PSYCKES Preventable Hospitalization Indicators

June 2011

Technical Specifications

NYS Office of Mental Health
Preventable Hospitalization Summary Indicator

Description:

The percentage of Adult Medicaid enrollees/members of all ages currently identified as having 1 or more preventable Inpatient stays in the past 12 month among enrollees currently receiving services from an OMH licensed provider.

Eligible Population:

Age: 18 years and older.

Inclusion Criteria: Medicaid enrollee/member who has received one or more services from an OMH licensed provider in the 9 months prior to the report date.

Exclusion Criteria: Transfers from another facility

Note. The preventable hospitalization indicators are based on the Agency for Health Care Research and Quality (AHRQ) Prevention Quality Indicators (PQI), which are intended to identify population rates of hospitalizations for conditions that with adequate outpatient care should be preventable. The AHRQ PQIs are considered area measures (intended to describe the rate within a certain geographic area). The PSYCKES indicators are intended to identify those NYS Medicaid members/enrollees who may benefit from better coordinated care in the community. More information regarding the AHRQ PQIs can be found at the AHRQ Quality Indicators Website.
Adult Asthma Preventable Hospitalization Summary Indicator

Description:

The percentage of Adult Medicaid enrollees/members of all ages currently identified as having 1 or more Asthma Inpatient stays (See Primary Diagnosis Codes in Table 1) in the past 12 month among enrollees currently receiving services from an OMH licensed provider.

Eligible Population:

Age: 18 years and older.

Inclusion Criteria: Medicaid enrollee/member who has received one or more services from an OMH licensed provider in the 9 months prior to the report date.

Exclusion Criteria: Transfers from another facility and claims with major diagnostic categories of pregnancy, childbirth, or puerperium as well as cystic fibrosis and anomalies of the respiratory system in any diagnosis field.

Note. The preventable hospitalization indicators are based on the Agency for Health Care Research and Quality (AHRQ) Prevention Quality Indicators (PQI), which are intended to identify population rates of hospitalizations for conditions that with adequate outpatient care should be preventable. The AHRQ PQIs are considered area measures (intended to describe the rate within a certain geographic area). The PSYCKES indicators are intended to identify those NYS Medicaid members/enrollees who may benefit from better coordinated care in the community. More information regarding the AHRQ PQIs can be found at the AHRQ Quality Indicators Website.
### Preventable Hospitalization Indicators Documentation

**Preventable Hospitalization Indicators Documentation**

**Adult Asthma Preventable Hospitalization**

**Numerator:**
All non-maternal discharges of age 18 years and older with ICD-9-CM principal diagnosis code of asthma.

**Asthma ICD-9-CM diagnosis codes:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>49300</td>
<td>EXT ASTHMA W/O STAT ASTH</td>
<td>49321</td>
<td>CH OB ASTHMA W STAT ASTH</td>
</tr>
<tr>
<td>49301</td>
<td>EXT ASTHMA W STATUS ASTH</td>
<td>49322</td>
<td>CH OBS ASTH W ACUTE EXAC OCT00-</td>
</tr>
<tr>
<td>49302</td>
<td>EXT ASTHMA W ACUTE EXAC OCT00-</td>
<td>49381</td>
<td>EXERCISE IND BRONCHOSPASM OCT03-</td>
</tr>
<tr>
<td>49310</td>
<td>INT ASTHMA W/O STAT ASTH</td>
<td>49382</td>
<td>COUGH VARIANT ASTHMA OCT03-</td>
</tr>
<tr>
<td>49311</td>
<td>INT ASTHMA W STATUS ASTH</td>
<td>49390</td>
<td>ASTHMA W/O STATUS ASTHM</td>
</tr>
<tr>
<td>49312</td>
<td>INT ASTHMA W ACUTE EXAC OCT00-</td>
<td>49391</td>
<td>ASTHMA W STATUS ASTHMAT</td>
</tr>
<tr>
<td>49320</td>
<td>CH OB ASTH W/O STAT ASTH</td>
<td>49392</td>
<td>ASTHMA W ACUTE EXACERBTN OCT00-</td>
</tr>
</tbody>
</table>

Exclude cases:

- MDC 14 (pregnancy, childbirth, and puerperium)
- MDC 15 (newborn and other neonates)
- with any diagnosis code of cystic fibrosis and anomalies of the respiratory system transferring from another institution (ADMISSION_SOURCE_CD_E0138 Not in ('4','5','6'))

