehealth POS" using "Telehealth POS (2.16.840.1.113883.3.464.1004.1460)" 	

- "Encounter, Performed: Telehealth Modifier" using "Telehealth Modifier (2.16.840.1.113883.3.464.1004.1445)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1004.1246)"
- "Encounter, Performed: Visit Setting Unspecified" using "Visit Setting Unspecified (2.16.840.1.113883.3.464.1004.1493)"
- "Intervention, Order: Hospice Intervention" using "Hospice Intervention (2.16.840.1.113883.3.464.1004.1762)"
- "Intervention, Performed: Hospice Intervention" using "Hospice Intervention (2.16.840.1.113883.3.464.1004.1762)"
- "Medication, Active: ADHD Medications" using "ADHD Medications (2.16.840.1.113883.3.464.1004.1736)"
- "Medication, Dispensed: ADHD Medications" using "ADHD Medications (2.16.840.1.113883.3.464.1004.1736)"
- "Participation: Commercial" using "Commercial (2.16.840.1.113883.3.464.1004.1518)"
- "Participation: Medicaid" using "Medicaid (2.16.840.1.113883.3.464.1004.1517)"
- "Patient Characteristic Payer: Commercial" using "Commercial (2.16.840.1.113883.3.464.1004.1518)"
- "Patient Characteristic Payer: Medicaid" using "Medicaid (2.16.840.1.113883.3.464.1004.1517)"

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Population Criteria

- **Population Criteria 1**
 - **Initial Population 1**
 - exists ["Patient Characteristic Birthdate"] BirthDate
 - where (Common."CalendarAgeInYearsAt"(BirthDate.birthDatetime, start of "Measurement Period" - 10 months)>= 6
 - and Common."CalendarAgeInYearsAt"(BirthDate.birthDatetime, start of "Measurement Period" + 2 months)<= 12
 -)
 - and "Index Prescription Start Date" is not null
 - and "Participation Period 1"
 - **Participation Period 1**
 - (Common."Is Enrolled"(Common."Commercial Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" - 120 days, "Index Prescription Start Date" + 30 days], 0))
 - or
 - (Common."Is Enrolled"(Common."Medicaid Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" - 120 days, "Index Prescription Start Date" + 30 days], 0))
 - **Denominator 1**
 - "Initial Population 1"
 - /*minus Denominator Exclusion 1/
 - **Denominator Exclusions 1**
 - (exists "Acute Inpatient Encounter for Mental Health Diagnosis or Chemical Dependency" Encounters
 - with "Index Prescription Start Date" IPSD
 - such that Encounters.relevantPeriod overlaps Interval[IPSD, IPSD + 30 days]
 -)
 - or exists "Hospice Exclusions"
 - or exists "Diagnosis of Narcolepsy"
 - **Numerator 1**
 - exists "Qualifying Visits during Initiation Phase "
 - **Numerator Exclusions 1**
 - None
 - **Denominator Exceptions 1**
 - None
 - **Stratification 1**
 - exists ["Patient Characteristic Payer": Common."Commercial"]

- **Stratification 2**
 - exists ["Patient Characteristic Payer": Common."Medicaid"]
- **Population Criteria 2**
 - **Initial Population 2**
 - "Initial Population 1"
 - and "Continuous Medication Treatment Greater Than or Equal to 210 Days"
 - and "Participation Period 2"
 - **Participation Period 2**
 - (Common."Is Enrolled"(Common."Commercial Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" - 120 days, "Index Prescription Start Date" + 30 days], 0)
 - and Common."Is Enrolled"(Common."Commercial Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" + 31 days, "Index Prescription Start Date" + 300 days], 45)
 -)
 - or
 - (Common."Is Enrolled"(Common."Medicaid Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" - 120 days, "Index Prescription Start Date" + 30 days], 0)
 - and Common."Is Enrolled"(Common."Medicaid Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" + 31 days, "Index Prescription Start Date" + 300 days], 30)
 -)
- **Denominator 2**
 - "Initial Population 2"
 - /*minus Denominator Exclusion 2*/
- **Denominator Exclusions 2**
 - (exists "Acute Inpatient Encounter for Mental Health Diagnosis or Chemical Dependency" Encounters
 - with "Index Prescription Start Date" IPSD
 - such that Encounters.relevantPeriod overlaps Interval[IPSD, IPSD + 300 days]
 -)
 - or exists "Hospice Exclusions"
 - or exists "Diagnosis of Narcolepsy"
- **Numerator 2**
 - exists "Qualifying Visits during Initiation Phase"
 - and "Two or More Followup Visits"
- **Numerator Exclusions 2**
 - None
- **Denominator Exceptions 2**
 - None
- **Stratification 1**
 - exists ["Patient Characteristic Payer": Common."Commercial"]
- **Stratification 2**
 - exists ["Patient Characteristic Payer": Common."Medicaid"]

