Clinical Measure by Specialty

The following specialties are recognized by the PQSR program. The measures that apply to each specialty are listed below. (NOTE: Measures marked with an asterisk (*) were reported but not scored for that specialty.) See the bookmark list on the sidebar to the left to quickly access the measures.

1. Adolescent Medicine
   1. Diabetic Retinal Exam
   2. Glycosylated Hemoglobin (HbA1c) Test for Diabetics
   3. LDL Monitoring for Diabetes
   4. Chlamydia Screening for Women
   5. Appropriate Monitoring for Angiotensin Converting Enzyme

2. Allergy
   1. Osteoporosis Screening for Patients on Systemic Corticosteroids
   2. Use of Nasal Steroids as a First-Line Agent for the Treatment of Moderate to Severe Allergic Rhinitis

3. Anesthesiology
   1. Avoidance of Preoperative Urinalysis for Low Risk Patients Undergoing Non-Obsterical, Non-Urogenital Surgery

4. Cardiology
   1. Treatment of Coronary Artery Disease (CAD): ACE Inhibitor/Angiotensin Receptor Blocker Use
   2. Treatment of Coronary Artery Disease (CAD) or CAD Equivalent: Use of Statin
   3. Annual Flu Vaccine for Adults and High Risk Individuals
   4. Cholesterol Management for Patients with Cardiovascular Conditions
   5. Appropriate Monitoring for Angiotensin Converting Enzyme Inhibitors, Angiotensin Receptor Blockers Use, and/or Diuretics

5. Cardiology, Pediatric
   1. Annual Flu Vaccine for Adults and High Risk Individuals

6. Dermatology
   1. Follow-Up Examination After Diagnosis and Treatment of Skin Cancers
   2. Lipid-Level Monitoring for Patients Receiving Accutane
   3. Follow-Up After Diagnosis of Actinic Keratosis
   4. Osteoporosis Screening for Patients on Systemic Corticosteroids
5. Hepatic Enzyme Monitoring for Persons Using Antimycotic Pharmacotherapy (Terbinafine and Itraconazole)

7. Endocrinology
   1. Diabetic Retinal Exam
   2. Glycosylated Hemoglobin (HbA1c) Test for Diabetics
   3. LDL Monitoring for Diabetes
   4. Annual Flu Vaccine for Adults and High Risk Individuals
   5. Statin Treatment for Members with Diabetes

8. Endocrinology, Pediatric
   1. No available Clinical Measures for this specialty

9. Emergency Medicine (for the measures for this specialty, see: http://www.hospitalcompare.hhs.gov/Hospital/Static/Data-Professionals.asp?dest=NAV|Home|DataDetails|ProfessionalInfo#HeartAttack)
   1. Heart Attack Patients Given Aspirin at Arrival
   2. Pneumonia Patients Whose Initial Emergency Room Blood Culture Was Performed Prior To The Administration Of The First Hospital Dose Of Antibiotics
   3. Pneumonia Patients Given Initial Antibiotic(s) within 6 Hours After Arrival

10. Emergency Medicine, Pediatric
    1. Treatment After Emergency Department Visit for Asthma

11. Family Physician
    1. Glycosylated Hemoglobin (HbA1c) Test for Diabetics
    2. Treatment of Coronary Artery Disease (CAD) or CAD Equivalent: Use of Statins
    3. Chlamydia Screening for Women
    4. Annual Flu Vaccine for Adults and High Risk Individuals
    5. Statin Treatment for Members with Diabetes

12. Family Planning
    1. No available Clinical Measures for this specialty

13. Gastroenterology
    1. Colorectal Cancer Screening
    2. Appropriate Work Up of Diverticulitis
    3. Osteoporosis Screening for Patients on Systemic Corticosteroids

14. Gastroenterology, Pediatric
    1. There are no available Clinical Measures for this specialty

15. General Practice
1. Colorectal Cancer Screening
2. Glycosylated Hemoglobin (HbA1c) Test for Diabetics
3. Treatment of Coronary Artery Disease (CAD) or CAD Equivalent: Use of Statins
4. Annual Flu Vaccine for Adults and High Risk Individuals
5. Statin Treatment for members with Diabetes

16. Geriatrics
   1. Glycosylated Hemoglobin (HbA1c) Test for Diabetics
   2. Osteoporosis Screening Following Fractures
   3. LDL Monitoring for Diabetes
   4. Appropriate Medication Use in Elderly – Always Avoid
   5. Glaucoma Screening in Older Adults

17. Gynecologic Oncology
   1. There are no available Clinical Measures for this specialty

18. Gynecology
   1. Breast Cancer Screening
   2. Colorectal Cancer Screening
   3. Chlamydia Screening for Women
   4. Annual Flu Vaccine for Adults and High Risk Individuals
   5. Appropriate Work-up Prior to Treatment for Vulvovaginal Candidiasis

19. Gynecology Oncology
   1. There are no available Clinical Measures for this specialty

20. Hematology
   1. There are no available Clinical Measures for this specialty

21. Hospitalist (for the measures for this specialty, see: http://www.hospitalcompare.hhs.gov/Hospital/Static/Data-Professionals.asp?dest=NAV|Home|DataDetails|ProfessionalInfo#HeartAttack)
   1. Heart Attack Patients Given Aspirin at Discharge
   2. Heart Failure Patients Given Smoking Cessation Advice/Counseling
   3. Heart Failure Patients Given an Evaluation of Left Ventricular Systolic (LVS) Function
   4. Pneumonia Patients Assessed and Given Influenza Vaccination
   5. Pneumonia Patients Assessed and Given Pneumococcal Vaccination

22. Immunology
   1. Osteoporosis Screening for Patients on Systemic Corticosteroids
2. Use of Nasal Steroids as a First-Line Agent for the Treatment of Moderate to Severe Allergic Rhinitis

23. Infectious Diseases
   1. Annual Flu Vaccine for Adults and High Risk Individuals
   2. Pneumococcal Vaccine for the Elderly and Other High-Risk Groups

24. Infectious Diseases, Pediatric
   1. Annual Flu Vaccine for Adults and High Risk Individuals

25. Internal Medicine
   1. Colorectal Cancer Screening
   2. Glycosylated Hemoglobin (HbA1c) Test for Diabetics
   3. Treatment of Coronary Artery Disease (CAD) or CAD Equivalent: Use of Statins
   4. Annual Flu Vaccine for Adults and High Risk Individuals
   5. Statin Treatment for Members with Diabetes

26. Maternal-Fetal Medicine
   1. There are no available Clinical Measures for this specialty

27. Neonatal Medicine
   1. There are no available Clinical Measures for this specialty

28. Nephrology
   1. Chronic Kidney Disease: Lipid Tests
   2. Annual Flu Vaccine for Adults and High Risk Individuals
   3. Chronic Kidney Disease (CKD): Monitoring for Anemia
   4. Appropriate Monitoring for Angiotensin Converting Enzyme Inhibitors, Angiotensin Receptor Blockers Use, and/or Diuretics
   5. Chronic Kidney Disease: Monitoring Calcium and Phosphorus

29. Nephrology, Pediatric
   1. There are no available Clinical Measures for this specialty

30. Neurology
   1. Liver Function Tests (LFT) Monitoring for Patients on Valproic Acid and Complete Blood Counts (CBC) Monitoring for Patients Initiated on Carbamazepine
   2. X-Ray Prior to MRI or CAT Scan in the Evaluation of Lower Back Pain
   3. Osteoporosis Screening for Patients on Systemic Corticosteroids
31. Neurology, Child
   1. Liver Function Tests (LFT) Monitoring for Patients on Valproic Acid and Complete Blood Counts (CBC) Monitoring for Patients Initiated on Carbamazepine

32. Neurosurgery
   1. Liver Function Tests (LFT) Monitoring for Patients on Valproic Acid and Complete Blood Counts (CBC) Monitoring for Patients Initiated on Carbamazepine
   2. X-Ray Prior to MRI or CAT Scan in the Evaluation of Lower Back Pain

33. Neurotology
   1. There are no available Clinical Measures for this specialty

34. Obstetrics and Gynecology
   1. Breast Cancer Screening
   2. Colorectal Cancer Screening
   3. Chlamydia Screening for Women
   4. Treatment of Major Depression
   5. Appropriate Work-up Prior to Treatment for Vulvovaginal Candidiasis

35. Occupational Medicine
   1. X-Ray Prior to MRI or CAT Scan in the Evaluation of Lower Back Pain

36. Oncology / Hematology
   1. Radiation Therapy Following Breast Conserving Surgery
   2. Follow-Up After Initial Diagnosis and Treatment of Colorectal Cancer
   3. Appropriate Monitoring for Methotrexate Use

37. Oncology / Hematology, Pediatric
   1. There are no available Clinical Measures for this specialty

38. Ophthalmology
   1. Avoidance of Postoperative Complications After Cataract Surgery
   2. Annual Visual Field Tests for Patients with Glaucoma
   3. Follow-Up for Diabetic Retinopathy
   4. Visual Field Test for Patients with Suspected Glaucoma

39. Ophthalmology, Pediatric
   1. There are no available Clinical Measures for this specialty
40. Ophthalmology, Retinal
   1. Follow-Up for Diabetic Retinopathy

41. Optometry
   1. Annual Visual Field Tests for Patients with Glaucoma
   2. Follow-Up for Diabetic Retinopathy
   3. Visual Field Test for Patients with Suspected Glaucoma

42. Osteopathy
   1. Colorectal Cancer Screening
   2. Glycosylated Hemoglobin (HbA1c) Test for Diabetics
   3. Treatment of Coronary Artery Disease (CAD) or CAD Equivalent: Use of Statins
   4. Annual Flu Vaccine for Adults and High Risk Individuals
   5. Statin Treatment for Members with Diabetes

43. Otolaryngology
   1. Use of Nasal Steroids as a First-Line Agent for the Treatment of Moderate to Severe Allergic Rhinitis

44. Pain Management
   1. There are no available Clinical Measures for this specialty

45. Pediatrics
   1. Childhood Immunization: Varicella-Zoster Virus (VZV)
   2. Childhood Immunization: Measles, Mumps, and Rubella (MMR)
   3. Use of Nasal Steroids as a First-Line Agent for the Treatment of Moderate to Severe Allergic Rhinitis
   4. Childhood Immunization: DtaP/DT
   5. Appropriate Testing for Children with Pharyngitis

46. Physical Medicine and Rehabilitation
   1. X-Ray Prior to MRI or CAT Scan in the Evaluation of Lower Back Pain
   2. Osteoporosis Screening Following Fractures

47. Podiatry
   1. Hepatic Enzyme Monitoring for Persons Using Antimycotic Pharmacotherapy (Terbinafine and Itraconazole)
   2. Avoidance of Steroid Injections for Plantar Fasciitis

48. Preventive Medicine
   1. Breast Cancer Screening
   2. Colorectal Cancer Screening
   3. Treatment of Coronary Artery Disease (CAD) or CAD Equivalent: Use of Statins
4. Annual Flu Vaccine for Adults and High Risk Individuals
5. Statin Treatment for Members with Diabetes

49. Psychiatry
   1. Follow-Up After Hospitalization for Mental
   2. Liver Function Tests (LFT) Monitoring for Patients on Valproic
      Acid and Complete Blood Counts (CBC) Monitoring for
      Patients Initiated on Carbamazepine
   3. Family Therapy or Family-Based Intervention for Children and
      Adolescents Who Suffer from Psychiatric Disorders
   4. Treatment of Major Depression: Optimal Practitioner Contacts
   5. Treatment of Major Depression

50. Psychiatry, Child
   1. Liver Function Tests (LFT) Monitoring for Patients on Valproic
      Acid and Complete Blood Counts (CBC) Monitoring for
      Patients Initiated on Carbamazepine
   2. Family Therapy or Family-Based Intervention for Children and
      Adolescents Who Suffer from Psychiatric Disorders
   3. Treatment of Major Depression: Optimal Practitioner Contacts
   4. Treatment of Major Depression
   5. Follow-Up Care for Children Prescribed ADHD Medication
      Therapy: Initiation Phase

51. Psychology
   1. Follow-Up After Hospitalization for Mental Illness
   2. Family Therapy or Family-Based Intervention for Children and
      Adolescents Who Suffer from Psychiatric Disorders
   3. Treatment of Major Depression: Optimal Practitioner Contacts
   4. Treatment of Major Depression

52. Psychology, Child
   1. Follow-Up After Hospitalization for Mental Illness
   2. Family Therapy or Family-Based Intervention for Children and
      Adolescents Who Suffer from Psychiatric Disorders
   3. Treatment of Major Depression: Optimal Practitioner Contacts
   4. Treatment of Major Depression

53. Pulmonology
   1. ACE Inhibitor Use in Congestive Heart Failure
   2. Osteoporosis Screening for Patients on Systemic
      Corticosteroids
   3. Treatment of Coronary Artery Disease (CAD): ACE
      Inhibitor/Angiotensin Receptor Blocker Use
   4. Annual Flu Vaccine for Adults and High Risk Individuals
5. Use of Spirometry Testing in the Assessment and Diagnosis of COPD

54. Pulmonology, Pediatric
   1. There are no available Clinical Measures for this specialty

55. Reproductive Medicine & Surgery
   1. There are no available Clinical Measures for this specialty

56. Rheumatology
   1. X-Ray Prior to MRI or CAT Scan in the Evaluation of Lower Back Pain
   2. Osteoporosis Screening for Patients on Systemic Corticosteroids
   3. Appropriate Monitoring for Methotrexate Use
   4. Osteoporosis Screening Following Fractures

57. Rheumatology, Pediatric
   1. There are no available Clinical Measures for this specialty

58. Surgery, Breast
   1. Radiation Therapy Following Breast Conserving Surgery

59. Surgery, Cardiovascular
   1. There are no available Clinical Measures for this specialty

60. Surgery, Colon and Rectal
   1. Appropriate Work Up of Diverticulitis
   2. Follow-Up After Initial Diagnosis and Treatment of Colorectal Cancer

61. Surgery, General
   1. Follow-Up Examination After Diagnosis and Treatment of Skin Cancers
   2. Appropriate Work Up of Diverticulitis
   3. Radiation Therapy Following Breast Conserving Surgery
   4. Follow-Up After Initial Diagnosis and Treatment of Colorectal Cancer

62. Surgery, Hand
   1. There are no available Clinical Measures for this specialty

63. Surgery, Maxillofacial
   1. There are no available Clinical Measures for this specialty

64. Surgery, Orthopedic
1. X-Ray Prior to MRI or CAT Scan in the Evaluation of Lower Back Pain
2. Osteoporosis Screening Following Fractures

65. Surgery, Orthopedic Pediatric
   1. There are no available Clinical Measures for this specialty

66. Surgery, Pediatric
   1. There are no available Clinical Measures for this specialty

67. Surgery, Plastic
   1. There are no available Clinical Measures for this specialty

68. Surgery, Thoracic
   1. There are no available Clinical Measures for this specialty

69. Surgery, Thoracic / Cardiac
   1. There are no available Clinical Measures for this specialty

70. Surgery, Vascular
   1. There are no available Clinical Measures for this specialty

71. Urology
   1. Follow-Up After Diagnosis of Prostatic Cancer
   2. Diagnostic Workup of Chronic Prostatitis

72. Urology, Pediatric
   1. There are no available Clinical Measures for this specialty

73. Critical Care Medicine
   1. There are no available Clinical Measures for this specialty

74. Perinatal Medicine
   1. There are no available Clinical Measures for this specialty

75. Sports Medicine
   1. X-Ray Prior to MRI or CAT Scan in the Evaluation of Lower Back Pain
   2. Osteoporosis Screening Following Fractures

76. Undersea Medicine
   1. There are no available Clinical Measures for this specialty
Client  
HMSA: PQSR 2010

Measure Title  
ACE INHIBITOR USE IN CONGESTIVE HEART FAILURE

Disease State  
Congestive Heart Failure  
Indicator Classification¹  
Disease Management

Strength of Recommendation²  
A (Class C Heart Failure [Symptomatic HF with reduced LVEF])
B (Class A Heart Failure [At risk of HF])
B (Class B Heart Failure [Structural abnormality but no symptoms])
C (Class C Heart Failure [Symptomatic HF with normal LVEF])
C (Class D Heart Failure [End-stage refractory HF])

Organizations Providing Recommendation  
American College of Cardiology
American Heart Association

Clinical Intent  
To ensure that all eligible members identified as having congestive heart failure receive an ACE inhibitor or ARB therapy within a clinically appropriate timeframe.

Physician Specialties  
Refer to PQSR 2010 Specialty Matrix

Background  
Disease Burden

- As of 2003, 5 million people in the United States had congestive heart failure (CHF).¹ The annual incidence of CHF is approximately 550,000 cases and each year 57,000 people die as a result of CHF.²
- There are 1.1 million hospitalizations for heart failure each year,² and the condition has consistently been the leading cause of hospitalizations for Medicare patients.³
- For those diagnosed with CHF, the median survival time from date of diagnosis is 1.7 years and 3.2 years in men and women, respectively, with a 5-year survival rate of 25% and 38% in these groups.⁴

Reason for Indicated Intervention or Treatment

- Angiotensin converting enzyme (ACE) inhibitors have been shown to decrease morbidity and mortality in patients with congestive heart failure, to improve patient prognoses, and to decrease hospitalization rates at every stage of the disease.⁵⁻⁸
- Angiotensin receptor blockers (ARBs) are beneficial for those who cannot tolerate ACE inhibitor therapy.⁹⁻¹³
- Despite the proven benefits of using ACE inhibitors in patients with CHF, multiple studies have demonstrated that they are underutilized, [14⁻⁻⁻⁻²⁰] and when patients are treated with ACE inhibitors, they often receive less than the recommended dose.²¹⁻²²
Evidence Supporting Intervention or Treatment

- Multiple prospective randomized, controlled trials of between 253 and 4,228 patients have shown that ACE inhibitors decrease mortality in heart failure patients by preventing disease progression in patients with both symptomatic and asymptomatic left ventricular dysfunction.[5-7, 23]
- In addition, one meta-analysis of 5 large randomized, controlled trials involving 12,763 patients showed that ACE inhibitor therapy in patients with left ventricular dysfunction or heart failure was associated with decreased mortality, lower incidence of myocardial infarction, and lower hospital readmission rates for heart failure (HF).[8]
- For patients with isolated diastolic dysfunction (LVEF > 50), the role of ACE inhibitor therapy is unclear. Although one retrospective study suggested that ACE inhibitor use in these patients was associated with significant small improvements in New York Heart Association (NYHA) functional class, there was no significant improvement in survival.[24]
- With regard to angiotensin receptor blockers (ARBs), one meta-analysis of 17 randomized, controlled trials involving 12,469 patients showed that ARBs were not superior to ACE inhibitors in decreasing mortality or hospitalizations, and did not decrease mortality rates in patients with heart failure. However, ARB use was associated with significant symptomatic improvement.[9]
- Other randomized, controlled trials comparing ACE inhibitors and ARBs in patients with heart failure show that ARBs are as or nearly as effective as ACE inhibitors in terms of mortality and progression of disease.[10, 11]
- The CHARM trial, a randomized, controlled trial which studied 2,028 patients with heart failure who could not tolerate ACE inhibitor therapy, demonstrated that ARBs reduce cardiovascular mortality and hospitalizations for heart failure.[12]

Clinical Recommendations

- The American College of Cardiology / American Heart Association (ACC/AHA), in collaboration with the American College of Chest Physicians and the International Society for Heart and Lung, recommends the following in their 2005 guideline update (which was endorsed by the Heart Rhythm Society):[25]
  - Stage A (High Risk for Developing HF) – ACE inhibitors can be used to prevent HF in patients at high risk of developing HF (i.e., atherosclerotic vascular disease, DM, HTN, or other cardiovascular risk factors) (Level of Evidence A, Class IIa recommendation – weight of evidence/opinion is in favor of usefulness/efficacy).
  - Stage B (structural abnormalities or remodeling who have not developed HF symptoms) – ACE-I or ARB can be beneficial in asymptomatic patients with HTN and left ventricular hypertrophy (Level of Evidence A, Class IIa).
• Stage C (symptomatic HF) with reduced LVEF – ACE-I are recommended for all patients with current or prior symptoms of heart failure and reduced LVEF (Level of Evidence A, Class I – evidence and consensus that treatment is beneficial).

• Stage C (symptomatic HF) with normal LVEF – ACE-I may be effective to minimize symptoms of HF (Level of Evidence C, Class IIb – efficacy is less established by evidence and or opinion)

• Stage D (end stage refractory HF) – ACE-I may be beneficial for patients with Stage D HF, but these patients may not tolerate treatment secondary to renal insufficiency or hypotension. Providers need to be very cautious in giving patients with end stage refractory HF ACE-I or ARBs.

• The Heart Failure Society of America recommended the following in their 2006 guideline:[26]
  • Patients at high risk of developing heart failure (i.e., those with coronary artery disease, peripheral vascular disease, stroke, and diabetes) are recommended to take ACE inhibitors for prevention of HF (Strength of Evidence A).
  • ACE-I is recommended for members with asymptomatic or symptomatic HF with reduced LVEF. ARBs are recommended for these patients if they do not tolerate ACE-I. (Strength of Evidence A).

Source
Health Benchmarks, Inc.

Adapted from ACC/AMA/NQF Guidelines.

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Denominator Definition</th>
<th>Denominator Exclusion Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Definition</td>
<td>Continuously enrolled members ages 19 years and older by the end of the measurement year who were identified as having congestive heart failure in the year prior to the measurement year.</td>
<td>Members with a diagnosis of angioedema, anuric renal failure, hypotension, hyperkalemia, or arterial stenosis at any time prior to the end of the measurement year, members on dialysis any time in history prior to the end of the measurement year, members who were pregnant during the year after the index date, or members in hospice during the year after the index date.</td>
</tr>
</tbody>
</table>

| Denominator Index Date | First instance of members diagnosed with congestive heart failure on 2 or more outpatient/hospital observation encounters during the year prior to the measurement year or members diagnosed with congestive heart failure on 1 or more inpatient encounters during the year prior to the measurement year. | Members who filled at least 1 prescription for an ACE inhibitor or ARB therapy |
**Definition**
during the year after the index date.

**Numerator Claims Criteria**
CPT category II code(s): 4009F *(if available)*

**Physician Attribution Description**
Score all physicians (in the selected specialties) who saw the member during the year after the index date.

### References

12. Granger, C.B., et al., *Effects of candesartan in patients with chronic heart failure and reduced left-ventricular systolic function intolerant to*...
Indicator Classification (Adapted from HEDIS® technical specifications)

Diagnosis

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

Effectiveness of Care

Prevention

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

Screening

Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

Disease Management

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

Medication Monitoring

Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

Medication Adherence

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

Utilization

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client            HMSA: PQSR 2010
Measure Title     ANNUAL FLU VACCINE FOR ADULTS AND HIGH RISK INDIVIDUALS
Disease State     Flu
Indicator
Classification1  Prevention
Strength of
Recommendation2  A
Organizations
Providing
Recommendation  Centers for Disease Control
Clinical Intent  To ensure that all high risk members receive an annual flu vaccination.
Physician
Specialties  Refer to PQSR 2010 Specialty Matrix

Background

Disease Burden
• According to the Centers for Disease Control National Immunization Program, influenza causes an average of 36,000 deaths each year in the United States. In addition, complications stemming from influenza infections are responsible for as many as 200,000 hospitalizations annually.[1]
• Direct medical costs from influenza are estimated at approximately $10.4 billion per year.[2]
• In 2006, the median influenza vaccination coverage of individuals ≥ 65 years of age is 69.1%. [1]
• Additionally, particularly virulent strains have the potential to kill millions of people.[3]

Reason for Indicated Intervention or Treatment
• Providing annual flu vaccines to high risk individuals prevents and reduces death and hospitalizations attributable to pneumonia and influenza.[4]
• Over 90% of deaths resulting from influenza occur among people over 60 years of age.[5]
• Over a lifetime of a birth cohort of 4 million, it is estimated that about 275,000 quality-adjusted life years would be saved if influenza vaccination were offered annually to all people after the age of 50.[6]

Evidence Supporting Intervention or Treatment
• In a prospective two year study of 125,000 elderly patients ages 65 and older in Minnesota, New York, and Oregon, influenza vaccination reduced all causes of death and hospitalization for pneumonia and
influenza. Deaths were reduced by 60% - 61% and 35% - 39% for year 1 and 2, respectively and hospitalizations were reduced by 19% - 20% and 18% - 24%, respectively during the same period.[7]

- In a 2 month prospective study, 262 HIV-1 infected patients received a trivalent influenza subunit vaccine, whereas 66 did not. Influenza illness occurred in 16 vaccinated and 14 nonvaccinated patients (incidence = 6.1% [95% confidence interval (CI): 4%-10%] in vaccinated vs. 21.2% [CI: 13%-35%] in nonvaccinated persons, P < 0.001; relative risk = 0.29 [CI: 0.14-0.55]). Influenza vaccine provided clinically effective protection against influenza illness in HIV-1-infected patients.[8]

- In a meta-analysis of 15 studies, influenza vaccine reduced influenza-like illness by 35% (95% confidence interval (CI) 19–47%), hospitalization for pneumonia and influenza by 33% (CI 27–38%), mortality following hospitalization for pneumonia and influenza by 47% (CI 25–62%); and mortality from all causes by 50%.”[9]

- Another meta-analysis of 20 studies found that the vaccine had an efficacy of 56% for preventing respiratory illness, 53% for preventing pneumonia, and 50% for preventing hospitalization.[10]

**Clinical Recommendations**

- Centers for Disease Control (CDC) recommendations regarding priority groups who should receive the inactivated influenza vaccine include:
  1. All children aged 6 to 59 months (i.e., 6 months to 4 years)
  2. All persons aged ≥50 years
  3. Children and adolescents (aged 6 months to 18 years) who are receiving long-term aspirin therapy and who, therefore, might be at risk for experiencing Reye Syndrome after influenza virus infection
  4. Women who will be pregnant during the influenza season
  5. Adults and children who have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological, or metabolic disorders (including diabetes mellitus)
  6. Adults and children who have immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV])
  7. Adults and children who have any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration
  8. Residents of nursing homes and other chronic-care facilities.[2]

**Source**

Health Benchmarks, Inc.

**Denominator**

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<th>Definition</th>
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<td>Continuously enrolled members who were 51 years or older by the end of the measurement year, were immunocompromised, had a PTCA, had CABG, were</td>
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on dialysis during the year prior to the measurement year, or members who lived in nursing homes/long term care facilities during flu season (i.e., January, February, October, November, December of the measurement year).

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<tbody>
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**Denominator Exclusion**

| Denominator Exclusion Definition | Members with egg allergy anytime in the available history or members who were offered vaccination and refused for various reasons during the measurement year. |

<table>
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<td>ICD-9 diagnosis code(s): V15.03</td>
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<td>Criteria</td>
<td>Vaccination not carried out, unspecified reason: ICD-9 diagnosis code(s): V64.00</td>
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<td>Vaccination not carried out because of allergy to vaccine or component: ICD-9 diagnosis code(s): V64.04</td>
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<td>Vaccination not carried out because of caregiver refusal: ICD-9 diagnosis code(s): V64.05</td>
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<td>Vaccination not carried out because of patient refusal: ICD-9 diagnosis code(s): V64.06</td>
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<td>Vaccination not carried out for religious reasons: ICD-9 diagnosis code(s): V64.07</td>
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<tr>
<td></td>
<td>Vaccination not carried out for other reason: ICD-9 diagnosis code(s): V64.09</td>
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</table>

**Numerator**

| Numerator Definition | Members who received a flu vaccine during the measurement year. |

**Physician Attribution**

| Physician Attribution Description | Score all physicians (in the selected specialties) who saw the member during January, February, October, November, and December of the measurement year. |

**References**


**Indicator Classification** (Adapted from HEDIS® technical specifications)

### Diagnosis
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

### Effectiveness of Care

#### Prevention
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

#### Screening
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

### Disease Management
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

#### Medication Monitoring
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

#### Medication Adherence
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

### Utilization
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label? 

- Yes
  - Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)
  - Yes
    - Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?
      - Yes
        - Is the recommendation based on one of the following?
          - Cochrane Review with a clear recommendation
          - USPSTF Grade A recommendation
          - Clinical Evidence rating of Beneficial
          - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
          - Validated clinical decision rule in a relevant population
          - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same
  - No
    - Strength of Recommendation = C
  - No
    - Strength of Recommendation not needed

- No
  - Strength of Recommendation = B

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
<table>
<thead>
<tr>
<th>Client</th>
<th>HMSA: PQSR 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure Title</td>
<td>ANNUAL VISUAL FIELD TESTS FOR PATIENTS WITH GLAUCOMA</td>
</tr>
<tr>
<td>Disease State</td>
<td>Glaucoma</td>
</tr>
<tr>
<td>Strength of</td>
<td>B</td>
</tr>
<tr>
<td>Recommendation</td>
<td></td>
</tr>
<tr>
<td>Organizations</td>
<td>American Academy of Ophthalmology</td>
</tr>
<tr>
<td>Providing</td>
<td></td>
</tr>
<tr>
<td>Recommendation</td>
<td></td>
</tr>
<tr>
<td>Clinical Intent</td>
<td>To ensure that all members diagnosed with glaucoma receive an annual visual field test or optic nerve evaluation.</td>
</tr>
<tr>
<td>Physician Specialties (suggested)</td>
<td>Refer to PQSR 2010 Specialty Matrix</td>
</tr>
<tr>
<td>Background</td>
<td></td>
</tr>
</tbody>
</table>
| Disease Burden      | Glaucoma is the leading cause of irreversible blindness in the world. The Eye Disease Prevalence Research Group estimated that in the year 2000, primary open angle glaucoma (POAG) affected 2.22 million people in the United States. This number is projected to increase to 3.36 million by 2020.[1-3]
- POAG is the second most common cause of legal blindness in the United States.[4] |
| Reason for Indicated Intervention or Treatment | Screening for evidence of poor control or disease progression and adjusting therapy as needed may protect against further damage to the optic nerve head.[5-9] |
| Evidence Supporting Intervention or Treatment | While increasing the frequency of visual field testing shortens the time to detection of a statistically significant change in vision[6, 7, 10-14], no well designed trials have specifically evaluated if routine visual field testing is associated with slower disease progression.
- Several trials have demonstrated that lowering intraocular pressure reduces the risk of visual loss in patients with primary open angle glaucoma.[15-20]
- Patients with ocular hypertension are at higher risk for developing glaucomatous visual field loss if discs are suspect, if intraocular pressure is high, or if the patient is older in age.[21] Elevated intraocular
pressure is considered to be the most important risk-factor for developing primary open-angle glaucoma (POAG).[22]

Clinical Recommendations

- The American Academy of Ophthalmology recommends that patients with primary open-angle glaucoma who have achieved the target intraocular pressure, have no progression of damage, and have more than 6 months of control of intraocular pressure should receive visual field evaluations within 12 months. For those with less than six months of control of intraocular pressure, screening is recommended within 6 months. For those who have not reached their target IOP and show signs of damage, follow up should occur within 4 months.[23, 24]

Source
Adapted from Health Benchmarks, Inc.:  

- HMSA requires a primary diagnosis of primary open angle glaucoma in denominator criterion [Members with at least 1 primary diagnosis of glaucoma made by an ophthalmologist or optometrist in an outpatient setting during the 1 year period beginning 1 month before the year prior to the measurement year]
- HMSA requires that the diagnosis of primary open angle glaucoma in denominator criterion [Members with at least 1 primary diagnosis of glaucoma made by an ophthalmologist or optometrist in an outpatient setting during the 1 year period beginning 1 month before the year prior to the measurement year] occur in a outpatient setting

Denominator

<table>
<thead>
<tr>
<th>Denominator Definition</th>
<th>Continuously enrolled members with at least 1 primary diagnosis of glaucoma by an ophthalmologist or optometrist in an outpatient setting during the 1 year period beginning 1 month before the year prior to the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>First instance of Members with at least 1 primary diagnosis of glaucoma made by an ophthalmologist or optometrist in an outpatient setting during the 1 year period beginning 1 month before the year prior to the measurement year.</td>
</tr>
</tbody>
</table>

Denominator Exclusion

<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
<th>N/A</th>
</tr>
</thead>
</table>

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### Numerator

**Numerator**
Members who had at least 1 visual field test or optic nerve evaluation conducted by an ophthalmologist or optometrist during the 0-13 months after the index date (exclusive of index date).

### Physician Attribution

**Physician Attribution**
Score all physicians (in the selected specialties) who saw the member during the 0-13 months after the index date (inclusive of index date).

### References


1 *Indicator Classification* (Adapted from HEDIS® technical specifications)

<table>
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<tr>
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**Strength of Recommendation Based on a Body of Evidence**

![Diagram of the strength of recommendation algorithm](image)

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: APPROPRIATE MEDICATION USE IN THE ELDERLY - ALWAYS AVOID

Disease State: Medication Side Effects

Indicator Classification1: Medication Monitoring

Strength of Recommendation2: B

Organizations Providing Recommendation: Synthesis of Recommendations from:
- 1996 Medical Expenditure Panel Survey
- American Medical Directors Association
- American Society of Consultant Pharmacists
- Centers for Medicare and Medicaid Services
- University of Iowa Gerontological Nursing Interventions Research Center

Clinical Intent: To ensure that members over 65 years of age do not receive an “always avoid” medication, as defined by the Beer’s criteria.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Researchers have documented widespread inappropriate medication use by elderly persons in hospitals, nursing homes, board and care facilities, physician office practices, hospital outpatient departments, and homebound elderly, with the estimated prevalence of potentially inappropriate use ranging from 12% to 40% and a prevalence of adverse drug effects ranging from 5% to 35%.[1-6]
- One study of a Medicare population found a potentially inappropriate medication prevalence of 23%.[7]
- Another study found that 35% of ambulatory adults have experienced an adverse drug effect, with 29% of those requiring further care as a result of the event.[8, 9]
- In a recent large cohort study of 493,971 elderly hospitalized patients, 49% received at least one potentially inappropriate medication and 6% received 3 or more.[10]

Reason for Indicated Intervention or Treatment
- The Institute of Medicine Report To Err is Human has cited inappropriate medication use as a major area of poor quality in U.S. healthcare.[11]
- Adverse drug events have been linked to preventable problems such as depression, constipation, falls, immobility, confusion, and hip fractures. In addition, medication related problems have been estimated to cause
106,000 deaths annually at a cost of $85 billion per year.[1, 12, 13]

- Thirty percent of hospital admissions in elderly patients can be linked to adverse drug effects or drug related problems.[9]

Evidence Supporting Intervention or Treatment

- A case-control study of 2300 Medicare elderly patients using the Beers Criteria to identify a set of potentially inappropriate medications found that patients receiving inappropriate medications had significantly higher total costs, provider costs, facility costs, and higher mean numbers of inpatient, outpatient, and emergency department visits, even after controlling for sex, co-morbidities, and total number of prescriptions.[7]

- A cohort study of 4300 elderly community dwelling adults using both the Drug Utilization Review (DUR) Criteria and the 1997 Beers criteria to identify a set of potentially inappropriate medications found that use of inappropriate medications identified by either set of criteria was not associated with mortality. However, the investigators did find a significant association between inappropriate drug use using the DUR Criteria and decline in basic self-care.[14]

- A recent retrospective cohort study of 17,971 individuals age 65 years and older found that 40% of patients filled at least one prescription for a potentially inappropriate medication. Moreover, the prevalence of drug-related problems among those with at least one prescription for a potentially inappropriate medication was 14.3% compared to 4.7% among those who weren’t prescribed potentially inappropriate medications ($p < 0.001$).[15]

Clinical Recommendations

- The Centers for Medicare and Medicaid Services endorse the Beers Criteria lists containing specific drugs to avoid in the elderly.[8]

- The following statement was released in 2004 by the American Medical Directors Association and the American Society of Consultant Pharmacists: “The Beers list is a helpful general guide regarding potentially inappropriate medication use of medications for older adults, but it must be used in conjunction with a patient centered care process...The Beers list should be used as a general guide for assessing the potential inappropriateness of medications, not as an isolated justification for any recommendation, including discontinuation of a medication.”[16]

- The Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center recommends “the Beers list should be used when planning medication initiation, reviewing established medication regimens, or making changes in the medication regimen.”[17]

- However, although the Beers criteria is generally well accepted by the medical community, there continues to be debate because the use of some drugs listed may be justified in some circumstances where the benefits far outweigh the risk.[18, 19] In addition, Beers et al have
recognized the limitations of these criteria.[20]
To address the above limitations of the Beers criteria, an expert panel
was convened by Zhan et al in 1997 that divided the 33 medications
included in the Beers criteria into 3 categories: always avoid, rarely
appropriate, and some indications. A total of 11 medications were
classified as those that should always be avoided in the elderly. [21]

<table>
<thead>
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</tr>
</thead>
<tbody>
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<td>Algorithm used to identify medications within the Beers criteria that should always be avoided in the elderly: Zhan, et al., 2001.[21]</td>
<td></td>
</tr>
</tbody>
</table>

### Denominator

**Denominator Definition**
Continuously enrolled members ages 65 years and older by the end of the measurement year.

**Denominator Index Date**
N/A

**Denominator Encounters/Claims Criteria**
N/A

### Denominator Exclusion

**Denominator Exclusion Definition**
N/A

**Denominator Exclusion Claims Criteria**
N/A

### Numerator

**Numerator Definition**
Members in the denominator who did **NOT** receive any prescriptions for drugs that are labeled always inappropriate for use during the measurement year. (Note that this definition allows the measure to be reported as an inverted rate to facilitate a meaningful score interpretation across measures that are scored on the same scale).