**ICD-9-CM diagnosis codes of cystic fibrosis and anomalies of the respiratory system**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>27700</td>
<td>CYSTIC FIBROS W/O ILEUS</td>
</tr>
<tr>
<td>27701</td>
<td>CYSTIC FIBROS W ILEUS</td>
</tr>
<tr>
<td>27702</td>
<td>CYSTIC FIBROS W PUL MAN</td>
</tr>
<tr>
<td>27703</td>
<td>CYSTIC FIBROS W GI MAN</td>
</tr>
<tr>
<td>27709</td>
<td>CYSTIC FIBROS NEC</td>
</tr>
<tr>
<td>74721</td>
<td>ANOMALIES OF AORTIC ARCH</td>
</tr>
<tr>
<td>7483</td>
<td>LARYNGOTRACH ANOMALY NEC</td>
</tr>
<tr>
<td>7484</td>
<td>CONGENITAL CYSTIC LUNG</td>
</tr>
<tr>
<td>7485</td>
<td>AGENESIS OF LUNG</td>
</tr>
<tr>
<td>74860</td>
<td>LUNG ANOMALY NOS</td>
</tr>
<tr>
<td>74861</td>
<td>CONGEN BRONCHIECTASIAL</td>
</tr>
<tr>
<td>74869</td>
<td>LUNG ANOMALY NEC</td>
</tr>
<tr>
<td>7488</td>
<td>RESPIRATORY ANOMALY NEC</td>
</tr>
<tr>
<td>7489</td>
<td>RESPIRATORY ANOMALY NOS</td>
</tr>
<tr>
<td>7503</td>
<td>CONG ESOPH FISTULAVATRES</td>
</tr>
<tr>
<td>7593</td>
<td>SITUS INVERSUS</td>
</tr>
<tr>
<td>7707</td>
<td>PERINATAL CHR RESP DIS</td>
</tr>
</tbody>
</table>

Table 1: Diagnosis codes to specify Preventable Asthma Hospitalizations – based on Adult Asthma Admission Rate (PQI 15) AHRQ Quality Indicators
Adult Diabetes Preventable Hospitalization Indicator

Description:
The percentage of Adult Medicaid enrollees/members of all ages currently identified as having 1 or more preventable Diabetes Inpatient stays (See Primary Diagnosis Codes in Table 2) in the past 12 month among enrollees currently receiving services from an OMH licensed provider.

Eligible Population:

Age: 18 years and older.

Inclusion Criteria: Medicaid enrollee/member who has received one or more services from an OMH licensed provider in the 9 months prior to the report date.

Exclusion Criteria: Transfers from another facility and claims with major diagnostic categories of pregnancy, childbirth, or puerperium in any diagnosis field.

Note. The preventable hospitalization indicators are based on the Agency for Health Care Research and Quality (AHRQ) Prevention Quality Indicators (PQI), which are intended to identify population rates of hospitalizations for conditions that with adequate outpatient care should be preventable. The AHRQ PQIs are considered area measures (intended to describe the rate within a certain geographic area). The PSYCKES indicators are intended to identify those NYS Medicaid members/enrollees who may benefit from better coordinated care in the community. More information regarding the AHRQ PQIs can be found at the AHRQ Quality Indicators Website.
### Adult Diabetes Preventable Hospitalization Indicator

**Numerator:**

All non-maternal/non-neonatal discharges of age 18 years and older with ICD-9-CM principal diagnosis code for short-term complications (ketoacidosis, hyperosmolarity, coma) or with ICD-9-CM principal diagnosis code for long-term complications (renal, eye, neurological, circulatory, or complications not otherwise specified) or uncontrolled diabetes (see below).

#### Diabetes Short-term Complications ICD-9-CM diagnosis codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>25010</td>
<td>DM KETO T2, DM CONT</td>
</tr>
<tr>
<td>25011</td>
<td>DM KETO T1, DM CONT</td>
</tr>
<tr>
<td>25012</td>
<td>DM KETO T2, DM UNCONT</td>
</tr>
<tr>
<td>25013</td>
<td>DM KETO T1, DM UNCONT</td>
</tr>
<tr>
<td>25020</td>
<td>DM W/ HYPROSM T2, DM CONT</td>
</tr>
<tr>
<td>25021</td>
<td>DM W/ HYPROSM T1, DM CONT</td>
</tr>
</tbody>
</table>

