

|   |  |                            |                                      |
|---|--|----------------------------|--------------------------------------|
| <b>eCQM Title</b>                               | <b>Follow-Up Care for Children Prescribed ADHD Medication (ADD)</b>  |                            |                                      |
| <b>eCQM Identifier (Measure Authoring Tool)</b> | 136  | <b>eCQM Version Number</b> | 14.0.000                             |
| <b>CBE Number</b>                               | Not Applicable   | <b>GUID</b>                | 703cc49b-b653-4885-80e8-245a057f5ae9 |
| <b>Measurement Period</b>                       | January 1, 20XX through December 31, 20XX  |                            |                                      |
| <b>Measure Steward</b>                          | National Committee for Quality Assurance   |                            |                                      |
| <b>Measure Developer</b>                        | National Committee for Quality Assurance   |                            |                                      |
| <b>Endorsed By</b>                              | None   |                            |                                      |
| <b>Description</b>                              | <p>Percentage of children 6-12 years of age and newly prescribed a medication for attention-deficit/hyperactivity disorder (ADHD) who had appropriate follow-up care. Two rates are reported.</p> <p>a. Percentage of children who had one follow-up visit with a practitioner with prescribing authority during the 30-Day Initiation Phase.</p> <p>b. Percentage of children who remained on ADHD medication for at least 210 treatment days and who, in addition to the visit in the Initiation Phase, had at least two additional follow-up visits with a practitioner within 270 days (9 months) after the Initiation Phase ended.</p>  |                            |                                      |
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| <b>Measure Scoring</b>                          | Proportion   |                            |                                      |
| <b>Measure Type</b>                             | Process  |                            |                                      |
| <b>Stratification</b>                           | None   |                            |                                      |
| <b>Risk Adjustment</b>                          | None   |                            |                                      |
| <b>Rate Aggregation</b>                         | None   |                            |                                      |
| <b>Rationale</b>                                | <p>ADHD is one of the more common chronic conditions of childhood. Children with ADHD may experience significant functional problems, such as school difficulties; academic underachievement; troublesome relationships with family members and peers; and behavioral problems (AAP, 2019). Given the high prevalence of ADHD among school-aged children (11 percent), primary care clinicians will regularly encounter children with ADHD and should have a strategy for diagnosing and long-term management of this condition (Visser et al., 2014). Reports indicate that the use of ADHD medication among children rose 28 percent between 2007 and 2011 (Visser et al., 2014).</p> <p>Practitioners can convey the efficacy of pharmacotherapy to their patients. American Academy of Pediatrics (AAP) guidelines recommend that once a child is stable, an office visit every three to six months allows assessment of learning and behavior (AAP, 2019). Follow-up appointments should be made at least monthly until the child's symptoms have been stabilized (AACAP, 2007).</p> <p>Providers have an opportunity to track medication use in patients and provide the appropriate follow-up care to monitor clinical symptoms and potential adverse events.</p>   |                            |                                      |
| <b>Clinical Recommendation Statement</b>        | <p>American Academy of Pediatrics Clinical Practice Guideline for the Diagnosis, Evaluation and Treatment of ADHD in Children and Adolescents (2019)</p> <ul style="list-style-type: none"> <li>- Key Action Statement (KAS) 1: The pediatrician or other primary care clinicians (PCC) should initiate an evaluation for ADHD for any child or adolescent age 4 years to the 18th birthday who presents with academic or behavioral problems and symptoms of inattention, hyperactivity, or impulsivity. Grade B: Strong Recommendation</li> <li>- KAS 4: ADHD is a chronic condition; therefore, the PCC should manage children and adolescents with ADHD in the same manner that they would children and youth with special health care needs, following the principles of the chronic care model and the medical home. Grade B: Strong Recommendation</li> <li>- KAS 5b: For elementary and middle school-aged children (age 6 years to the 12th birthday) with ADHD, the PCC should prescribe FDA-approved medications for ADHD, along with parent training in behavior management (PTBM) and/or behavioral classroom intervention (preferably both PTBM and behavioral classroom interventions). Educational interventions and individualized instructional supports, including school environment, class placement, instructional placement, and behavioral supports, are a necessary part of any treatment plan and often include an Individualized Education Program (IEP) or a rehabilitation plan (504 plan). Grade A: Strong Recommendation</li> <li>- KAS 6. "The PCC should titrate doses of medication for ADHD to achieve maximum benefit with tolerable side effects". Grade B, strong recommendation</li> </ul> <p>American Academy of Child and Adolescent Psychiatry (AACAP) Practice Parameter for the Assessment and Treatment of Children and Adolescents with ADHD (2007)</p> <ul style="list-style-type: none"> <li>- Overall Guideline: The key to effective long-term management of the patient with ADHD is continuity of care with a clinician experienced in the treatment of ADHD. The frequency and duration of follow-up sessions should be individualized for each family and patient, depending on the severity of ADHD symptoms; the degree of comorbidity of other psychiatric illness; the response to treatment; and the degree of impairment in home, school, work, or peer-related activities. The clinician should establish an effective mechanism for receiving feedback from the family and other important informants in the patient's environment to be sure symptoms are well controlled and side effects are minimal. Although this parameter does not seek to set a formula for the method of follow-up, significant contact with</li> </ul>   |                            |                                      |