**Numerator Claims Criteria**
N/A

### Physician Attribution

**Physician Attribution Description**
If client data contains prescribing provider:
If the member received an inappropriate prescription, score all prescribing physicians (in the selected specialties) who prescribed the numerator event.
If the member did not receive an inappropriate prescription, score all physicians (in the selected specialties) who saw the member during the measurement year.

If client data does not contain prescribing provider:

If the member did not receive an inappropriate prescription, score all physicians (in the selected specialties) who saw the member during the measurement year.

If the member received an inappropriate prescription, score all physicians (in the selected specialties) who saw the member 0-7 days prior to the numerator event.

References

13. Perry, D., *When medicine hurts instead of helps.* Consultant Pharmacist,
16. AMDA and ASCP Joint Position Statement on the Beers List of potentially Inappropriate Medications in Older Adults. 2004, American Medical Directors Association: Columbia, MD.
1 Indicator Classification (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

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</tbody>
</table>
2 Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label? No → Strength of Recommendation not needed

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

Yes → Strength of Recommendation = C

No →

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

No →

Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

No → Strength of Recommendation = B

Yes → Strength of Recommendation = A

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: APPROPRIATE MONITORING FOR ANGIOTENSIN CONVERTING ENZYME INHIBITORS, ANGIOTENSIN RECEPTOR BLOCKERS USE, AND/OR DIURETICS

Disease State: Hypertension

Indicator Classification: Medication Monitoring

Strength of Recommendation: B

Organizations Providing Recommendation:
Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, Seventh Report

Clinical Intent: To ensure that all members who received diuretics, angiotensin converting enzyme (ACE) inhibitors, and/or angiotensin receptor blockers (ARB) receive appropriate laboratory monitoring at least annually.

Physician Specialties (suggested): Refer to PQSR 2010 Clinical Measures by Specialty.

Background: Hypertension is the most frequently reported primary diagnosis for office visits of non-pregnant adults to physicians in the United States, accounting for approximately 17.2 million visits per year.[1]

According to the Seventh Report of the Joint National Committee (JNC) on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC VII) guidelines, approximately 60% of adults in the United States have either hypertension (SBP > 140 mm Hg or DBP > 90 mm Hg) or pre-hypertension (SBP of 120 to 139 mm Hg or DBP of 80 to 89 mm Hg).[2]

Thiazide-type diuretics have been recommended as the preferred initial agent for pharmacological treatment of high blood pressure.[2]

Several randomized control trials have shown the benefits of ACE inhibitors among individuals with coronary artery disease or coronary artery disease equivalents.[3, 4]

Reason for Indicated Intervention or Treatment:

Although well tolerated, especially in modest doses, diuretics, ACE inhibitors, and angiotensin receptor blockers (ARBs), may cause electrolyte abnormalities such as hyper or hypokalemia.[5-8] These electrolyte abnormalities can lead to fatal arrhythmias and death.
Evidence supporting Intervention or Treatment

- Diuretics works by increasing or decreasing the excretion of potassium, chloride, calcium, bicarbonate, or magnesium. Consequently, electrolyte and acid-base disorders can accompany diuretic use. [5, 7]

Clinical Recommendations

- JNC VII guidelines states that “serum potassium and creatinine should be monitored at least one to two times per year after initiating antihypertensive therapy.” [2]

Source

(HEDIS®) 2008 Technical Specification, Adapted by Health Benchmarks, Inc.

Denominator

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
</tr>
</thead>
</table>
| Continuously enrolled members ages 18 years or older by the end of the measurement year who received at least a 180 day supply of ACE inhibitors, ARBs, or diuretics (including any combination products) during the measurement year.

Denominator Exclusion

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Exclusion Definition</th>
</tr>
</thead>
</table>
| Members who had an acute/nonacute inpatient stay during the measurement year.

Numerator

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Definition</th>
</tr>
</thead>
</table>
| Members who received at least one serum potassium test and either a serum creatinine test or a blood urea nitrogen therapeutic monitoring test during the measurement year.

Physician Attribution

<table>
<thead>
<tr>
<th>Physician Attribution</th>
<th>Description</th>
</tr>
</thead>
</table>
| Score all physicians (in the applicable specialties) who saw the member during the measurement year.

References


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Measure Title: APPROPRIATE MONITORING FOR METHOTREXATE USE

Disease State: Hepatotoxicity, Immunosuppression, Cirrhosis

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Family Physicians
- American College of Rheumatology
- Federal Drug Administration

Clinical Intent: To ensure that all eligible members taking methotrexate receive hematology, renal function and liver function tests within 3 months after receipt of the medication.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background:

Disease Burden:
- Methotrexate is used for the treatment of rheumatoid arthritis, psoriasis, acute lymphocytic leukemia, cancer, various other immunologic diseases, and other conditions including Crohn’s disease, asthma, and ectopic pregnancy.[1-4]
- Patients treated with methotrexate often develop at least one adverse reaction (usually involving the skin, gastrointestinal tract, or central nervous system). Most of these reactions are not life-threatening.[5-7]
- Up to 30 percent of patients treated for more than five years with methotrexate discontinue the therapy because of unacceptable toxicity.[7]

Reason for Indicated Intervention or Treatment:
- 14.5% of patients with psoriatic arthritis experienced hepatic disturbance after using methotrexate treatment for an extended period of time. 7.5% of patients with rheumatoid arthritis also had similar disturbances.[6]
- The incidence of cirrhosis is estimated to be between 0%-2%.[6]
- Most rheumatologists follow the ACR guideline for follow-up monitoring of methotrexate therapy in rheumatoid arthritis patients. Yet, a recent survey found wide variation in frequency of testing, with 35% ordering blood tests every 4-6 weeks, 38% every 6-8 weeks, and 22% ordering them less than every 2 months.[8]
- Regular monitoring of complete blood counts and liver function tests can help detect these side effects at an early stage, so that
methotrexate dose adjustments can be made accordingly.

**Evidence Supporting Intervention or Treatment**

- A 13 year retrospective cohort study of 673 patients taking methotrexate found that 102 patients (15.2%) developed potentially serious side effects and had to discontinue the medication. This included 25 patients with neutropenia, 9 with thrombocytopenia, 2 with pancytopenia, and 37 with liver function abnormalities.[9]
- An 11 year prospective cohort study of 481 patients on methotrexate followed for 2,323 person-years of methotrexate exposure found abnormal laboratory test results in 22 patients (4.6%), the majority of whom (17/22, 77%) had elevated AST levels.[10]
- Some studies have suggested that methotrexate may not be directly responsible for hepatic complications, which may instead result from rheumatoid arthritis and/or other drugs.[11, 12]
- There are no studies examining the desired frequency of complete blood count and liver function testing.

**Clinical Recommendations**

- The American College of Rheumatology recommends checking complete blood counts (CBC), liver function tests, and serum creatinine every 2-4 weeks for the first 3 months, every 2-3 months between 3 and 6 months, and every 3 months thereafter.[13]
- The American Academy of Family Physicians recommends that physicians check CBC, AST and serum albumin levels in patients taking methotrexate at baseline, two weeks, and then every eight weeks.[4]
- The Federal Drug Administration in their labeling of methotrexate state “During therapy of rheumatoid arthritis and psoriasis, monitoring of these parameters is recommended: hematology at least monthly, renal function and liver function every 1 to 2 months. More frequent monitoring is usually indicated during antineoplastic therapy. During initial or changing doses, or during periods of increased risk of elevated methotrexate blood levels (e.g. dehydration), more frequent monitoring may be indicated.”[14]

**Source**

Health Benchmarks, Inc.

---

**Denominator**

**Denominator Definition**

Continuously enrolled members who filled at least a 16 day supply of methotrexate, 4 separate prescriptions for methotrexate, or received 8 injections for methotrexate during the 1 year period beginning 90 days prior to the measurement year.

**Denominator Index Date**

First instance of Members who filled at least 1 prescription for methotrexate during the 1 year period beginning 90 days prior to the measurement year or Members who received at least 4 separate prescriptions of methotrexate (on different dates of service) during the 1 year period beginning 90 days prior to the measurement year or Members who received at least 8 injections for
methotrexate (on different dates of service) during the 1 year period beginning 90 days prior to the measurement year.

<table>
<thead>
<tr>
<th>Denominator Exclusion</th>
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<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Claims Criteria</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

| Numerator Definition | Members who received at least 1 complete blood count, creatinine level, and liver function test 1-90 days after the index date. |

<table>
<thead>
<tr>
<th>Physician Attribution Description</th>
<th>If client data contains prescribing provider:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Score all physicians (in the selected specialties) who prescribed the member methotrexate as defined in the denominator.</td>
</tr>
<tr>
<td></td>
<td>Score all physicians (in the selected specialties) who administered the member methotrexate injections as defined in the denominator.</td>
</tr>
<tr>
<td></td>
<td>If client data does not contain prescribing provider:</td>
</tr>
<tr>
<td></td>
<td>Score all physicians (in the selected specialties) who saw the member 0-90 days after the index date.</td>
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<tbody>
<tr>
<td>6. Tilling, L., S. Townsend, and J. David, <em>Methotrexate and hepatic toxicity</em></td>
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### 1 Indicator Classification (Adapted from HEDIS® technical specifications)

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<td>Medication Adherence</td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td>Utilization</td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
2 Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

Yes

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

Yes

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

Yes

Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

No

Strength of Recommendation not needed

No

Strength of Recommendation = C

No

Strength of Recommendation = B

Yes

Strength of Recommendation = A

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: APPROPRIATE TESTING FOR CHILDREN WITH PHARYNGITIS

Disease State: Pharyngitis

Indicator Classification: Diagnosis

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Family Physicians
- American College of Physicians
- American Society of Internal Medicine
- Infectious Disease Society of America
- The Institute for Clinical Systems Improvement

Clinical Intent: To ensure that members diagnosed with pharyngitis and treated with antibiotics receive appropriate testing for streptococcus within a clinically appropriate timeframe.

Physician Specialties (suggested): Refer to PQSR 2010 Specialty Matrix

Background:

**Disease Burden**
- In 2002, pharyngitis accounted for approximately 10 million office visits in the United States.[1]

**Reason for Indicated Intervention or Treatment**
- A recent large national study of 52,135 upper respiratory tract infections found that antibiotics were prescribed 65% of the time for acute pharyngitis episodes in spite of the fact that they provide little or no benefit to patients. Moreover, broad spectrum antibiotics were prescribed for 40% of pharyngitis episodes.[2]
- Widespread inappropriate antibiotic utilization has led to increasing levels of antibiotic resistance in bacteria that were once highly susceptible to antimicrobials.[3-5]
- Group A streptococcus is a highly treatable infection with antibiotics, but is the cause of pharyngitis in only about 10% of patients who present with acute pharyngitis. A vast majority of patients continue to receive antibiotic therapy for pharyngitis in the absence of a confirmatory test.[6]
- In light of increasing antibiotic resistance, it is important for providers to use antibiotics judiciously.[7-9] Yet, it is difficult to distinguish between viral and bacterial sore throats and physicians may overestimate the probability of bacterial infection.[10, 11]
Evidence Supporting Intervention or Treatment

- One large survey of members of the American Academy of Pediatrics suggests that there is much room for improvement in the management of acute pharyngitis in children and adolescents. For example, many physicians use empirical therapy without diagnostic testing.[12]
- Combining a clinical approach with use of the rapid streptococcal antigen test efficiently reduces inappropriate antibiotic prescriptions, whereas empirical therapy in patients with 3 or 4 clinical symptoms or signs results in antibiotic overuse.[13]
- Furthermore, in one randomized trial of children given either penicillin or placebo for sore throat, the antibiotic had no significant beneficial effect on duration of symptoms, and served only to reduce streptococcal sequelae.[14]

Clinical Recommendations

- The Infectious Disease Society of America’s Practice Guidelines for the Diagnosis and Management of Group A Streptococcal Pharyngitis conclude that “unless the physician is able with confidence to exclude the diagnosis of streptococcal pharyngitis on epidemiological and clinical grounds, a laboratory test should be done to determine whether Group A streptococci are present in the pharynx.”[15]
- The Institute for Clinical Systems Improvement guideline for treatment of acute pharyngitis in children and adults states that antibiotics should be reserved for bacterial illnesses and that diagnosis of streptococcal pharyngitis should be made via laboratory testing rather than clinically.[16]

Source

Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

Denominator

Denominator Definition

Continuously enrolled members ages 2-18 years old who were diagnosed with only pharyngitis in an outpatient or emergency room setting during the 1 year period starting 6 months prior to the measurement year and who filled a prescription or received an injection for an antibiotic during the 0-3 days following the index date.

Denominator Index Date

First instance of Members who were diagnosed with only pharyngitis in an outpatient or emergency room setting during the 1 year period starting 6 months prior to the measurement year.

Denominator Exclusion

Denominator Exclusion Definition

Members who filled a prescription for an antibiotic in the 1-30 days prior to the index date.

Denominator Exclusion Claims

N/A
Criteria

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Members who were given a strep test in the 7 day period starting 3 days prior to the index date and ending 3 days after the index date (inclusive of index date).</th>
</tr>
</thead>
</table>

**Physician Attribution**

<table>
<thead>
<tr>
<th>Physician Attribution</th>
<th>Score all physicians the member saw during the 7 day period starting 3 days prior to the index date and ending 3 days after the index date (inclusive of the index date).</th>
</tr>
</thead>
</table>

References


**1 Indicator Classification** (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td><strong>Medication Adherence</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
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FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
### Client
HMSA: PQSR 2010

### Measure Title
APPROPRIATE WORK UP OF DIVERTICULITIS

### Disease State
Diverticulitis

### Indicator Classification
1

### Disease Management

#### Strength of Recommendation
C

#### Organizations Providing Recommendation
- American College of Gastroenterology
- American Gastroenterological Association
- American Society of Colon and Rectal Surgeons
- American Society for Gastrointestinal Endoscopy

### Clinical Intent
To ensure that all eligible members newly diagnosed with diverticulitis receive a barium enema, sigmoidoscopy, or colonoscopy within a clinically appropriate timeframe to confirm the diagnosis of diverticulitis and rule out other diagnoses such as cancer, ischemia and inflammatory bowel disease.

### Physician Specialties
Refer to PQSR 2010 Specialty Matrix

### Background

#### Disease Burden
- About 10% of Americans over the age of 40 and 50% over the age of 60 have diverticulosis.[1]
- Approximately 10-25% of patients with colonic diverticula will develop diverticulitis in their lifetime.[2]
- Eighty-five percent of all diverticulitis develops in the sigmoid/descending colon.[3]

### Reason for Indicated Intervention or Treatment
- In patients with clinically diagnosed presumptive diverticulitis, it is important to exclude other diagnostic considerations such as colonic neoplasia. This may include the use of colonoscopy after recovery from diverticulitis to exclude neoplasia.[4, 5]

### Evidence Supporting Intervention or Treatment
- In a study of 65 patients with sigmoid diverticular disease seen on double-contrast barium enemas, colonoscopy revealed neoplastic lesions in 31% of these patients. For 35% of the patients, barium enema was inaccurate in diagnosing neoplastic lesions.[6]
- In another study of 105 patients with symptomatic sigmoid diverticular disease, colonoscopy revealed carcinoma in 6.6% of patients and adenomas in 27.6%. Barium enemas were inaccurate in 43% of the examinations.[7]
- However, one case-control study suggests that colonoscopy screening
(not necessarily performed in the presence of diverticular disease) is associated with lower incidence of colon cancer (odds ratio = 0.47; 95 percent CI, 0.37-0.58) and lower mortality from colorectal cancer (odds ratio = 0.43; 95 percent CI, 0.30-0.63).[8]

- Another case-controlled study found that having a screening sigmoidoscopy was associated with a halving of colorectal cancer risk (OR = 0.52; 95% CI: 0.34, 0.80), having a screening colonoscopy did not significantly reduce colorectal cancer risk (OR = 0.69; 95% CI: 0.44, 1.07), and having had screening endoscopy was associated with a significant reduction in colorectal cancer risk (OR = 0.62; 95% CI: 0.44, 0.87).[9]

- One prospective study on using Computed Tomography Colonography versus colonoscopy after recovery from diverticulitis showed that patients found CTC more favorable than colonoscopy, with 74% preferring CTC.[10]

**Clinical Recommendations**

- The American College of Gastroenterology, American Gastroenterological Association, and the American Society for Gastrointestinal Endoscopy recommend that patients undergo complete colonic evaluation after resolution of a clinically diagnosed case of presumptive diverticulitis.[4]

- The American Society of Colon and Rectal Surgeons recommends that after recovery from an initial episode of acute diverticulitis, patients should be evaluated by either colonoscopy or and barium enema (with flexible sigmoidoscopy).[11]

- Salzman et al 2005 recommends a colonoscopy during follow-up of patients after an episode of diverticulitis.[5]

**Source**

Adapted from Health Benchmarks, Inc.:

- HMSA modified the age criterion from to be “19 and older by the end of the measurement year”.

**Denominator**

**Denominator Definition**

Continuously enrolled members ages 19 and older as of the end of the measurement year with a diagnosis of diverticulitis during the year prior to the measurement year.

**Denominator Index Date**

First instance of Members who had a diagnosis of diverticulitis during the year prior to the measurement year.

**Denominator Exclusion**

**Denominator Exclusion Definition**

Members with a diagnosis of diverticulitis any time prior to the index date, a colorectal surgery during the year after index date, a colonoscopy during the 0-3 years prior to index date, a barium enema or a sigmoidoscopy during the year prior to the index date, or a diagnosis of colon cancer at any time prior to the
index date.

**Numerator**

| Numerator       | Members who had either a colonoscopy or a barium enema x-ray with flexible sigmoidoscopy performed during the year after the index date (inclusive of the index date). |

**Physician Attribution**

| Physician Attribution | Score all physicians (in the selected specialties) who diagnosed the member with diverticulitis on the index date or during the year after the index date. |

**References**


1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**
- **Prevention**
  Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).
- **Screening**
  Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: APPROPRIATE WORK UP PRIOR TO TREATMENT FOR VULVOVAGINAL CANDIDIASIS

Disease State: Vulvovaginal Candidiasis

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation:
- American College of Obstetricians and Gynecologists
- Centers for Disease Control and Prevention

Clinical Intent: To ensure that all women had a wet-mount or yeast culture prior to receiving treatment for vulvovaginal candidiasis.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Vulvovaginal candidiasis is common in adult females and is responsible for 17-39% of case of vaginitis.[1]
- At least half of women will have experienced an episode of vulvovaginal candidiasis by their mid-twenties.[2, 3]
- Up to 75% of pre-menopausal women report having had one or more episodes of vulvovaginal candidiasis in their lifetime,[4] although experts place the true number at approximately 50%.[5]
- Up to 12% of women will experience recurrent vulvovaginal candidiasis,[6] which is defined as four or more episodes per year.[7]
- The economic burden associated with vulvovaginal candidiasis is high; in 2002, women in the U.S. spent over 500 million dollars on medications to treat the condition.[6]

Reason for Indicated Intervention or Treatment
- Self-diagnosis of vulvovaginal candidiasis is extremely unreliable. In one study, only 34% of women who diagnosed themselves with the condition were correct.[8]
- A recent survey of adult women reported that, of women without a previous diagnosis of vulvovaginal candidiasis, only 11% were able to correctly identify the signs and symptoms of the condition. Women who reported a previous diagnosis of vulvovaginal candidiasis did only slightly better, with 35% able to correctly identify the signs and symptoms of the condition.[9]

Evidence supporting Intervention or Treatment
• Saline microscopy (wet-mount) of vaginal discharge is much less costly than culture and has a sensitivity of 40-60%.[10]
• Addition of 10% potassium hydroxide (KOH) to the wet-mount increases the sensitivity of microscopy to 70%.[10]

Clinical Recommendations
• The American College of Obstetricians and Gynecologists (ACOG) recommends that vulvovaginal candidiasis should be diagnosed using a wet-mount consisting of saline and 10% potassium hydroxide microscopy (Level B).[11]
• The Centers for Disease Control and Prevention recommend that a saline wet-mount with KOH should be performed on all women with symptoms or signs of vulvovaginal candidiasis and those with positive results should receive treatment.[12]

Source
Health Benchmarks, Inc.

Denominator
<table>
<thead>
<tr>
<th>Denominator Definition</th>
<th>Continuously enrolled women 18 years or older who were diagnosed with vulvovaginal candidiasis during the 0-358 days of the measurement year and who received a prescription for an antifungal medication during the 0-7 days after the diagnosis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>First instance of Members with a diagnosis of vulvovaginal candidiasis during the 0-358 days of the measurement year.</td>
</tr>
</tbody>
</table>

Denominator Exclusion
<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Exclusion Claims Criteria</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Numerator
| Numerator Definition | Members who received a wet-mount examination or a yeast culture during the 0-7 days prior to the index date. |

Physician Attribution
| Physician Attribution Description | Score the physician (in the selected specialties) who diagnosed the member with vulvovaginal candidiasis on the index date. |
References


1 Indicator Classification (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Effectiveness of Care Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
<td></td>
</tr>
<tr>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Screening</td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td>Disease Management</td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td>Medication Monitoring</td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antmycotic pharmacotherapy)</td>
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</tbody>
</table>

2 Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence
FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
**Health Benchmarks®
Clinical Quality Indicator Specification 2009**

**Client**
HMSA: PQSR 2010

**Measure Title**
AVOIDANCE OF POSTOPERATIVE COMPLICATIONS AFTER CATARACT SURGERY

**Disease State**
Cataract

**Indicator Classification**
Disease Management

**Strength of Recommendation**
Not applicable

**Organizations Providing Recommendation**
American Academy of Ophthalmology

**Clinical Intent**
To assess and quantify the complications associated with cataract surgery.

**Physician Specialties**
Refer to PQSR 2010 Specialty Matrix

**Background**

**Disease Burden**
- Estimates based on census and other data indicate that 17.2% (20.5 million) of Americans older than 40 have cataracts in either eye with women having a significantly higher age-adjusted prevalence of cataracts than men.[1]
- The total number of persons who have cataract is estimated to rise to 30.1 million by 2020.[1]

**Reason for Indicated Intervention or Treatment**
- Cataract surgery is a highly successful procedure and complications are rare.[2] However, variability in postoperative complication rates exist and are therefore an indicator of quality.[3-5]
- A systematic review of the literature from 1963 to 2003 found that while cataract surgery has dramatically improved, the incidence of endophthalmitis (a postoperative complication following cataract surgery) has increased over the last decade. This increase coincides temporally with the use of self-sealing corneal incisions.[6] A population based review of Medicare claims data showed a similar trend, and also highlighted this temporal coincidence between the introduction of clear, self-sealing incisions and a rise in incidence of endophthalmitis. This trend is of even greater concern because cataract surgery is the most commonly performed surgery in the United States, and the number will likely continue to increase given the context of the aging U.S. population.[7]

**Evidence Supporting Intervention or Treatment**
- In a case-control study of 2,041 cataract extractions, 1.5% developed wound complications with variability associated with type of surgical
• In a prospective study of 5,131 cataract surgeries, variability in postoperative complication rates, as compared to national averages, were detected by analyzing the surgical techniques of a single surgeon. The results of this study suggest that postoperative complications are related to surgical practice. [4]

• In a study of nationwide prevalence of postoperative cataract surgical complications in Sweden, results suggested that the prevalence of endophthalmitis was significantly decreased in patients who were given prophylactic intracameral antibiotics compared to those who were only given topical antibiotics. [9]

• Complication rates may be inversely associated with the frequency with which a surgeon performs extractions. A 2007 study using Canadian claims data reported that surgeons performing 50 to 250 cataract surgeries per year had an adverse event rate of 0.8% and those performing 251 to 500 surgeries per year had an adverse event rate of 0.4%. Surgeons performing 501 to 1,000 surgeries per year had an adverse event rate of 0.2% and surgeons performing more than 1,000 cataract surgeries per year had an adverse event rate of 0.1% [11]

• Secondary opacification of the posterior capsule may occur subsequent to all forms of extracapsular cataract surgery. While this requires dissection using the neodymium: YAG laser, it is not considered a complication by many surgeons, as this complication may be seen in up to 50% of patients. [12]

Clinical Recommendations

• Because there is no known pharmacological or nutritional treatments for eliminating or retarding cataracts, the American Academy of Ophthalmology recommends surgery as the primarily indicated treatment option when the cataract retards visual function to the extent that visual function no longer meets the patient’s needs (Level of Evidence A-III). [13]

Source
Health Benchmarks, Inc.
**Denominator Exclusion Definition**
Members whose history puts them at risk of increased postoperative complications: (1) A diagnosis indicating an increased risk of cataract complications during the 1-90 days prior to the index surgery date, (2) A diagnosis indicating increased risk for complications at any time prior to the index surgery date, (3) Two prescriptions for topical ocular steroids or topical ocular anti-inflammatory medications in the 1-90 days prior to the index surgery date or 2 prescriptions for tamsulosin (Flomax) in the 1-365 days prior to the index surgery date, (4) Prior intraocular surgery 1-365 days prior to index surgery, or (5) members with a complicating condition 1-60 days prior to the index surgery date.

**Numerator Definition**
Members who do NOT have a claim 1-31 days after the index surgery date for a complication of cataract surgery.

**Physician Attribution**
Score only the physician who performed the cataract surgery (i.e., the index date event).

**References**


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

- **Diagnosis**: Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

- **Effectiveness of Care**
  - **Prevention**: Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).
  - **Screening**: Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).
  - **Disease Management**: Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
  - **Medication Monitoring**: Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).
  - **Medication Adherence**: Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).
  - **Utilization**: Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**

- Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?  
  - Yes  
    - Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)  
      - Yes  
        - Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?  
          - Yes  
            - [List of criteria]  
              - Strength of Recommendation = A  
            - No  
              - Strength of Recommendation = B  
          - No  
            - Strength of Recommendation = C  
      - No  
        - Strength of Recommendation not needed

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
### Measure Title
AVOIDANCE OF PREOPERATIVE URINALYSIS FOR LOW RISK PATIENTS UNDERGOING NON-OBSTETRICAL, NON-UROGENITAL SURGERY

### Disease State
Pre-operative medical evaluation

### Indicator Classification
Indicator Classification

### Utilization

### Strength of Recommendation
B

### Organizations Providing Recommendation
- American Society of Anesthesiologists
- American Society of Colon and Rectal Surgeons
- American Society for Gastrointestinal Endoscopy
- Institute for Clinical Systems Improvement
- University Hospital of Cleveland

### Clinical Intent
To ensure that eligible members undergoing non-obstetrical, non-urogenital surgery do not receive a preoperative urinalysis.

### Physician Specialties
Refer to PQSR 2010 Specialty Matrix

### Background
#### Disease Burden
- Prior to surgery, evaluation of a patient to assess risk of surgical complication is commonplace.
- However, the prevalence of unrecognized disease is very low in healthy patients and many laboratory tests are performed out of habit and medical concern.[1] For example, in a study of 2,000 patients undergoing elective surgery, 60% of routine preoperative tests were ordered with no indication and only 0.22% of these tests revealed abnormalities that would affect surgical decisions.[2]

### Reason for Indicated Intervention or Treatment
- Physicians often order a preoperative urinalysis with the belief that the detection and elimination of a urinary tract infection decreases the risk of a surgical wound infection. They also may order the test to screen for underlying disease. Evidence indicates, however, that preoperative urinalysis is both cost-ineffective and of little utility in healthy patients.[2-7]

### Evidence Supporting Intervention or Treatment
- Importantly, no controlled trials have been published in this field. All available evidence reports the results of case-series.[6]
- In one study of 200 clean-wound, orthopedic, non-prosthetic knee
procedures, no difference in the rate of wound infections was detectable between those patients with abnormal and normal urinalysis test results. [3]

- Furthermore, a cost-effectiveness study of clean-wound knee procedures found that the prevention of wound infections in this population using urinalysis would cost $1.5 million. The authors conclude that it is 500 times more cost-effective to treat the cases of wound infection than to administer preoperative urinalysis.[4]

- In a retrospective study of 299 patients undergoing knee or hip arthroplasty, no correlation between asymptomatic bacteriuria and surgical infection was found.[5]

- In a systematic review of 6,740 urinalyses prior to surgical procedures in the areas ranging from orthopedics, cardiology, ENT, ophthalmology, neurosurgery, plastic surgery, urology, and general surgery, routine preoperative urinalysis was shown to produce abnormal results in 1–34.1% of patients but led to a change of management in 0.1–2.8% of patients. These data prompted the study’s authors to conclude that there is little or no apparent value in routine preoperative urinalysis as an opportunistic screening test for unrelated disease.[6]

- Finally, because preoperative testing in healthy patients can often lead to abnormal results that are not acted upon, these tests can increase medico-legal risk, not reduce it.[2]

**Clinical Recommendations**

- The American Society for Gastrointestinal Endoscopy does not recommend urinalysis prior to endoscopic procedures citing that there is no evidence to suggest that this would improve postoperative outcomes.[8]

- The American Society of Colon and Rectal Surgeons assert that urinalysis is contraindicated unless history and physical examination reveal a condition for which urinalysis is indicated. The ASCRS 2005 update states that “Before utilizing any specific risk assessment tools, a careful history, review of systems, and physical examination should be obtained.”[9, 10]

- The University Hospital of Cleveland notes in their guidelines that urinalysis should never be performed preoperatively.[11]

- The American Society of Anesthesiologists lists urinalysis as a test which can be performed preoperatively, but this decision is incumbent on physician discretion. The guidelines state: “*Routine preoperative tests* (i.e., tests intended to discover a disease or disorder in an asymptomatic patient) do not make an important contribution to the process of perioperative assessment and management of the patient by the anesthesiologist.”[12]

- The Institute for Clinical Systems Improvement Guideline for Preoperative Evaluation does not recommend preoperative urinalysis and emphasizes that in most cases patients do not require preoperative testing if they are without acute illness or unstable illness.[13, 14]
### Source
Health Benchmarks, Inc

### Denominator

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Continuously enrolled members ages 66 years or younger by the end of the measurement year who underwent a non-obstetrical or urogenital surgery.</td>
</tr>
<tr>
<td>Index Date</td>
<td>First instance of Members who had a preoperative examination during the first 362 days of the measurement year.</td>
</tr>
</tbody>
</table>

### Denominator Exclusion

<table>
<thead>
<tr>
<th>Denominator Exclusion</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusion Definition</td>
<td>Members with conditions requiring a urinalysis: acute disease or infection of urogenital system, sexually transmitted disease, and co-morbidities (i.e., cardiovascular, respiratory, and renal disease). Members who underwent genital urinary surgery or who underwent prosthesis implantation on index date.</td>
</tr>
</tbody>
</table>

### Numerator

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Members who did NOT have a urinalysis 0-3 days after the index date (inclusive of the index date).</td>
</tr>
</tbody>
</table>

### Physician Attribution

<table>
<thead>
<tr>
<th>Physician Attribution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score all physicians in the selected specialties who saw the member on the index date.</td>
<td></td>
</tr>
</tbody>
</table>

### References

### Indicator Classification (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
</tr>
<tr>
<td><strong>Medication Adherence</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>

1 For further information, see [Indicator Classification](#).

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All Rights Reserved  
Measure: preopuV71
**Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**

1. Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?  
   - No: Strength of Recommendation not needed  
   - Yes: Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)
     - No: Strength of Recommendation = C  
     - Yes: Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?
       - No: Strength of Recommendation = B  
       - Yes: Is the recommendation based on one of the following?  
         - Cochrane Review with a clear recommendation  
         - USPSTF Grade A recommendation  
         - Clinical Evidence rating of Beneficial  
         - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same  
         - Validated clinical decision rule in a relevant population  
         - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same  

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: AVOIDANCE OF SELECTIVE CALCIUM CHANNEL BLOCKERS FOR CONGESTIVE HEART FAILURE

Disease State: Congestive Heart Failure

Strength of Recommendation:
- B (Heart failure with decreased left ventricular ejection fraction)
- C (Heart failure with normal left ventricular ejection fraction)

Organizations Providing Recommendation:
- American College of Cardiology
- American College of Chest Physicians
- Institute for Clinical System Improvement

Clinical Intent: To ensure that eligible members identified with congestive heart failure do not receive selected calcium channel blocker medication.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background:

In 2003, approximately 5 million Americans had Congestive Heart Failure (CHF) and each year, approximately 550,000 new cases are diagnosed while 57,000 people die from the disease.[1]

CHF affects 1% of individuals 65 and older yet it represents 20% of all hospital admissions for this population.[1]

From 1979 to 2003, hospitalizations for CHF increased 174%. [1]

The 1.1 million hospitalizations for coronary heart failure in 2004 amounted to $29 billion in hospital charges.[2]

Reason for Indicated Intervention or Treatment:

- Calcium channel blockers can lead to worsening congestive heart failure (CHF) and have been associated with an increased risk of cardiovascular events.[3-7]
- Appropriate pharmacologic therapy can prevent or reduce the frequency and severity of CHF exacerbations.

Evidence Supporting Intervention or Treatment:

- Verapamil and diltiazem possess negative chronotropic activity. An early open-label trial showed marked hemodynamic and clinical deterioration in patients with an ejection fraction (EF) of less than 35% treated with verapamil after 1 year.[8] Although diltiazem has less negative inotropy and chronotropy than verapamil, it has also been associated with HF in patients with an EF of less than 40% at baseline.[9]
- In addition, dihydropyridine calcium channel blockers (CCBs)
administered for 2 to 4 months had marked increases in clinical deterioration and hospital admissions for HF exacerbations likely secondary to activation of detrimental neurohormonal systems. These agents were compared with placebo, isosorbide, or standard heart failure therapy that included an ACE inhibitor.[10, 11]

- Amlodipine, another CCB, may be safer in this patient population. The 1996 PRAISE study demonstrated no adverse effects on survival or cardiac morbidity when amlodipine was given to patients with Class II or III heart failure with EF less than 30% who were already taking an ACE inhibitor, digoxin, or diuretic.[12]

Clinical Recommendations

- The American College of Cardiology (ACC) and the American Heart Association (AHA), state that some CCBs may be harmful in asymptomatic patients with low LVEF and no symptoms of HF after MI (Level of Evidence: C).[13] Of all the calcium channel blockers, only amlodipine has not been adversely associated with survival.