#### Diabetes Long-term Complications ICD-9-CM diagnosis codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>25040</td>
<td>DM RENAL COMP T2 CONT</td>
</tr>
<tr>
<td>25041</td>
<td>DM RENAL COMP T1 CONT</td>
</tr>
<tr>
<td>25042</td>
<td>DM RENAL COMP T2 UNCNT</td>
</tr>
<tr>
<td>25043</td>
<td>DM RENAL COMP T1 UNCNT</td>
</tr>
<tr>
<td>25050</td>
<td>DM EYE COMP T2 UNCNT</td>
</tr>
<tr>
<td>25051</td>
<td>DM EYE COMP T1 UNCNT</td>
</tr>
<tr>
<td>25060</td>
<td>DM NEURO COMP T2 CONT</td>
</tr>
<tr>
<td>25061</td>
<td>DM NEURO COMP T1 CONT</td>
</tr>
<tr>
<td>25062</td>
<td>DM NEURO COMP T2 UNCNT</td>
</tr>
<tr>
<td>25063</td>
<td>DM NEURO COMP T1 UNCNT</td>
</tr>
</tbody>
</table>

#### Uncontrolled Diabetes ICD-9-CM diagnosis codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>25002</td>
<td>DM, T2, UNCONT</td>
</tr>
<tr>
<td>25003</td>
<td>DM, T1, UNCONT</td>
</tr>
</tbody>
</table>

**Exclude cases:**

- transferring from another institution (ADMISSION_SOURCE_CD_E0138 Not In ('4','5','6'))
- MDC 14 (pregnancy, childbirth, and puerperium)
- MDC 15 (newborn and other neonates)

---

Table 2: Diagnosis codes to specify Preventable Diabetes Hospitalizations – based on AHRQ Indicators: Diabetes Short-term Complications Admission Rate (PQI 1), Diabetes Long-term Complications Admission Rate (PQI 2), Uncontrolled Diabetes Admission Rate (PQI 14)
Adult Dehydration Preventable Hospitalization Indicator

Description:

The percentage of Adult Medicaid enrollees/members of all ages currently identified as having 1 or more Inpatient stays due to dehydration in the past 12 month among enrollees currently receiving services from an OMH licensed provider.

Eligible Population:

Age: 18 years and older.

Inclusion Criteria: Medicaid enrollee/member who has received one or more services from an OMH licensed provider in the 9 months prior to the report date.

Exclusion Criteria: Transfers from another facility and claims with major diagnostic categories of pregnancy, childbirth, or puerperium in any diagnosis field.

Note. The preventable hospitalization indicators are based on the Agency for Health Care Research and Quality (AHRQ) Prevention Quality Indicators (PQI), which are intended to identify population rates of hospitalizations for conditions that with adequate outpatient care should be preventable. The AHRQ PQIs are considered area measures (intended to describe the rate within a certain geographic area). The PSYCKES indicators are intended to identify those NYS Medicaid members/enrollees who may benefit from better coordinated care in the community. More information regarding the AHRQ PQIs can be found at the AHRQ Quality Indicators Website.
Preventable Hospitalization Indicators Documentation

Adult Dehydration Preventable Hospitalization

<table>
<thead>
<tr>
<th>Numerator:</th>
</tr>
</thead>
<tbody>
<tr>
<td>All non-maternal discharges of age 18 years and older with ICD-9-CM principal diagnosis code for hypovolemia.</td>
</tr>
</tbody>
</table>

Dehydration Admission ICD-9-CM diagnosis codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>27650</td>
<td>VOL DEPLETION, UNSPECIFIED OCT06-</td>
</tr>
<tr>
<td>27651</td>
<td>DEHYDRATION OCT06-</td>
</tr>
<tr>
<td>27652</td>
<td>HYPOVOLEMIA OCT06-</td>
</tr>
<tr>
<td>2765</td>
<td>HYPOVOLEMIA</td>
</tr>
</tbody>
</table>

Exclude cases:

- transferring from another institution (ADMISSION_SOURCE_CD_E0138 Not In ('4','5','6'))
- MDC 14 (pregnancy, childbirth, and puerperium)
- MDC 15 (newborn and other neonates)

Table 3: Diagnosis codes to specify Preventable Dehydration Hospitalizations – based on Adult Based on Dehydration Admission Rate (PQI 10)
Production SAS/SQL syntax

/*++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++*/
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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++*/

SAS Program Name: Adult_Preventable_Hospitalizations.SAS
Written By: Nitin Gupta (Issdnxg)
Date Created: 05/05/2011;
Input Data Source: PRDM.MEDICAID.EMEDNY_CLAIM_ENCT
                  PRDM.MEDICAID.PROVIDER_CURRENT
                  PRDM.MEDICAID.RATE_CODE
Output Data Source: Excel
Location of Code: 'S:\Restricted\Medicaid Utilization\Medicaid_PSYCKES\DAWG\CODE'
Business Owner: Molly Finnerty / NYS OMH
Requested By: Emily Leckman-Westin