|                                   |   |
|-----------------------------------|---|
|                                   | <p>the clinician should typically occur two to four times per year in cases of uncomplicated ADHD and up to weekly sessions at times of severe dysfunction or complications of treatment.</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>   |
| <b>Improvement Notation</b>       | Higher score indicates better quality   |
| <b>Reference</b>                  | <p>Reference Type: CITATION</p> <p>Reference Text: 'American Academy of Pediatrics. (2019). Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents. Pediatrics, 144(4), 1-25.'</p>  |
| <b>Reference</b>                  | <p>Reference Type: JUSTIFICATION</p> <p>Reference Text: 'American Academy of Pediatrics. (2001). Clinical practice guideline: treatment of the school-aged child with attention-deficit/hyperactivity disorder. Pediatrics, 108(4), 1033-44.'</p>   |
| <b>Reference</b>                  | <p>Reference Type: JUSTIFICATION</p> <p>Reference Text: 'American Academy of Pediatrics. (2000). Clinical practice guideline: diagnosis and evaluation of the child with attention-deficit/hyperactivity disorder. Pediatrics, 105(5), 1158-1170.'</p>  |
| <b>Reference</b>                  | <p>Reference Type: CITATION</p> <p>Reference Text: 'Pliszka, S., &amp; AACAP Work Group on Quality Issues. (2007). Practice parameter for the assessment and treatment of children and adolescents with attention-deficit/hyperactivity disorder. Journal of the American Academy of Child and Adolescent Psychiatry (AACAP), 46(7), 894-921.'</p>  |
| <b>Reference</b>                  | <p>Reference Type: CITATION</p> <p>Reference Text: 'Visser, N., Danielson, M., Bitsko, R., Holbrook, J., Kogan, M., Ghandour, R., Perou, R., &amp; Blumberg, S. (2014). Trends in the Parent-Report of Health Care Provider-Diagnoses and Medicated Attention-Deficit/Hyperactivity Disorder: United States, 2003-2011. Journal of the American Academy of Child and Adolescent Psychiatry (AACAP), 53(1), 34-46.e2.'</p>   |
| <b>Definition</b>                 | <p>Intake Period: The twelve-month period starting March 1 of the year prior to the measurement period and ending the last calendar day of February of the measurement period.</p> <p>Index Prescription Start Date (IPSD): The earliest prescription date for an ADHD medication where the date is in the Intake Period and the patient is not actively on ADHD medication during the 120 days prior.</p> <p>Initiation Phase: The 30 days following the IPSD.</p> <p>Continuation and Maintenance Phase: The 300 days following the IPSD.</p> <p>Treatment days (covered days): The actual number of calendar days covered with prescriptions during the 301-day period.</p> <p>Use the following steps to identify and calculate covered days.</p> <p>Step 1: For same medications that are prescribed on the same day or on different days with overlapping days supply, the days supply is summed. The start and end dates are then identified. The start date is the date of service of the earliest prescription event and the first covered day. The end date is the calendar day when the days supply runs out. The start date through the end date are considered covered days. This rule assumes that the patient will take one prescription at a time (and start taking the next prescription after exhausting the previous prescription). For example:</p> <ul style="list-style-type: none"> <li>- If there are three 7-days supply prescription events for the same medication on January 1, the start date is January 1 and the end date is January 21. Covered days include January 1-21.</li> <li>- If there are two 7-days supply prescription events for the same medication on January 1 and January 5, the start date is January 1 and the end date is January 14. Covered days include January 1-14.</li> <li>- If there are three 7-days supply prescription events for the same medication on January 1, a 7-days supply prescription event on January 20 and a 7-days supply prescription event on January 28, the start date is January 1 and the end date is February 4. Covered days include January 1-February 4.</li> </ul> <p>Step 2: For all other events (multiple prescriptions for the same medication on different days without overlap, multiple prescriptions for different medications on the same or different days, with or without overlap), the covered days are identified by the start and end dates for each prescription event individually. The start date through the end date are considered covered days. This rule assumes the member will take the different medications concurrently.</p> <p>Step 3: Each calendar day covered by one or more medications is considered one covered day.</p> |
| <b>Guidance</b>                   | <p>This eCQM is a patient-based measure.</p> <p>This version of the eCQM uses QDM version 5.6. Please refer to the eCQI resource center (<a href="https://ecqi.healthit.gov/qdm">https://ecqi.healthit.gov/qdm</a>) for more information on the QDM.</p>  |
| <b>Transmission Format</b>        | TBD   |
| <b>Initial Population</b>         | <p>Initial Population 1: Children 6-12 years of age as of the Intake Period who had an IPSD and who had a visit within 6 months prior to the IPSD including the IPSD. Children are removed if they had an acute inpatient stay with a principal diagnosis of mental, behavioral or neurodevelopmental disorder during the Initiation Phase.</p> <p>Initial Population 2: Children 6-12 years of age as of the Intake Period who had an IPSD and remained on the medication for at least 210 treatment days during the 301-day period, beginning on the IPSD through 300 days after the IPSD, and who had a visit within 6 months prior to the IPSD including the IPSD. Children are removed if they had an acute inpatient stay with a principal diagnosis of mental, behavioral or neurodevelopmental disorder during the Continuation and Maintenance Phase.</p>  |
| <b>Denominator</b>                | Equals Initial Population   |
| <b>Denominator Exclusions</b>     | <p>Exclude patients who are in hospice care for any part of the measurement period.</p> <p>Exclude patients diagnosed with narcolepsy at any point in their history or during the measurement period.</p>   |
| <b>Numerator</b>                  | <p>Numerator 1: Patients who had at least one visit with a practitioner with prescribing authority during the Initiation Phase.</p> <p>Numerator 2: Patients who had at least one visit with a practitioner with prescribing authority during the Initiation Phase, and at least two follow-up visits on different dates of service during the 31-300 days after the IPSD.</p>  |
| <b>Numerator Exclusions</b>       | Not Applicable  |
| <b>Denominator Exceptions</b>     | None  |
| <b>Supplemental Data Elements</b> | For every patient evaluated by this measure also identify payer, race, ethnicity and sex  |