- The ACC/AHA guidelines state that CCBs are not indicated as routine treatment for HF in patients with current or prior symptoms of reduced LVEF and HF. (Level of Evidence, A).[13]

- The ACC/AHA guidelines support the avoidance or withdrawal of CCBs because of the potential for this class to adversely affect the clinical status of patients with HF, as they may lead to worsening of HF and are associated with an increased risk of cardiovascular events. Only vasoselective CCBs have been shown not to adversely affect survival (Level of Evidence: B).[13]

- In addition, their use is not recommended to treat patients with HF who have comorbid disease (hypertension or chronic atrial fibrillation). On the basis of current guidelines and previous studies, verapamil, nifedipine, and diltiazem, are not recommended for long-term treatment of patients with HF.[14-16]

- The Institute of Clinical Systems Improvement suggests that diltiazem, nifedipine and verapamil should all be avoided in patients with diminished LVEF and HF (Level of Evidence, A).[17]

- Guidelines from 2006 Heart Failure Society of America (HFSA) state “Calcium channel blockers should be considered in patients with HF who have angina despite the optimal use of beta blockers and nitrates. Amlodipine and felodipine are the preferred calcium channel blockers in patients with angina and decreased systolic function (Strength of Evidence C).”[18]

- For individuals with preserved left ventricular systolic function HFSA states that “Calcium channel blockers should be considered in patients with:

  1) Atrial fibrillation requiring control of ventricular rate in whom beta blockers have proven inadequate for this purpose because of intolerance. In these patients, diltiazem or verapamil should be considered (Strength of Evidence C);

  2) Symptom-limiting angina (Strength of Evidence A); and
(3) In those with hypertension, amlodipine should be considered (Strength of Evidence C).”[18]

Source
Health Benchmarks, Inc.

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Denominator Definition</th>
<th>Continuously enrolled members ages 20 years and older by the end of the measurement year, who were diagnosed with congestive heart failure during the year prior to the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>First instance of Members with a diagnosis of congestive heart failure on 2 or more face-to-face outpatient encounters during the year prior to the measurement year or Members with a diagnosis of congestive heart failure on 1 or more inpatient encounters during the year prior to the measurement year.</td>
<td></td>
</tr>
</tbody>
</table>

| Denominator Exclusion Definition | Members with atrial fibrillation who filled at least 1 prescription for a beta-blockers and who had a 180 days supply of a beta-blockers 0-365 days after the index date. |

| Denominator Exclusion Claims Criteria | Atrial fibrillation: ICD-9 diagnosis code(s): 427.31 |

| Numerator Definition | Members who did NOT fill a prescription for a selective calcium channel blocker (i.e., diltiazem, isradipine, nifedipine, nimodipine, nisoldipine, nicardipine, verapamil, mibefradil) during the 0-365 days after the index date. |

| Numerator Claims Criteria | N/A |

| Physician Attribution Description | If client data contains prescribing provider: If the member did not receive a prescription (i.e., NOT numerator criterion [A]; a numerator hit), score all physicians the member saw 0-365 days after the index date. If member received a prescription (i.e., numerator criterion [A]; a non-numerator hit), score all prescribing providers who prescribed the member a numerator script during the 0-365 days after the index date. |
If client data does not contain prescribing provider:

If the member did not receive a prescription (i.e., NOT numerator criterion [A]; a numerator hit), score all physicians the member saw 0-365 days after the index date.

If the member received a prescription (i.e., numerator criterion [A]; a non-numerator hit), score all providers who was the member 0-7 days prior to the date the prescription was filled (i.e., the DOS of numerator criterion [A]).

References

11. Katz, S., Safety of calcium antagonists in patients with congestive heart


**Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: AVOIDANCE OF STEROID INJECTIONS FOR PLANTAR FASCIITIS

Disease State: Plantar Fasciitis

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Family Physicians
- American College of Foot and Ankle Surgeons

Clinical Intent: To ensure that members diagnosed with plantar fasciitis receive less than 3 steroid injections annually.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background:

- Plantar fasciitis is the most common cause of inferior heel pain and it is estimated that it accounts for 11-15% of all foot symptoms requiring professional care among adults.[1, 2]
- Up to 10% of the US population will have plantar fasciitis in their lifetime and more than 2 million individuals are treated for plantar fasciitis each year.[3]
- The incidence of plantar fasciitis peaks in people between the ages of 40-60 in the general population.[4, 5] It affects approximately 10% of runners [6], and is common at a younger age in this group.[4, 7]

Disease Burden:

Reason for Indicated Intervention or Treatment:

- Corticosteroid injections to treat plantar fasciitis should be used judiciously. In a study of 765 patients with plantar fasciitis, approximately 10% experienced plantar fascia ruptures after receiving steroid injections.[8] The majority of the patients with plantar fascia ruptures developed long-term complications such as longitudinal arch strain.[8, 9] Other complications have been cited in the literature.[10, 11]
- There are many conservative treatment options for plantar fasciitis such as rest, stretching and strengthening exercises, non-steroidal anti-inflammatory drugs (NSAIDs), night splints, below the knee casts, and orthoses such as heel pads and arch supports.[12-14] Several studies support a conservative course of treatment focusing on stretching and training modification, use of orthodic insoles, and non-steroidal anti-inflammatory medicines.[13, 15]
Evidence Supporting Intervention or Treatment

- A 2002 Cochrane systematic review of 19 randomized controlled trials involving 1,626 patients with heel pain showed some evidence for the effectiveness of injected corticosteroid in providing temporary relief of pain, but the injections seemed to be useful only to a small degree. The evidence for the superiority of corticosteroid injections over orthotic devices was limited. In addition, the quality of the studies examined was generally poor.[16]

- An outcomes assessment survey in which 411 patients with plantar fasciitis ranked the effectiveness of various nonsurgical treatment modalities indicated that in descending order of effectiveness, the short leg walking cast, steroid injections, rest, ice, runner's shoe, crepe-soled shoe, aspirin or NSAIDS, and heel cushions provided the most favorable outcomes.[17]

- Overall, evidence for the effectiveness of local corticosteroid injections for plantar fasciitis is limited, and should generally not be considered before other more conservative options have been exhausted.[18]

- In comparison to at least one alternative, a prospective, randomized, controlled, observer-blinded study of 132 subjects showed that intralesional corticosteroid injection for plantar fasciopathy is more efficacious and cost-effective than extracorporeal shock therapy.[19]

Clinical Recommendations

- Based on expert opinion, the American College of Foot and Ankle Surgeons issued a practice guideline in 2001 recommending initial treatment with calf-muscle stretching, over-the-counter heel cushions and arch supports, weight loss if indicated, activity limitations, and avoidance of flat shoes and barefoot walking. Other treatments may involve NSAIDS, foot padding and strapping, and corticosteroid treatments in appropriate patients.[20]

- After six weeks, the American College of Foot and Ankle Surgeons suggests that in addition to the initial measures, additional treatments may include customized orthotic devices, night splinting, casting, a fixed-ankle walker-type device during activity, and a limited number of corticosteroid injections.[20]

- The American Academy of Family Physicians concludes that “In general, we start by correcting training errors. This usually involves rest, the use of ice after activities, and an evaluation of the patient’s shoes and activities. Next we try correction of biomechanical factors with a stretching and strengthening program. If the patient still has no improvement, we consider night splints and orthotics. Finally, all other options [including steroid injection] are considered.”[21]
encounters (on different dates of service) during the year prior to the measurement year.

**Denominator Index Date**
First instance of Members diagnosed with plantar fasciitis on 2 or more outpatient encounters (on different dates of service) during the year prior to the measurement year.

**Denominator Exclusion**

<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Denominator Exclusion Claims Criteria</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Numerator**
Members who received 0, 1, or 2 steroid injections as treatment for plantar fasciitis during the year after the index date.

**Physician Attribution**

| Physician Attribution Description | If the member receives 0, 1, or 2 steroid injections, score all physicians (in the selected specialties) who saw the member during the year after the index date. If the member receives 3 or more steroid injections, score all physicians (in the selected specialties) who gave the 3rd or subsequent injections during the year after the index date. |

**References**
7. Taunton, J.E., et al., *A retrospective case-control analysis of 2002*
1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis** Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention** Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening** Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management** Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring** Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence** Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization** Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation Based on a Body of Evidence**

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: BREAST CANCER SCREENING

Disease State: Breast Cancer

Indicator Classification: Screening

Strength of Recommendation:

A (50 to 69)
B (40 to 49)

Organizations Providing Recommendation:
American Academy of Family Physicians
American Cancer Society
American College of Obstetricians and Gynecologists
American College of Preventive Medicine
American College of Radiology
American Medical Association
Canadian Task Force on Preventive Health Care
US Preventive Services Task Force

Clinical Intent:
To ensure that all eligible women age 40-69 receive a mammography screening test during the measurement year or year prior.

Physician Specialties:
Refer to PQSR 2010 Specialty Matrix

Background:

Disease Burden:
- In women, breast cancer is the second leading cause of cancer death, behind death from lung cancer.[1]
- Beginning in the fourth decade of life, the risk of breast cancer increases with age.[2]

Reason for Indicated Intervention or Treatment:
- Screening for breast cancer with mammography every 12-33 months significantly reduces mortality from breast cancer.[3]

Evidence Supporting Intervention or Treatment:
- Among women younger than 50, a meta-analyses conducted by USPSTF found a 15 percent decrease in breast cancer mortality after 14 years of observation (RR 0.85, 95% CI 0.73-0.99).[2]
- Eight randomized, controlled trials have been conducted on breast cancer screening, all using mammography with or without clinical breast examination.[4-15] Screening mammography was associated with a 9% to 32% reduction in breast cancer mortality.[2] In their meta-analysis, the United States Preventive Services Task Force (USPSTF) found that the relative risk of breast cancer death among women of all ages randomized to screening was 0.84 (95% CI, 0.77-0.91).[2]
- One study, using a Markov model to compare the life expectancy of
women undergoing different breast cancer screening strategies, found that the cost-effectiveness ratios were $21,400 for women 50 to 69 years of age and $105,000 for women in their 40s per year of life saved. Both are in an accepted range for cost-effectiveness.[16]

Clinical Recommendations

- In its second edition, the USPSTF recommended screening for breast cancer in women over the age of 50 every 1-2 years.[17]
- In its third edition, the USPSTF recommends screening for breast cancer in women over age 40 every 1-2 years. They note that the evidence for screening in all women over age 50 to 69 is stronger than for those women in other age groups.[3]
- The Canadian Task Force on Preventive Health Care and the American College of Preventive Medicine support screening with mammography starting at age 50.[18-20]
- The American Medical Association, the American College of Obstetricians and Gynecologists, the American College of Radiology, the American Cancer Society, and National Comprehensive Cancer Network support screening with mammography and clinical breast exam starting at age 40: the.[21-26]

Source

Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement:

- HMSA added HMSA service codes Z5026, Z5027, and Z5030 to numerator criterion [Women with at least 1 mammogram during the measurement year or year prior]

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Continuously enrolled women age 42-69 years as of the end of the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Date</td>
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</tr>
<tr>
<td>Denominator Encounters/Claims Criteria</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Denominator Exclusion</th>
<th>Members with 2 unilateral mastectomies or a bilateral mastectomy any time in the member’s history prior to the end of the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Exclusion Definition</td>
<td>Members with 2 unilateral mastectomies or a bilateral mastectomy any time in the member’s history prior to the end of the measurement year.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Members who received at least 1 mammogram during the measurement year or</th>
</tr>
</thead>
</table>
**Definition**

year prior.

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<table>
<thead>
<tr>
<th>Physician Attribution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physician Attribution</strong></td>
<td><strong>If client data does not contain PCP:</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Score all physicians (in the selected specialties) who saw the member during the measurement year.</td>
</tr>
<tr>
<td><strong>Physician Attribution</strong></td>
<td><strong>If client data contains PCP:</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Score all primary care physicians who were assigned to the member during the measurement year.</td>
</tr>
</tbody>
</table>

---

**References**

1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**

Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).

**Utilization**

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

Yes → Strength of Recommendation not needed

No → Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

Yes → Strength of Recommendation = C

No → Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

Yes → Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

No → Strength of Recommendation = B

Yes → Strength of Recommendation = A

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: CERVICAL CANCER SCREENING

Disease State: Cervical Cancer

Indicator Classification: Screening

Strength of Recommendation: A

Organizations Providing Recommendation:
- American Academy of Family Physicians
- American Academy of Pediatrics
- American Cancer Society
- American College of Obstetricians and Gynecologists
- American College of Preventive Medicine
- American Medical Association
- Canadian Task Force on Preventive Health Care
- US Preventive Services Task Force

Clinical Intent: To ensure that all women ages 21-64 receive a cervical cancer screening test during the measurement year or the 2 years prior.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- In the United States, an estimated 9,710 new cases of invasive cervical cancer are diagnosed annually, and there are 3,700 deaths from the disease; this represents 1.3 percent of cancer deaths in women.[1]
- All sexually active women are at risk of cervical cancer, however, the disease is more prevalent in women who have had multiple sexual partners, women who became sexually active at an early age, and women who smoke.[2-5]

Reason for Indicated Intervention or Treatment
- The United States Preventive Services Task Force (USPSTF) found that screening with cervical cytology (Pap smears) reduces mortality from cervical cancer.[6]

Evidence Supporting Intervention or Treatment
- Epidemiological studies from the United States, Europe, and Canada have detected a dramatic reduction in invasive cervical cancer disease and a 20-60 percent reduction in cervical cancer mortality after the implementation of universal screening for cervical cancer with Pap smears.[7-14]
- Case control studies have also shown that screening is protective by
demonstrating a strong negative association between screening and invasive disease.[15-19]

- Screening programs introduced to populations naïve to screening have been shown to reduce cervical cancer rates by 60 to 90 percent within three years of implementation.[20, 21]

### Clinical Recommendations

- The USPSTF “strongly recommends” cervical cancer screening in all women who are sexually active and who have a cervix at least every 3 years.[6]
- The USPSTF recommends against routine screening of women aged 65 and older if they have had “adequate recent screening” and are not at high risk of the disease.[6]
- The USPSTF concluded that the evidence is insufficient to recommend for or against the routine use of technologies other than the conventional Pap smear.[6]
- The American Cancer Society (ACS) recommends that women be screened for cervical cancer beginning 3 years after the onset of sexual activity but not later than age 21. Screening should be performed either annually with Pap smears or every 2 years if liquid based cytology is used, until age 29. Based on past screening results and risk factors, the screening interval may be extended to 2-3 years for women 30 years or older. For women with pap smear and human papillomavirus (HPV) cervical cancer screening can be conducted every 3 years if the HPV result is negative. ACS found that it is reasonable to stop screening women 70 years and older with 3 recent consecutive negative tests and no abnormal test in prior 10 years.[22]
- Other organizations which recommend screening starting at age 18 or with the onset of sexual activity include: American Academy of Family Physicians (AAFP), American College of Obstetricians and Gynecologists (ACOG), American College of Preventive Medicine (ACPM), American Medical Association (AMA), the Canadian Task Force on Preventive Health Care (CTFPHC), and the American Academy of Pediatrics (AAP), among others.[23-27]

### Source

Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification:

- HMSA added HMSA service codes Z5012, Z5018, and Z5031 to numerator criterion [Members who had at least 1 pap smear during the measurement year or within the 2 years prior to the measurement year (3 years total)]

### Denominator

**Definition**

Continuously enrolled women ages 24-64 years by the end of measurement year.
<table>
<thead>
<tr>
<th>Denominator Index</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>N/A</td>
</tr>
</tbody>
</table>

| Denominator Encounters/Claims Criteria | N/A |

### Denominator Exclusion

| Denominator Exclusion Definition | Women who had a hysterectomy with no residual cervix at any time in the member’s history through the end of the measurement year. |

### Numerator

| Numerator Definition | Members who had at least 1 cervical cancer screening test during the measurement year or within the 2 years prior to the measurement year. |

### Physician Attribution

**If client data does not contain PCP:**

Score all physicians (in the selected specialties) who saw the member during the measurement year.

**If client data does contain PCP:**

Score all primary care physicians who were assigned to the member during the measurement year.
References

19. Herrero, R., et al., *Screening for cervical cancer in Latin America: a case-
1 Indicator Classification (Adapted from HEDIS® technical specifications)

Diagnosis
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

Effectiveness of Care

Prevention
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

Screening
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

Disease Management
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

Medication Monitoring
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

Medication Adherence
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

Utilization
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
2 Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

Yes

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

No

Strength of Recommendation not needed

Yes

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

No

Strength of Recommendation – C

Yes

Is the recommendation based on one of the following?

• Cochrane Review with a clear recommendation
• USPSTF Grade A recommendation
• Clinical Evidence rating of Beneficial
• Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
• Validated clinical decision rule in a relevant population
• Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

No

Strength of Recommendation = B

Yes

Strength of Recommendation = A

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
<table>
<thead>
<tr>
<th>Client</th>
<th>HMSA: PQSR 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure Title</td>
<td>CHILDHOOD IMMUNIZATION: DTaP/DT</td>
</tr>
<tr>
<td>Disease State</td>
<td>Diphtheria, tetanus, and pertussis</td>
</tr>
<tr>
<td>Strength of Recommendation</td>
<td>A</td>
</tr>
<tr>
<td>Organizations Providing Recommendation</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>Clinical Intent</td>
<td>To ensure that all eligible children receive their diphtheria, tetanus, and pertussis vaccination within a clinically appropriate timeframe.</td>
</tr>
<tr>
<td>Physician Specialties (suggested)</td>
<td>Refer to PQSR 2010 Specialty Matrix</td>
</tr>
<tr>
<td>Background</td>
<td>Disease Burden</td>
</tr>
<tr>
<td></td>
<td>• In 1945, approximately 19,000 children had diphtheria and in the six year period between 1940-1945, more than 1 million cases of pertussis were reported, averaging 175,000 cases per year.[1]</td>
</tr>
<tr>
<td></td>
<td>• From 1980 through 2004, 57 cases of diphtheria were reported in the United States, an average of 2–3 per year, and only 5 cases have been reported since 2000.[1]</td>
</tr>
<tr>
<td></td>
<td>• Pertussis incidence has been gradually increasing since the early 1980s, and a total of 25,827 cases was reported in 2004, though the reasons for the increase are not clear.[1]</td>
</tr>
<tr>
<td></td>
<td>• Due to effective immunization programs, only 1 case of diphtheria and 7,298 cases of pertussis were reported in 1999.[1, 2]</td>
</tr>
<tr>
<td></td>
<td>• Epidemiological statistics show that 5-10% of children with diphtheria and about 33% of children with tetanus die.[3]</td>
</tr>
<tr>
<td></td>
<td>• Approximately 50% of the babies who get pertussis require hospitalization.[3]</td>
</tr>
</tbody>
</table>

**Reason for Indicated Intervention or Treatment**

- Evidence shows that childhood immunizations are effective in preventing diphtheria, tetanus, and pertussis. Yet, vaccination rates for DTaP still vary among states, ranging from 73.9% to 92.6% coverage.[2, 4] 
- In 2001, only 77.2% of US toddlers 19 to 35 months of age
had received their basic immunization series, which included the DTaP vaccine.

- In 2005, less than 86% of children had received four or more DTP/DT/DTaP vaccinations by 35 months of age.[5]

**Evidence Supporting Intervention or Treatment**

- Efficacy of the DTaP vaccines in prevention of severe pertussis ranges from 59 to 95%. [6, 7]

- Children less than five years of age who received at least three doses of a pertussis vaccine had 12% less clinical disease than children who did not receive a minimum of three doses.[8]

**Clinical Recommendations**

- The CDC recommends that children get 5 doses of the DTaP vaccine, one dose at each of the following ages: 2 months, 4 months, 6 months, 15-18 months, and 4-6 years. In addition, a booster shot of the DT vaccine (tetanus and diphtheria) is recommended at 11-12 years of age, and then every 10 years.[9-11]

**Source**

Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

- HBI extended continuous enrollment period from “12 months prior to the child’s 2nd birthday” to “42 days old through 2 years old” in order to cover the entire numerator timeframe.

- HBI added denominator exclusion criterion [Members who were offered vaccination and refused for various reasons from when the member was 42 days of age through 2 years of age] in order to exclude members who refused vaccination. HMSA modified denominator exclusion criterion [Members who were offered vaccination and refused for various reasons from when the member was 42 days of age through 2 years of age] to only use ICD-9 diagnosis codes V64.05, V64.06 and V64.07.

<table>
<thead>
<tr>
<th>Denominator Definition</th>
<th>Continuously enrolled children who had their 2nd birthday during the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>Date of 2nd birthday</td>
</tr>
<tr>
<td>Denominator Encounters/Claims Criteria</td>
<td>N/A</td>
</tr>
<tr>
<td>Denominator Exclusion</td>
<td></td>
</tr>
</tbody>
</table>
### Denominator Exclusion Definition
Members with contraindications for DTaP at any time in the member’s history prior to and including their 2nd birthday and members who were offered vaccination and refused for various reasons from when the member was 42 days of age through 2 years of age.

*If the organization uses the same sample as for the Lead Screening in Children measure, the same children will be excluded from that measure. (HEDIS®, 2009)*

### Numerator Definition
Members with at least 4 DTaP vaccinations occurring in the time period on or between 42 days after birth and on or before the index date.

### Physician Attribution Description
Score all physicians (in the selected specialties) who saw the member from 42 days of age through the index date.

### References

9. *Recommended Childhood immunization schedule, United States,*


<table>
<thead>
<tr>
<th><strong>Indicator Classification</strong> (Adapted from HEDIS® technical specifications)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong> Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong> Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Prevention</strong> Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Screening</strong> Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Disease Management</strong> Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
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<td><strong>Medication Monitoring</strong> Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td><strong>Medication Adherence</strong> Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
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FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: CHILDHOOD IMMUNIZATION: MEASLES, MUMPS, AND RUBELLA (MMR)

Disease State: Measles, Mumps, Rubella

Indicator Classification: Prevention

Strength of Recommendation: A

Organizations Providing Recommendation: Centers for Disease Control and Prevention

Clinical Intent: To ensure that all children 24 months and younger receive their MMR vaccination at the clinically appropriate timeframe.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- In the pre-vaccination era in the United States for measles (prior to 1963), rubella (prior to 1969), and mumps (prior to 1967), there were many more cases of these diseases than there are today due to the implementation of universal immunization programs.[1]
  - For measles, there were 400,000 reported cases per year compared with less than ≤0.5 per 1,000,000 during the period 1997 to 1999.[2]
  - For mumps, there were 186,000 reported cases compared with 906 in 1995.[1]
  - For rubella, there were 57,600 reported cases compared with 225 in 1988.[1]
- None of these diseases has been eradicated and severe complications require immunizations to continue to be administered. Complications include:
  - Diarrhea, middle ear infection, bronchopneumonia, encephalitis, subacute sclerosing panencephalitis, and multiple severe problems in pregnancy for measles;
  - Parotitis, fever, headache, malaise, myalgia, anorexia, respiratory symptoms, orchitis, aseptic meningitis, meningoencephalitis, and fetal death if the infection is contracted in the first trimester for mumps; and
  - Rash, lymphadenopathy, arthralgia, fever, polyarthritis, encephalitis, thrombocytopenia, and multiple severe problems in pregnancy for rubella.[3]
Reason for Indicated Intervention or Treatment
- Since monovalent vaccines containing measles, rubella, and mumps vaccine viruses – and subsequently combined measles-mumps-rubella (MMR) vaccine – were licensed, the numbers of reported cases of measles, mumps, rubella, and congenital rubella syndrome (CRS) have decreased by more than 99%. [1]
- In 2003 23% of children were delayed in receiving their MMR vaccine when compared to the recommended timeline set by the Centers for Disease Control. [4, 5]

Evidence Supporting Intervention or Treatment
- The vaccine has been shown to be highly immunogenic, with seroconversion rates of 95 to 100% being achieved for each of the 3 component vaccines. This immunity appears to be long-lasting and may even be lifelong. [6, 7]
- Ninety-five percent of children vaccinated with the current measles vaccine at age 12 months and 98 percent vaccinated at age 15 months develop measles antibodies. [1]

Clinical Recommendations
- Children should get 2 doses of MMR vaccine: The first at 12-15 months of age and the second at 4-6 years of age. These are the recommended ages. But children can get the second dose at any age, as long as it is at least 28 days after the first dose. [4, 8, 9]

Source
Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification:

- HBI uses an 11-24 month vaccination period and the same period requirement for continuous enrollment. HEDIS allows the vaccination to occur anytime before the child’s second birthday and requires continuous enrollment from 12-24 months.
- HBI added denominator exclusion criterion [Members who were offered vaccination and refused for various reasons from when the member was 42 days of age through 2 years of age] in order to exclude members who refused vaccination. HMSA modified denominator exclusion criterion [Members who were offered vaccination and refused for various reasons from when the member was 42 days of age through 2 years of age] to only use ICD-9 diagnosis codes V64.05, V64.06 and V64.07.

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Definition</td>
<td>Continuously enrolled children who had their 2nd birthday during the measurement year.</td>
</tr>
</tbody>
</table>

| Denominator Index Date | Date of 2nd birthday |
Denominator
Encounters/Claims N/A
Criteria

Denominator Exclusion

Denominator Exclusion Definition Members with contraindications for MMR or who were offered vaccination and refused any time on or before the index date.

Note: Children who had a contraindication for a specific vaccine should be excluded from the denominator for all antigen rates and combination rates. The denominator for all rates must be the same. A user organization that excludes contraindicated children may do so only if the electronic data do not indicate that the contraindicated immunization was rendered. The exclusion must have occurred by the 2nd birthday. (HEDIS®, 2009)

If the organization uses the same sample as for the Lead Screening in Children measure, the same children will be excluded from the Lead Screening in Children measure. (HEDIS®, 2009)

Numerator

Numerator Definition Members with at least one MMR vaccination from 11 months of age through 24 months of age. Alternatively, a combination of either: (1) receipt of vaccination component between 11 months of age through 24 months of age or (2) history of disease diagnosis for measles, mumps, and rubella any time in available member’s history prior to or on the members’ 2nd birthday.

Physician Attribution

Physician Attribution Description If child meets numerator criteria, score all physicians (in the selected specialties) that saw the member from 11 months of age through the index date.

Likewise, if child does not meet numerator criteria, score all physicians (in the selected specialties) that saw the member from 12 months of age through the index date.

References


2. Progress toward measles elimination--region of the Americas, 2002-


Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation Based on a Body of Evidence**

- Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label? 
  - No → Strength of Recommendation not needed
  - Yes →
    - Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?) 
      - No →
      - Yes →
        - Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study? 
          - No →
          - Yes →
            - Is the recommendation based on one of the following? 
              - Cochrane Review with a clear recommendation 
              - USPSTF Grade A recommendation 
              - Clinical Evidence rating of Beneficial 
              - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same 
              - Validated clinical decision rule in a relevant population 
              - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same 
                - No → Strength of Recommendation = B
                - Yes → Strength of Recommendation = A

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: CHILDHOOD IMMUNIZATION: VARICELLA-ZOSTER VIRUS (VZV)

Disease State: Varicella

Indicator Classification: Prevention

Strength of Recommendation: A

Organizations Providing Recommendation:
- Centers for Disease Control and Prevention
- American Academy of Pediatrics

Clinical Intent: To ensure that all eligible children 24 months and younger receive their VZV vaccination at the clinically appropriate timeframe.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background and Disease Burden:
- Prior to the introduction of the varicella vaccine in 1995, the Centers for Disease Control and Prevention (CDC) estimated the yearly incidence of chickenpox in the United States at approximately 3.7 million cases with nearly 11,000 admissions and 100 deaths.[1]
- At least 90% of the cases occurred in children less than 15 years of age.[2]

Reason for Indicated Intervention or Treatment:
- Despite recommendations starting in 1995 by the American Academy of Pediatrics and 1996 by the Advisory Committee on Immunization Practices to use the varicella vaccination, underutilization of the vaccine is still leading to hospitalizations, serious complications, and death.[3]
- In an average household, a child with varicella-zoster virus (VZV) misses 8 or 9 days of school, and adult caretakers lose up to 2 days of work.[4] Infection in high-risk children can lead to serious complications and death.[2, 5-7]
- When breakthrough infections occur, patients who have been vaccinated have milder disease than those with natural disease.[8-10]

Evidence Supporting Intervention or Treatment:
- A randomized, double-blind, placebo-controlled trial demonstrated that the live attenuated varicella-zoster vaccination was 98% effective in preventing chickenpox in healthy children between the ages of 1 and 14 over two varicella seasons, and 95% effective after 7 years.[8, 9] At
10 years post-vaccination, the vaccine efficacy for patients who received one varicella injection was 94.4%. [10] The varicella cases that did occur were considerably milder than the natural disease. [8-10]

- The varicella-zoster vaccination has also been shown to be effective during outbreaks (i.e. characterized by intense exposure). In a retrospective cohort study conducted at a child care center in Georgia, the frequency of varicella was significantly reduced (14% vs. 88%) in children who had received the vaccine versus unvaccinated children. When the disease did occur in the vaccinated children it was much less severe and resulted in fewer days of absence from the child care center. [11]

- Other non-randomized studies estimated the varicella vaccine efficacy at 86-98% [12-16], with breakthrough infections resulting in milder disease than natural varicella. [17, 18]

- After the introduction of the varicella vaccine, the incidence of chickenpox between 1999 and 2001 in four states with consistent reporting of the disease was 0.3 to 1.0 per 1,000 people, compared to 1.1 to 3.8 per 1,000 people from 1990 -1994, the pre-varicella-vaccine era. The reductions were associated with steadily increasing vaccination rates in those states. [1]

- A similar decrease in varicella related hospitalizations and death was seen after the introduction of the varicella vaccine. [19, 20]

Clinical Recommendations

- In 2007 the Advisory Committee on Immunization Practices (ACIP) from the Centers for Disease Control and Prevention and the American Academy of Pediatrics Committee on Infectious Diseases recommend, as part of routine childhood vaccination schedule, 2 doses of varicella vaccine – 1st dose at age 12-15 months and a 2nd dose at age 4-6 years. [19, 20]

Source

Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification:

- HBI uses an 11-24 month vaccination period and the same period requirement for continuous enrollment. HEDIS allows the vaccination to occur anytime before the child’s second birthday and requires continuous enrollment from 12-24 months.

- HBI added denominator exclusion criterion [B] in order to exclude members who refused vaccination. HMSA modified denominator exclusion criterion [B] to only use ICD-9 diagnosis codes V64.05, V64.06 and V64.07.
<table>
<thead>
<tr>
<th>Denominator Index</th>
<th>Date</th>
<th>Date of 2\textsuperscript{nd} birthday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator</td>
<td>Encounters/Claims</td>
<td>N/A</td>
</tr>
<tr>
<td>Criteria</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Denominator Exclusion</th>
<th>Denominator</th>
<th>Members with contraindications for VZV at any time on or before the index date.</th>
</tr>
</thead>
</table>

Note: *Children who had a contraindication for a specific vaccine should be excluded from the denominator for all antigen rates and combination rates. The denominator for all rates must be the same. A user organization that excludes contraindicated children may do so only if the electronic data do not indicate that the contraindicated immunization was rendered. The exclusion must have occurred by the 2\textsuperscript{nd} birthday. (HEDIS\textsuperscript{®}, 2009)*

*If the organization uses the same sample as for the Lead Screening in Children measure, the same children will be excluded from the Lead Screening in Children measure. (HEDIS\textsuperscript{®}, 2009)*

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Numerator</th>
<th>Members with at least 1 VZV vaccination any time on or before the index date. Alternatively, members with a history of the disease diagnosis for varicella any time on or before the index date.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Physician Attribution</th>
<th>Physician Attribution</th>
<th>If child meets numerator criteria, score all physicians (in the selected specialties) that saw the member from 11 months of age through the index date.</th>
</tr>
</thead>
</table>

Likewise, if child does not meet numerator criteria, score all physicians (in the selected specialties) that saw the member from 12 months of age through the index date.

|------------|-------------------------------------------------------------------------------------------------------------------------------------|
**1 Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

Yes → Strength of Recommendation not needed

No →

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost)?

Yes → Strength of Recommendation = C

No →

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

Yes →

Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

Yes → Strength of Recommendation = A

No → Strength of Recommendation = B
Measure Title: CHLAMYDIA SCREENING FOR WOMEN

Disease State: Sexually transmitted disease

Indicator Classification: Screening

Strength of Recommendation: A (for women 24 years and younger)

Organizations Providing Recommendation:
- American Academy of Family Physicians
- Centers for Disease Control and Prevention
- U.S. Preventive Services Task Force (USPSTF)

Clinical Intent: To ensure that sexually active women 16-24 years of age had at least one screening test for chlamydia during the measurement year.

Physician Specialties (suggested): Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- Women between the age of 15 and 24 years account for more than 70% of all reported cases of Chlamydia trachomatis in the US.[1]
- Chlamydia trachomatis genitourinary infection results in insidious and often chronic unrecognized disease and is a major cause of tubal infertility, chronic pelvic pain, pelvic inflammatory disease (PID), and ectopic pregnancy. In addition, Chlamydia infection also increases the risk for contracting HIV and developing cervical carcinoma. [2-11]
- Chlamydia infections are also related to adverse pregnancy outcomes, including miscarriage, premature rupture of membranes, preterm labor, low birth weight, infant mortality, neonatal Chlamydial infection, and postpartum endometritis.[12]
- In 2004, 929,462 Chlamydial infections were reported to CDC from 50 states and the District of Columbia. Under-reporting is substantial because most people with Chlamydia are not aware of their infections, with only 32% tested for the disease[6, 13] Testing is not often done if patients are treated for their symptoms. An estimated 2.8 million Americans are infected with Chlamydia each year. Women are frequently re-infected if their sex partners are not treated.[14]

Reason for Indicated Intervention or Treatment

- Screening young, asymptomatic, sexually active women for Chlamydia is an effective method for decreasing reproductive morbidity such as pelvic inflammatory disease, infertility, and ectopic pregnancy.[6, 15] Furthermore, in young, pregnant women early detection and treatment will reduce complications for both the mother and newborn.[5]

Evidence Supporting Intervention or Treatment

- Screening 100 percent of sexually active women aged 18-24 would...
prevent an estimated 140,113 cases of PID each year.[6]
- Screening women at increased risk for *Chlamydia* improves health outcomes.[12]
- Annual *Chlamydia* screening of sexually active women age 16-25 has been shown to be cost effective compared to other screening regimens.[16]

**Clinical Recommendations**
- Screening for *Chlamydia* infection in asymptomatic sexually active female adolescents 24 years and younger is recommended by the Centers for Disease Control and Prevention, the American Academy of Family Physicians, and the U.S. Preventive Services Task Force (USPSTF).[17, 18]
- The U.S. Services Preventive Task Force does not recommend routine screening of women 24 years and older.[18]

**Source**
Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator</td>
<td>Continuously enrolled, sexually active women ages 16-24 by the end of the measurement year.</td>
</tr>
<tr>
<td>Denominator Index Date</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Denominator Exclusion**
- Women who qualified for the denominator only by a pregnancy test during the measurement year when it is followed *either* by a prescription for Accutane (isotretinoin) *or* an x-ray within 0-7 days after the pregnancy test.*

*Note: Members may have more than one pregnancy test during the measurement year. If one or more pregnancy test is NOT followed by an Accutane prescription or an x-ray, the member is not excluded. For example, if a woman receives two pregnancy tests during the first 358 days of the measurement year and each pregnancy test is followed by an Accutane prescription in the 0-7 days after the pregnancy test, the member is excluded. If a women receives three pregnancy tests during the first 358 days of the measurement year and only two of the tests are followed by an x-ray in the 0-7 days after each pregnancy test, the women is NOT excluded from the denominator because one of the pregnancy tests was not followed by an Accutane prescription or an x-ray.

| Numerator | Women who underwent screening for Chlamydia (i.e. Chlamydia trachomatis) |
Definition

tests, Chlamydia species test, Chlamydia trachomatis and neisseria gonorrhoeae tests) during the measurement year.