Purpose: Healthcare Research and Quality (AHRQ) Quality Indicators (QI) was
designed to capitalize on the availability of administrative data on
inpatient stays to produce information about 14 Prevention Quality Indicators
(PQIs): Potentially avoidable hospitalizations for ambulatory care sensitive
condition (ACSC)
indicators, which involve admissions that evidence suggest

******* Indicator would have ********;
   i. Diabetes Preventable Hosp
   ii. Adult Asthma Preventable
   iii. Dehydration
   iv. Summary (any of above)

Usage/Instructions:
** Macro Variables Used in Code **
   Load_Start =
   Load_End =
   Month =
   ReportDate =
   Load_Date =
   Service_Start=

* Kill job if error occurs;
Options Errorabend;

* Creating libraries to pre-development psyckes box ;
  Libname Medicaid;
  Libname Psy_Dm;
  Libname Psyckes;
%Let Load_Start = '1May2010:00:00:00'Dt;
%Let Load_End = '1May2011:00:00:00'Dt;
%Let Month = May11;
%Let ReportDate = '1May2011'd;
%Let Load_Date = '8May2011:00:00:00'Dt;
%Let Service_Start= '01Aug2010:00:00:00'Dt;
Preventable Hospitalization Indicators Documentation

/***** Numerator -- Diabetes Complications *****
-- Prevention Quality Indicators
-- Adults Who had Atleast one ER Medical,'Inpatient Medical in the Past 9 Months.
-- All Non-maternal/Non-neonatal discharges of age 18 years and older with ICD-9-CM principal diagnosis code for
short-term complications.
-- +
-- All Non-maternal/Non-neonatal discharges of age 18 years and older with ICD-9-CM principal diagnosis code for
LONG-term complications.
-- +
-- All non-maternal discharges of age 18 years and older with ICD-9-CM principal diagnosis code for Uncontrolled
Diabetes Admission Rate
-- +
-- Lower-extremity amputation in any field and diagnosis code of diabetes in any field.
-- **********************/

Proc Sql;
Create Table Diabetes As
Select *
From (Select Distinct S.Recipient_Id_1010,
    (Case When(FLOOR((&ReportDate-Datepart(S.Date_of_birth_recipient_1180))/365.25))>= 18
        Then 'ADULTS'
    When(FLOOR((&ReportDate-Datepart(S.Date_of_birth_recipient_1180))/365.25))< 18
        Then 'KIDS'
    End) As Age
    From Medicaid.Emedny_claim_enct S
    Where (S.Rate_Code_2078 In (Select Distinct Rate_Code
        From Psyckes.Dim_Rate_Code Where
            Rate_Code_Group  in ('IP28', 'IP31','IPOMH'))
    Or S.Detail_Catgy_Of_Service_F490 In (Select Distinct Detail_Catgy_Of_Serv_F490 From
        Psyckes.Dim_Category_Of_Service A Where Group_Included_Under_X2460 In ('HOSPITAL
            INPATIENT - PSYCHIATRIC', 'HOSPITAL INPATIENT - GENERAL'))
    Or Rate_Code_2078 = '1212' /*RTF*/
    Or (Invoice_type_3301 in ('11', '12')
        And Date_Discharge_3108 is not null)
    And Date_Of_Service_3013 Between &Load_Start And &Load_End
    And Load_Audit_Date <= &Load_Date
    And S.Primary_Diag_Code_3006 In (/* Diagnosis code for short-term Diabetes Complications */
        '25010', '25011', '25012', '25013', '25020', '25021',
        '25022', '25023', '25030', '25031', '25032', '25033',
        '25040', '25041', '25042', '25043', '25050', '25051',
        '25052', '25053', '25060', '25061', '25062', '25063',
        '25070', '25071', '25072', '25073', '25080', '25081',
        '25082', '25083', '25090', '25091', '25092', '25093',
        '25002', '25003', /* Lower-extremity amputation in any field and diagnosis code of diabetes in any field*/
/* -- Building Exceptions on each Indicators
-- Exclude cases:
  -- Transferring from another institution (SID ASOURCE=2) */