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**Population Criteria**

**Population Criteria 1****Initial Population**

```
AgeInYearsAt(date from start of "Intake Period") >= 6
and AgeInYearsAt(date from
  end of "Intake Period"
) <= 12
and exists "Qualifying Encounter"
and "First ADHD Medication Prescribed During Intake Period" is not null
and not exists "Inpatient Stay with Qualifying Diagnosis During Initiation Phase"
```

**Denominator**

```
"Initial Population 1"
```

**Denominator Exclusions**

```
Hospice."Has Hospice Services"
or exists ( "Narcolepsy Exclusion" )
```

**Numerator**

```
exists ( "Encounter During Initiation Phase" )
```

**Numerator Exclusions**

```
None
```

**Denominator Exceptions**

```
None
```

**Stratification**

```
None
```

**Population Criteria 2****Initial Population**

```
AgeInYearsAt(date from start of "Intake Period") >= 6
and AgeInYearsAt(date from
  end of "Intake Period"
) <= 12
and exists "Qualifying Encounter"
and "First ADHD Medication Prescribed During Intake Period" is not null
and "Has ADHD Cumulative Medication Duration Greater Than or Equal to 210 Days"
and not exists "Inpatient Stay with Qualifying Diagnosis During Continuation and Maintenance Phase"
```

**Denominator**

```
"Initial Population 2"
```

**Denominator Exclusions**

```
Hospice."Has Hospice Services"
or exists ( "Narcolepsy Exclusion" )
```

**Numerator**

```
exists ( "Encounter During Initiation Phase" )
and ( ( "Two or More Encounters 31 to 300 Days into Continuation and Maintenance Phase" )
or ( exists ( "Encounter 31 to 300 Days into Continuation and Maintenance Phase" Encounter1
  with "Virtual Encounter 31 to 300 Days into Continuation and Maintenance Phase" Encounter2
  such that Encounter1 is not null
  and Encounter2 is not null
  and Encounter1 != Encounter2
)
)
)
)
```

**Numerator Exclusions**

```
None
```

**Denominator Exceptions**

```
None
```

**Stratification**

```
None
```

**Definitions****ADHD Cumulative Medication Duration**

```
CMD."CumulativeDuration" ( "ADHD Medications Taken on IPSD or During Continuation and Maintenance Phase" )
```

**ADHD Medication Prescribed During Intake Period and Not Previously on ADHD Medication**

```
(( ["Medication, Order": "Atomoxetine"]
union ["Medication, Order": "Clonidine"]
union ["Medication, Order": "Dexamethylphenidate"]
union ["Medication, Order": "Dextroamphetamine"]
union ["Medication, Order": "Lisdexamfetamine"]
union ["Medication, Order": "methamphetamine hydrochloride 5 MG Oral Tablet"]
union ["Medication, Order": "Methylphenidate"]
union ["Medication, Order": "Guanfacine Medications"] ) ADHDMedications
where Coalesce(ADHDMedications.relevantPeriod.low, ADHDMedications.authorDatetime) during "Intake Period" ) ADHDMedicationOrder
without ( ["Medication, Active": "Atomoxetine"]
union ["Medication, Active": "Clonidine"]
union ["Medication, Active": "Dexamethylphenidate"]
union ["Medication, Active": "Dextroamphetamine"]
union ["Medication, Active": "Lisdexamfetamine"]
union ["Medication, Active": "methamphetamine hydrochloride 5 MG Oral Tablet"]
union ["Medication, Active": "Methylphenidate"]
union ["Medication, Active": "Guanfacine Medications"] ) ActiveADHDMedication
```