Physician Attribution

Score all physicians (in the selected specialties) who saw the member during the measurement year.

References


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**

Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

Yes → Strength of Recommendation not needed

No → Strength of Recommendation = C

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

Yes → Strength of Recommendation = B

No → Strength of Recommendation = A

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

Yes → Strength of Recommendation = A

No → Strength of Recommendation = C

Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: CHOLESTEROL MANAGEMENT FOR PATIENTS WITH CARDIOVASCULAR CONDITIONS

Disease State: Cardiovascular Conditions

Indicator Classification: 2° prevention

Strength of Recommendation: A

Organizations Providing Recommendation:
- American College of Cardiology
- American Heart Association
- National Cholesterol Education Program

Clinical Intent:
To ensure that members with cardiovascular conditions receive lipid level monitoring at a clinically appropriate frequency.

Physician Specialties:
Refer to 2010 Specialty Matrix

Background:
- Cardiovascular disease is the leading cause of death in the United States, and is the primary cause of death for persons age 65 and older.[1]
- 16 million adults in the United States have coronary heart disease (CHD)[1], which accounts for more than half of all cardiovascular events in men and women under the age of 75.[2]
- One of every five deaths in the United States in 2004 (approximately 450,000 deaths) was attributed to CHD.[1]
- Within 5 years of experiencing a first myocardial infarction (MI), 16% of men and 22% of women between 40 and 69 years of age will have a recurrent MI or fatal CHD event, and 33% of men and 43% of women will die.[1]

Reason for Indicated Intervention or Treatment:
- Increased blood cholesterol raises the risk for coronary heart disease. Lipid-lowering therapy can help decrease or reverse atherosclerotic lesion progression[3-6], decrease inflammation[7-11], and help with plaque stabilization, endothelial dysfunction reversal, and thrombogenicity reduction.[4, 12, 13]
Clinically, lipid-lowering drug treatment is associated with decreased mortality and a lower incidence of cardiovascular events.[14-33]

Evidence Supporting Intervention or Treatment:
- Several large randomized controlled trials have shown that simvastatin or pravastatin use in patients with a history of cardiovascular disease
reduces the risk of recurrent events and mortality whether the patients have elevated[15, 16], normal or slightly elevated[17-23] cholesterol levels.

- Large scale meta-analyses focusing on studies in which cholesterol medications were used have shown that when used as secondary prevention, lipid-lowering therapy is associated with a decreased risk of coronary events, CHD mortality and all-cause mortality.[24-31]
- No well designed trials have directly evaluated whether routine monitoring of lipid levels in patients with coronary artery disease is associated with better clinical outcomes.

Clinical Recommendations

- The Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III, or ATP III) recommends lipid monitoring for patients on stable treatment (i.e., at target LDL) every 4-6 months. ATP III recommends that patients with CHD achieve a target LDL cholesterol < 100 mg/dL.[34]
- The 2006 update to the AHA/ACC guidelines for secondary prevention for patients with coronary and other atherosclerotic vascular disease sets the following lipid goals for patients with CVD: LDL-C <100 mg/dL, and if triglycerides are ≥ 200 mg/dL, HDL-C should be less than 120 mg/dL.[35]

Source
Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

Denominator

<table>
<thead>
<tr>
<th>Denominator Definition</th>
<th>Continuously enrolled members 18-75 years of age who were discharged alive for an acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous transluminal coronary angioplasty (PTCA) during the first 10 months of the year prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and the year prior to the measurement year.</th>
</tr>
</thead>
</table>

| Denominator Index Date | N/A                                                                 |

Denominator Exclusion

<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
<th>Patients who were discharged as expired from the denominator qualifying AMI, CABG or PTCA.</th>
</tr>
</thead>
</table>

| Denominator Exclusion Claims Criteria | N/A                                                                 |

Numerator
**Numerator Definition**
Members who received a lipid panel or had LDL levels measured through direct means during the measurement year.

**Physician Attribution**

<table>
<thead>
<tr>
<th>Physician Attribution Description</th>
<th>If client data does not contain PCP:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Score all physicians (in the selected specialties) who saw the member during the measurement year.</td>
</tr>
</tbody>
</table>

**If client data does contain PCP:**
Score all primary care physicians who were assigned to the member during the measurement year.

**References**

10. Jialal, I., et al., *Effect of hydroxymethyl glutaryl coenzyme a reductase inhibitor therapy on high sensitive C-reactive protein levels*. Circulation,


26. Vrecer, M., et al., Use of statins in primary and secondary prevention of


1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation Based on a Body of Evidence**

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: CHRONIC KIDNEY DISEASE (CKD): MONITORING FOR ANEMIA

Disease State: Renal Disease

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation: National Kidney Foundation

Clinical Intent: To ensure that members with chronic kidney disease (CKD) who are not on dialysis receive a CBC or hematocrit test at least once annually.

Physician Specialties (suggested): Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- Approximately 26 million people in the US have chronic kidney disease (CKD).[1]
- Approximately 60-80% of renal failure patients have a normocytic, normochromic anemia.[2]

Reason for Indicated Intervention or Treatment

- Early treatment of anemia in chronic renal disease patients significantly slows the progression of renal disease and delays the initiation of dialysis.[3]
- Anemia correction can also improve cardiac function [4], physical activity [5] and quality of life [6], while substantially reducing the need for hospitalizations and blood transfusions.[6]
- Current guidelines recommend starting erythropoietin when hemoglobin levels drop below 10 g/dL in the United States [7, 8] and below 11 g/dL in Europe.[9]

Evidence supporting Intervention or Treatment

- Data from the Third National Health and Nutrition Examination Survey show that patients with chronic kidney disease not on dialysis have an increased prevalence of anemia as glomerular filtration rates decline below 60 mL/min/1.73m².[10, 11]
- In addition, the National Kidney Foundation reviewed 22 studies spanning almost 30 years that explored the relationship between hemoglobin and kidney function. The majority of the data was derived...
from cross-sectional studies or baseline data from clinical trials and was only of moderate or modest quality in terms of methodology. However, the studies were consistent in showing a trend toward lower hemoglobin levels at lower GFR levels.[12]

- There are no specific studies evaluating the relationship between frequency of hemoglobin testing and patient outcomes in those with chronic renal disease. However, it is clear that patients with Stage 3 disease and higher (GFR < 60 mL/min/1.73 m²) who are evaluated for anemia and started on erythropoietin as needed have improved health outcomes.[13-27]

**Clinical Recommendations**

- The National Kidney Foundation recommends checking hemoglobin levels in all individuals with chronic kidney disease, especially those with glomerular filtration rates < 60 mL/min/1.73 m² at least once annually.[12]

**Source**

Health Benchmarks, Inc.

The following items were adapted from other sources:

- Denominator definition of chronic renal disease.[28, 29]

---

**Denominator**

**Denominator Definition**
Continuously enrolled members who have at least 1 diagnosis of chronic kidney disease (CKD) in an inpatient setting during the year prior to the measurement year or members with at least 2 diagnoses of CKD in an outpatient setting during the 2 year period beginning 2 years prior to the start of the measurement year.

**Denominator Index Date**
First instance of members with at least 1 diagnosis of CKD (stage ≥ 3) on an inpatient encounter during the year prior to the measurement year or members with at least 2 diagnoses of CKD (stage ≥ 3) in face-to-face outpatient encounters during the 2 year period beginning 2 years prior to the beginning of the measurement year.

**Denominator Exclusion**

**Denominator Exclusion Definition**
Members on dialysis or in hospice care during the 0-365 days after the index date.

**Numerator**

**Numerator Definition**
Members who had at least 1 CBC or hemoglobin/hematocrit test 0-365 days after the index date.

---

**Physician Attribution**
References


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

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Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**

- Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label? 
  - Yes: Strength of Recommendation not needed
  - No: Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)
    - Yes: Strength of Recommendation = C
    - No: Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?
      - Yes: Is the recommendation based on one of the following?
        - Cochrane Review with a clear recommendation
        - USPSTF Grade A recommendation
        - Clinical Evidence rating of Beneficial
        - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
        - Validated clinical decision rule in a relevant population
        - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same
          - Yes: Strength of Recommendation = A
          - No: Strength of Recommendation = B
      - No: Strength of Recommendation = C

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: CHRONIC KIDNEY DISEASE: MONITORING CALCIUM AND PHOSPHORUS

Disease State: Chronic Kidney Disease

Indicator Classification: Disease management

Strength of Recommendation: B

Organizations Providing Recommendation: National Kidney Foundation

Clinical Intent: To ensure that members with chronic kidney disease, but who are not on dialysis, are monitored for blood calcium and phosphorus levels at least annually.

Physician Specialties (suggested): Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- Approximately 26 million people in the US have chronic kidney disease (CKD).[1]
- More than 6 million Americans have significant reductions in kidney function, nearly 400,000 of whom require dialysis.[2]
- An estimated 80,000 people are diagnosed annually with CKD.[2-4]

Reason for Indicated Intervention or Treatment

- Mineral metabolism changes begin early in CKD; there is a tendency to retain phosphorus and to have diminished renal hydroxylation of 25-hydroxyvitamine D to calcitriol (1, 25-dihydroxyvitamine D). This results in hyperphosphatemia, calcitriol deficiency, and ultimately hypocalcaemia.[5-7]
- In response to hypocalcaemia and hyperphosphatemia, the parathyroid gland appropriately increases secretion of parathyroid hormone (PTH) to augment the release of calcium phosphate from the bone and decrease the reabsorption of phosphorus within renal tubules.[5-7]
- However, secondary hyperparathyroidism may result if the deficiencies in calcitriol levels and phosphorus excretion are not corrected in patients with renal failure.[5-9]
- Secondary hyperparathyroidism causes increased bone turnover and renal osteodystrophy.[5-9]
- In addition, abnormal calcium and phosphorus metabolism which results from abnormal kidney filtration and hyperparathyroidism leads to elevated calcium phosphorus product, which is associated with increased
mortality in dialysis patients.[10]
- Elevated calcium phosphorus product increases the likelihood that calcium phosphate will precipitate in arteries, joints, soft tissues, and viscera.[11, 12]
- In dermal arterioles, this precipitation of calcium phosphate leads to tissue ischemia; in coronary arteries, it leads to increased incidence of coronary artery disease.[3, 11]
- These ailments have a substantial economic impact on hospitalizations and costs.[13-15]

Evidence supporting Intervention or Treatment
- The National Kidney foundation recommends that individuals with CKD be monitored regularly once their glomerular filtration rate (GFR) drops below 60mL/min/1.73m² or ≥ stage 3 kidney disease because monitoring may lead to timely implementation of appropriate treatments that may help patients avoid the severe consequences of calcium, phosphate, vitamin D, and parathyroid abnormalities in renal disease.[15]
- Hyperphosphatemia in renal disease can be treated via dietary restrictions, phosphate binders, and/or dialysis.[15]
- Hypocalcaemia in renal disease is treated by calcium supplementation.[15]

Clinical Recommendations
- The National Kidney Foundation recommends that patients with CKD initiate measurement of serum levels of calcium, phosphate, and parathyroid hormone once the glomerular filtration rate (GFR) drops below 60mL/min/1.73m². The frequency of testing should be based on the stage of CKD. See Table below.[15]

<table>
<thead>
<tr>
<th>CKD Stage</th>
<th>GFR Range (mL/min/1.73m²)</th>
<th>Measurement of PTH</th>
<th>Measurement of Calcium/Phosphorous</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>30-59</td>
<td>Every 12 months</td>
<td>Every 12 Months</td>
</tr>
<tr>
<td>4</td>
<td>15-29</td>
<td>Every 3 months</td>
<td>Every 3 months</td>
</tr>
<tr>
<td>5</td>
<td>&lt;15 or dialysis</td>
<td>Every 3 months</td>
<td>Every month</td>
</tr>
</tbody>
</table>

Source
Health Benchmarks, Inc.

Algorithm used to identify chronic renal disease: Kern et al., 2005; Winkelmayer et al., 2005[16, 17]

Denominator Definition
Members with chronic kidney disease without dialysis during the year prior to the measurement year.

Denominator Index Date
First instance of Members with at least 1 inpatient encounter with a chronic renal disease diagnosis (Stage ≥ 3) during the year prior to the measurement year or Members with at least 2 face-to-face outpatient encounters with chronic renal disease (stage ≥ 3) during the 2 year period starting 2 years prior to the beginning
of the measurement year

<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
<th>Members who are on dialysis or in hospice in the 0-365 day period after the index date.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator Definition</td>
<td>Members with calcium and phosphorus level blood tests during the 0-365 days after the index date.</td>
</tr>
<tr>
<td>Physician Attribution Description</td>
<td>Score all physicians (in the appropriate specialties) who saw the member during the 0-365 day period after the index date.</td>
</tr>
</tbody>
</table>

**References**


1 **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td>Effectiveness of Care</td>
<td></td>
</tr>
<tr>
<td>Prevention</td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td>Screening</td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td>Disease Management</td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
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<tr>
<td>Medication Monitoring</td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
</tr>
<tr>
<td>Medication Adherence</td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td>Utilization</td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

Yes

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

No

Strength of Recommendation not needed

Yes

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

No

Strength of Recommendation = C

Yes

Is the recommendation based on one of the following?

- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

No

Strength of Recommendation = B

Yes

Strength of Recommendation = A

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: COLORECTAL CANCER SCREENING

Disease State: Colorectal Cancer

Indicator Classification: Primary Prevention

Strength of Recommendation: A

Organizations Providing Recommendation:
- American Academy of Family Physicians
- American Cancer Society
- American College of Obstetricians and Gynecologists
- American College of Radiology
- American Gastroenterological Association
- US Preventive Services Task Force

Clinical Intent: To ensure that members 50–80 years of age received appropriate screening for colorectal cancer.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Colorectal cancer is the third most common cancer in the United States, accounting for 9% of all cancer deaths, and it is expected that approximately 50,000 people will die from colon cancer in 2008 in the U.S.[1]

Reason for Indicated Treatment or Intervention
- In 2004, the prevalence of colorectal cancer screening with endoscopy (flexible sigmoidoscopy or colonoscopy) among adults 50 years and older within the preceding 5 years was only 52.1%. The prevalence of having done an at-home fecal occult blood test within the preceding year was 19%.[2]
- A cost-effectiveness analysis of a birth cohort of 4 million estimated that 31,500 deaths could be prevented if colorectal cancer screening were offered to 100% of a target population of U.S. adults 50 years and older.[3]

Evidence Supporting Intervention or Treatment
- FOBT: In 2007, a Cochrane review of four randomized trials for adults 45-80 found a 16% risk reduction in colorectal cancer mortality for those who were screened with FOBT compared to those who were not.[4]
- Sigmoidoscopy: Two case control studies have demonstrated that screening with sigmoidoscopy is associated with approximately a 60 percent reduction in colorectal cancer mortality. More recently it has been shown that sigmoidoscopy has been shown to reduce incidence of colorectal cancer.
distal colorectal cancer compared to none (Odds Ratio = 0.24; 95% CI 0.17-0.33), and that these effects lasted up to 16 years.[5-8]

- **FOBT plus sigmoidoscopy:** In one nonrandomized, controlled study involving more than 12,000 patients screened with rigid sigmoidoscopy, the addition of FOBT detected more cancers on initial screening than sigmoidoscopy alone, however mortality after 9 years was not significantly lower (0.36 per 1,000 patient-years in patients receiving both tests versus 0.63 per 1,000 patient-years in controls; p = 0.11).[9] It is not known whether these results would be generalizable to flexible sigmoidoscopy.

- **Colonoscopy:** Colonoscopy screening can detect advanced polyps and cancers that would otherwise be missed by sigmoidoscopy and/or FOBT. Although it is generally accepted that colonoscopies reduce mortality, the evidence is still indirect.[8, 10]

- **Double contrast barium enema (DCBE):** There is no direct evidence that screening with DCBE decreases mortality. However, studies have shown that DCBE detects polyps or cancer with 70% sensitivity and 90% specificity. A review found that DCBE screening strategy was as cost-effective as other colorectal cancer screening strategies.[11]

- **Digital Rectal Exam:** There is little evidence to determine the effectiveness of either DRE or a single office FOBT using a stool sample obtained on DRE.

- There is insufficient evidence to conclude which of the various methods of screening (FOBT, sigmoidoscopy, FOBT plus sigmoidoscopy, colonoscopy, or double contrast barium enema) is best in terms of the balance of benefits and potential harms or cost-effectiveness.[12]

---

**Clinical Recommendations**

- The United States Preventive Services Task Force (USPSTF) recommends initiating screening at 50 years of age for men and women at average risk for colorectal cancer. In persons at higher risk (for example, those with a first-degree relative who received a diagnosis with colorectal cancer before 60 years of age), initiating screening at an earlier age is considered reasonable and appropriate.[12]

- The American Cancer Society and American College of Radiology recommend screening men and women at average risk for colorectal cancer beginning at 50 years of age by:[13]
  - FOBT‡ or Fecal Immunochemical test (FIT) annually; OR
  - Flexible sigmoidoscopy‡ every 5 years; OR
  - Annual FOBT plus flexible sigmoidoscopy every 5 years; OR
  - Double-contrast barium enema every 5 years; OR
  - Colonoscopy every 10 years; OR
  - CT colonography every 10 years

‡FOBT as it is sometimes done in physicians’ offices, with the single stool sample collected on a fingertip during a digital rectal examination, is not an adequate substitute for the recommended at-home procedure of collecting two samples from three consecutive specimens. Toilet-bowl FOBT tests also are not
recommended. In comparison with guaiac-based tests for the detection of occult blood, immunochemical tests are more patient-friendly, and are likely to be equal or better in sensitivity and specificity. There is no justification for repeating FOBT in response to an initial positive finding.

Flexible sigmoidoscopy together with FOBT is preferred compared with FOBT or flexible sigmoidoscopy alone.

Source
Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement:

- HMSA added HMSA service codes Z5032 and Z5033 to numerator criterion [members who received a sigmoidoscopy during the measurement year or the 4 years prior (5 years total)]
- HMSA added data step numerator criterion [members who are listed in the HMSA supplemental file]
- HMSA added the external file ‘HMSA supplemental file’ to the numerator external files required for analysis

Denominator

<table>
<thead>
<tr>
<th>Denominator Definition</th>
<th>Continuously enrolled members ages 51-80 years by the end of the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>N/A</td>
</tr>
<tr>
<td>Denominator Encounters/Claims Criteria</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Denominator Exclusion

<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
<th>Members with a diagnosis of colorectal cancer or who received a total colectomy any time prior to the end of the measurement year.</th>
</tr>
</thead>
</table>

Numerator

<table>
<thead>
<tr>
<th>Numerator Definition</th>
<th>Members who received at least 1 of the following screening tests for colorectal cancer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

- At least 1 FOBT during the measurement year
- At least 1 double contrast barium enema (DCBE) during the measurement year or the 4* years prior to the measurement year
- At least 1 flexible sigmoidoscopy during the measurement year or the 4* years prior to the measurement year
- At least 1 colonoscopy during the measurement year or the 9* years
prior to the measurement year

*Use maximum time allowed by data.

| Physician Attribution | Score all physicians (in the selected specialties) who saw the member during the measurement year. |

References

1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

### Diagnosis
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

### Effectiveness of Care

#### Prevention
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

#### Screening
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

#### Disease Management
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

#### Medication Monitoring
Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

#### Medication Adherence
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

### Utilization
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: COMPLETE BLOOD COUNT (CBC) MONITORING FOR PATIENTS ON CARBAMAZEPINE

Disease State: N/A

Indicator Classification: Medication Monitoring

Strength of Recommendation: C

Organizations Providing Recommendation: Food and Drug Administration

Clinical Intent: To ensure that eligible members on carbamazepine receive a complete blood count in order to monitor therapy.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Carbamazepine is commonly used to treat seizure and mood disorders.[1, 2]
- Epilepsy and seizures affect 2.7 million Americans of all ages, at an estimated annual direct and indirect cost of $12.5 billion. Approximately 200,000 new cases of seizures and epilepsy occur each year. [3, 4]

Reason for Indicated Intervention or Treatment
- Carbamazepine use can lead to hematological toxicity, such as rare aplastic anemia, persistent leukopenia, and isolated thrombocytopenia.[5-15] The collective incidence of thrombocytopenia, agranulocytosis and aplastic anemia in those using the drug is between 1 and 2 percent.[16]

Evidence Supporting Intervention or Treatment
- A retrospective case-control study conducted using data from the U.K. found that carbamazepine use was associated with a nine-fold increased risk of aplastic anemia.[15]
- Clinical trials have shown that approximately 10% of patients taking carbamazepine develop transient leukopenia, usually during the first month of treatment. However, leukopenia typically resolves despite continuation of the medication.[6, 10, 12]
- Case reports and clinical trials show that up to 8% of patients taking carbamazepine develop persistent leukopenia. This is usually evident during the first few weeks of therapy, and responds to discontinuation of
the medication.[8, 9, 13]

- A case report on four patients developing thrombocytopenia while taking carbamazepine found that all cases appeared 14 to 16 days after the medication was initiated, and all resolved within 7 days after discontinuation.[14]

Clinical Recommendations

- The FDA black box warning for Carbamazepine indicates that patients taking this medication have a risk that is 5-8 times greater than the general population for developing aplastic anemia and agranulocytosis. Therefore, they recommend performing baseline hematological studies.[18]

Source

Health Benchmarks, Inc.

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Continuously enrolled members, who had at least a 180 day supply of carbamazepine during the year prior to the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Definition</td>
<td>Continuously enrolled members, who had at least a 180 day supply of carbamazepine during the year prior to the measurement year.</td>
</tr>
<tr>
<td>Denominator Index Date</td>
<td>First instance of Members who received at least a 180 day supply of carbamazepine during the year prior to the measurement year.</td>
</tr>
<tr>
<td>Denominator Encounters/Claims Criteria</td>
<td>N/A</td>
</tr>
<tr>
<td>Denominator Exclusion</td>
<td>N/A</td>
</tr>
<tr>
<td>Denominator Exclusion Claims Criteria</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Numerator

- Members who have had appropriate monitoring lab work (i.e., general health panel or CBC) completed during the 0-365 days after the index date.

Physician Attribution

- If client data contains prescribing provider:
  - Score the physician (in the selected specialties) who prescribed index date prescription.

- If client data does not contain prescribing provider:
  - Score all physicians (in the selected specialties) who saw the member 0-7 days prior to the index date prescription (inclusive of the index date).
References

1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
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<tr>
<td><strong>Medication Adherence</strong></td>
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</tr>
<tr>
<td><strong>Utilization</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
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</tbody>
</table>
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: DIABETIC RETINAL EXAM

Disease State: Diabetes, Retinopathy

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Ophthalmology
- American College of Endocrinology/American Association of Clinical Endocrinologists
- American Diabetes Association

Clinical Intent: To ensure that all diabetic members ages 18-75 receive at least 1 retinal or dilated eye exam during the measurement year.

Physician Specialties (suggested): Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Diabetes is a chronic, serious disease that affects approximately 14.7 million Americans and is the leading cause of new cases of blindness among adults aged 20-74.[1]
- After living with diabetes for 20 years, almost all patients with type 1 diabetes and 50 to 80 percent of those with type 2 diabetes will manifest signs of retinopathy.[2]
- The incidence of blindness is 25 times higher in patients with diabetes than in the general population. Furthermore, diabetic retinopathy is the most common cause of blindness in middle-aged subjects, accounting for at least 12 percent of all new cases in the United States each year.[3]

Reason for Indicated Intervention or Treatment
- Screening and early treatment for diabetic retinopathy is associated with a decreased rate of visual loss.[4-6]
- Current treatments for diabetic retinopathy may be 90% effective in preventing blindness.[7]

Evidence Supporting Intervention or Treatment
- In their cost-effectiveness analyses, Javitt and colleagues have reported that in patients with type 1 diabetes, annual screening (ophthalmoscopy with dilated pupils) for those without retinopathy and screening every six months for those with retinopathy followed by guideline concordant treatment would result in a saving of 70,000 to 80,000 person-years of
sight and 60 to 80 million dollars annually in the United States.[8] In patients with type 2 diabetes, the same screening program and treatment would result in saving over 94,000 person-years of sight and over 250 million dollars per year.[9]

- Appropriate screening and early detection of retinopathy preserves vision.[5, 10-12]
- At least three randomized controlled trials have reported that photocoagulation for diabetic retinopathy preserves vision.[13-15]

### Clinical Recommendations

- The American Diabetes Association recommends:
  - Patients with type 1 diabetes should have a complete examination by an ophthalmologist or optometrist within three to five years after the onset of diabetes. Subsequent examinations should be repeated annually. Less frequent exams (every 2 to 3 years) may be considered if the screening is normal. More frequent exams may be indicated for patients with evidence of retinopathy.[16]
  - Patients with type 2 diabetes should have a complete examination by an ophthalmologist or optometrist beginning at the time of diagnosis. Subsequent examinations should be repeated annually. Less frequent exams (every 2 to 3 years) may be considered if the screening is normal. More frequent exams may be indicated for patients with evidence of retinopathy.[16]
- The American Academy of Ophthalmology recommends:
  - Patients with type 1 diabetes should have a dilated eye exam 5 years after the onset of diabetes. Patients with type 2 diabetes should have a dilated eye exam at onset of their diagnosis. A follow-up dilated eye exam is recommended yearly for both groups. Patients with abnormal findings on eye exam may need more frequent follow-ups.[7]
- The American College of Endocrinology/American Association of Clinical Endocrinologists recommends that patients with type-1 diabetes should have a dilated retinal exam within 5 years of diagnosis, and that patients with type-2 diabetes should have exams at the time of diagnosis, and that examinations should occur yearly thereafter.

### Source

Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2008 Technical Specification:

- HBI is unable to include evidence of negative retinal exam in the year prior to measurement year as this is ascertained with result data that are not generally available via administrative claims

### Denominator

**Denominator Definition**

Continuously enrolled members ages 18-75 years by the end of the measurement year who were identified as having diabetes during the measurement year or year prior.
Denominator | N/A
---|---

Denominator Exclusion

Denominator Exclusion Definition: Members in the denominator with a diagnosis of polycystic ovaries at any time prior to the end of the measurement year who did NOT have a face-to-face encounter with a diagnosis of diabetes in any setting during the measurement year or year prior, or members diagnosed with gestational diabetes or steroid-induced diabetes during the measurement year or year prior who did NOT have a face-to-face encounter with a diagnosis of diabetes in any setting during the measurement year or year prior.

*Note: The denominators for all adult diabetes care measures must be the same (NCQA)*

Numerator

Numerator Definition: Members who received at least 1 screening exam for diabetic retinal disease by an eye-care professional or who had at least 1 office visit with an ophthalmologist or optometrist during the measurement year.*

*Eye exams provided by eye care professionals are a proxy for dilated eye examinations because there is no administrative way to determine that a dilated exam was performed. (HEDIS 2009)*

Physician Attribution

If client data does not contain PCP:

Score all physicians (in the selected specialties) who saw the member during the measurement year.

If client data contains PCP:

Score all primary care physicians who were assigned to the member during the measurement year.

References


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**

Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: DIAGNOSTIC WORKUP OF CHRONIC PROSTATITIS

Disease State: Prostatitis

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation:
- International Consensus Conference on Advances in the Diagnosis and Treatment of Prostatitis
- International Prostatitis Collaborative Network
- NIH Chronic Prostatitis Collaborative Research Network

Clinical Intent: To ensure that all members suspected of having chronic prostatitis receive microscopic urinalysis, urine culture, or evidence of evaluation of prostate specific specimens as part of the initial evaluation for this condition.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- The prevalence of medically diagnosed prostatitis is estimated to be about 9% of the population, while the overall lifetime prevalence is estimated to be 14%. Of these cases, 90% are due to nonbacterial prostatitis and prostatodynia, more generally known as chronic prostatitis.[1, 2]
- Every year, there are almost 2 million physician visits related to prostatitis diagnosis and follow-up. Further, it costs $84 million annually for treatment.[2-4]
- Patients diagnosed with chronic prostatitis also have lower quality-of-life scores.[5]

Reason for Indicated Intervention or Treatment

- There are several types of prostatitis - acute bacterial prostatitis, chronic bacterial prostatitis, chronic pelvic pain syndrome (CPPS), and asymptomatic inflammatory prostatitis. In terms of treatment however, there has historically been inappropriate treatment applied to CP/CPPS with the frequent use of antibiotics and anti-inflammatory drugs.[6]
- Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is diagnosed by observing multiple symptoms and excluding risk factors and other conditions that may also cause the same symptoms.[7]
- There is no “gold standard” for the evaluation of CP/CPPS in men, with physician judgment based on different methods of examination. Mandatory examinations include history and physical examination, urinalysis and urine culture. Other important recommended
examinations include urinary tract localization tests, symptom index, flow rate, residual urine determination, and urine cytology. Elective techniques include semen analysis and culture, urethral swab, urodynamics, cystoscopy, imaging, and prostate specific antigen determination.[8-10]

Evidence Supporting Intervention or Treatment
- A large cohort study of 488 men in the National Institutes of Health Chronic Prostatitis Cohort study found that leukocyte and bacterial counts of the lower urinary tract do not correlate well with duration, frequency, or severity of symptoms.[11]
- A case control study of 463 men enrolled in the National Institutes of Health Chronic Prostatitis Cohort study showed that men with CP/CPPS had significantly higher leukocyte counts in all segmented urine samples and expressed prostate secretions, but not in semen, as compared to controls. However, since the control population also had a high prevalence of leukocytes, the differences were clinically insignificant. There was no difference in rates of localization of bacterial cultures. This raises questions about the usefulness of the standard 4-glass test as a diagnostic tool, especially as it pertains to differentiating between men with and without chronic prostatitis.[7, 12]
- Another prospective study of 143 patients diagnosed with chronic prostatitis showed that the 2-glass and 4-glass tests gave very similar results.[13]
- In 2006, a systematic review of 12 RCTs showed that current treatment regimens of antibiotics and alpha blockers do not result in significant clinical benefit to patients with CP/CPPS.[14] It is therefore important that patients diagnosed with CP/CPPS receive follow-up to ensure that they receive the appropriate therapy.

Clinical Recommendations
- The 2000 Washington meeting of the International Prostatitis Collaborative Network and a consensus symposium of the NIH Chronic Prostatitis Collaborative Research Network held in Chantilly, Virginia in 2002 developed guidelines for evaluating patients with chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS).[15, 16]
  - Mandatory investigations for patients presenting with CP/CPPS include history and physical examination, including digital rectal exam (DRE), urinalysis and urine culture.
  - Recommended evaluations include some form of lower urinary tract localization study (such as the traditional Meares-Stamey 4-glass test or the pre- and post-massage 2-glass test), a flow rate, residual urine volume determination, and urine cytology.
  - Optional evaluations include semen analysis and culture, urethral swab, pressure-flow studies, cystoscopy, transrectal ultrasound of the prostate, and pelvic imaging studies.
- The International Consensus Conference on Advances in the Diagnosis
and Treatment of Prostatitis in Giessen, Germany in 2002 came to the consensus that the diagnosis of CP/CPPS was one of exclusion.[17]

- Basic evaluations for patients presenting with CP/CPPS include history and physical examination, including DRE, along with urinalysis and midstream urine culture.
- Further evaluations include lower urinary tract localization tests (microscopic and culture), flow rate, and residual urine determination.
- Selected patients should get other laboratory evaluations such as urine cytology, urethral evaluation, semen analysis and culture, and prostate-specific antigen.

Source
Health Benchmarks, Inc.

Denominator

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Continuously enrolled males diagnosed with chronic prostatitis in a face-to-face encounter in any outpatient setting during the 1 year period starting 2 months prior to the beginning of the measurement year.</th>
</tr>
</thead>
</table>

Denominator Index Date
First instance of Chronic prostatitis in a face-to-face encounter in any outpatient setting during the 1 year period starting 2 months prior to the beginning of the measurement year.

Denominator Exclusion

<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
<th>Members who were diagnosed with chronic prostatitis during the 1 year prior to the index date (excluding the index date).</th>
</tr>
</thead>
</table>

Numerator

<table>
<thead>
<tr>
<th>Numerator Definition</th>
<th>Members who had either a urinalysis and urine culture or evidence of evaluation of prostate specific specimens from 1 month prior to the index date through 2 months after the index date.</th>
</tr>
</thead>
</table>

Physician Attribution

<table>
<thead>
<tr>
<th>Physician Attribution Description</th>
<th>Score all physicians (in the selected specialties) who saw the member from 1 month prior to the index date through 2 months after the index date.</th>
</tr>
</thead>
</table>

References
**1 Indicator Classification** (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td></td>
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<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
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<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
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<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)</td>
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</tr>
</tbody>
</table>
Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

Yes → Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

No → Strength of Recommendation not needed

Yes → Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

No → Strength of Recommendation = C

Yes → Is the recommendation based on one of the following?

- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

No → Strength of Recommendation = B

Yes → Strength of Recommendation = A

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: DISEASE MODIFYING ANTI-RHEUMATIC DRUG THERAPY IN RHEUMATOID ARTHRITIS

Disease State: Rheumatoid Arthritis

Indicator Classification: Disease Management

Strength of Recommendation: A

Organizations Providing Recommendation: American College of Rheumatology

Clinical Intent: To ensure that all members with rheumatoid arthritis have had at least one ambulatory prescription dispensed for a disease modifying anti-rheumatic drug (DMARD).

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- RA is two to three times more common in women than in men.
- An estimated 1.3 million adults are affected by rheumatoid arthritis.[1]
- Arthritis is the leading cause of disability among adults.[2]
- Over the next 25 years, the number of people affected and the social impact of doctor-diagnosed arthritis are projected to increase by 40% in the US.[3]

Reason for Indicated Intervention or Treatment
- Patients with early rheumatoid arthritis can experience rapid joint destruction from synovitis early in the course of the disease, with 70% showing evidence of radiographic joint changes within first 2 years of diagnosis.[4]
- Randomized control trials and cohort studies show that early intervention with DMARDs even before the onset of symptoms can be beneficial to slow disease progression. [5-9]

Evidence supporting Intervention or Treatment
- A randomized controlled trial comparing early vs. delayed treatment with disease modifying anti-rheumatic drugs found that patients with early rheumatoid arthritis had significant less functional disability, pain, ESR, and increased joint mobility than compared to patients who received delayed treatment.[5] This finding was supported by a more recent comparison study, which showed that patients with early
rheumatoid arthritis who received DMARDs early on in the course of their disease had significant benefits even after two years of follow up.[6]

- Choy et al. also found that treating rheumatoid arthritis early with DMARDs reduces joint damage in a double blind randomized controlled trial.[7]

**Clinical Recommendations**

- In 2002, American College of Rheumatology guidelines recommended that the majority of patients with Rheumatoid arthritis should be started on DMARDs within 3 months of diagnosis.[8]

- In 2006, the American College of Rheumatology starter index of quality measures states that, “IF a patient has an established diagnosis of rheumatoid arthritis, THEN the patient should be treated with a DMARD unless contraindication to DMARD, inactive disease or patient refusal is documented.” [9]

**Source**

Health Plan Employer Data and Information Set (HEDIS®) 2009 Technical Specification

**Denominator**

| Denominator Definition | Continuously enrolled members ages 18 years or older by the end of the measurement year with a diagnosis of rheumatoid arthritis and two face-to-face encounters in an outpatient/nonacute inpatient setting within the first eleven months of the measurement year. |

| Denominator Exclusion Definition | Members with evidence of pregnancy during the measurement year or members with a diagnosis of HIV anytime in the available history. |

**Numerator**

| Numerator Definition | Members with at least 1 ambulatory prescription for a disease modifying anti-rheumatic drug (DMARD) during the measurement year. |

**Physician Attribution**

| Physician Attribution Description | Score all physicians (in the applicable specialties) who saw the member during the measurement year. |
References

1 Indicator Classification (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

**Diagnosis** Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention** Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening** Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management** Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring** Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence** Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).