Definitions

- **Acute Inpatient Encounter for Mental Health Diagnosis or Chemical Dependency**
 - ["Encounter, Performed": "Acute Inpatient"] InpatientStay
 - where (InpatientStay.principalDiagnosis in "Diagnosis of Mental Health"
 - or InpatientStay.principalDiagnosis in "Diagnosis of Chemical Dependency"
 -)
- **ADHD Medications Taken Within 300 Days After First ADHD Medication Dispensed**
 - ["Medication, Active": "ADHD Medications"] ActiveADHDMedications
 - with "Index Prescription Start Date" InitialADHDMedication
 - such that ActiveADHDMedications.relevantPeriod starts 300 days or less on or after day of InitialADHDMedication
- **Community Mental Health Center POS Code**
 - ["Encounter, Performed": "Community Mental Health Center POS"]
- **Continuous Medication Treatment Greater Than or Equal to 210 Days**
 - "Cumulative Medication Duration"("ADHD Medications Taken Within 300 Days After First ADHD Medication Dispensed")>= 210
- **Denominator 1**
 - "Initial Population 1"
 - /*minus Denominator Exclusion 1*/

- **Denominator 2**
 - "Initial Population 2"
 - /*minus Denominator Exclusion 2*/
- **Denominator Exclusions 1**
 - (exists "Acute Inpatient Encounter for Mental Health Diagnosis or Chemical Dependency" Encounters
 - with "Index Prescription Start Date" IPSD
 - such that Encounters.relevantPeriod overlaps Interval[IPSD, IPSD + 30 days]
 -)
 - or exists "Hospice Exclusions"
 - or exists "Diagnosis of Narcolepsy"
- **Denominator Exclusions 2**
 - (exists "Acute Inpatient Encounter for Mental Health Diagnosis or Chemical Dependency" Encounters
 - with "Index Prescription Start Date" IPSD
 - such that Encounters.relevantPeriod overlaps Interval[IPSD, IPSD + 300 days]
 -)
 - or exists "Hospice Exclusions"
 - or exists "Diagnosis of Narcolepsy"
- **Diagnosis of Chemical Dependency**
 - ["Diagnosis": "Chemical Dependency"]
- **Diagnosis of Mental Health**
 - ["Diagnosis": "Mental Health Diagnosis"]
- **Diagnosis of Narcolepsy**
 - ["Diagnosis": "Narcolepsy"] Narcolepsy
 - with ["Patient Characteristic Birthdate"] BirthDate
 - such that Narcolepsy.authorDatetime during Interval[BirthDate.birthDatetime, end of "Measurement Period"]
- **Hospice Exclusions**
 - (["Intervention, Performed": "Hospice Intervention"] Hospice
 - where Hospice.relevantPeriod overlaps "Measurement Period"
 -)
 - union (["Intervention, Order": "Hospice Intervention"] HospiceOrder
 - where HospiceOrder.authorDatetime during "Measurement Period"
 -)
 - union (["Encounter, Performed": "Hospice Encounter"] HospiceEncounter
 - where HospiceEncounter.relevantPeriod overlaps "Measurement Period"
 -)
- **Index Prescription Start Date**
 - First(["Medication, Dispensed": "ADHD Medications"] FirstADHDMedication
 - where FirstADHDMedication.authorDatetime during Interval[start of "Measurement Period" - 10 months, start of "Measurement Period" + 2 months)
 - and not exists(["Medication, Dispensed": "ADHD Medications"]
 - ActiveADHDMedication
 - where ActiveADHDMedication.relevantPeriod starts 120 days or less before FirstADHDMedication.authorDatetime
 -)
 - return FirstADHDMedication.authorDatetime
 -)
- **Initial Population 1**
 - exists ["Patient Characteristic Birthdate"] BirthDate
 - where (Common."CalendarAgeInYearsAt"(BirthDate.birthDatetime, start of "Measurement Period" - 10 months)>= 6
 - and Common."CalendarAgeInYearsAt"(BirthDate.birthDatetime, start of "Measurement Period" + 2 months)<= 12
 -)
 - and "Index Prescription Start Date" is not null
 - and "Participation Period 1"
- **Initial Population 2**
 - "Initial Population 1"
 - and "Continuous Medication Treatment Greater Than or Equal to 210 Days"