such that Global."ToDateInterval" ( Global."NormalizeInterval" ( ActiveADHDMedication.relevantDatetime, ActiveADHDMedication.relevantPeriod ) ) overlaps Interval[date from Coalesce(ADHDMedicationOrder.relevantPeriod.low, ADHDMedicationOrder.authorDatetime) - 120 days, date from Coalesce(ADHDMedicationOrder.relevantPeriod.low, ADHDMedicationOrder.authorDatetime) )  
 sort by Coalesce(relevantPeriod.low, authorDatetime) asc

#### 4 ADHD Medications Taken on IPSD or During Continuation and Maintenance Phase

```
( ( CMD."RolloutIntervals" ( ( ["Medication, Order": "Atomoxetine"] AtomoxetineMed
  return all {
    period: CMD."MedicationOrderPeriod" ( AtomoxetineMed ),
    periodStart: start of CMD."MedicationOrderPeriod" ( AtomoxetineMed )
  }
  sort by periodStart
  ).period )
)
union ( CMD."RolloutIntervals" ( ( ["Medication, Order": "Clonidine"] ClonidineMed
  return all {
    period: CMD."MedicationOrderPeriod" ( ClonidineMed ),
    periodStart: start of CMD."MedicationOrderPeriod" ( ClonidineMed )
  }
  sort by periodStart
  ).period )
)
union ( CMD."RolloutIntervals" ( ( ["Medication, Order": "Dexamethylphenidate"] DexamethylphenidateMed
  return all {
    period: CMD."MedicationOrderPeriod" ( DexamethylphenidateMed ),
    periodStart: start of CMD."MedicationOrderPeriod" ( DexamethylphenidateMed )
  }
  sort by periodStart
  ).period )
)
union ( CMD."RolloutIntervals" ( ( ["Medication, Order": "Dextroamphetamine"] DextroamphetamineMed
  return all {
    period: CMD."MedicationOrderPeriod" ( DextroamphetamineMed ),
    periodStart: start of CMD."MedicationOrderPeriod" ( DextroamphetamineMed )
  }
  sort by periodStart
  ).period )
)
union ( CMD."RolloutIntervals" ( ( ["Medication, Order": "Lisdexamfetamine"] LisdexamfetamineMed
  return all {
    period: CMD."MedicationOrderPeriod" ( LisdexamfetamineMed ),
    periodStart: start of CMD."MedicationOrderPeriod" ( LisdexamfetamineMed )
  }
  sort by periodStart
  ).period )
)
union ( CMD."RolloutIntervals" ( ( ["Medication, Order": "Methylphenidate"] MethylphenidateMed
  return all {
    period: CMD."MedicationOrderPeriod" ( MethylphenidateMed ),
    periodStart: start of CMD."MedicationOrderPeriod" ( MethylphenidateMed )
  }
  sort by periodStart
  ).period )
)
union ( CMD."RolloutIntervals" ( ( ["Medication, Order": "Guanfacine Medications"] GuanfacineMed
  return all {
    period: CMD."MedicationOrderPeriod" ( GuanfacineMed ),
    periodStart: start of CMD."MedicationOrderPeriod" ( GuanfacineMed )
  }
  sort by periodStart
  ).period )
)
union ( CMD."RolloutIntervals" ( ( ["Medication, Order": "methamphetamine hydrochloride 5 MG Oral Tablet"] MethamphetamineMed
  return all {
    period: CMD."MedicationOrderPeriod" ( MethamphetamineMed ),
    periodStart: start of CMD."MedicationOrderPeriod" ( MethamphetamineMed )
  }
  sort by periodStart
  ).period )
) ) ADHDMedication
let IPSDAndContinuationMaintenancePhase: Interval["IPSD", "IPSD" + 300 days]
return all ADHDMedication
intersect IPSDAndContinuationMaintenancePhase
```

#### 4 Denominator 1

"Initial Population 1"

#### 4 Denominator 2

"Initial Population 2"

#### 4 Denominator Exclusions

Hospice."Has Hospice Services"  
 or exists ( "Narcolepsy Exclusion" )

#### 4 Encounter 31 to 300 Days into Continuation and Maintenance Phase

"Qualifying Numerator Encounter" ValidNumeratorEncounter  
 where Global."ToDateInterval" ( ValidNumeratorEncounter.relevantPeriod ) starts during day of Interval["IPSD" + 31 days, "IPSD" + 300 days]  
 return date from start of ValidNumeratorEncounter.relevantPeriod

#### 4 Encounter During Initiation Phase

"Qualifying Numerator Encounter" ValidNumeratorEncounter  
 where Global."ToDateInterval" ( ValidNumeratorEncounter.relevantPeriod ) starts 30 days or less after day of "IPSD"

