Strategies for Assessing Health Plan Performance on Chronic Diseases: Selecting Performance Indicators and Applying Health-Based Risk Adjustment

Appendix IV

Technical Information

Asthma

Cohort Definition

We applied the following criteria to identify enrollees of the asthma cohort.

Enrollment Criteria

Each member of the cohort must be:

- enrolled for at least 320 days throughout the calendar year, with no more than one gap in enrollment of up to a maximum of 45 days;
- enrolled in a single MCO for the period of enrollment; and
- enrolled as of Dec. 31st of the year being studied.

The enrollment criteria are consistent with HEDIS® 2003 specifications.

Clinical Criteria

The asthma cohort includes all enrollees ages 5 to 56 years who met or exceeded at least one of the following utilization thresholds of medical care services in the measurement year[1]:

- Four asthma dispensing events (i.e., an asthma medication was dispensed on four different occasions);
- One ER visit based on the visit codes below with asthma (ICD-9 code 493) as the principal diagnosis;
- One acute inpatient discharge based on the visit codes below with asthma (ICD-9 code 493) as the principal diagnosis; or
- Four ambulatory care visits with asthma (ICD-9 code 493) as one of the listed diagnoses and at least two asthma medication dispensing events.

The NDC list that identifies asthma medication dispensing events is available at www.ncqa.com.

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[1] *HEDIS allows MCOs to include enrollees who met the clinical utilization threshold in the year prior to the measurement year. We only included enrollees who met the clinical criteria in the measurement year.*

Table A1. Codes to Identify Asthma Encounters

Description	ICD-9-CM Codes	UB-92 Revenue Codes	CPT Codes
Asthma Diagnosis	493.XX		
Acute Inpatient		99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291, 99292	10X-16X, 20X-22X, 987
ER Services		99281-99285, 99288	45X, 981
Ambulatory Care Services		99201-99205, 99211-99215, 99217-99220, 99241-99245, 99271-99275, W9075-W9081, W9941, M0008	456, 510, 515, 516, 517, 520, 521, 523, 526, 770, 779, 982, 983, 988, 76X

Original Source: HEDIS® 2003

Performance Measures

Avoidable Inpatient Admissions for Children

Measure: Avoidable inpatient admissions as a percentage of all admissions for children in the asthma cohort.

Definition:
Avoidable inpatient admission: Discharges with a principal diagnosis code for asthma (ICD-9 code 493.XX)

Age: 5-18

Excludes patients transferring from another institution, MDC 14 (pregnancy, childbirth and puerperium), or MDC 15 (newborns and neonates).

Original Source: AHRQ

Avoidable Inpatient Admissions for Adults

Measure: Avoidable inpatient admissions as a percentage of all admissions for adults in the asthma cohort.

Definition:
Avoidable inpatient admission: Discharges with a principal diagnosis code for asthma (ICD-9 code 493.XX)

Age: 19 +

Excludes patients transferring from another institution, MDC 14 (pregnancy, childbirth and puerperium), or MDC 15 (newborns and neonates).

Original Source: AHRQ

Appropriate Asthma Medications

Measure: The percentage of enrollees in the cohort who had at least one dispensed prescription for asthma medications (inhaled corticosteroids, nedocromil, cromolyn sodium, leukotriene modifiers, or methylxanthines) in the measurement year.

Definition: The NDC list that identifies appropriate prescriptions is provided on NCQA's Web site at www.ncqa.org

Original Source: HEDIS® 2003

Diabetes

Cohort Definition

We applied the following criteria to identify enrollees of the diabetes cohort.

Enrollment Criteria

Each member of the cohort must be:

- enrolled for at least 320 days throughout the calendar year, with no more than one gap in enrollment of up to a maximum of 45 days;
- enrolled in a single MCO for the period of enrollment; and
- enrolled as of Dec. 31st of the year being studied.

The enrollment criteria are consistent with HEDIS® 2003 specifications.

Clinical Criteria

The diabetes cohort includes all enrollees ages 18 to 64 years who met or exceeded at least one of the following utilization thresholds of medical care services in the measurement year or the year prior to the measurement year:

- One dispensed insulin or oral hypoglycemic/antihyperglycemic event;
- One ER visit with a diabetes diagnosis;
- One inpatient visit with a diabetes diagnosis; or
- Two ambulatory care visits with a diabetes diagnosis.

The NDC list that identifies insulin and oral hypoglycemic/antihyperglycemic events is available at www.ncqa.com.