- and "Participation Period 2"
- **Negative Medication History**
 - not exists (["Medication, Dispensed": "ADHD Medications"] ActiveADHDMedication
 - with "Index Prescription Start Date" InitialADHDMedication
 - such that ActiveADHDMedication.relevantPeriod starts 120 days or less before
 - InitialADHDMedication
 -)
- **Numerator 1**
 - exists "Qualifying Visits during Initiation Phase"
- **Numerator 2**
 - exists "Qualifying Visits during Initiation Phase"
 - and "Two or More Followup Visits"
- **Outpatient POS Code**
 - ["Encounter, Performed": "Outpatient POS"]
- **Partial Hospitalization POS Code**
 - ["Encounter, Performed": "Partial Hospitalization POS"]
- **Participation Period 1**
 - (Common."Is Enrolled"(Common."Commercial Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" - 120 days, "Index Prescription Start Date" + 30 days], 0))
 - or
 - (Common."Is Enrolled"(Common."Medicaid Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" - 120 days, "Index Prescription Start Date" + 30 days], 0))
- **Participation Period 2**
 - (Common."Is Enrolled"(Common."Commercial Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" - 120 days, "Index Prescription Start Date" + 30 days], 0)
 - and Common."Is Enrolled"(Common."Commercial Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" + 31 days, "Index Prescription Start Date" + 300 days], 45)
 -)
 - or
 - (Common."Is Enrolled"(Common."Medicaid Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" - 120 days, "Index Prescription Start Date" + 30 days], 0)
 - and Common."Is Enrolled"(Common."Medicaid Product", "Index Prescription Start Date", Interval["Index Prescription Start Date" + 31 days, "Index Prescription Start Date" + 300 days], 30)
 -)
- **Qualifying Visits during Continuous and Maintenance Phase**
 - ((["Encounter, Performed": "Visit Setting Unspecified"] Visit1
 - where exists (Visit1.facilityLocations Location
 - where Location.code in "Outpatient POS Code"
 -)
 -)
 - union ["Encounter, Performed": "BH Outpatient"]
 - union ["Encounter, Performed": "Observation"]
 - union ["Assessment, Performed": "Health and Behavior Assessment/Intervention"]
 - union (["Encounter, Performed": "Visit Setting Unspecified"] Visit2
 - where exists (Visit2.facilityLocations Location
 - where Location.code in "Partial Hospitalization POS Code"
 -)
 -)
 - union ["Encounter, Performed": "Partial Hospitalization/Intensive Outpatient"]
 - union (["Encounter, Performed": "Visit Setting Unspecified"] Visit3
 - where exists (Visit3.facilityLocations Location
 - where Location.code in "Community Mental Health Center
 - POS Code"
 -)
 -)) ValidNumeratorVisit
 - with "Index Prescription Start Date" InitialADHDMedication
 - such that ValidNumeratorVisit.relevantPeriod overlaps Interval (InitialADHDMedication + 31,
 - InitialADHDMedication + 300 days]
- **Qualifying Visits during Initiation Phase**
 - ((["Encounter, Performed": "Visit Setting Unspecified"] Visit1
 - where exists (Visit1.facilityLocations Location
 - where Location.code in "Outpatient POS Code"

-)
-)
- union ["Encounter, Performed": "BH Outpatient"]
- union ["Encounter, Performed": "Observation"]
- union ["Assessment, Performed": "Health and Behavior Assessment/Intervention"]
- union (["Encounter, Performed": "Visit Setting Unspecified"] Visit2
- where exists (Visit2.facilityLocations Location
- where Location.code in "Partial Hospitalization POS Code"
-)
-)
- union ["Encounter, Performed": "Partial Hospitalization/Intensive Outpatient"]
- union (["Encounter, Performed": "Visit Setting Unspecified"] Visit3
- where exists (Visit3.facilityLocations Location
- where Location.code in "Community Mental Health Center
- POS Code"
-)
-)) ValidNumeratorVisits
- with "Index Prescription Start Date" InitialADHDMedication
- such that ValidNumeratorVisits.relevantPeriod overlaps Interval (InitialADHDMedication,
- InitialADHDMedication + 30 days]
- **Stratification 1**
 - exists ["Patient Characteristic Payer": Common."Commercial"]
- **Stratification 2**
 - exists ["Patient Characteristic Payer": Common."Medicaid"]
- **Two or More Followup Visits**
 - Count("Qualifying Visits during Continuous and Maintenance Phase")>= 2