**Utilization** Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: FAMILY THERAPY OR FAMILY-BASED INTERVENTION FOR CHILDREN AND ADOLESCENTS WHO SUFFER FROM PSYCHIATRIC DISORDERS

Disease State: Psychiatry

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation: American Academy of Child and Adolescent Psychiatry

Clinical Intent: To ensure that eligible children and adolescents newly diagnosed with substance abuse, conduct disorder, mood disorder, anxiety disorder, or a psychosomatic disorder receive family therapy services within a clinically appropriate timeframe.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background Disease Burden:
- According to a World Health Organization (WHO) report on mental health, the prevalence of childhood and adolescent mental health disorders range from 12 to 22% worldwide.[1]

Reason for Indicated Intervention or Treatment:
- Children and adolescents who suffer from certain psychological and psychiatric disorders may achieve better clinical outcomes when family therapy is part of their therapeutic regime.[2-15]

Evidence Supporting Intervention or Treatment:
- A meta-analysis of 1571 adult and child drug abusers involving approximately 3500 patients and family members showed that family therapy was favored over individual counseling or therapy, peer group therapy, and family psycho-education, and was effective as a stand-alone treatment modality.[3] A smaller study supports the feasibility of this type of intervention.[16]
- A meta-analysis of 8 randomized controlled trials involving 749 children and adolescents with conduct disorder and / or delinquency showed that family and parenting interventions significantly reduced the amount of time spent by juvenile delinquents in institutions (weighted mean difference 51.34 days) and significantly decreased the risk of re-arrests (relative risk 0.66).[2]
- The evidence for doing family therapy for patients with major...
depression is not as clear. Although a randomized controlled trial of 107 patients with major depression demonstrated that systemic behavioral family therapy resulted in reductions in suicidality and functional impairment that were equal to that of cognitive behavior therapy and individual non-directive supportive therapy, cognitive behavior therapy led to higher rates of remission than family therapy alone.[5]

- A randomized controlled trial of 79 children aged 7 to 14 suffering from childhood anxiety revealed that when cognitive-behavioral therapy (CBT) was coupled with family management, 95.6% of children no longer had anxiety at 12 months compared to 70.3% undergoing only CBT.[4] A pilot study comparing CBT to attachment-based family therapy showed no significant differences and suggested that both CBT and attachment-based family therapy are promising treatments for anxious adolescents.[13]

- A randomized controlled trial of 124 runaway youth reported that ecologically-based family therapy resulted in greater reductions in overall substance abuse compared with service as usual.[17]

- A study of 48 participants (8-19 years old) suggested that cognitive-based family therapy (either individual or group) was successful in providing either complete remission or markedly reduced symptoms for children with obsessive compulsive disorder at 18 months post-treatment (79.1% either maintained treatment gains or improved further).[11]

- In an intent-to-treat study involving early intervention strategies with 86 patients and their families, significant intra-individual addiction status improvement was seen in 73% of participants and both drug-dependent children and their mothers improved with regard to other goal criteria.[9]

- Systematic reviews of the literature for common childhood psychosomatic complaints such as bladder and bowel control problems and recurrent abdominal pain have demonstrated that children benefit most from family-based psychosocial interventions for enuresis[6], combined family-based behavioral therapy, laxative use, and increased dietary fiber for encopresis [7], and behavioral family therapy for recurrent abdominal pain.[8]

Clinical Recommendations

- In its practice guidelines, the American Academy of Child and Adolescent Psychiatry (AACAP) recommends family therapy or family-based interventions as part of the treatment program for substance use, conduct, attention deficit and hyperactivity disorder (ADHD), bipolar, depressive, anxiety, and obsessive compulsive disorders.[18-24]

- For enuresis, the AACAP recommends psychotherapy only when a specific psychological issue is associated with the symptom onset or when a struggle between parent and child is maintaining the symptom.[21]

- There are no specific AACAP guidelines about the role of family therapy in the treatment of other psychosomatic complaints.
**Source**  
Health Benchmarks, Inc.

*Note: This measure was officially dropped in program year 2007.*

<table>
<thead>
<tr>
<th><strong>Denominator</strong></th>
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<tbody>
<tr>
<td><strong>Denominator Definition</strong></td>
<td>Continuously enrolled members ages 17 years or younger by the end of the measurement year who had a diagnosis of substance abuse, conduct disorder, mood disorder, anxiety disorder, or a psychosomatic disorder and who had at least 2 visits with a psychiatrist/psychologist/child psychiatrist during the first 10 months of the measurement year.</td>
</tr>
<tr>
<td><strong>Denominator Index Date</strong></td>
<td>First instance of Members who had a diagnosis of substance abuse, conduct disorder, mood disorder, anxiety disorder, or a psychosomatic disorder during the first 10 months of the measurement year.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th><strong>Denominator Exclusion</strong></th>
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<tbody>
<tr>
<td><strong>Denominator Exclusion Definition</strong></td>
<td>Members who had a diagnosis of substance abuse, conduct disorder, mood disorder, anxiety disorder, or a psychosomatic disorder during the 0-12 months prior to the index date.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th><strong>Numerator</strong></th>
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<tbody>
<tr>
<td><strong>Numerator Definition</strong></td>
<td>Members with at least 1 encounter for family therapy 0-2 months after the index date.</td>
</tr>
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<thead>
<tr>
<th><strong>Physician Attribution</strong></th>
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<tbody>
<tr>
<td><strong>Physician Attribution Description</strong></td>
<td>Score all physicians (in the selected specialties) who saw the member 0-2 months after the index date.</td>
</tr>
</tbody>
</table>

**References**

5. Brent, D.A., et al., A clinical psychotherapy trial for adolescent


1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
**Measure Title**: FOLLOW-UP CARE FOR CHILDREN PRESCRIBED ADHD MEDICATION THERAPY: INITIATION PHASE

**Disease State**: Attention Deficit Hyperactivity Disorder

**Indicator Classification**: Disease Management

**Strength of Recommendation**: B

**Organizations Providing Recommendation**:
- American Academy of Pediatrics
- American Society of Child and Adolescent Psychiatry

**Clinical Intent**: To ensure that children who are initiated on medication for ADHD receive monitoring at a clinic.

**Physician Specialties**: Refer to PQSR 2010 Specialty Matrix

**Background**

**Disease Burden**
- ADHD is one of the most common disorders of childhood with an estimated prevalence of 7.8% (4.4 million, 95%CI 4.2-4.6 million) in school-aged children between 4 to 17 years of age, and 4.3% of children had ADHD and were on medication.[1]
- According to data from the National Survey of Children's Health, the prevalence of ADHD increases with increasing age (4.1 percent versus 9.7 percent among those <9 years and 9 years, respectively). Among those with reported AD/HD, 56 percent were being treated with medication at the time of the survey.[2]

**Reason for Indicated Intervention or Treatment**
- Regular monitoring of children who are receiving pharmacological treatment for ADHD is necessary to review progress, adjust the dose if necessary, monitor adverse effects of therapy and review the child's understanding of the medication as he or she develops.[3]

**Evidence Supporting Intervention or Treatment**
- Some side effects of stimulant medication include appetite disturbances, sleep disturbances, weight loss, increased heart rate and blood pressure, headache, social withdrawal, nervousness, and irritability.[4, 5] Other more serious side effects may include liver toxicity and sudden unexpected death.[6, 7]
- A 2004 survey of physicians evaluating adherence to the AAP Guidelines
found that only half (53%) reported routine monitoring and follow-up (3-4 visits per year) of children with ADHD and taking medication after a month into treatment.[8]

Clinical Recommendations

- The American Academy of Pediatrics strongly recommends periodically providing systematic follow-up in children with ADHD.[9]
- The 2007 American Academy of Child and Adolescent Psychiatry Practice Parameters for the Assessment and Treatment of Children and Adolescents with ADHD recommends follow-up and periodic monitoring of patients placed on psychopharmalogical therapy to ensure proper dosage, assess side-effects, and resolution of symptoms at least several times a year. In addition, for patients newly started on medication for ADHD “the physician may titrate upward every 1 to 3 weeks until the maximum dose for the stimulant is reached, symptoms of ADHD remit, or side effects prevent further titration, whichever occurs first. Contact with physician or trained office staff during titrations is recommended.”[4]

Source

Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

Denominator

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Definition</td>
<td>Continuously enrolled members aged 6-12 who were prescribed ADHD medication during the 1 year period starting 10 months prior to the start of the measurement year.</td>
</tr>
<tr>
<td>Denominator Index Date</td>
<td>First instance of members who had a prescription for an ADHD medication during the 1 year period starting 10 months prior to the start of the measurement year.</td>
</tr>
<tr>
<td>Denominator</td>
<td>N/A</td>
</tr>
<tr>
<td>Encounters/Claims Criteria</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Denominator Exclusion

| Denominator Exclusion Definition | Members who were prescribed ADHD medication in the 1-120 days prior to the index date (exclusive of the index date), members who had an acute mental health or substance abuse inpatient stay in the 1-30 days after the index date (exclusive of the index date), or members diagnosed with narcolepsy any time in history. |

Numerator

| Numerator Definition | Members with at least 1 follow up visit with a prescribing practitioner* during the 1-30 days after the index date (exclusive of the index date). |

*A practitioner with any prescribing privileges, including nurse practitioners, physician assistants and other non-MDs who have the authority to prescribe
medications.

**Physician Attribution**

**Physician Attribution Description**

If client data contains prescribing provider:

Score the physician (in the selected specialties) who prescribed the ADHD medication on the index date.

If client data does not contain prescribing provider:

Score all physicians (in the selected specialties) who saw the member 3 days prior through 30 days after the index date (inclusive of the index date).

**References**


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td>Effectiveness of Care Prevention</td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td>Screening</td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td>Disease Management</td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td>Medication Monitoring</td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
</tr>
<tr>
<td>Medication Adherence</td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td>Utilization</td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: FOLLOW-UP FOR DIABETIC RETINOPATHY

Disease State: Diabetic Retinopathy

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Ophthalmology
- American Diabetes Association

Clinical Intent: To ensure that members diagnosed with diabetic retinopathy receive follow up visits with an eye care professional at least annually.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Disease Burden:
- After living with diabetes for 20 years, almost all patients with type 1 diabetes and 50 to 80 percent of those with type 2 diabetes will manifest signs of retinopathy.[1]
- Retinopathy is a major cause of morbidity in patients with diabetes. The incidence of blindness, for example, is 25 times higher in patients with diabetes than in the general population. Furthermore, diabetic retinopathy is the most common cause of blindness in middle-aged subjects, accounting for at least 12 percent of all new cases in the United States each year.[2]

Reason for Indicated Intervention or Treatment:
- Evidence supports that screening and early treatment for diabetic retinopathy is associated with a decreased rate of visual loss.[3-5]
- Although effective treatment is available, many patients are not referred for ophthalmologic care.[6] In a community based intervention trial, more than a third of patients did not receive recommended care.[7]

Evidence Supporting Intervention or Treatment:
- In their cost-effectiveness analyses, Javitt and colleagues have reported that in patients with type 1 diabetes, annual screening (ophthalmoscopy with dilated pupils) for those without retinopathy and screening every six months for those with retinopathy followed by guideline concordant treatment would result in a saving of 70,000 to 80,000 person-years of sight and 60 to 80 million dollars annually in the United States.[8]
patients with type 2 diabetes, the same screening program and treatment would result in saving over 94,000 person-years of sight and over 250 million dollars per year.[9]

- A review of several case series found that appropriate screening and early detection of retinopathy preserves vision.[3]
- At least three randomized controlled trials have reported that photocoagulation for diabetic retinopathy preserves vision.[10-12]

**Clinical Recommendations**

- The American Diabetes Association recommends:[13]
  - Patients with type 1 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist within 5 years after the onset of diabetes. (Level of Evidence: B)
  - Patients with type 2 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist shortly after a diabetes diagnosis. (Level of Evidence: B)
  - Subsequent examinations for both type 1 and type 2 diabetic patients should be repeated annually by an ophthalmologist or optometrist who is knowledgeable and experienced in diagnosing the presence of diabetic retinopathy and is aware of its management. Examinations should occur more frequently if retinopathy is progressing. (Level of Evidence: B).

- The American Academy of Ophthalmology Retina Panel recommends:[14]
  - First examination of Type 1 diabetes patients 5 years after diagnosis, and yearly thereafter (evidence level A:II)
  - First examination of Type 2 diabetes patients at time of diagnosis and yearly thereafter (evidence level A:II).

**Source**

Health Benchmarks, Inc.

**Denominator**

**Definition**

Continuously enrolled members ages 19-75 years by the end of the measurement year who were diagnosed with diabetic retinopathy by an ophthalmologist or optometrist during the year prior to the measurement year.

**Denominator Index Date**

First instance of Members who were diagnosed with diabetic retinopathy by an ophthalmologist or optometrist during the year prior to the measurement year or Members who were diagnosed with diabetic retinopathy by an ophthalmologist or optometrist during the year prior to the measurement year.

**Denominator Exclusion**

**Definition**

N/A
Denominator
Exclusion Claims
Criteria

Numerator
Numerator Definition
Members who had at least 1 follow-up visit for diabetic retinopathy, evidence of treatment for diabetic retinal detachment (including either retinal or dilated eye exam), or proliferative diabetic retinopathy conducted by an optometrist or ophthalmologist 0-15 months after the index date.

Physician Attribution
Physician Attribution Description
Score the physician (in the selected specialties) who diagnosed the member with diabetic retinopathy 0-15 months after the index date.

References
12. *Photocoagulation for diabetic macular edema. Early Treatment Diabetic


1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**

Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Health Benchmarks®
Clinical Quality Indicator Specification 2009

Client: HMSA: PQSR 2010

Measure Title: FOLLOW-UP AFTER HOSPITALIZATION FOR MENTAL ILLNESS

Disease State: Mental Illness

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Psychiatric Association
- Institute for Clinical Systems Improvement

Clinical Intent: To ensure that all eligible members who were hospitalized for mental illness receive the appropriate follow up in an outpatient setting.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- It is estimated that almost 26.2% of Americans suffer from a mental health disorder.[Kessler, 2005 #2500]
- Mental Health illnesses occurs about 58 million Americans who are 18 and older if based on estimates from the 2004 US Census population.[, 2005 #2501]
- Relapse in patients with mental illness is a significant problem.[5]

Reason for Indicated Intervention or Treatment
- Among patients recently hospitalized for major affective disorders, adequate management of early post-discharge reactions has been demonstrated to be an effective intervention in preventing early rehospitalization.[6]
- Appropriate follow-up care helps reduce the risk of repeat hospitalization for some people, and identifies those in need of further hospitalization before they reach a crisis point.[7]

Evidence Supporting Intervention or Treatment
- In a study of 580 discharged patients treated for psychiatric disorders, those who had a follow-up visit within 30 days of discharge were less likely to be readmitted within 6 months.[8]
- A retrospective cohort of 3,755 adults discharged for mental illness showed that patients' utilization of any psychotherapy, medication management, or diagnostic evaluation services, relative to no utilization, was associated with significantly lower 30-day readmission rates, and longer times in remission.[9]
Clinical Recommendations

- No specific guidelines from the American Psychiatric Association addressed an appropriate follow-up interval after mental health related hospitalization.[2]
- The American Psychiatric Association states that for schizophrenic patients that it is essential that there are no gaps in service delivery after hospitalization for an acute episode, as patients are especially vulnerable to relapse and need support resuming normal activities and integrating into the community. The APA further suggests that for hospitalized patients who will be living in a community setting that it is beneficial to arrange an outpatient appointment with a psychiatrist prior to the time of discharge.[10]
- The Institute for Clinical Systems Improvement (ICSI) guideline on depression states that if symptoms are severe, “weekly contacts may be needed until significant response is achieved. Response is defined as a significant level of improvement; or clinically relevant reduction of more than 50% on a severity scale such as the PHQ-9 or the Hamilton Rating Scale for Depression” If symptoms are mild to moderate, the ICSI recommends that contact should be every two to four weeks. This protocol should be in place until remission or best possible response is achieved; treatment should be then be spaced out as clinically warranted.[11]

Source
Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

Denominator Definition
Continuously enrolled members 6 years or older who were discharged from an acute inpatient setting with a primary diagnosis of mental illness during the period beginning at the start of the measurement year through 30 days prior to the end of the measurement year.

Note: The denominator for this measure is based on discharges, not members. Include all discharges for members who have more than 1 discharge during the beginning of the measurement year until 30 days prior to the end of the measurement year.

Denominator Index Date
Each date of discharge (i.e., THRUDATE) for Members who were discharged from an acute inpatient setting with a primary mental health diagnosis during the period beginning at the start of the measurement year through 30 days prior to the end of the measurement year.

Denominator Exclusion Definition
Index date episodes that meet 1 of the following criteria:

- Index date episodes where the member was rehospitalized in an acute facility with a primary diagnosis of any mental health illness 1-30 days
after the index date. Count the readmission discharge in the denominator even though it may not be for a selected mental health disorder, it is probably a related condition.

- Index dates episodes where the member was rehospitalized in a nonacute facility with a primary diagnosis of any mental health diagnosis during the 1-30 days after the index date.
- Index date episodes where the member was rehospitalized 1-30 days after the index date in an acute or nonacute setting with a primary diagnosis of any non-mental health condition.
- Members discharged as expired from denominator criterion [Members who were discharged from an acute inpatient setting with a primary mental health diagnosis during the period beginning at the start of the measurement year through 30 days prior to the end of the measurement year.]

<table>
<thead>
<tr>
<th>Numerator</th>
<th>For each index date in the denominator, a member must have an outpatient visit, intensive outpatient encounter or partial hospitalization with a mental health practitioner 0-30 days after the index date.</th>
</tr>
</thead>
</table>

| Physician Attribution | Score all physicians (in selected specialties) who saw the member during the 0-30 days after the index date. |


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

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Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

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Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
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Client: HMSA: PQSR 2010

Measure Title: FOLLOW-UP AFTER DIAGNOSIS OF PROSTATE CANCER

Disease State: Cancer

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Society for Therapeutic Radiology and Oncology
- American Urological Association
- National Comprehensive Cancer Network

Clinical Intent:
To ensure that all eligible males newly diagnosed with prostate cancer receive appropriate follow-up monitoring services at a clinically appropriate frequency.

Physician Specialties:
Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- In the United States, prostate cancer is the most commonly diagnosed cancer in men and the second most common cause of cancer death in men.[1]
- The American Cancer Society estimated that in 2008, approximately 186,320 men were newly diagnosed with prostate cancer and about 28,660 men died from it.[1]
- Even though there is a 17% lifetime risk of developing prostate cancer, the risk of dying from prostate cancer is only about 3%.[2, 3]
- The relative five-year survival rate for patients with prostate cancer diagnosed in the local or regional stages approaches 100%, while the relative 10 and 15-year survival rates are 91% and 76%, respectively.[1]

Reason for Indicated Intervention or Treatment
- Prostate specific antigen (PSA) screening after treatment for prostate cancer can help detect recurrences.[4-7]
- For patients deciding to undergo watchful waiting instead of receiving treatment after being diagnosed with prostate cancer, PSA testing can help differentiate between slower growing cancers and more aggressive ones, for which patients may elect to receive definitive treatment.[8]

Evidence Supporting Intervention or Treatment
- A study of almost 1800 prostate cancer patients showed that 77% of the 339 patients with recurrences were detected solely by an increase in PSA level, and 98% by an increase in PSA level plus local or distant recurrence.[4]
• A recent study using long-term cohort data provides strong evidence of a highly significant association between long-term cancer risk and PSA levels measured at early middle age. This study, involving 21,277 middle-aged men followed for up to 25 years, found that a blood PSA increase of 1 ng/mL was associated with an increase in odds of prostate cancer of 3.69 (95% CI, 2.99 to 4.56).[9]

• Few studies have examined the desired frequency of PSA monitoring, and there is no community standard.[10]

• A survey of 1,050 American Urological Association members showed appreciable variation in the frequency of PSA testing after radical prostatectomy for localized prostate cancer, though respondents generally recommended serum PSA testing every 3 months in the first year, every 6 months in years 2 to 5, and yearly thereafter.[11]

• One randomized controlled trial examined the relationship between serum PSA levels and the future cumulative risk of prostate cancer. Among the 5855 men, 539 cases of prostate cancer (9.2%) were detected after a median follow-up of 7.6 years. There was an increasing incidence of prostate cancer with increasing PSA levels, with a 0% incidence in men within 3 years who had an initial PSA level of <1 ng/mL. The study concluded that testing intervals should be individualized based on the initial PSA level and that men with an initial PSA level of <1 ng/mL can safely be scheduled for a 3 year treatment interval.[12]

• There are some current large-scale studies that intend to examine the effects of PSA screening on patient mortality.[13-15] However, the follow-up time for many of these studies is too short to provide data on mortality rates. The studies that do provide this data are mixed in opinion.

• One large randomized controlled trial showed a benefit to PSA screening in a group of 46,486 men aged 45-80 years. A Cox proportional hazards model of the age at death from prostate cancer shows a 62% reduction (P < 0.002, Fisher’s exact test) of cause-specific mortality in the screened men (P = 0.005).[16]

• In another randomized controlled trial involving 9026 men aged 50-69 years, there were 85 (5.7%) cancers detected in the screened group (SG), 42 of these in the interval between screenings and 292 (3.8%) in the unscreened group (UG). In the SG 48 (56.5%) of the tumors and in the UG 78 (26.7%) of the tumors were localized at diagnosis (P < 0.001). In the SG 21 (25%) and in the UG 41 (14%) received curative treatment. However, there was no significant difference in total or prostate cancer-specific survival between the groups.[17]

• However, information gained indicates repeated testing may be more useful in identifying cancers than a single test alone. The velocity with which PSA increases per year may improve specificity of the test; a PSA velocity exceeding 0.75 ng ml⁻¹ year⁻¹ has been associated with a higher risk of prostate cancer than a slower rise in PSA.[18] Furthermore, PSA velocity may predict time to relapse in patients with previous diagnoses
of prostate cancer.[6]

**Clinical Recommendations**

- For initial diagnoses of prostate cancer, the American Urological Association (AUA), the National Comprehensive Cancer Network (NCCN) and the American Society for Therapeutic Radiology and Oncology (ASTRO) recommend checking PSA as the initial work up of prostate cancer.[8, 19, 20] [21]
  - To detect disease recurrence, the AUA recommends periodically offering PSA testing in the post-treatment management of prostate cancer.[19]
  - The appropriate frequency of PSA testing is somewhat controversial [10], but most experts and organizations agree that follow-up PSA testing should be performed at least annually. Some experts recommend checking PSA levels every 6 months for the first two years after treatment and then annually.[22] Others recommend tailoring the frequency of testing to the pathologic grade and stage.[23]
  - The NCCN recommends that for patients with a life expectancy $\geq 10$ years who wish to undergo expectant management with PSA levels do so up to every 3 months. For patients with life expectancy less than 10 years who wish to undergo expectant management, the NCCN recommends monitoring PSA levels less frequently. Patients initially treated with intent to cure should have their serum PSA level checked every 6 to 12 months for the first 5 years and then rechecked annually. For patients with locally advanced or metastatic disease, PSA levels should be checked every 3 to 6 months.[8][21]
  - ASTRO recommends PSA testing every 3 to 4 months during the first two years following radiation therapy for prostate cancer and every 6 months thereafter.[20]

**Source**

Adapted from Health Benchmarks, Inc.:

- HMSA added HMSA service code Z5039 to numerator criterion
  [Members who had a PSA or free PSA fraction blood test performed during the 1-12 months after the index date]
Exclusion Definition date.

Numerator

**Numerator** Members who had a PSA or free PSA fraction blood test performed during the 1-12 months after the index date.

Physician Attribution

**Physician Attribution** Score all physicians (in the selected specialties) who saw the member during the year after the index date.

References


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
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<td><strong>Utilization</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
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</table>
Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

IF FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: FOLLOW-UP AFTER DIAGNOSIS OF ACTINIC KERATOSIS

Disease State: Cancer

Indicator Classification1: Disease Management

Strength of Recommendation2: B

Organizations Providing Recommendation:
- American Academy of Dermatology
- British Association of Dermatologists
- European Dermatology Forum
- National Comprehensive Cancer Network
- UK National Institute for Health and Clinical Excellence

Clinical Intent: To ensure that members diagnosed with actinic keratosis receive follow up care by a dermatologist within a year.

Physician Specialties Background: Refer to PQSR 2010 Specialty Matrix

Disease Burden:
- From 1990 to 1999, actinic keratosis (AK) was diagnosed in more than 47 million ambulatory care visits, and occurred in 14% of patients visiting dermatologists.[1]
- The prevalence of AK in the US is estimated to be between 11% and 26% of the population.[2]

Reason for Indicated Intervention or Treatment:
- Actinic keratoses share genetic tumor markers and identical p53 gene mutations with squamous cell carcinomas (SCC) involving the dermis.[3]
- Studies have shown that 28-60% of SCC arose from a lesion clinically diagnosed as an AK in the past year.[4, 5]
- Furthermore, two retrospective studies of 165 and 1011 patients and one prospective study of 208 patients found that 72-94% of squamous cell carcinomas were either in close proximity, contiguous to, or within the confines of actinic keratoses.[5-7]
- Several studies have reported that dermatologists correctly diagnose significantly more skin lesions, including melanoma and basal cell carcinoma (two types of skin cancer), than do non-dermatologists. Early diagnosis and treatment are crucial when a patient has AK. Left untreated, AK has the potential to progress to SCC, a type of skin cancer that can be deadly. Dermatologists’ training also makes them more comfortable in determining whether or not an AK lesion should be biopsied.[8, 9]

Evidence Supporting Intervention or Treatment

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Measure: kerafu702
• A systematic review of 12 studies that examined the progression of actinic keratoses to squamous cell carcinoma showed that 1.7% to 14% of patients with AK developed SCC within 5 years. In ten years, the average progression was 10.2% of patients with AK.[10]

• Patients with an organ transplant, other settings of immunosuppression (such as lymphoma, individuals on systemic steroids, HIV, etc.), and individuals with Xeroderma pigmentosum are likely to be at higher risk of nonmelanoma skin cancer. In particular, patients with organ transplants are estimated to have 50 to 100 times the risk of an age- and sex-matched control population. Anecdotal and limited trial data suggest that treatments for actinic keratoses in these high risk groups are less effective than in the general population, because actinic keratoses are more proliferative and hyperkeratotic in this group.[11]

Clinical Recommendations

• The 1995 American Academy of Dermatology’s ‘Guidelines of care for actinic keratoses’ states that long-term follow-up in patients with actinic keratoses may be necessary due to the possible development of new actinic keratoses or actinically related skin cancer. However, no specific recommendations were offered for the frequency and duration of follow-up, which should be based on the individual clinical situation.[12]

• In 2007, the National Comprehensive Cancer Network (NCCN) issued Clinical Practice Guidelines in Oncology. The guidelines indicate that in regard to identification and management of high-risk patients for the treatment of precancers, “Actinic keratosis should be treated aggressively at first development.” Patients at high risk of developing skin cancers are organ transplant recipients, patients with immunosuppression (e.g., lymphoma, drug-induced, HIV, etc.), and Xeroderma pigmentosum.[13]

• In 2006, The UK National Institute for Health and Clinical Excellence recommended that patients in high-risk groups with precancerous lesions including actinic keratosis should seek assessment, follow-up, and treatment with a dermatologist.[14]

• Similarly, the 2007 British Association of Dermatologists Guideline for Management of Actinic Keratosis recommends follow-up only for patients with multiple AK or who are at high-risk for nonmelanoma skin cancers.[11]

• European Dermatology Forum in 2006 recommends follow-up for patients with AK every year to every half-year.[2]

Source

Adapted from Health Benchmarks, Inc.:
Denominator
Definition | Continuously enrolled members who had a diagnosis of actinic keratosis during the year prior to the measurement year.

Denominator Index Date | First instance of Members who had a diagnosis of actinic keratosis during the year prior to the measurement year.

Denominator Exclusion
Definition | Members who had a diagnosis of actinic keratosis during the 0-12 months prior to the index date.

Numerator
Definition | Members who had a follow-up visit with a dermatologist during the 1-12 months after the index date (exclusive of index date).

Physician Attribution
Description | Score all physicians (in the selected specialties) who diagnosed the patient with actinic keratosis on the index date.

References
8. Feldman SR, e.a., Skin examinations and skin cancer prevention


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

- **Diagnosis** Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

- **Effectiveness of Care**
  - **Prevention** Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).
  - **Screening** Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).

- **Disease Management** Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

- **Medication Monitoring** Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

- **Medication Adherence** Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

- **Utilization** Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label? 

Yes 

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?) 

No 

Yes 

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study? 

No 

Yes 

Is the recommendation based on one of the following? 
- Cochrane Review with a clear recommendation 
- USPSTF Grade A recommendation 
- Clinical Evidence rating of Beneficial 
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same 
- Validated clinical decision rule in a relevant population 
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same 

No 

Strength of Recommendation = B 

Yes 

Strength of Recommendation = A 

Strength of Recommendation not needed

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: FOLLOW-UP EXAMINATION AFTER DIAGNOSIS AND TREATMENT OF SKIN CANCER

Disease State: Cancer

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Dermatology
- British Association of Dermatologists
- British Association of Plastic Surgeons
- Melanoma Study Group
- National Cancer Institute
- National Comprehensive Cancer Network

Clinical Intent: To ensure that all members who have been diagnosed with skin cancer receive the appropriate follow-up at least annually.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background - Disease Burden:
- The American Cancer Society estimates that 62,480 people were newly diagnosed with melanoma in 2008, making melanoma the sixth and seventh most common cancer among men and women, respectively.[1, 2]
- In addition more than 1 million cases of unreported cutaneous basal cell or squamous cell cancers occur yearly.[1, 2]
- Approximately 11,200 people are estimated to have died from skin cancer in 2008, of which around 8000 of were due to melanoma.[1, 2]

Reason for Indicated Intervention or Treatment:
- Surveys of cancer and melanoma registries demonstrate that patients diagnosed with cutaneous melanoma have a 0.5-5.5% incidence of a second primary melanoma following initial diagnosis [4-10], a risk that is 10-25 times greater than for patients without a history of melanoma.[5, 6]
- The rate of cutaneous melanoma recurrence is approximately 20%.[11-13]
- The greatest risk of developing a new or recurrent melanoma is in the first or second year after the initial diagnosis.[13-16]
- Patients with cutaneous squamous cell or basal cell carcinomas have at least a 10-fold increase in incidence of developing a subsequent cancer of the same type [17], and almost 50% of patients treated for squamous or basal cell carcinoma have another skin cancer within 5 years.[18-20]
- Approximately 95% of the recurrences and metastases of cutaneous...
squamous cell carcinoma occur during the first five years after treatment. [21]

Evidence supporting Intervention or Treatment

- Studies are mixed on whether patients or physicians detect more new or recurrent melanomas at follow-up. While some studies show that patients detect recurrences more frequently than their physicians (47-72% of recurrences are detected by patient)[11-13], others indicate that physicians have a higher rate of detection.[13, 22]
- A prospective intervention study of 9000 patients diagnosed with melanoma from 1971 to 1999 showed that careful patient follow-up (biannually for the first five years and annually thereafter) allowed for earlier diagnosis of a second primary melanoma, since the tumor stage for the second melanoma was significantly lower than for the first.[23]
- However, one audit of 331 melanoma patients with recurrences indicated that even though physicians detected recurrences at earlier stages than patients, no changes in survival were seen between the two groups.[12]
- Cancers diagnosed at earlier stages are more likely to be curable, and the evidence suggests that follow-up of patients with skin cancer may be important in detecting new and recurrent cancers. Unfortunately, no studies directly examine the relationship between follow-up intervals for melanoma[13-15], squamous cell carcinoma, or basal cell carcinoma and patient outcomes.

Clinical Recommendation

- The American Academy of Dermatology (AAD), based on recommendations from a task force of recognized experts, recognizes that there is no evidence to support a specific follow-up interval for patients with primary cutaneous melanoma. However, the AAD recommends routine interval follow-up physical examinations at least annually.[24]
- The Melanoma Study Group and the British Association of Dermatologists recommend 3-month visits for 3 years for all patients with invasive melanoma. Thereafter, those with melanomas greater than 1.0 mm in depth should be followed every 6 months for another 2 years, while those with melanomas less than 1.0 mm in depth do not require further follow-up. Patients with in situ melanoma need only one follow-up after complete excision of the primary lesion.[11, 25]
- For squamous cell carcinoma, the British Association of Dermatologists, the British Association of Plastic Surgeons and the Faculty of the Clinical Oncology of the Royal College of Radiologists recommend that patients be kept under observation for 5 years by a specialist, primary care physician or patient self-examination.[26]
- The American Academy of Dermatology recommends either annual or biannual screening for all patients with a history of non-melanoma skin cancers.[27]
- The National Cancer Institute recommended that individuals with basal cell carcinoma be clinically examined every 6 months for 5 years. Thereafter, patients should be examined for recurrent tumors or new primary tumors
at yearly intervals. In addition, since squamous cell carcinomas have significant potential for metastasis, patients should be reexamined every 3 months for the first several years and then followed indefinitely at 6-month intervals.[28]

- NCCN Practice Guidelines in Oncology state that individuals with a diagnosis of melanoma or non-melanoma skin cancer (e.g., basal cell carcinoma or squamous cell carcinoma) should be clinically examined at least yearly for life.[29]
- The American Society of Plastic Surgeons recommends a follow-up physical exam including full skin assessment and lymph node palpation every 3 months for the first year, then every 6 months for 5 years, and then yearly thereafter (Level of Recommendation: B).[30]

Source
Health Benchmarks, Inc.

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Continuously enrolled members ages 19-91 years by the end of the measurement year, who had a skin biopsy accompanied by a diagnosis of skin cancer during the year prior to the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>First instance of Members who had a diagnosis of skin cancer on or after the date of service of the skin biopsy procedure.</td>
</tr>
</tbody>
</table>

Denominator Exclusion
Members with a diagnosis of malignant neoplasm of the vagina, labia majora, labia minora, vulva unspecified, prepuce, skin of the breast, any carcinoma in situ of the breast or genitourinary system, or neoplasm of bone, soft tissue, or skin during the 0-365 days after the index date.

| Denominator Exclusion Claims Criteria | Diagnosis of malignant neoplasm of the vagina, labia majora, labia minora, vulva unspecified, prepuce, skin of the breast, any carcinoma in situ of the breast or genitourinary system, or neoplasm of bone, soft tissue, or skin: ICD-9 diagnosis code(s): 184.0x-184.2x, 184.4x, 187.1x, 198.2x, 233.xx, 239.2x |

Numerator
Members who had at least 1 follow-up visit or a procedure removing a benign or pre-malignant skin lesion within 90-365 days after the index date.