And (S.ADMISSION_SOURCE_CD_E0138 Not In ('4','5','6')
Or
/* -- MDC 14 (pregnancy, childbirth, and puerperium) */
  S.SEC_DIAG_CODE_3007    Not Between '760' And '779' Or
  S.OMM_DIAG_CODE_W655_1   Not Between '760' And '779' Or
  S.OMM_DIAG_CODE_W655_2   Not Between '760' And '779' Or
  S.OMM_DIAG_CODE_W655_3   Not Between '760' And '779' Or
  S.OMM_DIAG_CODE_W655_4   Not Between '760' And '779' Or
  S.OMM_DIAG_CODE_W655_5   Not Between '760' And '779' Or
  S.OMM_DIAG_CODE_W655_6   Not Between '760' And '779' Or
  S.OMM_DIAG_CODE_W655_7   Not Between '760' And '779'
Or
/* -- MDC 15 (newborn and other neonates) */
  S.SEC_DIAG_CODE_3007    Not Between '630' And '679' Or
  S.OMM_DIAG_CODE_W655_1   Not Between '630' And '679' Or
  S.OMM_DIAG_CODE_W655_2   Not Between '630' And '679' Or
  S.OMM_DIAG_CODE_W655_3   Not Between '630' And '679' Or
  S.OMM_DIAG_CODE_W655_4   Not Between '630' And '679' Or
  S.OMM_DIAG_CODE_W655_5   Not Between '630' And '679' Or
  S.OMM_DIAG_CODE_W655_6   Not Between '630' And '679' Or
  S.OMM_DIAG_CODE_W655_7   Not Between '630' And '679'
Or
/* -- Diagnosis for trauma diagnosis code in any field */
  S.SEC_DIAG_CODE_3007    Not In ('8950','8971','8951','8972','8960','8973','8961','8974','8962','8975','8963','8976','8970','8977') Or
  S.OMM_DIAG_CODE_W655_1   Not In ('8950','8971','8951','8972','8960','8973','8961','8974','8962','8975','8963','8976','8970','8977') Or
  S.OMM_DIAG_CODE_W655_2   Not In ('8950','8971','8951','8972','8960','8973','8961','8974','8962','8975','8963','8976','8970','8977') Or
  S.OMM_DIAG_CODE_W655_3   Not In ('8950','8971','8951','8972','8960','8973','8961','8974','8962','8975','8963','8976','8970','8977') Or
  S.OMM_DIAG_CODE_W655_4   Not In ('8950','8971','8951','8972','8960','8973','8961','8974','8962','8975','8963','8976','8970','8977') Or
  S.OMM_DIAG_CODE_W655_5   Not In ('8950','8971','8951','8972','8960','8973','8961','8974','8962','8975','8963','8976','8970','8977') Or
  S.OMM_DIAG_CODE_W655_6   Not In ('8950','8971','8951','8972','8960','8973','8961','8974','8962','8975','8963','8976','8970','8977') Or
  S.OMM_DIAG_CODE_W655_7   Not In ('8950','8971','8951','8972','8960','8973','8961','8974','8962','8975','8963','8976','8970','8977')
)

Where Age = 'ADULTS'
;
Quit
;

/***** Numerator -- Adult Asthma Admission Rate *****
-- Prevention Quality Indicators
-- Adults Who had Atleast one ER Medical,'Inpatient Medical in the Past 9 Months.
Proc Sql:
Create Table Asthma As
Select Distinct S.Recipient_Id_1010,
    (Case When(FLOOR((&ReportDate-Datepart(S.Date_of_birth_recipient_1180))/365.25))>= 18
      Then 'ADULTS'
    When(FLOOR((&ReportDate-Datepart(S.Date_of_birth_recipient_1180))/365.25))< 18
      Then 'KIDS'
    End) As Age
From Medicaid.emedny_claim_enct S
Where (S.Rate_Code_2078 In (Select Distinct Rate_Code From Psyckes.Dim_Rate_Code Where Rate_Code_Group in ('IP28', 'IP31','IPOMH'))
    Or S.Detail_Catgy_Of_Service_F490 In (Select Distinct Detail_Catgy_Of_Serv_F490 From Psyckes.Dim_Category_Of_Service A Where Group_Included_Under_X2460 In ('HOSPITAL INPATIENT - PSYCHIATRIC','HOSPITAL INPATIENT - GENERAL'))
    Or (Invoice_type_3301 in ('11', '12')
        And S.Primary_Diag_Code_3006 In ('49300', '49301', '49302', '49310', '49311', '49312', '49320', '49321', '49322', '49381', '49382', '49390', '49391', '49392'))
/* -- Building Exceptions on each Indicators */
/* -- Exclude cases: */
/* -- • Transferring from another institution (SID ASOURCE=2) */
And (S.Admission_Source_CD_E0138 Not In ('4','5','6')
    Or S.SEC_DIAG_CODE_3007 Not Between '760' And '779' Or
    S.OMM_DIAG_CODE_W655_1 Not Between '760' And '779' Or
    S.OMM_DIAG_CODE_W655_2 Not Between '760' And '779' Or
    S.OMM_DIAG_CODE_W655_3 Not Between '760' And '779' Or
    S.OMM_DIAG_CODE_W655_4 Not Between '760' And '779' Or
    S.OMM_DIAG_CODE_W655_5 Not Between '760' And '779' Or
    S.OMM_DIAG_CODE_W655_6 Not Between '760' And '779' Or
    S.OMM_DIAG_CODE_W655_7 Not Between '760' And '779'
    Or
/* -- • MDC 14 (pregnancy, childbirth, and puerperium)*/
    S.SEC_DIAG_CODE_3007 Not Between '630' And '679'
    Or
    S.SEC_DIAG_CODE_3007 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_1 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_2 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_3 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_4 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_5 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_6 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_7 Not Between '630' And '679'
Or
/* -- • MDC 15 (newborn and other neonates)*/
    S.SEC_DIAG_CODE_3007 Not Between '630' And '679'
    Or
    S.SEC_DIAG_CODE_3007 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_1 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_2 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_3 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_4 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_5 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_6 Not Between '630' And '679' Or
    S.OMM_DIAG_CODE_W655_7 Not Between '630' And '679'
Or
/* -- • Any Diagnosis Code of cystic fibrosis and anomalies of the respiratory system */
Preventable Hospitalization Indicators Documentation