#### 4 First ADHD Medication Prescribed During Intake Period

First("ADHD Medication Prescribed During Intake Period and Not Previously on ADHD Medication")

#### 4 Has ADHD Cumulative Medication Duration Greater Than or Equal to 210 Days

"ADHD Cumulative Medication Duration" >= 210

#### 4 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"
)
or exists ( ["Intervention, Order": "Hospice Care Ambulatory"] HospiceOrder
  where HospiceOrder.authorDatetime during day of "Measurement Period"
)
or exists ( ["Intervention, Performed": "Hospice Care Ambulatory"] HospicePerformed
  where Global."NormalizeInterval" ( HospicePerformed.relevantDatetime, HospicePerformed.relevantPeriod ) overlaps day of "Measurement Period"
)
or exists ( ["Diagnosis": "Hospice Diagnosis"] HospiceCareDiagnosis
  where HospiceCareDiagnosis.prevalencePeriod overlaps day of "Measurement Period"
)

```

**4 Initial Population 1**

```

AgeInYearsAt(date from start of "Intake Period") >= 6
and AgeInYearsAt(date from
  end of "Intake Period"
) <= 12
and exists "Qualifying Encounter"
and "First ADHD Medication Prescribed During Intake Period" is not null
and not exists "Inpatient Stay with Qualifying Diagnosis During Initiation Phase"

```

**4 Initial Population 2**

```

AgeInYearsAt(date from start of "Intake Period") >= 6
and AgeInYearsAt(date from
  end of "Intake Period"
) <= 12
and exists "Qualifying Encounter"
and "First ADHD Medication Prescribed During Intake Period" is not null
and "Has ADHD Cumulative Medication Duration Greater Than or Equal to 210 Days"
and not exists "Inpatient Stay with Qualifying Diagnosis During Continuation and Maintenance Phase"

```

**4 Inpatient Stay with Qualifying Diagnosis**

```

( ["Encounter, Performed": "Encounter Inpatient"] InpatientStay
  where exists ( InpatientStay.diagnoses EncounterDiagnoses
    where ( EncounterDiagnoses.rank = 1
      and EncounterDiagnoses.code in "Mental Behavioral and Neurodevelopmental Disorders"
    )
  )
)

```

**4 Inpatient Stay with Qualifying Diagnosis During Continuation and Maintenance Phase**

```

"Inpatient Stay with Qualifying Diagnosis" InpatientStay
  where Global."ToDateInterval" ( InpatientStay.relevantPeriod ) starts 300 days or less after day of "IPSD"

```

**4 Inpatient Stay with Qualifying Diagnosis During Initiation Phase**

```

"Inpatient Stay with Qualifying Diagnosis" InpatientStay
  where Global."ToDateInterval" ( InpatientStay.relevantPeriod ) starts 30 days or less after day of "IPSD"

```

**4 Intake Period**

```

Interval["March 1 of Year Prior to Measurement Period", "Last Calendar Day of February of Measurement Period"]

```

**4 IPSD**

```

date from Coalesce("First ADHD Medication Prescribed During Intake Period".relevantPeriod.low, "First ADHD Medication Prescribed During Intake Period".authorDatetime)

```

**4 Last Calendar Day of February of Measurement Period**

```

( DateTime(year from start of "Measurement Period", 3, 1, 23, 59, 59, 0, 0) ) - 1 day

```

**4 March 1 of Year Prior to Measurement Period**

```

DateTime((year from start of "Measurement Period" - 1), 3, 1, 0, 0, 0, 0, 0)

```

**4 Narcolepsy Exclusion**

```

["Diagnosis": "Narcolepsy"] Narcolepsy
  where Narcolepsy.prevalencePeriod starts on or before end "Measurement Period"

```

**4 Numerator 1**

```

exists ( "Encounter During Initiation Phase" )

```

**4 Numerator 2**

```

exists ( "Encounter During Initiation Phase" )
and ( ( "Two or More Encounters 31 to 300 Days into Continuation and Maintenance Phase" )
  or ( exists ( "Encounter 31 to 300 Days into Continuation and Maintenance Phase" Encounter1
    with "Virtual Encounter 31 to 300 Days into Continuation and Maintenance Phase" Encounter2
      such that Encounter1 is not null
        and Encounter2 is not null
          and Encounter1 !~ Encounter2
    )
  )
)

```

**4 Qualifying Encounter**

```

( ["Encounter, Performed": "Office Visit"]
  union ["Encounter, Performed": "Home Healthcare Services"]
  union ["Encounter, Performed": "Preventive Care, Established Office Visit, 0 to 17"]
  union ["Encounter, Performed": "Preventive Care Services, Initial Office Visit, 0 to 17"] ) ValidEncounters
  where Global."ToDateInterval" ( ValidEncounters.relevantPeriod ) during day of Interval["IPSD" - 6 months, "IPSD"]

```

**4 Qualifying Numerator Encounter**