Functions

- **Cumulative Medication Duration(Medication List<"Medication, Active">)**
 - Sum((collapse(Medication.relevantPeriod))MedicationPeriod
 - return all duration in days of MedicationPeriod
 -)
- **Common.CalendarAgeInYearsAt(BirthDateTime DateTime, AsOf DateTime)**
 - years between ToDate(BirthDateTime)and ToDate(AsOf)
- **Common.Enrollment Periods(ParticipationPeriod Interval<DateTime>)**
 - ({ 3 years, 2 years, 1 year }) Year
 - where
 - end of ParticipationPeriod - (Year - 1 year) after start of ParticipationPeriod
 - return Interval[Max({ successor of(
 - end of ParticipationPeriod - Year
 -), start of ParticipationPeriod }
 -),
 - end of ParticipationPeriod - (Year - 1 year)]
 -)
- **Common.Gap Days In Period(ParticipationPeriod Interval<DateTime>, Periods List<Interval<DateTime>>)**
 - case Count(Periods)
 - when 1 then if Periods[0]starts day of ParticipationPeriod then difference in days between
 - end of Periods[0]and
 - end of ParticipationPeriod
 - else if Periods[0]ends day of ParticipationPeriod then difference in days between start of
 - ParticipationPeriod and start of Periods[0]
 - else maximum Integer
 - when 2 then if Periods[0]starts day of ParticipationPeriod
 - and Periods[1]ends day of ParticipationPeriod then difference in days between
 - end of Periods[0]and start of Periods[1]
 - else maximum Integer
 - else maximum Integer
 - end

- **Common.Is Continuously Enrolled In Period(EnrollmentPeriod Interval<DateTime>, AllowedGapDays Integer)**
 - "Gap Days In Period"(EnrollmentPeriod, "Participation In Period"(EnrollmentPeriod))<= AllowedGapDays
- **Common.Is Enrolled(ProductLine String, IndexDate DateTime, ParticipationPeriod Interval<DateTime>, AllowedGapDays Integer)**
 - case
 - when ProductLine is null then true
 - else "Is Enrolled On Date"(ProductLine, IndexDate)
 - and AllTrue(("Enrollment Periods"(ParticipationPeriod))EnrollmentPeriod
 - return "Is Continuously Enrolled In Period"(EnrollmentPeriod, if duration in months of
 - EnrollmentPeriod >= 6 then AllowedGapDays
 - else 0
 -)
 -)
 - end
- **Common.Is Enrolled On Date(ProductLine String, IndexDate DateTime)**
 - exists ((
 - case ProductLine
 - when "Commercial Product" then ["Participation": "Commercial"]
 - when "Medicare Product" then ["Participation": "Medicare"]
 - when "Medicaid Product" then ["Participation": "Medicaid"]
 - else null
 - end) P
 - where IndexDate during P.participationPeriod
 -)
 - //Returns enrollment periods of up to a year ending at the end of the participation period.
 - //Note that this will not return more than 3 years (would need the expand from 1.3 to support more generally)
 -
 - //For example, given the following participation period:
 -
 - // 10/1/16 1/1/17 1/1/18 12/31/18
 - // [---||-----||-----]
 -
 - //The function will return the following enrollment periods:
 - //
 - // [---][-----][-----]
 - //
 - //In values:
 - //Participation Period: Interval[@2016-10-01, @2018-12-31]
 - //Enrollment Periods: { Interval[@2016-10-01, @2016-12-31], Interval[@2017-01-01, @2017-12-31]
 - Interval[@2018-01-01, @2018-12-31] }
- **Common.Participation In Period(ParticipationPeriod Interval<DateTime>)**
 - collapse (Participation P
 - let I: P.participationPeriod
 - intersect ParticipationPeriod
 - where P.participationPeriod overlaps ParticipationPeriod
 - return all Interval[ToDate(start of I), predecessor of (ToDate(
 - end of I
 -)+ 1 day
 -)]
 -)
 -
- **Common.ToDate(Value DateTime)**
 - DateTime(year from Value, month from Value, day from Value, 0, 0, 0, 0, timezone from Value)