S.SEC_DIAG_CODE_3007 Not In ('27700', '7485', '27701', '74860', '27702', '74861',
 '27703', '74869', '27709', '7488', '74721', '7489', '7483',
 '7503', '7484', '7593', '7707'))

Where Age = 'ADULTS'

Quit

/******* Numerator - Dehydration ******
-- Prevention Quality Indicators
-- Adults Who had Atleast one ER Medical,'Inpatient Medical in the Past 9 Months.
-- All non-maternal discharges of age 18 years and older with ICD-9-CM principal diagnosis code for
hypovolemia/Dehydration .
-- **********************/

Proc Sql;
Create Table Dehydration As
Select *
From (
    Select Distinct
        S.Recipient_Id_1010 ,
        (Case
            When(FLOOR((&ReportDate - Datepart(S.Date_of_birth_recipient_1180)) / 365.25)) >= 18
            Then  'ADULTS'
            When(FLOOR((&ReportDate - Datepart(S.Date_of_birth_recipient_1180)) / 365.25)) < 18
            Then  'KIDS'
        End) As Age
    From      Medicaid.Emedny_Claim_Enct S
    Where      (S.Rate_Code_2078 In (Select Distinct Rate_Code From Psyckes.Dim_Rate_Code Where
        Rate_Code_Group  in ('IP28', 'IP31', 'IPOMH'))
    Or      S.Detail_Catgy_Of_Service_F490 In (Select Distinct Detail_Catgy_Of_Serv_F490 From
        Psyckes.Dim_Category_Of_Service A Where Group_Included_Under_X2460 In ('HOSPITAL INPATIENT -
        PSYCHIATRIC', 'HOSPITAL INPATIENT - GENERAL'))
    Or      (Invoice_type_3301 in ('11', '12')
    Or      Rate_Code_2078 ="1212" /*RTF*/
    And      Date_Discharge_3108 is not null)
    And      Date_Of_Service_3013 Between &Load_Start And &Load_End
    And  Load_Audit_Date <= &Load_Date
    And      S.PRIMARY_DIAG_CODE_3006 In (  '27650','27651', '27652', '2765')
/*-- Building Exceptions on each Indicators
/*-- Exclude cases:

/*-- • transferring from another institution (SID ASOURCE=2) */
And      (S.ADMISSION_SOURCE_CD_E0138 Not In ('4','5','6')
Or
/*-- • MDC 14 (pregnancy, childbirth, and puerperium) */
S.SEC_DIAG_CODE_3007 Not Between '760' And '779'
Or
S.OMM_DIAG_CODE_W655_1 Not Between '760' And '779'
Or
S.OMM_DIAG_CODE_W655_2 Not Between '760' And '779'
Or
S.OMM_DIAG_CODE_W655_3 Not Between '760' And '779'
Or
S.OMM_DIAG_CODE_W655_4 Not Between '760' And '779'
Or
S.OMM_DIAG_CODE_W655_5 Not Between '760' And '779'
Or
S.OMM_DIAG_CODE_W655_6 Not Between '760' And '779'
Or
S.OMM_DIAG_CODE_W655_7 Not Between '760' And '779'
/*-- • MDC 15 (newborn and other neonates) */
S.SEC_DIAG_CODE_3007 Not Between '630' And '679' Or
S.OMM_DIAG_CODE_W655_1 Not Between '630' And '679' Or
S.OMM_DIAG_CODE_W655_2 Not Between '630' And '679' Or
S.OMM_DIAG_CODE_W655_3 Not Between '630' And '679' Or
S.OMM_DIAG_CODE_W655_4 Not Between '630' And '679' Or
S.OMM_DIAG_CODE_W655_5 Not Between '630' And '679' Or
S.OMM_DIAG_CODE_W655_6 Not Between '630' And '679' Or
S.OMM_DIAG_CODE_W655_7 Not Between '630' And '679'
) Where Age = 'ADULTS'
Quit;

******************************************************************************;
** Preparing data for Summarization Process;
******************************************************************************;

Data Diabetes; Set Diabetes;
Format Ind_Type Ind_Set $30.;
Format Report_Date mmddyy10.;
Keep Recipient_Id_1010 Report_date Ind_Type Ind_Set High_Risk_Ind Ind;
  Ind_Type = 'PREVENTION_DIABETES';
  High_Risk_Ind = 1;
  Ind = 1;
  Report_Date = &Reportdate;
  Ind_Set = 'PREVENTION_INDICATOR_RS';
Run;

Data Asthma; Set Asthma;
Format Ind_Type Ind_Set $30.;
Format Report_Date mmddyy10.;
Keep Recipient_Id_1010 Report_date Ind_Type Ind_Set High_Risk_Ind Ind;
  Ind_Type = 'PREVENTION_ASTHMA';
  High_Risk_Ind = 1;
  Ind = 1;
  Report_Date = &Reportdate;
  Ind_Set = 'PREVENTION_INDICATOR_RS';
Run;

Data Dehydration; Set Dehydration;
Format Ind_Type Ind_Set $30.;
Format Report_Date mmddyy10.;
Keep Recipient_Id_1010 Report_date Ind_Type Ind_Set High_Risk_Ind Ind;
  Ind_Type = 'PREVENTION_DEHYDRATION';
  High_Risk_Ind = 1;
  Ind = 1;
  Report_Date = &Reportdate;
  Ind_Set = 'PREVENTION_INDICATOR_RS';
Run;

Data Prevention_Summary_Indicator;
Set Dehydration Asthma Diabetes;
Format Ind_Type Ind_Set $30.;
Format Report_Date mmddyy10.;
Keep Recipient_Id_1010 Report_date Ind_Type Ind_Set High_Risk_Ind Ind;
  Ind_Type = 'PREVENTION_SUMMARY';
  High_Risk_Ind = 1;
  Ind = 1;
  Report_Date = &Reportdate;
  Ind_Set = 'PREVENTION_INDICATOR_RS';
Run;

* Removing all Duplicates;
Proc Sort Data = Prevention_Summary_Indicator NoDups;
   By Recipient_Id_1010 Report_date;
Run;

Data Prevention_Indicator;
   Set Dehydration Asthma Diabetes Prevention_Summary_Indicator;
Run;

* Removing all Duplicates;
Proc Sort Data = Prevention_Indicator NoDups;
   By Recipient_Id_1010 Report_date;
Run;

/******* extracting data from MH Clinic Service ***********/

Proc Sql;
   Create Table MHCLINICSERVICES_ADULTS As
   Select *
   From ( Select Distinct S.Recipient_Id_1010 ,
             (Case
               When (FLOOR( (&ReportDate -
                 Datepart(S.Date_of_birth_recipient_1180)) / 365.25)) >= 18
                 Then 'ADULTS'
               When (FLOOR( (&ReportDate -
                 Datepart(S.Date_of_birth_recipient_1180)) / 365.25)) < 18
                 Then 'KIDS'
               End) As Age
             From Medicaid.Emedny_Claim_Enct S ,
             Medicaid.Omh_Rate_Code_Group R
             Where S.Rate_Code_2078 = R.Rate_Code
             And R.Rate_Code_Type IN ('SPECIALTY', 'REGULAR', 'INPATIENT')
             And Date_Of_Service_3013 Between &Service_Start And &Load_End
             And Load_Audit_Date <= &Load_Date
           )
   Where Age = 'ADULTS';
Quit ;