```

( ["Encounter, Performed": "Office Visit"]
  union ["Encounter, Performed": "Preventive Care Services Group Counseling"]
  union ["Encounter, Performed": "Behavioral Health Follow up Visit"]
  union ["Encounter, Performed": "Preventive Care Services Individual Counseling"]
  union ( ["Encounter, Performed": "Psychotherapy and Pharmacologic Management"] PsychPharmManagement
    where exists ( PsychPharmManagement.facilityLocations Location
      where Location.code in "Ambulatory"
    )
  )
  union ["Encounter, Performed": "Outpatient Consultation"]
  union ["Encounter, Performed": "Home Healthcare Services"]
)

```

```

union ["Encounter, Performed": "Preventive Care Services, Initial Office Visit, 0 to 17"]
union ["Encounter, Performed": "Preventive Care, Established Office Visit, 0 to 17"]
union ["Encounter, Performed": "Psych Visit Diagnostic Evaluation"]
union ["Encounter, Performed": "Psych Visit Psychotherapy"]
union ["Encounter, Performed": "Telephone Visits"]
)

```

**4 SDE Ethnicity**

```
["Patient Characteristic Ethnicity": "Ethnicity"]
```

**4 SDE Payer**

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

**4 SDE Race**

```
["Patient Characteristic Race": "Race"]
```

**4 SDE Sex**

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

**4 Two or More Encounters 31 to 300 Days into Continuation and Maintenance Phase**

```
Count("Encounter 31 to 300 Days into Continuation and Maintenance Phase") >= 2
```

**4 Virtual Encounter 31 to 300 Days into Continuation and Maintenance Phase**

```
["Encounter, Performed": "Virtual Encounter"] VirtualEnc
where Global."ToDateInterval" ( VirtualEnc.relevantPeriod ) starts during day of Interval["IPSD" + 31 days, "IPSD" + 300 days]
return date from start of VirtualEnc.relevantPeriod
```

**Functions****4 CMD.CodeToDaily(Frequency Code)**

```

case
when Frequency ~ "Once daily (qualifier value)" then 1.0
when Frequency ~ "Twice a day (qualifier value)" then 2.0
when Frequency ~ "Three times daily (qualifier value)" then 3.0
when Frequency ~ "Four times daily (qualifier value)" then 4.0
when Frequency ~ "Every twenty four hours (qualifier value)" then 1.0
when Frequency ~ "Every twelve hours (qualifier value)" then 2.0
when Frequency ~ "Every thirty six hours (qualifier value)" then 0.67
when Frequency ~ "Every eight hours (qualifier value)" then 3.0
when Frequency ~ "Every four hours (qualifier value)" then 6.0
when Frequency ~ "Every six hours (qualifier value)" then 4.0
when Frequency ~ "Every seventy two hours (qualifier value)" then 0.33
when Frequency ~ "Every forty eight hours (qualifier value)" then 0.5
when Frequency ~ "Every eight to twelve hours (qualifier value)" then 3.0
when Frequency ~ "Every six to eight hours (qualifier value)" then 4.0
when Frequency ~ "Every three to four hours (qualifier value)" then 8.0
when Frequency ~ "Every three to six hours (qualifier value)" then 8.0
when Frequency ~ "Every two to four hours (qualifier value)" then 12.0
when Frequency ~ "One to four times a day (qualifier value)" then 4.0
when Frequency ~ "One to three times a day (qualifier value)" then 3.0
when Frequency ~ "One to two times a day (qualifier value)" then 2.0
when Frequency ~ "Two to four times a day (qualifier value)" then 4.0
else null
end

```

**4 CMD.CumulativeDuration(Intervals List<Interval<Date>>)**

```

if Intervals is not null then ( Sum((collapse Intervals per day)X
return all(difference in days between start of X and
end of X
)+ 1
)
)
else null

```

**4 CMD.MedicationOrderPeriod(MedOrder "Medication, Order")**

```

MedOrder Order
let startDate: date from Coalesce(Order.relevantPeriod.low, Order.authorDatetime),
totalDaysSupplied: Coalesce(Order.daysSupplied, Order.supply.value / (Order.dosage.value * ToDaily(Order.frequency))) * ( 1 + Coalesce(Order.refills, 0) )
return if startDate is null then null
else if totalDaysSupplied is not null then Interval[startDate, startDate + Quantity { value: totalDaysSupplied - 1, unit: 'day' } ]
else if Order.relevantPeriod.high is not null then Interval[startDate, date from end of Order.relevantPeriod]
else null

```

**4 CMD.QuantityToDaily(Frequency Quantity)**