Physician Attribution
Score all physicians (in the selected specialties) who saw the member on the index date or during the period 90-365 days after the index date.
### References

17. Marcil, L. and R.S. Stern, *Risk of developing a subsequent nonmelanoma*


**Indicator Classification** (Adapted from HEDIS® technical specifications)

### Diagnosis
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

### Effectiveness of Care

#### Prevention
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

#### Screening
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

### Disease Management
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

#### Medication Monitoring
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

#### Medication Adherence
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

### Utilization
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: GLAUCOMA SCREENING IN OLDER ADULTS

Disease State: Glaucoma

Indicator Classification: Screening

Strength of Recommendation: B

Organizations Providing Recommendation: American Academy of Ophthalmology

Clinical Intent: To ensure that all members 67 years and older receive screening for glaucoma at least every 2 years.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- Glaucoma is the leading cause of irreversible blindness in the world. The Eye Disease Prevalence Research Group estimated that in the year 2000, glaucoma affected 2.22 million people in the United States. This number is projected to increase to 3.36 million by 2020.[1-3]

Reason for Indicated Intervention or Treatment

- Early detection and treatment of glaucoma can prevent or delay vision loss.[4]
- Unfortunately most individuals are asymptomatic until extensive irreversible visual loss occurs.[5]

Evidence Supporting Intervention or Treatment

- The National Long-Term Care Survey (NLTCS) found that, in a sample of 14,215 Medicare beneficiaries, more regular eye examinations was significantly correlated with lower probability of visual impairment.[6]

Clinical Recommendations

- American Academy of Ophthalmology recommends that individuals 65 years or older be examined at least every two years by an eye care professional to screen for eye disease such as open-angle glaucoma (Recommendation A, Level III evidence).[7]

Source: Health Plan Employer Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement
**Denominator**  
**Definition**  
Continuously enrolled members ages 67 years and older by the end of the measurement year.

**Denominator Index Date**  
N/A

**Denominator Encounters/Claims Criteria**  
N/A

**Denominator Exclusion**  
**Denominator Exclusion Definition**  
Members who have a prior diagnosis of glaucoma or glaucoma suspect any time in the available history prior to the end of the measurement year.

**Numerator**  
**Numerator Definition**  
Members who received 1 or more eye exams by an eye care professional (ophthalmologist or optometrist) during the measurement year or the year prior.

**Physician Attribution**  
**Physician Attribution Description**  
Score all physicians (in the selected specialties) who had an encounter with the member during the measurement year.

**References**  
1 Indicator Classification (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

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Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?  
- Yes  
  - Is the recommendation based on *patient-oriented evidence* (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)  
    - Yes  
      - Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?  
        - No  
          - Strength of Recommendation = C  
        - Yes  
          - Is the recommendation based on one of the following?  
            - Cochrane Review with a clear recommendation  
            - USPSTF Grade A recommendation  
            - Clinical Evidence rating of Beneficial  
            - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same  
            - Validated clinical decision rule in a relevant population  
            - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same  
              - No  
                - Strength of Recommendation = B  
              - Yes  
                - Strength of Recommendation = A

- No  
  - Strength of Recommendation not needed

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
GLYCOSYLATED HEMOGLOBIN (HBA1C) TEST FOR DIABETICS

Disease State: Diabetes

Strength of Recommendation: B

Organizations Providing Recommendation: American Diabetes Association

Clinical Intent: To ensure that all diabetic members ages 18-75 receive at least 2 glycosylated hemoglobin tests during the measurement year.

Background: Disease Burden
- Diabetes is a chronic, serious disease that affects approximately 14.7 million Americans. This disease is the leading cause of new cases of blindness among adults aged 20-74, the leading cause of end-stage renal disease, and a major contributing cause of lower extremity amputations.[1]

Reason for Indicated Treatment or Intervention
- Screening for hemoglobin A1C levels and improved glycemic control for patients with diabetes is associated with a reduced risk of developing microvascular diabetic complications (eye, kidney, and nerve disease).[2-4]

Evidence Supporting Intervention or Treatment
- Detection of elevated hemoglobin A1C affords the opportunity to provide patients with effective treatments to improve their glycemic control and decrease the risk of or delay the onset of diabetic vascular related complications. Prospective randomized clinical trials such as the Diabetes Control and Complications Trial and the United Kingdom Prospective Diabetes Study have demonstrated that improved glycemic control is associated with decreased rates of retinopathy, nephropathy, and neuropathy.[5-9]

Clinical Recommendations
- The ADA recommends that doctors perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control)The ADA also recommends performing the A1C
test quarterly in patients whose therapy has changed or who are not meeting glycemic goals. Use of point-of-care testing for A1C allows for timely decisions on therapy changes, when needed.[10-12]

**Source**  
Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2008 Technical Specification:

- HMSA modified the numerator so that 2 HbA1C tests are required during the measurement year as opposed to 1.

<table>
<thead>
<tr>
<th><strong>Denominator</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Denominator</strong></td>
<td>Continuously enrolled members ages 18-75 years by the end of the measurement year who were identified as having diabetes during the measurement year or year prior.</td>
</tr>
<tr>
<td><strong>Denominator Index Date</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Denominator Exclusion**  
Members in the denominator with a diagnosis of polycystic ovaries at any time prior to the end of the measurement year who did **NOT** have a face-to-face encounter with a diagnosis of diabetes in any setting during the measurement year or year prior, or members diagnosed with gestational diabetes or steroid-induced diabetes during the measurement year or year prior who did **NOT** have a face-to-face encounter with a diagnosis of diabetes in any setting during the measurement year or year prior.

<table>
<thead>
<tr>
<th><strong>Numerator</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Numerator</strong></td>
<td>Members who received 2 glycosylated hemoglobin (HbA1c) tests during the measurement year.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Physician Attribution</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physician Attribution</strong></td>
<td>Score all physicians (in the selected specialties) who saw the member during the measurement year</td>
</tr>
</tbody>
</table>

**References**


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain)</td>
</tr>
<tr>
<td>Effectiveness of Care</td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).</td>
</tr>
<tr>
<td>Prevention</td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td>Screening</td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td>Disease Management</td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)</td>
</tr>
<tr>
<td>Medication Monitoring</td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).</td>
</tr>
<tr>
<td>Medication Adherence</td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
2 Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?
- Yes
- No

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)
- Yes
- No

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?
- Yes
- No

Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

Strength of Recommendation = A

Strength of Recommendation = B

Strength of Recommendation = C

Strength of Recommendation not needed

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: HEPATIC ENZYME MONITORING FOR PERSONS USING ANTIMYCOTIC PHARMACOTHERAPY (TERBINAFINE AND ITRACONAZOLE)

Disease State: Fungal Infection

Indicator Classification: Medication Monitoring

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Family Physicians
- United States Food and Drug Administration

Clinical Intent: To ensure that all eligible members who have a new prescription for certain antimycotic pharmacotherapy receive the necessary pretreatment evaluation.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Estimates for the prevalence of onychomycosis in North American Countries range from 8-14%.\(^1\) However, other cross-sectional studies show that this rate may vary by age and occupation.\(^4, 5\)
- Risk factors for onychomycosis include exposure to family members with the disease, immunodeficiency, diabetes, psoriasis, tinea pedis, frequent swimming, and older age.\(^6\)
- Generally, affected nails are visibly abnormal, causing embarrassment and negative effects on patients’ personal, social and occupational functioning.\(^7\)\(^-\)\(^9\)

Reason for Indicated Intervention or Treatment
- When compared to older antifungal medications griseofulvin, terbinafine and itraconazole have higher cure rates in randomized controlled trials.\(^10\)\(^-\)\(^12\)
- While fluconazole is also found to be effective in patients with onychomycosis, it is not as effective in terms of cost or cure as itraconazole and terbinafine.\(^13\)

Evidence Supporting Intervention or Treatment
- Terbinafine’s hepatotoxic effects are acknowledged in the drug’s product monographs,\(^14\) and have been reported multiple times in the literature,\(^15\)\(^-\)\(^28\) and Itraconazole-induced hepatotoxicity has also been well-documented.\(^29\)\(^-\)\(^34\)
- The FDA has issued a public health advisory about terbinafine and
itraconazole citing the association between congestive heart failure and hepatic adverse events with the administration of these therapies.[35]

- There are at least 16 case reports in the English literature describing the development of necro-inflammatory and cholestatic hepatotoxicity with terbinafine use [15-27], and at least 5 case reports from non-English literature.[28, 36-39] Similarly, multiple case reports have described hepatotoxicity associated with itraconazole use.[29, 30, 32, 33]

- A 2007 meta analysis of 122 studies, involving a total of 19,298 patients reported that pooled risks (95% confidence intervals) of oral antifungal treatment discontinuation resulting from adverse reactions for continuous therapy were 3.44% (95% confidence interval [CI], 2.28%-4.61%) for terbinafine 250 mg/day; 1.96% (95% CI, 0.35%-3.57%) for itraconazole 100 mg/day; 4.21% (95% CI, 2.33%-6.09%) for itraconazole 200 mg/day; and 1.51% (95% CI, 0%-4.01%) for fluconazole 50 mg/day. For intermittent therapy, the pooled risks were as follows: pulse terbinafine: 2.09% (95% CI, 0%-4.42%); pulse itraconazole: 2.58% (95% CI, 1.15%-4.01%); intermittent fluconazole 150 mg/week: 1.98% (95% CI, 0.05%-3.92%); and intermittent fluconazole 300 to 450 mg/week: 5.76% (95% CI, 2.42%-9.10%).

- According to this meta-analysis, the risk of liver injury requiring termination of treatment ranged from 0.11% (continuous itraconazole 100 mg/day) to 1.22% (continuous fluconazole 50 mg/day). The risk of having asymptomatic elevation of serum transaminase but not requiring treatment discontinuation was less than 2.0% for all treatment regimens evaluated.[40]

- The crude incidence rate of acute liver injury associated with itraconazole use is approximately 1:10,000.[31]

- A cohort study of 19,488 patients showed that patients taking itraconazole had a relative risk of 17.7 (95% confidence interval 2.6, 72.6) of developing acute liver injury when compared to the risk among nonusers.[31]

**Clinical Recommendations**

- For continuous treatment, the American Academy of Family Physicians recommends checking baseline liver enzyme levels before starting terbinafine or itraconazole, and then testing every four to six weeks during treatment. No testing is suggested for pulse therapy.[41]

- On the product label for terbinafine, the US Food and Drug Administration (FDA) recommends baseline liver function testing prior to initiation the medication.[42]

- The product label for itraconazole states that liver function monitoring should be considered in patients receiving the medication.[43]

**Source**

Health Benchmarks, Inc.
<table>
<thead>
<tr>
<th><strong>Definition</strong></th>
<th>Treatment with Lamisil (terbinafine) or Sporanox (itraconazole) during the first 358 days of the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Denominator Index Date</strong></td>
<td>First instance of Members who received at least 1 prescription for oral treatment with Lamisil (terbinafine) or Sporanox (itraconazole) during the first 358 days of measurement year.</td>
</tr>
<tr>
<td><strong>Denominator Encounters/Claims Criteria</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Denominator Exclusion</strong></td>
<td>Members who filled a prescription for oral treatment with Lamisil (terbinafine) or Sporanox (itraconazole) during the 1-365 days prior to the index date.</td>
</tr>
<tr>
<td><strong>Denominator Exclusion Claims Criteria</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Numerator</strong></td>
<td>Members who have had appropriate monitoring lab work (i.e. hepatic function panel, general health panel, AST, ALT) completed during the 90 days prior to the index date through 7 days after the index date.</td>
</tr>
</tbody>
</table>
| **Physician Attribution Description** | If client data contains prescribing provider:  
Score only the physician (in the selected specialties) who prescribed the member Lamisil (terbinafine) or Sporanox (itraconazole) on the index date.  
If client data does not contain prescribing provider:  
Score all physicians (in the selected specialties) who saw the member during the 7 days prior to the index date through 7 days after the index date. |
3. Ghannoum, et al., *A large-scale North American study of fungal isolates* |
42. *FDA labelling for terbinafine.*
   [http://www.fda.gov/Cder/foi/label/2004/20539s1r012_lamisil_lbl.pdf](http://www.fda.gov/Cder/foi/label/2004/20539s1r012_lamisil_lbl.pdf)

**Indicator Classification** (Adapted from HEDIS® technical specifications)

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<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
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<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
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<tr>
<td><strong>Medication Adherence</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: LDL MONITORING FOR DIABETES

Disease State: Diabetes

Indicator Classification: Screening

Strength of Recommendation: B (for most adults with diabetes)

Strength of Recommendation: C (for adults with low-risk lipid values [LDL < 100 mg/dl, HDL > 50 mg/dl, and triglycerides <150 mg/dl])

Organizations Providing Recommendation: American Diabetes Association

Clinical Intent: To ensure that all members with diabetes receive LDL monitoring at a clinically appropriate frequency.

Physician Specialties (suggested): Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Diabetes is a chronic, serious disease that affects approximately 14.7 million Americans. This disease is the leading cause of new cases of blindness among adults aged 20-74, the leading cause of end-stage renal disease, and a major contributing cause of lower extremity amputations,[1-3] and is responsible for over 200,000 deaths each year.
- About 65% of patients with diabetes die from cardiovascular events.[4]

Reason for Indicated Intervention or Treatment
- Diabetes is a major risk factor for cardiovascular disease, and is considered to be a coronary heart disease (CHD) equivalent in terms of risk stratification for cholesterol management.[5-8]
- Lipid screening in patients with diabetes is essential for treatment decisions.

Evidence Supporting Intervention or Treatment
- A meta-analysis of 12 large randomized trials evaluating lipid lowering drug treatment found that diabetics on primary prevention therapy had a 21% risk reduction in major coronary events (i.e., coronary artery disease death, non-fatal myocardial infarction, or myocardial revascularization procedures).[9]
- A randomized control trial comparing the use of atorvastatin lipid-lowering therapy for type 2 diabetics found a 36% reduction in coronary events, 31% reduction in coronary revascularization procedures, and a 48% reduction in stroke compared to those on placebo.[10]
**Clinical Recommendations**

- The American Diabetes Association (ADA) and NCEP-ATP-III guidelines both recommend that all adults with diabetes be managed to achieve an LDL cholesterol < 100 mg/dl. For diabetics with CAD, it is recommended that LDL cholesterol be <70mg/dL.[6, 11] ADA recommends that patients receive lipid monitoring at least yearly, and more often if needed to manage care.[11]
- The ADA’s Standards of medical care in diabetes recommends that adults with diabetes be tested at least annually for lipid disorders, and more often if needed to achieve desired lipid levels, but that in adults with low-risk lipid values (low-density lipoprotein [LDL] cholesterol <100 mg/dL, high-density lipoprotein [HDL] cholesterol >50 mg/dL, and triglycerides <150 mg/dL), lipid assessments may be repeated every 2 years.[12]
- According to the ADA, adults with low-risk lipid values (LDL < 100 mg/dL, HDL > 50 mg/dL, triglycerides < 150 mg/dL) should get checked every 2 years.[13]

**Source**
Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
<th>Continuously enrolled members ages 18-75 years by the end of the measurement year who were identified as having diabetes during the measurement year or year prior.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

| Denominator Exclusion | Definition | Members in the denominator with a diagnosis of polycystic ovaries at any time prior to the end of the measurement year who did NOT have a face-to-face encounter with a diagnosis of diabetes in any setting during the measurement year or year prior or members diagnosed with gestational diabetes or steroid-induced diabetes during the measurement year or year prior who did NOT have a face-to-face encounter with a diagnosis of diabetes in any setting during the measurement year or year prior. |

*Note: The denominators for all adult diabetes care measures must be the same (NCQA)*

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Definition</th>
<th>Members who had LDL levels measured through direct means during the measurement year.</th>
</tr>
</thead>
</table>

**Physician Attribution**

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Physician Attribution Description

**If client data does not contain PCP:**

Score all physicians (in the selected specialties) who saw the member during the measurement year.

**If client data contains PCP:**

Score all primary care physicians who were assigned to the member during the measurement year.

References


11. ADA, *Standards of Medical Care in Diabetes* Diabetes Care, 2006. 29
1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**

Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HIMA PQSR 2010

Measure Title: LIPID LEVEL MONITORING FOR PATIENTS RECEIVING ISOTRETINOIN

Disease State: Acne

Indicator Classification: Medication Monitoring

Strength of Recommendation: B

Organizations Providing Recommendation: United States Food and Drug Administration

Clinical Intent: To ensure that all members who were initiated on oral isotretinoin receive pretreatment and follow-up lipid monitoring tests.

Physician Specialties (suggested): Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- Acne vulgaris is the most common cutaneous disorder in the United States affecting 17 million Americans[1], accounting for over 10 percent of all PCP patient encounters, and over 4.8 million annual patient visits.[2]
- Estimates indicate that acne vulgaris affects 85 percent of the adolescent population.[3, 4]

Reason for Indicated Intervention or Treatment

- For severe nodulocystic acne, acne that improves less than 50 percent after six months of treatment with oral antibiotics, relapsing acne, scarring acne, and acne that causes undue psychological distress, experts agree that the use of accutane (Isotretinoin, or 13-cis-retinoic acid) is warranted as it is the only medication that alters the natural course of the disease.[5-8]
- Accutane is a powerful metabolite of vitamin A that significantly reduces sebum production after a four-five month course and thereby reduces or eliminates acne in 90% of patients.[9]
- The drug has many, potentially severe, side effects. Because of studies indicating that those taking accutane may suffer from elevated triglyceride and lipid levels, product information and opinion recommends making blood lipid determinations before accutane is given and then at intervals until the lipid response to Accutane is established, which usually occurs within 4 weeks.[10-15]
- In clinical trials, about 25% of patients had marked elevations of triglyceride levels, and approximately 15% and 7% had increased levels...
of HDL and cholesterol levels, respectively. Accutane related dyslipidemia can be reversed when Accutane is discontinued.[15]

Evidence Supporting Intervention or Treatment

- A randomized controlled trial of 90 patients with severe acne showed that patients using isotretinoin every day for 3 months developed significant increases in cholesterol and triglyceride levels, that was both dose-dependent and reversible.[11]
- Another multicenter randomized controlled trial showed that patients taking 10 mg/day isotretinoin for 3 years had significantly elevated serum triglycerides.[12]
- Another prospective randomized controlled trial of 20 men treated with oral isotretinoin showed isotretinoin-induced elevations in plasma triglyceride and cholesterol levels up to 67 and 16%, respectively.[10]
- Indications for stopping therapy include severe hypertriglyceridemia (eg, above 800 mg/dL or 9 mmol/L) because of the risk of acute pancreatitis.[13]
- In a cross-sectional comparison, Rodondi found that although hypertriglyceridemia usually resolves with cessation of accutane, persons who develop it during therapy are at increased risk for future hyperlipidemia and the metabolic syndrome.[16]
- In a study of 1,292 patients taking Isotretinoin for 5 to 9 months, no patient required their treatment to be stopped due to elevated lipid levels, and in only 1.5% of patients did serum triglyceride levels top 400 mg.[17]

Clinical Recommendations

- FDA labeling for isotretinoin recommends making blood lipid determinations before isotretinoin is given and then at intervals until the lipid response to accutane is established: “Lipids: Pretreatment and follow-up blood lipids should be obtained under fasting conditions. After consumption of alcohol, at least 36 hours should elapse before these determinations are made. It is recommended that these tests be performed at weekly or biweekly intervals until the lipid response to Accutane is established. The incidence of hypertriglyceridemia is 1 patient in 4 on Accutane therapy.”[15]

Source

Health Benchmarks, Inc.

Denominator

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Continuously enrolled members who filled a prescription for at least a 90 days supply of oral isotretinoin during the 1 year period beginning 45 days prior to the start of the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator</td>
<td></td>
</tr>
<tr>
<td>Definition</td>
<td></td>
</tr>
</tbody>
</table>

Denominator Index Date

First instance of members who filled at least a 90 days supply of oral isotretinoin during the 1 year period beginning 45 days prior to the start of the measurement year.
<table>
<thead>
<tr>
<th>Measure: accuta706</th>
<th>accuta706_v3.0</th>
</tr>
</thead>
</table>

### Denominator

**Encounters/Claims Criteria:** N/A

### Denominator Exclusion

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Members who filled at least 1 prescription for isotretinoin in the 1 year period prior to the index date.</th>
</tr>
</thead>
</table>

### Denominator Exclusion Claims Criteria

**Numerator Definition:** Members who had 2 blood lipid level tests, 1 during the 0-30 days prior to the index date and a second test during the 1-45 days after the index date.

### Physician Attribution

**Description:** If client data contains prescribing provider:

Score the physician who prescribed the index date prescription for isotretinoin.

### References

11. Michaelsson, G., et al., *Changes in laboratory variables induced by*


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

- **Diagnosis**: Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

- **Effectiveness of Care**
  - **Prevention**: Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).
  - **Screening**: Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).
  - **Disease Management**: Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
  - **Medication Monitoring**: Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).
  - **Medication Adherence**: Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).
  - **Utilization**: Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
# Health Benchmarks® Clinical Quality Indicator Specification 2009

<table>
<thead>
<tr>
<th>Client</th>
<th>HMSC: PQSR 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure Title</td>
<td>LIVER FUNCTION TEST (LFT) MONITORING FOR PATIENTS ON VALPROIC ACID</td>
</tr>
<tr>
<td>Disease State</td>
<td>N/A</td>
</tr>
<tr>
<td>Indicator Classification</td>
<td>Medication Monitoring</td>
</tr>
<tr>
<td>Strength of Recommendation</td>
<td>C</td>
</tr>
<tr>
<td>Organizations Providing Recommendation</td>
<td>American Academy of Child and Adolescent Psychiatry, Federal Drug Administration, National Headache Foundation</td>
</tr>
<tr>
<td>Clinical Intent</td>
<td>To ensure that eligible members on valproic acid have a liver function test in order to monitor therapy.</td>
</tr>
<tr>
<td>Physician Specialties</td>
<td>Refer to PQSR 2010 Specialty Matrix</td>
</tr>
</tbody>
</table>

## Background

### Disease Burden

- Valproic acid is commonly used to treat seizure and mood disorders.[1, 2]
- Epilepsy and seizures affect 2.9 million Americans of all ages[3] at an estimated direct and indirect annual cost of $12.5 billion.[4]
- Approximately 200,000 new cases of seizures and epilepsy occur each year.[5, 6]
- A recent systematic investigation of adverse drug reactions leading to liver injury and fatalities conducted by the World Health Organization found that valproate was the third most common drug associated with such fatalities and that furthermore, 88.3% of such cases occurred in the United States.[7]

## Reason for Indicated Intervention or Treatment

- Valproic acid has a complex pharmacokinetic profile as a result of individual differences in metabolism and concentration-dependent protein binding, resulting in a significant variation in blood concentration for a given dose.[8]
- The therapeutic dosing range for valproic acid is narrow; concentrations of 50/mg/L or higher are required in order to see therapeutic effects, while concentrations exceeding 100 mg/dL have been associated with toxicity.[8]
- Valproic acid, even in normal range, has been associated with hepatic failure and multiple hematologic abnormalities, including thrombocytopenia.[9-11]

## Evidence Supporting Intervention or Treatment
- Several retrospective studies of patients taking valproic acid have shown that fatal hepatotoxicity is a side effect of the medication[12-15],[11-14]. From 1987 to 1993, 29 patients on valproic acid developed fatal hepatotoxicity.[12]

**Clinical Recommendations**

- The National Headache Foundation guidelines recommend routine monitoring by liver function test for patients taking Valproic acid, however, the frequency of monitoring is not stated.[16]
- The FDA black box warning for Valproic acid indicates that patients taking this medication have an increased risk for developing hepatotoxicity and pancreatitis. Therefore, they recommend performing pretreatment liver function tests and frequent monitoring throughout therapy, particularly within the first 6 months.[17]
- The American Academy of Child and Adolescent Psychiatry guidelines recommend baseline liver function tests, complete blood cell counts, and pregnancy tests for individuals taking valproic acid. Additionally, serum drug levels, plus hepatic and hematological indices, should be monitored every 3-6 months.[18]

**Source**

Health Benchmarks, Inc.

**Denominator**

| Denominator Definition | Continuously enrolled members who had at least a 180 days supply of valproic acid during the year prior to the measurement year. |

**Denominator Index Date**

- First instance of Members who received at least a 180 days supply of valproic acid during the year prior to the measurement year.

**Denominator Encounters/Claims Criteria**

N/A

**Denominator Exclusion**

| Denominator Exclusion Definition | N/A |

**Denominator Exclusion Claims Criteria**

N/A

**Numerator**

| Numerator Definition | Members who have had appropriate monitoring lab work (i.e., hepatic function panel, general health panel, AST, ALT) completed during the 0-365 days after the index date. |
Physician Attribution

If client data contains prescribing provider:

Score the physician (in the selected specialties) who prescribed the index date prescription.

If client data does not contain prescribing provider:

Score all physicians who saw the member 0-7 days prior to the index date prescription (inclusive of the index date).

References


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**

Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
**Measure Title:** MEDICAL ATTENTION FOR DIABETIC NEPHROPATHY

**Disease State:** Diabetes

**Strength of Recommendation:** B

**Organizations Providing Recommendation:** American Diabetes Association

**Clinical Intent:** To ensure diabetic members ages 18-75 receive a diabetic nephropathy screening test during the measurement year.

**Physician Specialties:** Refer to PQSR 2010 Specialty Matrix

### Background

**Disease Burden**

- Diabetes is a chronic, serious disease that affects approximately 14.7 million Americans.[1]
- Diabetes is the leading cause of end-stage renal disease (ESRD), accounting for 44 percent of new cases. In 2001, over 42,000 people with diabetes began treatment for ESRD and over 142,000 people with ESRD due to diabetes were living on chronic dialysis or with a kidney transplant.[2, 3]

### Reason for Indicated Intervention or Treatment

- Type 1 diabetics with microalbuminuria have a higher risk of all-cause mortality than those without (RR = 1.8 95% CI 1.5-2.1). Similarly, Type 2 diabetics with microalbuminuria had a higher all-cause mortality risk (RR=1.9 95% CI 1.7-2.1) than those without.[4]
- Type 1 diabetics with microalbuminuria are 4.8 times more likely to develop ESRD than those who do not have it. Type 2 diabetics are 3.9 times more likely to develop ESRD than those who did not have microalbuminuria.[4]

### Evidence Supporting Intervention or Treatment

- Detection of nephropathy in its earliest stages affords the opportunity to provide patients with effective treatments to slow the progression of renal disease. For example, at least one large prospective randomized trial provided evidence that adequate blood pressure control can reduce the development of severe renal disease.[5-7]
- In addition, evidence supports that early treatment for diabetic...
nephropathy with an ACE inhibitor is associated with a reduced risk of progression to ESRD.[8-10]

**Clinical Recommendations**

- The American Association of Clinical Endocrinologists states that all patients with diabetes mellitus should be screened for kidney disease annually. Specifically, they state that screening should begin 5 years after diagnosis in patients with type 1 diabetes and at the time of diagnosis in patients with type 2 diabetes.[11]
- The American Diabetes Association recommends that an annual test be performed to measure the presence of microalbuminuria for type 1 diabetic patients who have had diabetes for 5 or more years and in all type 2 diabetic patients starting at diagnosis.[12]

**Source**

Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification:

- HBI removed the “urine macroalbumin test” criteria for the numerator because there is no way to verify the “evidence of protein” component with administrative claims data (HEDIS requires that plans must use automated laboratory data to confirm a positive result for a urine macroalbumin test identified through administrative data)

**Denominator**

**Denominator Definition**

Continuously enrolled members ages 18-75 years by the end of the measurement year who were identified as having diabetes during the measurement year or year prior.

**Denominator Exclusion**

**Denominator Exclusion Definition**

Members in the denominator with a diagnosis of polycystic ovaries at any time prior to the end of the measurement year who did NOT have a face-to-face encounter with a diagnosis of diabetes in any setting during the measurement year or year prior, or members diagnosed with gestational diabetes or steroid-induced diabetes during the measurement year or year prior who did NOT have a face-to-face encounter with a diagnosis of diabetes in any setting during the measurement year or year prior.

*Note: The denominators for all adult diabetes care measures must be the same (NCQA)*

**Numerator**

**Numerator**

Members who met one of the following criteria during the measurement year:
Definition

- A nephropathy screening test
- A claim indicating evidence of nephropathy
- A nephrologist visit (no restriction on the diagnosis or procedure code submitted)
- Evidence of ACE/ARB therapy

Physician Attribution

<table>
<thead>
<tr>
<th>Description</th>
<th>If client data does not contain PCP:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score all physicians (in the selected specialties) who saw the member during the measurement year</td>
<td></td>
</tr>
<tr>
<td>If client data contains PCP:</td>
<td></td>
</tr>
<tr>
<td>Score all primary care physicians who were assigned to the member during the measurement year.</td>
<td></td>
</tr>
</tbody>
</table>

References


### 1 Indicator Classification (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td>Effectiveness of Care</td>
<td></td>
</tr>
<tr>
<td>Prevention</td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td>Screening</td>
<td>Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td>Disease Management</td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td>Medication Monitoring</td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
</tr>
<tr>
<td>Medication Adherence</td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td>Utilization</td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: OSTEOPOROSIS SCREENING FOR PATIENTS ON SYSTEMIC CORTICOSTEROIDS

Disease State: Osteoporosis

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Association of Clinical Endocrinologists
- American College of Rheumatology
- Institute for Clinical Systems Improvement
- National Osteoporosis Foundation

Clinical Intent:
To ensure that members who filled prescriptions for 180 day supply of systemic corticosteroids receive osteoporosis screening or treatment.

Physician Specialties:
Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Approximately 0.2% to 0.5% of the general population is on chronic corticosteroid therapy. Chronic corticosteroid therapy is used in patients with asthma, COPD, inflammatory bowel disease, nephrotic syndrome, polymyalgia rheumatica, sarcoidosis, systemic lupus erythematosus and organ transplantation.[1]
- Corticosteroids contribute to osteoporosis by both reducing bone formation and increasing bone resorption.[2-4] It is estimated that osteoporosis will develop in 30-50% of individuals who require chronic corticosteroid therapy.[4-7]

Reason for Indicated Intervention or Treatment
- Corticosteroid-induced osteoporosis is associated with roughly a two fold increase in risk of fracture.[8, 9]
- Osteoporosis-related fractures are associated with patient pain, depression, loss of independence, impaired ambulation and nursing home placement.[10-15]

Evidence Supporting Intervention or Treatment
- However, prospective and case-control studies have established that 6 to 12 months of corticosteroid therapy results in a loss of 3% to 27% of BMD.[16-19]
- Prospective studies also have established that fracture risk increases as BMD decreases, in a continuous manner.[20-23]
- Accordingly, corticosteroid use has been correlated with an increased risk of osteoporosis-induced fractures. A case-control study comparing
244,235 corticosteroid users to 244,235 age and gender matched controls showed that corticosteroid use was significantly correlated with an increased risk of hip fractures (OR: 1.33, 95% CI: 1.20-1.38) and vertebral fractures (OR: 2.60, 95% CI: 2.31-2.92). The risk of fracture increased in a dose-response manner.[24]

- Since the risk of developing corticosteroid-induced osteoporosis can be decreased with interventions such as calcium and vitamin D supplementation, calcitonin and bisphosphonates[25, 26], early detection may be important.
- A meta-analysis of 9 randomized controlled trials (440 patients) examining calcitonin use in individuals on chronic steroid therapy indicated that compared to placebo, there was a statistically significant 3% increase in the BMD of the lumbar spine after one year of therapy.[25]
- Another meta-analysis of 13 controlled clinical trials (842 patients) of bisphosphonate use in patients on chronic corticosteroid therapy revealed a statistically significant increase in BMD of 4.3% in the lumbar spine and 2.1% in the femoral neck in patients receiving bisphosphonates over placebo.[26]

Clinical Recommendations

- The American College of Rheumatology recommends getting a baseline bone mineral density measurement at the lumbar spine and/or hip when initiating long-term (i.e., > 6 months) corticosteroid therapy. BMD measurements should be repeated every 6 months in patients not receiving osteoporosis preventive therapy. Patients receiving osteoporosis preventive therapy should get annual BMD measurements.[27]
- The National Osteoporosis Foundation recommends BMD measurements for post-menopausal women less than 65 years of age with at least one osteoporosis risk factor (such as long-term corticosteroid use).[28]
- The American Association of Clinical Endocrinologists guidelines for the prevention and treatment of postmenopausal osteoporosis recommends that BMD measurements be performed in women beginning or receiving long-term glucocorticoid therapy.[29]
- The Institute for Clinical Systems Improvement (ICSI) writes that glucocorticoid use compounds fracture, and that “while it is never too late in the course of glucocorticoid therapy to prevent or treat osteoporosis, it is preferable to start preventive measures against bone loss”, as the greatest amount of bone is lost during the first months of drug therapy and because fracture risk is disproportionately increased in those with glucocorticoid-induced low bone density relative to those with low bone density associated with the aging process and/or the postmenopausal state.[30]

Source

Health Benchmarks, Inc.
## Denominator

**Definition**
Continuously enrolled members ages 19 and older as of the end of the measurement year that filled at least a 180 day supply of systemic corticosteroids during the year prior to the measurement year.

**Denominator Index Date**
First instance of members who filled at least a 180 days supply for systemic corticosteroids during the year prior to the measurement year.

**Denominator Encounters/Claims Criteria**
N/A

**Denominator Exclusion**

| Denominator Exclusion Definition | Members who had evidence of pregnancy during the 0-365 days after the index date (inclusive of the index date). |

## Numerator

**Definition**
Members who received at least 1 bone mineral density study in the 0-365 days after the index date (inclusive of the index date).

## Physician Attribution

**Description**
If client data contains prescribing provider:

Score the physician who prescribed the denominator corticosteroid.