* Linking recipients with the MH Services ;
Proc Sql;
   Create Table Prevention_Indicator_MH As
   Select Distinct A.*
   From Prevention_Indicator A
   Where Recipient_Id_1010 In (Select Distinct Recipient_Id_1010 From
      MHCLINICSERVICES_ADULTS)
   Order by Recipient_Id_1010
Create Table MHCLINICSERVICES_Diabetes As
Select Distinct
A.Recipient_Id_1010, &Reportdate As Report_date, 'PrevHosp Diabetes' As Ind_Type, 'Preventable Hospitalization' As Ind_Set,
(Case When A.Recipient_Id_1010 In (Select Distinct Recipient_Id_1010 From Prevention_Indicator_MH Where Ind_Type = 'PREVENTION_DIABETES' ) Then 1 Else 0 End) AS High_Risk_Ind,
1 AS Ind
From MHCLINICSERVICES_ADULTS A
;
Quit
;

Create Table MHCLINICSERVICES_ASTHMA As
Select Distinct
A.Recipient_Id_1010, &Reportdate As Report_date, 'PrevHosp Asthma' As Ind_Type, 'Preventable Hospitalization' As Ind_Set,
(Case When A.Recipient_Id_1010 In (Select Distinct Recipient_Id_1010 From Prevention_Indicator_MH Where Ind_Type = 'PREVENTION_ASTHMA' ) Then 1 Else 0 End) AS High_Risk_Ind,
1 AS Ind
From MHCLINICSERVICES_ADULTS A
;
Quit
;

Create Table MHCLINICSERVICES_DEHYDRATION As
Select Distinct
A.Recipient_Id_1010, &Reportdate As Report_date, 'PrevHosp Dehydration' As Ind_Type, 'Preventable Hospitalization' As Ind_Set,
(Case When A.Recipient_Id_1010 In (Select Distinct Recipient_Id_1010 From Prevention_Indicator_MH Where Ind_Type = 'PREVENTION_DEHYDRATION' ) Then 1 Else 0 End) AS High_Risk_Ind,
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```
1 AS Ind
From  MHCLINICSERVICES_ADULTS A
;
Quit
;

Proc Sql;
Create Table MHCLINICSERVICES_SUMMARY As
Select Distinct
A.Recipient_Id_1010,
&Reportdate As Report_date,
'PrevHosp Summary' As Ind_Type,
'Preventable Hospitalization' As Ind_Set,
(Case
   When A.Recipient_Id_1010 In (Select Distinct Recipient_Id_1010 From
   Prevention_Indicator_MH
   Where Ind_Type = 'PREVENTION_SUMMARY') Then 1
   Else 0
   End) AS High_Risk_Ind,
1 AS Ind
From  MHCLINICSERVICES_ADULTS A
;
Quit
;
/*
Proc Sql;
   select Count(distinct Recipient_Id_1010) as  numrecip from MHCLINICSERVICES_PSYCH_IPER where
   High_Risk_Ind = 1;
Quit
;
Proc Sql;
   select Count(distinct Recipient_Id_1010) as  numrecip, Ind_Type from Prevention_Indicator_MH where
   High_Risk_Ind = 1
   group by Ind_Type;
Quit
;
*/

* Collecting data for Denominator ;
*                        **-----------------------------**
*                        ** Accumalating all data to Indicator Table;**
*                        **-----------------------------**
Data Prevention_indicator;
    Format Ind_Type Ind_Set $30.;
    Format Report_Date mmddyy10.;
    Set Prevention_indicator Mhclinicservices_dehydration Mhclinicservices_asthma
                             Mhclinicservices_diabetes Mhclinicservices_summary;
Run;

* Removing all Duplicates ;
Proc Sort Data = Prevention_indicator Nodup;
    By Recipient_Id_1010 Report_date;
Run;

%Let table = 'Prevention_Indicator';

Proc sql;
```
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connect to oracle (user=Psyckes_Medicaid_Dm password=****** path=psyckes);
execute (Exec PSYCKES_DBA_NEW.truncate_table(&table)) by oracle;
disconnect from oracle

* Shift data to oracle for Summarization ;
Proc Sql:
  Insert into
      Psyckes.Prevention_Indicator( sasdatefmt=(Report_Date=mmdyy10. ))
  Select Distinct
      Recipient_Id_1010,
      Ind_Type,
      Ind_Set,
      &reportdate as Report_date ,
      High_Risk_Ind,
      Ind,
      
      "&SYSDATE9."D AS ROW_CREATED_DTM,
      'issdnxg' as ROW_CREATED_USERID
  From Prevention_Indicator

Quit
;