```

case Frequency.unit
when 'h' then (24.0 / Frequency.value)
when 'min' then (24.0 / Frequency.value) * 60
when 's' then (24.0 / Frequency.value) * 60 * 60
when 'd' then (24.0 / Frequency.value) / 24
when 'wk' then (24.0 / Frequency.value) / (24 * 7)
when 'mo' then (24.0 / Frequency.value) / (24 * 30) /* assuming 30 days in month */
when 'a' then (24.0 / Frequency.value) / (24 * 365) /* assuming 365 days in year */
when 'hour' then (24.0 / Frequency.value)
when 'minute' then (24.0 / Frequency.value) * 60
when 'second' then (24.0 / Frequency.value) * 60 * 60
when 'day' then (24.0 / Frequency.value) / 24
when 'week' then (24.0 / Frequency.value) / (24 * 7)
when 'month' then (24.0 / Frequency.value) / (24 * 30) /* assuming 30 days in month */
when 'year' then (24.0 / Frequency.value) / (24 * 365) /* assuming 365 days in year */
when 'hours' then (24.0 / Frequency.value)
when 'minutes' then (24.0 / Frequency.value) * 60
when 'seconds' then (24.0 / Frequency.value) * 60 * 60
when 'days' then (24.0 / Frequency.value) / 24
when 'weeks' then (24.0 / Frequency.value) / (24 * 7)
when 'months' then (24.0 / Frequency.value) / (24 * 30) /* assuming 30 days in month */
when 'years' then (24.0 / Frequency.value) / (24 * 365) /* assuming 365 days in year */
else null
end

```

**4 CMD.RolloutIntervals(intervals List<Interval<Date>>)**

```

intervals I aggregate all R starting ( null as List<Interval<Date>>): R
union ( { I X
let S: Max{
end of Last(R)+ 1 day, start of X }

```

```

),
E: S + Quantity { value: Coalesce(duration in days of X, 0), unit: 'day' }
return Interval[S, E]
)

```

#### 4 CMD.ToDaily(Frequency Choice<Quantity, Code>)

```

case
when Frequency is Quantity then QuantityToDaily(Frequency as Quantity)
else CodeToDaily(Frequency as Code)
end

```

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

```

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

```

#### 4 Global.ToDateInterval(period Interval<DateTime>)