## References


1 Indicator Classification (Adapted from HEDIS® technical specifications)

Diagnosis
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

Effectiveness of Care

Prevention
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

Screening
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

Disease Management
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

Medication Monitoring
Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

Medication Adherence
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

Utilization
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: OSTEOPOROSIS SCREENING FOLLOWING FRACTURES

Disease State: Osteoporosis

Indicator Classification: Screening

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Association of Clinical Endocrinologists
- National Osteoporosis Foundation
- U.S. Preventive Services Task Force

Clinical Intent: To ensure that women age 61 or older who experience a fracture receive a bone mineral density (BMD) test or pharmacotherapy for osteoporosis during the 180 days after the fracture.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- The National Health and Nutrition Examination Survey reports approximately 10 million American women 50 years of age or older are afflicted with osteopenia, and 5 million more have osteoporosis. Increase in age is associated with an increase in risk of osteoporosis and up to 70 percent of women over age 80 years have osteoporosis. However, the National Osteoporosis Risk Assessment study found that the one-year risk for fracture was similar for postmenopausal women 50-64 years versus greater than 65 years of age.[1-3]

- Women with osteoporosis are at excess risk to experience fractures. As age and prevalence of osteoporosis increase, so does the incidence of hip fracture. Hip fractures are associated with high rates of mortality and loss of independence.[2, 4]

- A recent report by the NHANES study reported that men and women who were in the lowest quartile for bone density had an a higher all-cause risk of death (relative risk, 1.53; 95% confidence interval: 1.08-2.18; P=0.02).[5]

- Fractures resulting from osteoporosis are a major cause of disability and death, especially among the elderly.[6]

- Less than one third of patients that experience fractures associated with fragility are treated for osteoporosis.[7]

- In the United States, medical expenditure for the treatment of fractures related to osteoporosis in adults over 45 year of age near $14 billion, with the majority being spent on inpatient care. This cost is likely to rise as the median age of the US population increases.[2, 8]
Reason for Indicated Intervention or Treatment
- In the National Osteoporosis Risk Assessment study, an overall risk of fractures is greater for women 50-59 years who have a T-score less than -2.0. Early screening and treatment may help to prevent or reduce osteoporosis related fractures later in life.[9]
- Up to 20% of women who suffer a hip fracture will die within one year of the fracture.[10, 11]
- Post-menopausal women with fractures experienced significant decreases in Health Related Quality of Life.[12]
- Screening for osteoporosis offers the opportunity to treat before fracture occurs. Among women who have fractures before osteoporosis has been identified, it is important to determine whether osteoporosis is the cause so that it can be treated before additional fractures occur.[13]

Evidence Supporting Intervention or Treatment
- Among different bone measurement tests performed at various anatomical sites, bone density measured at the femoral neck by dual-energy x-ray absorptiometry (DEXA) is the best predictor of hip fracture and is comparable to forearm measurements for predicting fractures at other sites.[14]
- In one cohort study of 3,107 older adult patients, those who were screened for osteoporosis had 36% fewer incident hip fractures over 6 years compared with usual treatment.[13]
- Applying a Markov model to a randomized, double-blind, controlled study demonstrated that intervention with risedronate for postmenopausal women with osteoporosis was cost-effective for women ages 60 and older (if the woman had a prior vertebral fracture and a BMD T score < -2.5 SD). Using risedronate as a treatment was still deemed as cost-effective for women 65 and older who did not have a prior vertebral fracture but did meet the BMD threshold for osteoporosis (T score < -2.5 SD).[15]
- An additional cost-effectiveness study evaluated the population-level impact of providing bisphosphonate therapy to eligible U.S. women using a Markov model. This study found that among women who were at highest risk of fracture, the additional cost of bisphosphonate therapy was offset by other healthcare cost savings.[16]
- In postmenopausal women with osteoporosis, a prescription of oral bisphosphonate therapy can increase the fracture benefit and improve cost-effectiveness. Women with osteoporosis who were adherent to medication have a significantly decreased risk of fracture.[17, 18]

Clinical Recommendations
- The American Association of Clinical Endocrinologists recommends routine screening for osteoporosis for all women 65 years and older, all adult women with a history of one or more fractures not caused by severe trauma, and younger postmenopausal women who have clinical risk factors for fractures (such as low body weight, or a family history of
spine or hip fracturing).[19]

- The USPSTF recommends that women aged 65 and older be screened routinely for osteoporosis. The USPSTF also recommends that routine screening begin at age 60 for women at increased risk for osteoporotic fractures. [14] The Institute for Clinical Systems Improvement makes similar recommendations.[20]

- The National Osteoporosis Foundation recommends screening with BMD test in all women over age 65, younger pre-menopausal women with one or more risk factors, and postmenopausal women at any age who present with a fracture.[21-23]

Source
Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification:

- HMSA modified the age criteria from 67 and older to 61 and older.

### Denominator

**Denominator Definition**
Continuously enrolled women ages 61 and older, who had a fracture (excluding fractures of the finger, toe, face and skull) at any time during the 1 year period ending 6 months prior to the end of the measurement year.

**Denominator Index Date**
First instance of Women who have had a fracture in an outpatient or ER setting at any time during the 1 year period ending 6 months prior to the end of the measurement year or the first instance of the discharge date (i.e., THRUDATE) of Women who have had a fracture in an inpatient setting at any time during the 1 year period ending 6 months prior to the end of the measurement year.

### Denominator Exclusion

**Denominator Exclusion Definition**
Members who received at least 1 Bone mineral density study within 1-365 days prior to the first instance of the date of service of denominator criterion [Women who have had a fracture in an outpatient or ER setting at any time during the 1 year period ending 6 months prior to the end of the measurement year] or [Women who have had a fracture in an inpatient setting at any time during the 1 year period ending 6 months prior to the end of the measurement year], or who had evidence of treatment for osteoporosis 1-365 days prior to the first instance of the date of service of denominator criterion [Women who have had a fracture in an outpatient or ER setting at any time during the 1 year period ending 6 months prior to the end of the measurement year] or [Women who have had a fracture in an inpatient setting at any time during the 1 year period ending 6 months prior to the end of the measurement year], or who had a fracture in the 1-60 days prior to the first instance of the date of service of denominator criterion [Women who have had a fracture in an outpatient or ER setting at any time during the 1 year period ending 6 months prior to the end of the measurement year] or [Women who have had a fracture in an inpatient setting at any time during the 1 year period ending 6 months prior to the end of the measurement year].
Numerator

**Definition**  Members who received at least 1 Bone mineral density study 0-180 days after the index date (inclusive of index date), members who received at least 1 BMD study during their inpatient stay for their denominator fracture, or who had evidence of treatment for osteoporosis 0-180 days after the index date (inclusive of index date).

**Physician Attribution**

**Description**  Score all physicians (in the selected specialties) who saw the member during the 0-180 days following the index date (inclusive of index date).

**References**

20. ICSI, Diagnosis and treatment of osteoporosis. 2005, Institute for Clinical Systems Improvement: Bloomington, MN.
Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
2 Strength of Recommendation

**Strength of Recommendation Based on a Body of Evidence**

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

- Yes
  - Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)
    - Yes
      - Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?
        - Yes
          - Is the recommendation based on one of the following?
            - Cochrane Review with a clear recommendation
            - USPSTF Grade A recommendation
            - *Clinical Evidence* rating of Beneficial
            - Consistent findings from at least two good-quality randomized controlled trials or systematic review/meta-analysis of same
            - Validated clinical decision rule in a relevant population
            - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same
              - No
                - Strength of Recommendation = B
              - Yes
                - Strength of Recommendation = A
        - No
          - Strength of Recommendation = C
    - No
      - Strength of Recommendation not needed

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: PNEUMOCOCCAL VACCINE FOR THE ELDERLY AND OTHER HIGH-RISK GROUPS

Disease State: Streptococcus pneumoniae

Indicator Classification: Prevention

Strength of Recommendation: B

Organizations Providing Recommendation:
- Advisory Committee on Immunization Practices
- American College of Obstetricians and Gynecologists
- American Academy of Family Physicians

Clinical Intent: To ensure that all elderly and other high-risk members receive a pneumococcal vaccination.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background:

Disease Burden:
- Streptococcus pneumoniae accounts for approximately 485,000 to 620,000 hospitalizations per year in the United States in individuals ≥65 years of age.[1, 2]
- In 1998, there were almost 63,000 cases (23 per 100,000 people) [1, 2] of invasive pneumococcal disease in the United States, and an estimated 44,000 deaths from pneumococcal infections.[3]
- Annual incidences of invasive pneumococcal disease is higher among persons aged ≥ 65 years in North America and Europe range from 25 to 90 cases/100,000 persons. In the US and Canada, these rates represent between 15,000 and 30,000 cases annually among the elderly. Mortality caused by pneumococcal infections is highest among the elderly, with nearly 1 in 5 cases resulting in death.[4, 5]
- In addition, there are about 500,000 cases of pneumococcal pneumonia per year [4] and an overall annual incidence of one to two cases of pneumococcal meningitis per 100,000 people.[6]
- The overall cost for treating patients with community acquired pneumonia is more than $23 billion per year and more than $3.5 billion was spent on Medicare patients alone.[7]

Reason for Indicated Intervention or Treatment:
- Respondents to the 2003 Centers for Disease Control (CDC) Behavioral Risk Factor Surveillance System (BRFSS) who were 65 years of age or older reported rates between 31.6% and 73% of ever having received a pneumococcal vaccine, with a median of 64.2%.[8]
- Increased pneumococcal vaccination rates in the elderly and immunocompromised could have prevented or decreased the extent of
recent outbreaks of invasive pneumococcal disease.[9, 10]

Evidence supporting Intervention or Treatment

- Multiple case-control and serotype prevalence studies demonstrate the effectiveness of the pneumococcal vaccine. Against invasive disease, case control studies show vaccine effectiveness rates of 56-81% [11-13], and a serotype prevalence study based on the CDC’s pneumococcal surveillance system indicate a 57% protective effectiveness.[13, 14] There was a protective efficacy of 75% in immunocompetent patients 65 years of age or older [13, 14], and of 65-84% for patients in specific high risk groups (e.g. diabetes mellitus, congestive heart failure, chronic pulmonary disease, coronary heart disease).[14]
- A population-based cohort study has shown that pneumococcal vaccination is also effective in lowering mortality rates by approximately 40% in those who are hospitalized with community-acquired pneumonia (CAP). Among 3415 patients hospitalized with CAP, the propensity-adjusted odds of death or ICU admission was 0.62 (95% CI 0.42-0.92; P=0.2) for patients who had received PPF.[15]
- In addition, multiple meta-analyses have concluded that the vaccine effectively reduces the frequency of bacteremic pneumococcal pneumonia in low-risk adults.[16-21]
- A 2006 case-series study conducted by the Centers for Disease Control estimated that 21% of identified cases of s.pneumoniae infection would have been prevented by adherence to existing vaccine recommendations.[15]
- Vaccination of the elderly has been shown to be cost-effective in preventing invasive pneumococcal disease by several studies.[22-24] Although, other studies report that this cost-effectiveness is increased by supplementing with influenza vaccine.[25]
- However, there have been some conflicting findings about the efficacy of the pneumococcal vaccine in high-risk groups. A number of meta-analyses found no evidence that the vaccine protects against pneumonia in the elderly or high-risk populations [18-20], and results of a 2008 Cochrane Review meta-analysis of 22 trials (48,656 patients) showed a nonsignificant reduction in all-cause pneumonia and no reduction in mortality in those receiving the pneumococcal vaccine.[21]

Clinical Recommendations

- The Advisory Committee on Immunization Practices (ACIP), the American College of Obstetricians and Gynecologists (ACOG), and the American Academy of Family Physicians (AAFP) recommend the 23-valent pneumococcal polysaccharide pneumococcal vaccine for the following groups of people:[5, 26]
- Adults greater than or equal to 65 years old
- Persons between 2-64 years of age who are:
  - At increased risk of pneumococcal disease or its complications because of chronic illnesses such as: chronic cardiovascular (congestive heart failure or
cardiomyopathies), pulmonary disease (COPD or emphysema, but not asthma), diabetes mellitus, alcoholism, cirrhosis, or CSF leaks
- have functional or anatomical asplenia
- living in special environments or social settings (e.g. nursing homes or long-term care facilities, Alaskan Natives and certain American Indian populations)

• Immunocompromised adults (e.g. those with symptomatic or asymptomatic HIV, leukemia, lymphoma, Hodgkins disease, chronic renal failure, generalized malignancy, immunosuppressive chemotherapy, other conditions associated with immunosuppression)

• Persons in any of the above categories with unknown prior immunization status

• The Institute for Clinical Systems Improvement recommends vaccination with the 23-valent PPV vaccine for the following groups:[27]

• All adults 65 or older, (if not done previously). Re-immunization should take place if 1st vaccination was received more than 5 years ago and before age 65 or if an immunocompromising condition is present.

• Adults 19-64 with high-risk conditions should be vaccinated (and re-immunized once after 5 years if at risk of losing immunity):
  • Chronic cardiac, renal, liver or pulmonary disease
  • Diabetes mellitus
  • Functional or anatomic asplenia (including sickle cell disease)
  • CSF leaks
  • Persons who live in special environments or social settings with an identified high risk of pneumococcal disease
  • Persons who are Native American or Alaskan Native
  • Persons with severe asthma
  • Persons with cochlear implants

Source
Health Benchmarks, Inc.

Denominator

Denominator Definition
Continuously enrolled members ages 66-68 by the end of the measurement year, members living in nursing homes/long term care facilities during the measurement year, or members who had a qualifying diagnosis for a condition that would warrant pneumococcal vaccination (i.e., the member was immunocompromised) during the year prior to the measurement year.

Denominator Index Date
N/A

Denominator Exclusion

Denominator
N/A
Exclusion Definition

<table>
<thead>
<tr>
<th>Denominator</th>
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</thead>
<tbody>
<tr>
<td>Exclusion Claims Criteria</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Numerator

<table>
<thead>
<tr>
<th>Numerator Definition</th>
<th>Members who received a pneumococcal vaccination at any time in history.</th>
</tr>
</thead>
</table>

Physician Attribution

<table>
<thead>
<tr>
<th>Physician Attribution Description</th>
<th>Score all physicians (in the selected specialties) who saw the member during the measurement year.</th>
</tr>
</thead>
</table>

References

**Indicator Classification** (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td><strong>Medication Adherence</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
2 Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label? 

No → Strength of Recommendation not needed

Yes →

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

No → Strength of Recommendation = C

Yes →

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

No →

Yes →

Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

No → Strength of Recommendation = B

Yes → Strength of Recommendation = A

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: Radiation Therapy Following Breast Conserving Surgery

Disease State: Cancer  
Indicator Classification: Disease Management

Strength of Recommendation: A

Organizations Providing Recommendation:
- American College of Surgeon’s Commission on Cancer
- American Society of Clinical Oncology
- Institute for Clinical Systems Improvement
- National Comprehensive Cancer Network
- National Quality Forum

Clinical Intent: To ensure that all eligible women who underwent breast conserving surgery receive follow up radiation therapy within a clinically appropriate timeframe.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- The American Cancer Society estimated that there would be approximately 212,930 new cases and 40,870 deaths from invasive breast cancer in the United States in 2005.[1]
- Breast cancer is the most commonly diagnosed cancer, and the second largest cause of cancer deaths (behind lung cancer) in women.[1]

Reason for Indicated Intervention or Treatment
- Women undergoing breast-conserving therapy have an enhanced quality of life compared to those who undergo mastectomy.[2, 3] In the United States, breast conserving treatment has become the recommended treatment option for women with early breast cancer.[4]
- Patients not undergoing radiotherapy after breast-conserving therapy have a large increase in the risk of ipsilateral breast cancer recurrence, and a small increase in the risk of mortality.[5]

Evidence Supporting Intervention or Treatment
- A meta-analysis of 15 randomized controlled trials with 9,422 patients showed that the relative risk of ipsilateral breast tumor recurrence after breast-conserving therapy in patients treated with no radiotherapy versus with radiotherapy was 3.0 (95% confidence interval [CI] of 2.65 to 3.40). In addition, an analysis of 13 randomized controlled trials with 8,206 patients showed a relative risk of mortality of 1.086 (95% CI of 1.003 to 1.175) if no radiotherapy was given.[5]
• Another meta-analysis of 9 randomized controlled trials with 4,891 patients revealed no apparent difference in total mortality (22.9% versus 22.9%) in patients receiving mastectomy versus breast-conserving therapy plus radiotherapy. Similarly, there was no difference in survival among approximately 3,100 women in 7 randomized controlled trials comparing the two treatment options.[7]

• A large review to support new practice guidelines concluded that breast conserving surgery with axillary dissection and radiotherapy provided comparable overall and disease free survival to modified radical mastectomy.[8]

• The National Cancer Institute concluded that to date there is no consensus regarding a reliable algorithm to identify subgroups of patients who undergo lumpectomy for breast cancer and are at such low risk of local recurrence that postoperative radiation therapy can be omitted. Additionally, there is no subset of patients identified in prospective randomized control trials that did not benefit from the addition of radiation therapy to lumpectomy in the management of breast cancer.[9]

Clinical Recommendations

• Through a collaboration of The National Comprehensive Cancer Network (NCCN), the American Society of Clinical Oncology (ASCO), and the Commission on Cancer (CoC), the 2007 Clinical Practice Guidelines in Oncology were developed and recommend that women undergoing breast-conserving therapy receive post-operative radiotherapy within one year of surgery. This guideline was also endorsed by the National Quality Forum.[10]

• The Institute for Clinical Systems Improvement (ICSI) guideline for breast cancer treatment recommends post-operative radiation for patients undergoing breast conserving therapy.[11]

Source

Health Benchmarks, Inc.

Denominator

Denominator Definition

Continuously enrolled women age 70 years or younger who have undergone breast conserving surgery to treat a confirmed primary diagnosis of breast cancer during the year prior to the measurement year.

Denominator Index Date

Last instance of women who have undergone breast conserving surgery on or after the date of service for the diagnostic procedure or the primary diagnosis of carcinoma of the breast through the end of the year prior to the measurement year or partial mastectomy with or without lymphadenectomy on or after the date of service for the diagnostic procedure or the primary diagnosis of carcinoma of the breast through the end of the year prior to the measurement year.
Denominator Exclusion

Denominator Exclusion Definition
Women who had evidence of pregnancy 0-12 months after the index date, women who underwent a mastectomy 0-12 months after the index date, women who were diagnosed with scleroderma or lupus any time in the member’s history, women who underwent an additional excision procedure 0-12 months after the index date, women who were diagnosed with other cancers anytime in the member’s history, or women who were diagnosed with carcinoma of the breast during the 1 year period beginning 2 years prior to the measurement year.

Numerator

Numerator Definition
Members who received radiation therapy during the 0-12 months after the index date.

Physician Attribution

Physician Attribution Description
Score all physicians (in the selected specialties) who saw the member 0-12 months after the index date.

References

http://www.cancer.gov/cancertopics/pdq/treatment/breast/HealthProfessional/page5. Volume,


1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**

Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation Based on a Body of Evidence**

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?  
Yes → Strength of Recommendation not needed

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)  
Yes → Strength of Recommendation = C

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?  
Yes → Strength of Recommendation = B

Is the recommendation based on one of the following?  
- Cochrane Review with a clear recommendation  
- USPSTF Grade A recommendation  
- Clinical Evidence rating of Beneficial  
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same  
- Validated clinical decision rule in a relevant population  
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same  

While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening).
## Measure Title
STATIN TREATMENT FOR MEMBERS WITH DIABETES

## Disease State
Diabetes

### Indicator Classification
Prevention

## Strength of Recommendation
A

## Organizations Providing Recommendation
American Diabetes Association

## Clinical Intent
To ensure that all members with diabetes and atherosclerotic disease or ages 40 years and older without atherosclerotic disease and with 1 other risk factor for heart disease (i.e., hypertension or hyperlipidemia) filled at least 1 prescription for a statin (HMG-CoA reductase inhibitor) during the measurement year.

## Physician Specialties (suggested)
Refer to PQSR 2010

## Disease Burden
- Diabetes is a chronic, serious disease that affects approximately 14.7 million Americans.[1]

## Reason for Indicated Treatment or Intervention
- Patients with diabetes, especially type II diabetes, have an increased risk of coronary artery disease (CAD). In fact, patients with diabetes without evidence of CAD are found in many studies to be CAD equivalents. CAD equivalents carry a risk for major coronary events equal to that of established CAD, i.e., >20% per 10 years.[1, 2]
- Atherosclerosis occurs earlier in life for patients with type I diabetes than those in the general population. Women with type I diabetes are more likely to die of coronary artery disease than the general population.[3]

## Evidence Supporting Intervention or Treatment
- The MRC/BHF Heart Protection Study randomized 20,536 adults ages 40 to 80 years old with occlusive arterial disease or diabetes (type I or type II) with a total cholesterol level > 135 mg/dL to receive 40mg of simvastatin daily or placebo. The study found that patients who received simvastatin had significantly reduced all cause mortality rates than those who received placebo (12.9% vs. 14.7%). Most of the reduction on mortality was seen in decreased incidence of coronary death. The MRC/BHF study included 600 patients with type I diabetes. These individuals had a proportionately similar but not statistically...
significant reductions in mortality when placed on simvastatin. [MRC/BHF]

- The CARDS randomized control trial included a cohort of 2838 patients aged 40-75 with type II diabetes and one or more of the following: HTN, retinopathy, microalbuminuria, macroalbuminuria, and smoking. All patients were required to have mean serum LDL concentrations of 161.46 or lower to be eligible for the study. Patients with overt coronary artery disease or peripheral vascular disease were excluded from the study. Patients were randomized to receiving atorvastatin 10mg vs. placebo. The authors terminated the study 2 years earlier than expected because they found that coronary heart disease events were reduced by 37% and overall mortality rate was reduced by 27%. [4]

**Clinical Recommendations**

- 2008 ADA guidelines recommend that “[s]tatin therapy should be added to lifestyle therapy, regardless of baseline lipid levels, for diabetic patients with overt cardiovascular [disease] (CVD) ([recommendation of strength] A) [and patients] without CVD who are over the age of 40 and have one or more other CVD risk factors ([recommendation of strength] A).” Risk factors for CVD emphasized by the ADA are hypertension, family history of CVD, dyslipidemia, microalbuminuria, cardiac autonomic neuropathy, and smoking. [5]

**Source**

Health Benchmarks, Inc.

The following items were adapted from other sources:

- Denominator definition of diabetes (HEDIS® 2009)
- Denominator definition of CAD (HEDIS® 2009)
- Denominator exclusion definition for diabetes (HEDIS® 2009)

**Denominator**

<table>
<thead>
<tr>
<th>Denominator Definition</th>
<th>Continuously enrolled members who were identified as having diabetes and cardiovascular disease or members ages 41 years or older diagnosed with diabetes during the measurement year or year prior who were also diagnosed with hypertension or hyperlipidemia during the year prior to the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Denominator Exclusion**

<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
<th>Members in the denominator with a diagnosis of polycystic ovaries at any time in the member’s history who did NOT receive a diagnosis of diabetes during the measurement year or year prior, or members diagnosed with gestational diabetes or steroid-induced diabetes during the measurement year or year prior who did NOT receive a diagnosis of diabetes during the measurement year or</th>
</tr>
</thead>
</table>
year prior. Additionally, members with evidence of contraindications to statins including rhabdomyolysis any time prior to the end of the measurement year, acute renal failure during the measurement year or year prior, liver dysfunction (acute or chronic) or alcoholism during the measurement year or year prior, or who were pregnant during the measurement year.

**Numerator**

<table>
<thead>
<tr>
<th>Numerator Definition</th>
<th>Members who filled at least 1 prescription for a statin during the measurement year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator Claims Criteria</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Physician Attribution**

| Physician Attribution Description | Score all physicians (in the selected specialties) who saw the member during the measurement year. |

**References**

1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
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<tr>
<td><strong>Medication Adherence</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: TREATMENT AFTER EMERGENCY DEPARTMENT VISIT FOR ASTHMA

Disease State: Asthma

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation: National Heart, Lung, and Blood Institute

Clinical Intent: To ensure that eligible members who had an asthma-related emergency department visit receive the appropriate follow-up treatment.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- In 2005, approximately 22.2 million people (7.7% of the population) in the United States had asthma and it is estimated that 12.2 million people (4.2% of the population) had experienced an asthma attack in the previous year.[1]
- In addition, there were 14.7 million outpatient asthma visits to private physician offices and hospital outpatient departments as well as 1.8 million emergency department visits for asthma in 2004.[1]
- Among those who reported at least one asthma attack in 2002-2003, working adults reported 10.1 million work days lost and 12.8 million school days lost for children ages 5-17.[1]

Reason for Indicated Intervention or Treatment
- Early diagnosis and proper treatment of acute asthma exacerbations is important in preventing recurrent emergency department visits, avoiding hospitalizations and decreasing mortality.

Evidence Supporting Intervention or Treatment
- Oral corticosteroids:
  - A 2001 Cochrane Database meta-analysis of 7 randomized controlled trials showed that patients receiving corticosteroids (either intramuscular or oral) for an acute asthma exacerbation had significantly fewer relapses in the first week and less need for beta-agonists.[2]
  - A 2002 meta-analysis of 1,204 patients comparing the standard therapy of oral corticosteroids versus high-dose ICS following ED discharge found no significant difference in the relapse rates of ICS
compared to oral corticosteroids, OR=1.00 (95% CI: 0.66-1.52).[3]

- In 2007, a Cochrane meta-analysis of 6 randomized control trials of 374 patients found that asthma patients on oral corticosteroids after exacerbation had a reduced number of relapses compared to placebo, OR=0.44 (95% CI: 0.21-0.94). Those on systemic corticosteroids (oral or intramuscular) also had fewer hospitalizations, RR=0.35 (95% CI: 0.25-0.89).[4]

- Inhaled corticosteroids:
  - A 2002 meta-analysis of 6 randomized controlled trials with 352 patients indicated that even though ICS use decreases admission rates when used for acute asthma exacerbations, there is insufficient evidence that it leads to clinically important pulmonary function changes or that ICS use alone is as effective as systemic corticosteroids.[5]
  - A 2004 meta-analysis of treatments for patients with chronic asthma found that ICS therapy reduced exacerbations by 55% compared to patients on placebo, OR=0.46 (95% CI: 0.34-0.62).[6]
  - A more recent 2004 randomized controlled trial of 390 asthmatics with worsening peak flows or symptoms revealed that patients treated with twice their usual dose of ICS versus placebo had no significant difference in their eventual need for systemic corticosteroid therapy, suggesting that there is little evidence to support doubling the ICS dose for acute asthma exacerbations.[7]
  - Furthermore, another 2004 randomized controlled trial of 290 patients evaluating the practice of doubling the dose of inhaled corticosteroids versus maintaining the regular regimen showed that patients already on ICS may not benefit from a doubling of the dose.[8]
  - A randomized controlled trial of 7,241 patients with mild persistent asthma showed that patients on ICS therapy (200 or 400ug/day budesonide) had lower asthma-related events (4.5%) compared to patients on placebo (7.8%).[9]
  - Additionally, the OPTIMA randomized control trial on mild asthma has shown that patients on ICS therapy have reduced severe exacerbation rates compared to patients on placebo.[9]

Clinical Recommendations

- The National Heart, Lung, and Blood Institute and its National Asthma Education and Prevention Program Expert Panel (NAEPP) recommend the following after discharge from the emergency room or urgent care setting for acute asthma exacerbation:
  - Patients given systemic steroids during an ER visit for asthma exacerbation should be continued on systemic steroids 3-10 days post discharge (Evidence A).
  - Consider initiating inhaled corticosteroids at discharge in addition to oral steroids (Evidence B).
  - Refer the patient for follow-up care with a PCP or an asthma specialist within 1-4 weeks post discharge (Evidence B).[10]
- The Institute for Clinical Systems Improvement (ICSI) recommends regular follow-up visits and treatment with corticosteroids for individuals with acute asthma exacerbation.[11]

**Source**  
Health Benchmarks, Inc.

<table>
<thead>
<tr>
<th>Denominator</th>
</tr>
</thead>
</table>
| **Denominator Definition** | Continuously enrolled members ages 6 years or older by the end of the measurement year who had a primary diagnosis of asthma in an emergency room setting during the 1 year period ending 30 days prior to the end of the measurement year.  
| **Denominator Index Date** | First instance of Members who had a primary diagnosis of asthma in an emergency room setting during the 1 year period ending 30 days prior to the end of the measurement year.  

<table>
<thead>
<tr>
<th>Denominator Exclusion</th>
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</thead>
</table>
| **Denominator Exclusion Definition** | Members diagnosed with emphysema or chronic obstructive pulmonary disease (COPD) any time prior to the end of the measurement year, or members who were hospitalized 1-30 days after the index date.  

<table>
<thead>
<tr>
<th>Numerator</th>
</tr>
</thead>
</table>
| **Numerator Definition** | Members who (1) filled a prescription for an inhaled corticosteroid or an oral steroid 0-30 days after the index date, or (2) had prior prescription filled for an inhaled corticosteroid 1-20 days prior to the index date, or (3) members who had an asthma follow-up visit in an outpatient setting 1-30 days after the index date.  

<table>
<thead>
<tr>
<th>Physician Attribution</th>
</tr>
</thead>
</table>
| **Physician Attribution Description** | Score all physicians (in the selected specialties) who saw the member 0-30 days after the index date.  

<table>
<thead>
<tr>
<th>References</th>
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</thead>
</table>


1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: TREATMENT OF CORONARY ARTERY DISEASE (CAD): ACE INHIBITOR / ANGIOTENSIN RECEPTOR BLOCKER USE

Disease State: Cardiovascular Disease

Indicator Classification: Disease Management

Strength of Recommendation: A (ACE inhibitors)

Strength of Recommendation: B (ARBs)

Organizations Providing Recommendation: American College of Cardiology

Organizations Providing Recommendation: American Heart Association

Clinical Intent: To ensure that all members identified as having CAD or other atherosclerotic vascular disease (i.e., peripheral arterial disease, atherosclerotic aortic disease and carotid artery disease) received at least one prescription for an ACE inhibitor or ARB within an one year time frame.

Physician Specialties Background: Refer to PQSR 2010 Specialty Matrix

Disease Burden:
- Cardiovascular disease is the leading cause of death in the United States, and is the primary cause of death for persons age 65 and older.[1, 2]
- In 2004, an estimated 16 million adults in the United States (5.1% of the population) had coronary heart disease (CHD)[2, 3], which accounts for more than half of all cardiovascular events in men and women under the age of 75.[4]
- One of every five deaths in the United States in 2004 (approximately 451,000 deaths) was attributed to CHD.[3, 4]
- In 2007, CHD is expected to cost Americans over 156.4 billion dollars.[3]

Reason for Indicated Intervention or Treatment:
- Angiotensin II[5, 6] and aldosterone[7-9] contribute to increased systemic vascular resistance, circulatory congestion, endothelial dysfunction, and myocardial fibrosis and hypertrophy.
- Angiotensin-converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) block the renin-angiotensin-aldosterone system[6, 9, 10], and may have beneficial effects on cardiac remodeling, such as regression of left ventricular hypertrophy[11, 12], improved endothelial dysfunction[13, 14], and increased fibrinolysis.[15]

Evidence Supporting Intervention or Treatment:
- Several large randomized controlled trials, including the SAVE [16, 17] and SOLVD[18, 19] trials showed that patients with left ventricular...
dysfunction (both symptomatic and non-symptomatic) who were started on ACE inhibitors after an acute myocardial infarction had reduced rates of recurrent myocardial infarctions and cardiovascular mortality.[16-22]

- Subsequently, the HOPE study, a large-scale randomized controlled trial, was performed to see if the above findings translated to patients with normal left ventricular function. HOPE investigated patients who were at high risk for coronary events but who were without evidence of acute myocardial infarction, left ventricular dysfunction or heart failure. This study showed that ramipril treatment was associated with reduced rates of cardiovascular mortality, myocardial infarction and stroke.[23]

- The EUROPA trial, another randomized controlled trial, looked at patients with stable coronary heart disease who were at lower risk of coronary events than the patients in HOPE, and showed that perindopril decreased the risk for cardiovascular events such as cardiovascular death, myocardial infarction, or cardiac arrest.[24]

- Another randomized study, the PEACE trial, subsequently investigated low-risk patients with stable coronary artery disease and normal or slightly reduced left ventricular function. PEACE found that trandolopril had no significant benefit in reducing cardiovascular events. However, it is thought that the patients in this study were at lower risk for cardiovascular events than those in the HOPE and EUROPA trials.[25, 26]

- Evidence for the use of ARBs is more limited. The LIFE trial showed that compared to high-risk patients with hypertension on atenolol, those on losartan had increased rates of left ventricular hypertrophy regression and decreased rates of cardiovascular mortality.[27] However, the VALUE trial subsequently suggested that the cardiovascular benefit of ARBs was related more to the effect of blood pressure lowering.[7]

- Trials such as PEACE and VALUE have brought into question the specific benefit of ACE inhibitors and ARBs in lower risk patients. There is also uncertainty about whether the medication benefits seen in the HOPE, EUROPA, and LIFE trials can be attributed to solely to their effects on the renin-angiotensin-aldosterone system, as opposed to their blood pressure lowering effects.

- However, the uncertainty may not have a large effect on decision-making in high-risk patients with coronary heart disease, and the guidelines have not yet been updated to reflect the results of the new studies.

**Clinical Recommendations**

- The 2006 American Heart Association (AHA) guideline[28] recommends that among individuals with coronary heart disease or other atherosclerotic vascular disease (peripheral arterial disease, atherosclerotic aortic disease, or carotid artery disease), those with LVF ≤ 40, HTN, DM, or chronic kidney disease should start ACE inhibitors and continue indefinitely unless contraindicated (Level of Evidence A). In addition, ACE inhibitors should be considered for all patients with coronary artery disease or other atherosclerotic vascular disease (Level
The following items were adapted from other sources:

- Denominator definition of coronary or other peripheral vascular disease (HEDIS® 2009)

<table>
<thead>
<tr>
<th><strong>Denominator</strong></th>
<th><strong>Definition</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Denominator</strong></td>
<td>Continuously enrolled members 19-75 years of age with established coronary and other atherosclerotic vascular disease.</td>
</tr>
<tr>
<td><strong>Index Date</strong></td>
<td>First instance of members who had an AMI during the year prior to the measurement year or members who underwent a PTCA during the year prior to the measurement year or (members with at least one outpatient visit with an IVD diagnosis in the year prior to the measurement year and members with at least one inpatient visit with an IVD diagnosis in the measurement year) or (members with at least one outpatient visit with an IVD diagnosis in the year prior to the measurement year and members with at least one inpatient visit with an IVD diagnosis in the year prior to the measurement year) or (members with at least one inpatient visit with an IVD diagnosis in the measurement year and members with at least one outpatient visit with an IVD diagnosis in the measurement year) or (members with at least one inpatient visit with an IVD diagnosis in the measurement year and members with at least one inpatient visit with an IVD diagnosis in the year prior to the measurement year)</td>
</tr>
<tr>
<td><strong>Exclusion Definition</strong></td>
<td>Members with a diagnosis of angiodema, hyperkalemia, hypotension, arterial stenosis, or renal failure (stage V or dialysis) at any time prior to the end of the measurement year, members who were pregnant during the 0-365 days after the index date, or members who were in hospice during the 0-365 days after the index date. Also, members who were discharged as expired from the denominator qualifying AMI, CABG or PTCA.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Numerator</strong></th>
<th><strong>Definition</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Numerator</strong></td>
<td>Members who filled at least 1 prescription for an ACE inhibitor or an ARB during the 0-365 days after the index date (inclusive of the index date).</td>
</tr>
<tr>
<td><strong>Claims Criteria</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Physician Attribution**

Score all physicians (in the selected specialties) who saw the member during the
Description

0-365 days after the index date (inclusive of the index date).

References


1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**

![Decision Tree Diagram]

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
**Measure Title**: TREATMENT OF CORONARY ARTERY DISEASE (CAD) OR CAD EQUIVALENT: USE OF STATINS

**Disease State**: Cardiovascular Disease

**Indicator Classification**: Disease Management

**Strength of Recommendation**: A

**Organizations Providing Recommendation**:
- American College of Cardiology
- American Heart Association
- National Cholesterol Education Program

**Clinical Intent**: To ensure that all eligible members identified as having coronary artery disease (CAD) receive a statin within a one year time frame.

**Physician Specialties**: Refer to PQSR 2010 Specialty Matrix

**Disease Burden**
- Cardiovascular disease is the leading cause of death in the United States and is the primary cause of death for persons age 65 and older.[1]
- 16 million adults in the United States have coronary heart disease (CHD)[1], accounting for more than half of all cardiovascular events in men and women under the age of 75.[2]
- One of every five deaths in the United States in 2004 (approximately 451,000) was attributed to CHD.[1]
  
  Within 5 years of experiencing a first myocardial infarction (MI), 16% of men and 22% of women between 40 and 69 years of age will have a recurrent MI or fatal CHD event and 33% of men and 43% of women will die.[1]

**Reason for Indicated Intervention or Treatment**
- Elevated blood cholesterol increases the risk for coronary heart disease. Lipid-lowering therapy can help decrease or reverse atherosclerotic lesion progression[3-6], decrease inflammation[7-11], and help with plaque stabilization, endothelial dysfunction reversal, and thrombogenicity reduction.[4, 12, 13]
- Clinically, treatment with lipid-lowering drugs, particularly statins, is associated with decreased mortality and a lower incidence of cardiovascular events.[14-31]

**Evidence Supporting Intervention or Treatment**
- Several large randomized controlled trials have shown that simvastatin or pravastatin use in patients with a history of cardiovascular disease
reduces the risk of recurrent events and mortality, whether the patients have elevated[15, 16], normal or slightly elevated[17-23] cholesterol levels.