Table A2. Codes to Identify Diabetes Encounters

Description	ICD-9-CM Codes	UB-92 Revenue Codes	CPT Codes
Diabetes Diagnosis	250, 357.2, 362.0, 366.41, 648.0		
Ambulatory Care		49X-53X, 55X-59X, 65X, 66X, 76X, 82X-85X, 88X, 92X, 94X, 94X, 96X, 972-979, 982-986, 988, 989	92002-92014, 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99271-99275, 99288, 99301-99303, 99311-99313, 99321-99323, 99331-99333, 99341-99355, 99381-99385, 99391-99397, 99401-99404, 99411, 99412, 99420-99429, 99499
Inpatient/ER		10X-16X, 20X-22X, 45X, 72X, 80X, 981, 987	99221-99223, 99231-99233, 99238-99239, 99251-99255, 99261-99263, 99281-99288, 99291-99292, 99356-99357

Original Source: HEDIS® 2003

Performance Measures

Avoidable Inpatient Admissions

Measure: Avoidable inpatient admissions for diabetic short-term complications as a percentage of all admissions in the diabetes cohort.

Definition:
Avoidable inpatient admission: Discharges with a principal diagnosis code for diabetes (ICD-9 codes 250.1, 250.2, 250.3)

Age: 18+

Excludes patients transferring from another institution, MDC 14 (pregnancy, childbirth and puerperium), or MDC 15 (newborns and neonates).

Original Source: AHRQ

Hemoglobin HbA1c testing

Measure: The percentage of enrollees in the cohort who had at least one HbA1c test conducted during the measurement year.

Definition: CPT code 83036

Original Source: HEDIS® 2003

Eye exam

Measure: The percentage of enrollees in the cohort who had at least one eye screening for diabetic retinal disease during the measurement year.

Definition:

Table A3. Codes to Identify Eye Exams

CPT Codes	ICD-9-CM Codes
67101, 67105, 67107-67108, 67110, 67112, 67141, 67145, 67208, 67210, 67218, 67228, 92002, 92004, 92012, 92014, 92018, 92019, 92225, 92226, 92230, 92235, 92240, 92250, 92260, 92287, 99204, 99205, 99214, 99215, 99242-99245	14.1-14.5, 14.9, 95.02-95.04, 95.11, 95.12, 95.16

Original Source: HEDIS® 2003

LDL-C Screening

Measure: The percentage of enrollees in the cohort who had at least one LDL-C test during the measurement year.

Definition: CPT codes 80061, 83715, 83716, 83721

Original Source: HEDIS® 2003

HIV/AIDS

Cohort Definition

We applied the following criteria to identify enrollees of the HIV/AIDS cohort.

Enrollment Criteria

Each member of the cohort must be:

- enrolled for at least 320 days throughout the calendar year, with no more than one gap in enrollment of up to a maximum of 45 days;
- enrolled in a single MCO for the period of enrollment; and
- enrolled as of Dec. 31st of the year being studied.

The enrollment criteria are consistent with HEDIS® 2003 specifications.

Clinical Criteria

Each member of the cohort must be:

- Ages 21+ ; and
- Included in either the HIV or AIDS capitation payment rate cell for CY02. Evidence of a positive HIV test result is needed in order to move an enrollee into the HIV capitation payment rate cell. The Maryland AIDS Administration independently verifies that an enrollee has been diagnosed with AIDS before s/he is moved into the AIDS rate cell.

Performance Measures

Viral Load Tests

Measure: The percentage of enrollees in the cohort who received at least one viral load test during the measurement year.

Definition: CPT code 87536 on an ambulatory visit claim. For outpatient hospital claims, we counted any lab test performed on a member of the cohort as a proxy for a viral load test.[2]

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[2] *When we tested the data for this measure, we noticed markedly low results for the two health plans that rely heavily on outpatient hospital departments for the provision of care to HIV/AIDS enrollees. The data that is submitted by outpatient hospital departments only indicates that a lab test was performed; it does not specify which test. We decided to count any lab test performed in an outpatient hospital facility as a proxy for both viral load and CD4 test. While not a perfect substitute, the performance of a lab test suggests that some care was being provided. If we had not adjusted out definition, we would have run the risk of penalizing health plans for billing aberrations beyond their control. It should be noted that changes to data submission rules as a result of the Health Insurance Portability and Accountability Act (HIPAA) of 1996 should ameliorate this problem in future years.*

Original Source: A. Wu, et al., "Quality of Care Indicators for HIV/AIDS," *Disease Management Health Outcomes*, June 2000; 7(6): 315-330.