```
Interval[date from start of period, date from end of period]
```

### Terminology

- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Every eight hours (qualifier value)" ("SNOMEDCT Code (307469008)")
- code "Every eight to twelve hours (qualifier value)" ("SNOMEDCT Code (396140003)")
- code "Every forty eight hours (qualifier value)" ("SNOMEDCT Code (396131002)")
- code "Every four hours (qualifier value)" ("SNOMEDCT Code (225756002)")
- code "Every seventy two hours (qualifier value)" ("SNOMEDCT Code (396143001)")
- code "Every six hours (qualifier value)" ("SNOMEDCT Code (307468000)")
- code "Every six to eight hours (qualifier value)" ("SNOMEDCT Code (396139000)")
- code "Every thirty six hours (qualifier value)" ("SNOMEDCT Code (396126004)")
- code "Every three to four hours (qualifier value)" ("SNOMEDCT Code (225754004)")
- code "Every three to six hours (qualifier value)" ("SNOMEDCT Code (396127008)")
- code "Every twelve hours (qualifier value)" ("SNOMEDCT Code (307470009)")
- code "Every twenty four hours (qualifier value)" ("SNOMEDCT Code (396125000)")
- code "Every two to four hours (qualifier value)" ("SNOMEDCT Code (225752000)")
- code "Four times daily (qualifier value)" ("SNOMEDCT Code (307439001)")
- code "Hospice care [Minimum Data Set]" ("LOINC Code (45755-6)")
- code "methamphetamine hydrochloride 5 MG Oral Tablet" ("RXNORM Code (977860)")
- code "Once daily (qualifier value)" ("SNOMEDCT Code (229797004)")
- code "One to four times a day (qualifier value)" ("SNOMEDCT Code (396109005)")
- code "One to three times a day (qualifier value)" ("SNOMEDCT Code (396108002)")
- code "One to two times a day (qualifier value)" ("SNOMEDCT Code (396107007)")
- code "Three times daily (qualifier value)" ("SNOMEDCT Code (229798009)")
- code "Twice a day (qualifier value)" ("SNOMEDCT Code (229799001)")
- code "Two to four times a day (qualifier value)" ("SNOMEDCT Code (396111001)")
- code "Yes (qualifier value)" ("SNOMEDCT Code (373066001)")
- valueset "Ambulatory" (2.16.840.1.113883.3.464.1003.122.12.1003)
- valueset "Atomoxetine" (2.16.840.1.113883.3.464.1003.1170)
- valueset "Behavioral Health Follow up Visit" (2.16.840.1.113883.3.464.1003.101.12.1054)
- valueset "Clonidine" (2.16.840.1.113883.3.464.1003.1171)
- valueset "Dexamethylphenidate" (2.16.840.1.113883.3.464.1003.1172)
- valueset "Dextroamphetamine" (2.16.840.1.113883.3.464.1003.1173)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Guanfacine Medications" (2.16.840.1.113883.3.464.1003.196.11.1252)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice Care Ambulatory" (2.16.840.1.113883.3.526.3.1584)
- valueset "Hospice Diagnosis" (2.16.840.1.113883.3.464.1003.1165)
- valueset "Hospice Encounter" (2.16.840.1.113883.3.464.1003.1003)
- valueset "Lisdexamfetamine" (2.16.840.1.113883.3.464.1003.1174)
- valueset "Mental Behavioral and Neurodevelopmental Disorders" (2.16.840.1.113883.3.464.1003.105.12.1203)
- valueset "Methylphenidate" (2.16.840.1.113883.3.464.1003.1176)
- valueset "Narcolepsy" (2.16.840.1.113883.3.464.1003.114.12.1011)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Payer Type" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services Group Counseling" (2.16.840.1.113883.3.464.1003.101.12.1027)
- valueset "Preventive Care Services Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Psych Visit Diagnostic Evaluation" (2.16.840.1.113883.3.526.3.1492)
- valueset "Psych Visit Psychotherapy" (2.16.840.1.113883.3.526.3.1496)
- valueset "Psychotherapy and Pharmacologic Management" (2.16.840.1.113883.3.464.1003.101.12.1055)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- 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: Hospice Diagnosis" using "Hospice Diagnosis (2.16.840.1.113883.3.464.1003.1165)"
- "Diagnosis: Narcolepsy" using "Narcolepsy (2.16.840.1.113883.3.464.1003.114.12.1011)"
- "Encounter, Performed: Behavioral Health Follow up Visit" using "Behavioral Health Follow up Visit (2.16.840.1.113883.3.464.1003.101.12.1054)"
- "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)"
- "Encounter, Performed: Hospice Encounter" using "Hospice Encounter (2.16.840.1.113883.3.464.1003.1003)"
- "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 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, 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: Psych Visit Diagnostic Evaluation" using "Psych Visit Diagnostic Evaluation (2.16.840.1.113883.3.526.3.1492)"
- "Encounter, Performed: Psych Visit Psychotherapy" using "Psych Visit Psychotherapy (2.16.840.1.113883.3.526.3.1496)"
- "Encounter, Performed: Psychotherapy and Pharmacologic Management" using "Psychotherapy and Pharmacologic Management (2.16.840.1.113883.3.464.1003.101.12.1055)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "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)"
- "Medication, Active: Atomoxetine" using "Atomoxetine (2.16.840.1.113883.3.464.1003.1170)"
- "Medication, Active: Clonidine" using "Clonidine (2.16.840.1.113883.3.464.1003.1171)"
- "Medication, Active: Dexamethylphenidate" using "Dexamethylphenidate (2.16.840.1.113883.3.464.1003.1172)"
- "Medication, Active: Dextroamphetamine" using "Dextroamphetamine (2.16.840.1.113883.3.464.1003.1173)"
- "Medication, Active: Guanfacine Medications" using "Guanfacine Medications (2.16.840.1.113883.3.464.1003.196.11.1252)"
- "Medication, Active: Lisdexamfetamine" using "Lisdexamfetamine (2.16.840.1.113883.3.464.1003.1174)"
- "Medication, Active: methamphetamine hydrochloride 5 MG Oral Tablet" using "methamphetamine hydrochloride 5 MG Oral Tablet (RXNORM Code 977860)"

- "Medication, Active: Methylphenidate" using "Methylphenidate (2.16.840.1.113883.3.464.1003.1176)"
- "Medication, Order: Atomoxetine" using "Atomoxetine (2.16.840.1.113883.3.464.1003.1170)"
- "Medication, Order: Clonidine" using "Clonidine (2.16.840.1.113883.3.464.1003.1171)"
- "Medication, Order: Dexmethylphenidate" using "Dexmethylphenidate (2.16.840.1.113883.3.464.1003.1172)"
- "Medication, Order: Dextroamphetamine" using "Dextroamphetamine (2.16.840.1.113883.3.464.1003.1173)"
- "Medication, Order: Guanfacine Medications" using "Guanfacine Medications (2.16.840.1.113883.3.464.1003.196.11.1252)"
- "Medication, Order: Lisdexamfetamine" using "Lisdexamfetamine (2.16.840.1.113883.3.464.1003.1174)"
- "Medication, Order: methamphetamine hydrochloride 5 MG Oral Tablet" using "methamphetamine hydrochloride 5 MG Oral Tablet (RXNORM Code 977860)"
- "Medication, Order: Methylphenidate" using "Methylphenidate (2.16.840.1.113883.3.464.1003.1176)"
- "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 Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

**Supplemental Data Elements**

**▲ SDE Ethnicity**

["Patient Characteristic Ethnicity": "Ethnicity"]

**▲ SDE Payer**

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

**▲ SDE Race**

["Patient Characteristic Race": "Race"]

**▲ SDE Sex**

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

**Risk Adjustment Variables**

None

|             |      |
|-------------|------|
| Measure Set | None |
|-------------|------|