CD4 Tests

Measure: The percentage of enrollees in the cohort who received at least one CD4 test during the measurement year.

Definition: CPT codes 86359, 86360, 86361 on an ambulatory visit claim. For outpatient hospital claims, we counted any lab test performed on a member of the cohort as a proxy for a CD4 test. See viral load test for explanation.

Original Source: A. Wu, et al., "Quality of Care Indicators for HIV/AIDS," *Disease Management Health Outcomes*, June 2000; 7(6): 315-330.

Pap Tests

Measure: The percentage of female enrollees in the cohort who received at least one pap test during the measurement year.

Definition: CPT codes: 88141-88158, 88164-88167, P3000, P3001, V76.2, V72.3. Revenue codes: 300 or 310 with surgical procedure code 91.46, 923

Original Sources: HEDIS® 2003 and A. Wu, et al., "Quality of Care Indicators for HIV/AIDS," *Disease Management Health Outcomes*, June 2000; 7(6): 315-330.

Schizophrenia

Cohort Definition

We applied the following criteria to identify enrollees of the schizophrenia cohort.

Enrollment Criteria

Each member of the cohort must be:

- enrolled for at least 320 days throughout the calendar year, with no more than one gap in enrollment of up to a maximum of 45 days;
- enrolled in a single MCO for the period of enrollment; and
- enrolled as of Dec. 31st of the year being studied.

The enrollment criteria are consistent with HEDIS® 2003 specifications.

Clinical Criteria

The schizophrenia cohort includes all enrollees under age 65 who met or exceeded at least one of the following utilization thresholds of health care services:

- One inpatient admission with a schizophrenia diagnosis (ICD-9 code 295.xx);
- Two ambulatory care visits with a schizophrenia diagnosis (ICD-9 code 295.xx); or
- A combination of one schizophrenia-related prescription and one ambulatory care visit with a schizophrenia diagnosis code (ICD-9 code 295.xx).

Table A4. Schizophrenia-Related Prescription Drugs

Amitriptyline HCL / Perphenazine	Chlorpromazine HCL
Clozapine	Fluphenazine Decanoate
Fluphenazine HCL	Haloperidol
Haloperidol Decanoate	Haloperidol Lactate
Loxapine HCL	Loxapine Succinate
Mesoridazine Besylate	Molindone HCL
Olanzapine	Perphenazine
Quetiapine Fumarate	Risperidone
Thioridazine HCL	Thiothixene
Thiothixene HCL	Trifluoperazine HCL
Trifluprom azine HCL	Ziprasidone HCL
Ziprasidone Mesylate	

Original Source: Expanded Diagnostic Clusters and Schizophrenia Patient Outcomes Research Team (PORT) Research Project

Performance Measures

Follow-Up Within 7 Days of Hospitalization for Mental Health

Measure: The percentage of discharges for enrollees who were hospitalized for treatment of a mental health disorder who had mental health visit within 7 days of the date of discharge.

Definition:

Mental health hospitalization: Discharge from inpatient setting of an acute care facility with a discharge date occurring on or before December 1 of the measurement year and a principal diagnosis code for a mental health condition.

Mental health visit: Ambulatory care visit with a mental health professional paid for in the carved out mental health system.

Original Source: HEDIS® 2003

Follow-Up Within 30 Days of Hospitalization for Mental Health

Measure: The percentage of discharges for enrollees who were hospitalized for treatment of a mental health disorder who had a mental health visit within 30 days of the date of discharge.

Definition:

Mental health hospitalization: Discharge from inpatient setting of an acute care facility with a discharge date occurring on or before December 1 of the measurement year and a principal diagnosis code for a mental health condition.

Mental health visit: Ambulatory care visit with a mental health professional paid for in the carved out mental health system.

Original Source: HEDIS® 2003

Continuous Dispensing Events of Anti-Psychotic Medication

Measure: Percentage of enrollees who filled 2 or more anti-psychotic medications during the measurement year who had at least one gap of 15 days or more between prescription refills.

Definition:

Table A5. Anti-Psychotic Medications

Chlorpromazine	Fluphenazine
Haloperidol	Thiothixene
Trifluoperazine	Perphenazine
Thioridazine	Aripiprazole
Risperidone	Clozapine
Olanzapine	Quetiapine
Ziprasidone	