- Large scale meta-analyses studying cholesterol medications have shown that, when used as secondary prevention, lipid-lowering therapy is associated with a decreased risk of coronary events, CHD mortality as well as all-cause mortality.[24-31]
- A recent large scale cohort study indicates that patients do not universally receive statin treatment for secondary prevention after cardiovascular events; the authors found that 26.5% of patients with an acute coronary event had not filled a statin prescription during the 12 months following the event.[32]

**Clinical Recommendations**

- The Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III, or ATP III), released in 2002, recommends that patients with CHD and CHD risk equivalents achieve a target LDL cholesterol < 100 mg/dL.[33]
- The ATP III recommends initiating drug therapy (in addition to intensive lifestyle therapy) in patients with baseline cholesterol levels ≥130 mg/dL. For those with LDL levels between 100-129 mg/dL, therapeutic lifestyle changes should be initiated, and clinical judgment should be used to decide about lipid-lowering medication use.[33]
- In 2004, the Coordinating Committee of the National Cholesterol Education Program (NCEP) of the National Heart, Lung and Blood Institute proposed modifications to the ATP III guidelines, and endorsed optional treatment of patients at very high risk for a coronary event (including those with acute coronary syndromes) to achieve an LDL cholesterol level < 70 mg/dL.[34]
- The 2006 American Heart Association and American College of Cardiology (ACC/AHA) guidelines for secondary prevention for patients with coronary and other atherosclerotic vascular disease recommend that statins be started and continued indefinitely in high-risk coronary heart disease patients. In addition, ACC/AHA stated that it is reasonable to treat to LDL < 70 in such patients.[35]

**Source**

Health Benchmarks, Inc.

The following was adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification:

- Denominator definition of CAD and peripheral vascular disease
- HMSA modified the age criteria from 18-75 to 19-75 years of age by the end of the measurement year
- HBI modified the identification periods of denominator criteria [A], [B] and [C] from the “first 10 months of the measurement year” to the “year prior to the measurement year”
- HBI modified the CE from the “measurement year and year prior” to “0-365 days after the index date”

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
<th>Continuously enrolled members 19-75 years of age who had coronary artery disease or peripheral vascular disease.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator Index Date</td>
<td>First instance of members who had an AMI during the year prior to the measurement year or members who underwent a PTCA during the year prior to the measurement year or Members who underwent a CABG during the year prior to the measurement year or (members with at least one outpatient visit with an IVD diagnosis in the year prior to the measurement year and members with at least one inpatient visit with an IVD diagnosis in the measurement year) or (members with at least one outpatient visit with an IVD diagnosis in the year prior to the measurement year and members with at least one inpatient visit with an IVD diagnosis in the measurement year) or (members with at least one inpatient visit with an IVD diagnosis in the year prior to the measurement year and members with at least one inpatient visit with an IVD diagnosis in the measurement year) or (members with at least one inpatient visit with an IVD diagnosis in the year prior to the measurement year and members with at least one inpatient visit with an IVD diagnosis in the measurement year)</td>
<td></td>
</tr>
</tbody>
</table>

| Denominator Exclusion | Definition | Members with evidence of contraindications to statins including rhabdomyolysis any time prior to the end of the measurement year, acute renal failure during the year prior to through the year after the index date, liver dysfunction (acute or chronic) or alcoholism during the year prior to through the year after the index date, or who were pregnant during the 0-365 days after the index date. Also, members who were discharged as expired from the denominator qualifying AMI, CABG or PTCA. |

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Definition</th>
<th>Members who filled at least 1 prescription for a statin during the 0-365 days after the index date (inclusive of the index date).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator Claims Criteria</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

| Physician Attribution | Description | Score all physicians (in the selected specialties) who saw the member during 0-365 days after the index date (inclusive of the index date). |
References


16. Pedersen, T.R., et al., *Follow-up study of patients randomized in the*


1 Indicator Classification (Adapted from HEDIS® technical specifications)

Diagnosis
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

Effectiveness of Care
Prevention
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

Screening
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

Disease Management
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

Medication Monitoring
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

Medication Adherence
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

Utilization
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: TREATMENT OF MAJOR DEPRESSION

Disease State: Depression

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Psychiatric Association
- Institute for Clinical Systems Improvement
- National Institute for Clinical Excellence

Clinical Intent: To ensure that all eligible members newly diagnosed with major depression receive appropriate follow-up treatment and/or services.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden

- Major depression is a common and disabling disorder with extensive social, medical, and economic impact. Of the estimated 17.5 million Americans who are affected by some form of depression, 9.2 million have major or clinical depression.[1]
- The World Health Organization identified major depression as the fourth leading cause of worldwide disease in 2000, causing more disability than either ischemic heart disease or cerebrovascular disease. By the year 2020, the World Health Organization predicts that depression will be the second leading worldwide cause of disease.[2]
- The lifetime risk of major depressive disorder ranges from 10-25% in women and 5-12% in men.[3]
- Despite the potential risks and widely available evidence-based clinical guidelines, data suggest that many patients are not optimally managed. For example, less than one quarter of all adults diagnosed with depression receive treatment.[4]
- Between 1995-1996 and 2001-2002, the adult antidepressant visit rate (i.e., the number of visits with an antidepressant drug per 100 persons aged 18 and over) increased from 17 to 28 per 100 adults.[5]

Reason for Indicated Intervention or Treatment

- Treatment (pharmacotherapy, counseling, or pharmacotherapy AND counseling) for depression is associated with a reduction in depression symptoms and suicide rates as well as improved functioning and health status.[6-9]

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Evidence Supporting Intervention or Treatment

- Using at least a 50% improvement in depressive symptoms as an outcome, a meta-analysis of 81 trials comparing newer anti-depressants and placebos involving more than 10,000 adults with major depression in an outpatient setting undergoing acute phase treatment found that relative to placebo, treatment was more effective (relative benefit 1.6, [CI 1.5 to 1.7]).[10]
- Again using at least a 50% improvement in depressive symptoms as an outcome, a meta-analysis of 150 trials comparing newer anti-depressants to older antidepressants involving more than 16,000 adults found no difference between these categories (relative benefit 1.0 [CI 0.97 to 1.06]).[10]
- Overall, multiple studies have concluded that the evidence does not support favoring one class of antidepressant medication over another based on clinical outcomes, quality of life outcomes, or overall treatment costs.[5, 11-16]
- A recent meta-analysis suggested that a combination of psychotherapy and pharmacotherapy is more effective than pharmacotherapy alone. Combination therapy may be particularly useful in improving treatment adherence.[17]
- A randomized controlled trial of 240 outpatients compared the efficacy in moderate to severe depression of antidepressant medications with cognitive therapy in a placebo-controlled trial. At 8 weeks, response rates in medications (50%) and cognitive therapy (43%) groups were both superior to the placebo (25%) group. At 16 weeks, response rates were 58% in each of the active conditions and remission rates were 46% for medication and 40% for cognitive therapy. Cognitive therapy was found to be comparable but less effective than medication and the degree of effectiveness may depend on the level of therapist experience or expertise.[18]
- An analysis of National Vital Statistics from the Centers for Disease Control and Prevention in all U.S. counties found that increases in prescriptions for selective serotonin reuptake inhibitors (SSRIs) and other new-generation non-SSRIs are associated with lower suicide rates both between and within counties over time and may reflect antidepressant efficacy, compliance, a better quality of mental health care, and low toxicity in the event of a suicide attempt by overdose.[1, 4]
- A multicenter randomized controlled trial of 18 primary care clinics compared 1,801 elderly patients (age 60 and older) receiving the intervention protocol treatment for depression (pharmacotherapy or counseling) versus usual primary care treatment for depression. Intervention patients experienced significantly better physical functioning at one year than usual-care patients as measured using between-group differences on the PCS of 1.71 (95% confidence interval (CI) = 0.96-2.46) and IADLs of -0.15 (95% CI=-0.29 to -0.01). Intervention patients were also less likely to rate their health as fair or poor (37.3%
Clinical Recommendations

- The American Psychiatric Association (APA) treatment recommendations for major depressive disorders state that successful treatment requires a thorough assessment while treatment options include a number of medications, a variety of psychotherapeutic approaches, electroconvulsive therapy (ECT), and other treatment modalities (e.g., light therapy) that may be used alone or in combination.[19, 20]
- The APA recommended that optimal initial medication for depression for most patients are serotonin reuptake inhibitors (SSRIs) (including escitalopram and duloxetine), desipramine, nortriptyline, buspirone, and venlafaxine.[5]
- In 2005, the APA emphasized that patients with major depression are at higher risk of suicide and such suicide risk should be monitored initially and over the course of treatment.[21]
- The Institute for Clinical Systems Improvement (ICSI) guidelines for treatment of adult major depression support a range of treatment plans including psychotherapy and pharmacotherapy. The ICSI guidelines state that “[f]or antidepressant medications, adherence to a therapeutic dose and meeting clinical goals are more important than the specific drug selected.” However, they referred to SSRI as first-line therapies because of their superior side effect profile and effectiveness.[22, 23]
- In 2004, the National Institute for Clinical Excellence recommended that in members with mild depression who do not want intervention or in the opinion of the health care provider may recover without intervention, further assessment should be arranged within 2 weeks. All patients can benefit from psychotherapy. Patients with moderate depression should be routinely offered first-line antidepressant medication (i.e., SSRIs).[24]

Source

Health Benchmarks, Inc.

This measure was adapted using components from the 2009 Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specifications for Physician Measurement measure “Antidepressant Medication Management” and a published algorithm for using administrative data to identify patients with depression.[25]

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Denominator</td>
<td>Continuously enrolled members ages 19 years or older by the end of the measurement year who had a diagnosis of major depression at least once in an inpatient setting or twice in an outpatient or emergency room setting in the year starting 90 days prior to the start of the measurement year.</td>
</tr>
</tbody>
</table>

Denominator Index First instance of Members who had at least 1 encounter in an inpatient setting
Date

with a diagnosis of major depression during the 1 year period starting 90 days prior to the start of the measurement year or Members who had least 2 encounters in an outpatient or emergency room setting (on different dates of service) with a diagnosis of major depression during the 1 year period starting 90 days prior to the start of the measurement year.

Denominator Exclusion

Denominator Exclusion Definition

Members with an acute mental health inpatient stay during the 1-90 days after the index date (exclusive of the index date).

Numerator

Numerator Definition

Members who had evidence of treatment or follow-up for depression consisting of either a prescription for an antidepressant medication (0-90 days after the index date), an outpatient encounter in which depression was evaluated during the 1-90 days after the index date, or counseling with a mental health specialist during the 1-90 days after the index date.

Physician Attribution

Physician Attribution Description

Score all physicians (in the selected specialties) who saw the member during the 0-90 days after the index date.

References

22. ICSI. Major Depression in Adults for Mental Health Care. 2004 [cited 2005 2 June].
1 Indicator Classification (Adapted from HEDIS® technical specifications)

Diagnosis Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

Effectiveness of Care

Prevention Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

Screening Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

Disease Management Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

Medication Monitoring Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

Medication Adherence Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

Utilization Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
<table>
<thead>
<tr>
<th>Client</th>
<th>HMSA: PQSR 2010</th>
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</thead>
<tbody>
<tr>
<td>Measure Title</td>
<td>TREATMENT OF MAJOR DEPRESSION: OPTIMAL PRACTITIONER CONTACTS</td>
</tr>
<tr>
<td>Disease State</td>
<td>Major Depression</td>
</tr>
<tr>
<td>Strength of Recommendation</td>
<td>B</td>
</tr>
<tr>
<td>Organizations Providing Recommendation</td>
<td>American Psychiatric Association</td>
</tr>
<tr>
<td>Clinical Intent</td>
<td>To ensure that all members newly diagnosed with major depression who received medication have appropriate follow-up treatment and/or services.</td>
</tr>
<tr>
<td>Physician Specialties (suggested)</td>
<td>Refer to PQSR 2009 Clinical Measures by Specialty.</td>
</tr>
<tr>
<td>Background</td>
<td>Disease Burden</td>
</tr>
<tr>
<td></td>
<td>• Major depression is a common and very disabling disorder with extensive social, medical, and economic impact. Of the estimated 17.5 million Americans who are affected by some form of depression, 9.2 million have major or clinical depression.[1]</td>
</tr>
<tr>
<td></td>
<td>• The World Health Organization identified major depression as the fourth leading cause of worldwide disease in 1990, causing more disability than either ischemic heart disease or cerebrovascular disease.[2]</td>
</tr>
<tr>
<td></td>
<td>• In 2001-02, more than one in ten non-institutionalized adult Americans were estimated to have had a major depressive disorder at some point in their lifetime, with 6.6% having a major depressive disorder during the past 12 months.[3]</td>
</tr>
<tr>
<td></td>
<td>• Despite the potential risks and widely available evidence-based clinical guidelines, data suggest that many patients are not being managed optimally. For example, only about 65% of all adults diagnosed with depression receive treatment [4, 5], and the mean HEDIS benchmark for optimal practitioner contacts is only 20.3%.[6]</td>
</tr>
<tr>
<td>Reason for Indicated Intervention or Treatment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Despite the importance of sustained intervention for depressed patients, the rates of maintaining continuity of treatment are low. For instance, evidence shows that only 1 in 5 patients sees a health care provider for the recommended number of visits following a diagnosis of a new episode of depression.[7]</td>
</tr>
<tr>
<td>Evidence Supporting Intervention or Treatment</td>
<td></td>
</tr>
</tbody>
</table>
| | • Randomized, controlled trials have shown that active outreach and
intensive follow-up (i.e., monthly visits, telephone care management or psychotherapy) lead to improved outcomes for major depression over usual care.[8-11]

- Other studies have demonstrated the feasibility of this type of intervention.[12-14]
- Randomized, controlled trials have shown that collaborative care programs that involve enhanced patient education (via pamphlets and videotapes) and integration of several psychiatric visits into the primary care treatment of patients with depression significantly enhanced outcomes compared with usual care.[15, 16]

**Clinical Recommendations**

- The Institute for Clinical Systems Improvement (ICSI) guideline for major depression in adults gives a grade A recommendation for establishing and maintaining initial follow-up contact intervals (office, phone, other) during the acute phase of illness. The guideline states “If symptoms are severe, weekly contacts are appropriate. Contact should be every 2-4 weeks if mild or moderate symptoms are present. This protocol should be in place until remission or best possible response is achieved, then treatment should be spaced out as clinically warranted. Contacts for maintenance medication can occur every 3-12 months if everything else is stable.”[17, 18]
- The American Psychiatric Association recommends that during the acute phase, “Visits should be frequent enough to monitor and address suicidality and to promote treatment adherence. In practice, the frequency of monitoring during the acute phase of pharmacotherapy can vary from once a week in routine cases to multiple times per week in more complex cases.”[19]
- The Veterans Health Association / Department of Defense Guideline for the treatment of MDD recommends that “Patients should be seen to monitor clinical status and side effects at one week (optimally) and no later than 2 weeks after an antidepressant is started. If there is a response to a particular antidepressant after two weeks of treatment, the patient should be re-assessed at four weeks and at six weeks after initiation of antidepressant treatment. Thereafter, the patient should ideally be monitored monthly throughout the acute phase of treatment.”[20]

**Source**

Adapted from Healthcare Effectiveness Data and Information Set (HEDIS®) 2008 Technical Specification:

- HMSA does not receive phone consultation codes and thus removed their codes from the numerator
- HMSA modified the numerator to only require 2 follow-up visits instead of 3
- HMSA modified the numerator to only require 1 visit with a prescribing practitioner rather than 2
### Denominator

**Definition**
Members ages 18 years or older as of the 120th day of the measurement year, who were newly diagnosed with major depression and who began antidepressant therapy during the 1 year period beginning 245 days before the measurement year, and who were continuously enrolled for 120 days prior to 245 days after their diagnosis date.

### Denominator Exclusion

**Exclusion Definition**
Members with a prior history of depression, antidepressant medication, an acute mental health/substance abuse inpatient stay during the 120 days before the index date, or a primary diagnosis of chronic depressive personality disorder in a facility for depressive neuroses during the 1 year period beginning 245 days prior to the start of the measurement year.

### Numerator

**Definition**
Members who had 2 or more outpatient visits (not including the index diagnosis date) with a mental or non-mental health practitioner during the 1-84 days after the index date. All follow-up visits are to be for mental health. At least 1 visit must be with a prescribing physician*.

### Physician Attribution

**Description**
Score the physician (in the selected specialties) who prescribed the denominator antidepressant (i.e. denominator criteria [D]) and also score all physicians (in the selected specialties) who came in contact with the member 0-84 days after the index date.

### References

9. Wells, K., et al., Five-year impact of quality improvement for depression:


17. ICSI. Major Depression in Adults for Mental Health Care. 2004 [cited 2005 2 June].


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Measure Title: USE OF DIURETICS AS FIRST LINE THERAPY FOR NEW STARTS ON ANTIHYPERTENSIVE PHARMACOTHERAPY

Disease State: Hypertension

Strength of Recommendation: A

Organizations Providing Recommendation:
- Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure
- Institute for Clinical Systems Improvement

Clinical Intent: To ensure that eligible members receiving anti-hypertensive pharmacotherapy are initially treated with a thiazide diuretic

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- 73.6 million Americans are hypertensive (i.e., one in four U.S. adults). In addition to being listed as the primary cause of more than 56,000 deaths, hypertension was listed as a cause of death in 319,000 patients.[1]
- Hypertension is the most frequently reported primary diagnosis for office visits of non-pregnant adults to physicians in the United States, accounting for approximately 44,897,000 visits per year.[1]
- The most recent World Health Organization report identified hypertension as the single most important cause of premature death in developed countries.[2]
- The estimated direct and indirect cost due to hypertension is $73.4 billion.[1]

Reason for Indicated Intervention or Treatment
- Hypertension is a risk factor for myocardial infarction, stroke, renal failure, heart failure, and dementia.[1-3]
- Control of hypertension is a long-term independent predictor of mortality.[1, 4, 5] Lowering systolic blood pressure by 10 to 12 mm Hg and diastolic blood pressure by 5 to 6 mm Hg reduces the risk of stroke by 40% and the risk of death from any cardiovascular cause by 20%.[6, 7]
- Thiazide diuretics are less expensive than other antihypertensive drugs [8], but remain underutilized despite their benefit.[9]
Evidence supporting Intervention or Treatment

- A meta-analysis of 42 clinical trials including 192,478 patients randomized to 7 treatment strategies (including placebo) showed that low-dose diuretics were superior to placebo for all outcomes (coronary heart disease, congestive heart failure (CHF), stroke, cardiovascular disease events and cardiovascular disease mortality). Beta-blockers (BBs), angiotensin converting enzyme inhibitors (ACEIs), calcium channel blockers (CCBs), alpha-blockers and angiotensin receptor blockers (ARBs) were not significantly better than low-dose diuretics for any outcome. Low-dose diuretics were associated with reduced risks of cardiovascular disease events and CHF when compared with CCBs, ACEIs and alpha-blockers, and with reduced risks of stroke when compared to ACEIs. There was also a reduced risk of cardiovascular disease events when compared to BBs.[10-13]

- ALLHAT, a randomized prospective study of 42,418 patients from Canada and the U.S. with hypertension and one additional risk factor for coronary heart disease, showed a similar incidence of fatal coronary heart disease, nonfatal myocardial infarction, and all-cause mortality for chlorthalidone (thiazide diuretic), amlodipine (a CCB) and lisinopril (an ACE inhibitor). Patients taking lisinopril and amlodipine developed heart failure at higher rates than those on chlorthalidone, and those on lisinopril also had higher rates of combined cardiovascular disease outcomes and strokes. The study arm evaluating doxazosin (alpha-adrenergic blocker) was terminated early due to an increase in the risk of heart failure compared to chlorthalidone.[7]

Clinical Recommendations

- The seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) guidelines recommend that if blood pressure goals are not achieved with lifestyle modification, thiazide-type diuretics should be used as initial therapy for most patients, either alone or in combination with one of the other drug classes (ACEIs, ARBs, BBs, CCBs). Selection of one of the other agents as initial therapy is recommended when a diuretic cannot be used or a compelling indication (i.e., heart failure, chronic renal disease, or diabetes) is present that requires the use of a different class of drug.[8]

- A 2008 Institute for Clinical Systems Improvement guideline states that “a thiazide-type diuretic should be considered as initial therapy in most patients with uncomplicated hypertension.”[14]

- The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) collaborative research group concluded that thiazide-type diuretics are superior in preventing some adverse cardiovascular outcomes and should be preferred for first-step antihypertensive therapy.[7]

Source

Health Benchmarks, Inc.
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<td><strong>Denominator</strong></td>
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<td><strong>Denominator Exclusion Definition</strong></td>
<td>Members with any of the following: a prior prescription for anti-hypertensive medication during the 1-365 days prior to the index date, increased cardiovascular risk (a diagnosis of diabetes, renal disease or failure, heart failure, or myocardial infarction), evidence of coronary artery disease, evidence of contraindications for diuretics (i.e., hypokalemia, hypomagnesaemia, gout, systemic lupus erythematosus, chronic liver disease), or pregnancy during the 0-365 days prior to the index date.</td>
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<th><strong>References</strong></th>
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1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
Strength of Recommendation Based on a Body of Evidence

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: USE OF NASAL STEROIDS AS A FIRST LINE AGENT FOR THE TREATMENT OF MODERATE TO SEVERE ALLERGIC RHINITIS

Disease State: Allergic Rhinitis

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Family Physicians
- Agency for Healthcare Research and Quality
- Institute for Clinical Systems Improvement
- American Academy of Allergy, Asthma, and Immunology
- European Academy of Allergology and Clinical Immunology

Clinical Intent: To ensure that eligible members with moderate to severe allergic rhinitis receive nasal steroid medication as a first line agent for treatment.

Background: Disease Burden
- Allergic rhinitis is the sixth most common chronic illness [1] affecting 20-40 million Americans.[2] According to the World Allergy Association, allergic rhinitis accounted for 36 million physician visits annually in the 1990s.[3]
- Allergic rhinitis affects between 10% and 30% of adults, and up to 40% of children.[4]
- Patients with allergic rhinitis experience fatigue, headache, lack of sleep, and diminished ability to participate in physical activities.[5]
- Allergic rhinitis also reduces quality of life, and negatively impacts cognitive functioning.[6-8]
- A survey of 2000 patients with moderate to severe disease found 70% were embarrassed with their symptoms and 90% felt their condition impaired work or classroom performance.[9]
- Spending for both direct and indirect medical costs is estimated at between 1.5 and 2 billion dollars per year.[10]

Reason for Indicated Intervention or Treatment
- Intranasal steroids reduce inflammation and have been proven effective in treating patients with more severe and chronic conditions.[11]

Evidence Supporting Intervention or Treatment
- A meta-analysis of 16 prospective randomized controlled trials
comparing several different nasal corticosteroids with both sedating and non-sedating antihistamines found steroids to be superior in providing relief for nasal blockage, discharge, sneezing, itching and drainage.[11]

- Nasal steroids are more cost-effective than antihistamines; three economic reviews have addressed cost effectiveness and each favored nasal steroids compared to H1 receptor antagonists.[11]
- Another meta-analysis, which included 8 additional studies with a total of 3,333 patients, reported significant improvement of nasal symptoms with steroids compared to antihistamines in 7 of 8 studies.[12] Other studies have found that intranasal glucocorticosteroids are more effective than both antileukotriene drugs and antileukotriene-antihistamine combination medications for the control of nasal symptoms.[13]
- A more recent report by the AHRQ found that nasal symptom relief provided by combination decongestant/steroid therapy was similar to that provided by steroid alone.[14]
- When compared to loratadine, patients taking nasal steroids for seasonal allergies report greater improvements in symptomatology, sleeping, ability to perform activities and in overall quality of life.[15]

**Clinical Recommendations**

- Guidelines released jointly by the American Academy of Family Physicians (AAFP) and the Agency for Healthcare Research and Quality (AHRQ) in 2002 recommend nasal steroids over antihistamines for treatment of moderate to severe allergic rhinitis.[16]
- The Institute for Clinical Systems Improvement (ICSI) released guidelines in 2003 stating that “intranasal corticosteroids are the most effective single agents for controlling the spectrum of allergic rhinitis symptoms and should be considered as first line therapy in patients with moderate to severe symptoms.”[17]
- The Allergy Report, released by the American Academy of Allergy, Asthma, and Immunology, states that “intranasal corticosteroids are first line therapy when obstruction is a major component of allergic rhinitis,” and “antihistamines are generally ineffective for treating intranasal congestion.”[18]
- The European Academy of Allergology and Clinical Immunology recommended nasal corticosteroid as first-line treatment for moderate or severe rhinitis, particularly if the rhinitis is accompanied by nasal congestion.[19]

**Source**

Health Benchmarks, Inc

**Denominator**

- Denominator Definition: Continuously enrolled members ages 7 years and older by the end of the year prior to the measurement year, who received at least 2 diagnosis of allergic rhinitis during a face to face outpatient visit during the measurement year.
Denominator Index
Date

Denominator Exclusion

Denominator Exclusion Definition
N/A

Denominator Exclusion Claims Criteria
N/A

Numerator

Numerator Definition
Members who had at least 1 prescription for a nasal corticosteroid during the measurement year.

Numerator Claims Criteria
N/A

Physician Attribution

Physician Attribution Description
Score all physicians (in the selected specialties) who diagnosed the member with allergic rhinitis during the measurement year. Note that because more than one diagnosis is required, it is possible to attribute to more than one physician.

References


1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**

Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**

Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**

Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?
- Yes → Strength of Recommendation not needed
- No → Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)
  - Yes → Strength of Recommendation = C
  - No → Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?
    - Yes → Is the recommendation based on one of the following?
      - Cochrane Review with a clear recommendation
      - USPSTF Grade A recommendation
      - Clinical Evidence rating of Beneficial
      - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
      - Validated clinical decision rule in a relevant population
      - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same
        - No → Strength of Recommendation = B
        - Yes → Strength of Recommendation = A
    - No → Strength of Recommendation = C

**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Measure Title: USE OF SPIROMETRY TESTING IN THE ASSESSMENT AND DIAGNOSIS OF COPD

Disease State: COPD

Indicator Classification: Diagnosis

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Association for Respiratory Care
- American Thoracic Society
- Institute for Clinical Systems Improvement
- National Heart, Lung and Blood Institute
- World Health Organization

Clinical Intent: To ensure that all members 40 years of age and older with a new diagnosis or newly active chronic obstructive pulmonary disease (COPD) receive an appropriate spirometry test to confirm the diagnosis within a clinically appropriate timeframe.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- In 2003, COPD was responsible for 15.4 million office visits. In 2007, total annual costs were estimated to exceed $42.6 billion ($26.7 billion for direct healthcare costs). Furthermore, COPD is the fourth leading cause of death in the US and is projected to be the third leading cause of death by the year 2020.[1]
- In 2007, approximately 12 million U.S. adults were estimated to have COPD.[1] However, an estimated additional 12 million adults have undiagnosed COPD.[1]
- There is a strong relationship between severity of COPD and the cost of care. As disease progresses, the distribution of cost of care changes.[2]
- Prevalence of COPD increases with age and has been shown to be higher in people 40 years and older than those younger than 40.[2]

Reason for Indicated Intervention or Treatment
- Despite evidence-based guidelines, awareness and understanding of COPD is lacking regarding key COPD guideline criteria, recommendations, and implementation of treatment strategies.[1, 3]
- COPD is often misdiagnosed as asthma. This is problematic because guidelines for assessment and management of the two diseases are quite different.[4]
- The peer-reviewed journal of the American College of Chest Physicians
(CHEST) states, “Although there is no cure for COPD, early detection is important for effective disease management. A predominant number of patients with early stage COPD receive initial medical care through primary care physicians; however, many remain undiagnosed because their physicians do not regularly screen for the disease. Without the use of spirometry by primary care physicians, nearly half of patients with COPD will remain undiagnosed.”[4]

- Spirometers represent an effective and objective way to measure the volume and flow of air that can be inhaled and exhaled.[5]

**Evidence Supporting Intervention or Treatment**

- In one large trial, physicians were asked prior to and following presentation of spirometry test results if they thought airflow obstruction was present and if they planned to change management based on the results. A new diagnosis of unsuspected airflow obstruction was made by the physician in 93 patients (9%), and a prior diagnosis of airflow obstruction was removed after spirometry in 115 patients (11%). After viewing the spirometry results, physicians reported that they would change patient management in 154 patients (15%).[6]

- Despite the favorable evidence, several studies report underutilization of spirometry to confirm COPD diagnosis. One retrospective claims study of 66,744 patients found that only 33.7% were given a spirometry test (inclusive of confirmatory tests and acute exacerbations).[7] Another study of 5,039 COPD patients found a similar frequency at 32% testing.[8]

**Clinical Recommendations**

- The American Thoracic Society/European Respiratory Society strongly favor confirmation of COPD by spirometry, which allows physicians to also assess the severity of disease.[9]

- The Institute for Clinical Systems Improvement supports the use of spirometry to establish diagnosis and evaluate severity of COPD.[10]

- The National, Heart, Lung, and Blood Institute and the World Health Organization organized the Global Initiative for Chronic Obstructive Lung Disease (GOLD) which also recommends that patients diagnosed with COPD should receive confirmation through spirometry. For the diagnosis and assessment of COPD as quoted by the GOLD Initiative, “spirometry is the gold standard because it is the most reproducible, standardized, and objective way of measuring airflow limitation.”[2]

**Source**

Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

**Denominator**

**Denominator Definition**

Continuously enrolled members ages 42 or older by the end of the measurement year who had a new diagnosis or newly active chronic obstructive pulmonary disease (COPD) in the 1 year period starting 6 months prior to the measurement year.
Denominator Index

First instance of Members diagnosed with chronic bronchitis in an outpatient setting during the 1 year period starting 6 months prior to the measurement year or Members diagnosed with emphysema in an outpatient setting during the 1 year period starting 6 months prior to the measurement year or Members diagnosed with COPD in an outpatient setting during the 1 year period starting 6 months prior to the measurement year or the first instance of the discharge date of Members diagnosed with chronic bronchitis in an inpatient setting during the 1 year period starting 6 months prior to the measurement year or Members diagnosed with emphysema in an inpatient setting during the 1 year period starting 6 months prior to the measurement year or Members diagnosed with COPD in an inpatient setting during the 1 year period starting 6 months prior to the measurement year.

Denominator Exclusion

Members with any COPD related diagnosis during the 1-730 days prior to the date of service of the first instance of Members diagnosed with chronic bronchitis in an outpatient setting during the 1 year period starting 6 months prior to the measurement year or Members diagnosed with emphysema in an outpatient setting during the 1 year period starting 6 months prior to the measurement year or Members diagnosed with COPD in an outpatient setting during the 1 year period starting 6 months prior to the measurement year or the first instance of the discharge date of Members diagnosed with chronic bronchitis in an inpatient setting during the 1 year period starting 6 months prior to the measurement year or Members diagnosed with emphysema in an inpatient setting during the 1 year period starting 6 months prior to the measurement year or Members diagnosed with COPD in an inpatient setting during the 1 year period starting 6 months prior to the measurement year.

Numerator

Members who received spirometry testing in the 730 days prior through 180 days after the index date (inclusive of the index date).

Physician Attribution

Score all physicians (in the selected specialties) who saw the member 0-180 days after the index date (inclusive of the index date).

References

1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

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<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tr>
<td>Diagnosis</td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).</td>
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<td>Effectiveness of Care</td>
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<td>Prevention</td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).</td>
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<td>Screening</td>
<td>Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).</td>
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<td>Disease Management</td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
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</table>
2 Strength of Recommendation

**Strength of Recommendation Based on a Body of Evidence**

1. Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label? 
   - No: Strength of Recommendation not needed
   - Yes: Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost)?
     - No: Strength of Recommendation = C
     - Yes: Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?
       - No: Strength of Recommendation = B
       - Yes: Is the recommendation based on one of the following?
         - Cochrane Review with a clear recommendation
         - USPSTF Grade A recommendation
         - Clinical Evidence rating of Beneficial
         - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
         - Validated clinical decision rule in a relevant population
         - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

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**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Health Benchmarks®
Clinical Quality Indicator Specification 2009

Client: HMSA: PQSR 2010

Measure Title: VISUAL FIELD TEST FOR PATIENTS WITH SUSPECTED GLAUCOMA

Disease State: Suspected glaucoma

Indicator Classification: Screening

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Academy of Ophthalmology
- American Optometric Association

Clinical Intent: To ensure that eligible members diagnosed with suspected glaucoma receive a visual field test or optic nerve evaluation at the clinically appropriate frequency.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: Disease Burden
- Glaucoma is the leading cause of irreversible blindness in the world. The Eye Disease Prevalence Research Group estimated that in the year 2000, glaucoma affected 2.22 million people in the United States. This number is projected to increase to 3.36 million by 2020.[1]
- The term glaucoma suspect describes a person with one or more risk factors that may lead to glaucoma, but who is without definite glaucomatous optic nerve damage or visual field defects. Overlap may exist between findings in patients with early stage glaucoma and those who are disease-free glaucoma suspects.[2]
- Five to ten million Americans with ocular hypertension have intraocular pressures (IOP) above 21 mm Hg without evidence of damage. Many of these patients are treated, but the indications for treatment are not clear-cut. Others without ocular hypertension are glaucoma suspects due to the suspicious appearance of the optic nerve head or other risk factors.[2]

Reason for Indicated Intervention or Treatment
- Screening for evidence of disease progression and adjusting therapy as needed may protect against further vision impairment or reduced quality of life.[3]
- Patients with ocular hypertension are at higher risk for developing glaucomatous visual field loss if discs are suspect or if the patient is of greater age.[4] Elevated intraocular pressure is considered to be the most important risk factor for developing primary open-angle glaucoma (POAG).[5]
Late detection of glaucoma means that more irreversible loss of visual field has occurred and can make the condition more difficult to treat effectively.[3]

Evidence Supporting Intervention or Treatment
- No well designed trials have specifically evaluated if routine visual field testing alone in patients with suspected glaucoma or at increased risk for glaucoma is associated with slower disease progression, with the assumption that earlier detection would result in treatment which would slow damage to the optical nerve.
- A recent meta-analysis of several trials has found that reducing intraocular pressure prevents progression to glaucoma (hazard ratio 0.56, 95%CI 0.39-0.81) as well as delaying visual field deterioration for those with glaucoma (hazard ratio 0.65, 95%CI 0.48-0.87).[6]
- The USPSTF presented evidence that screening can detect increased intraocular pressure (IOP) and early primary open-angle glaucoma (POAG) in adults. The USPSTF also presented evidence that early treatment of adults with increased IOP detected by screening reduces the number of persons who develop small visual field defects and that early treatment of those with early asymptomatic POAG decreases the number of those whose visual field defects progress. The evidence, however, is insufficient to determine the extent to which screening (leading to the earlier detection and treatment of people with IOP or POAG) would reduce impairment in vision-related function or quality of life.[7]
- The USPSTF presented evidence that treatment of increased IOP and early POAG result in a number of harms, including local eye irritation and an increased risk for cataracts.[7]
- Given the uncertainty of the magnitude of benefit from early treatment and the known harms of screening and early treatment, the USPSTF could not determine the balance between the benefits and harms of screening for glaucoma.[7]

Clinical Recommendations
- The 2005, American Academy of Ophthalmology’s Primary Open-Angle Glaucoma Suspect Guidelines state that all patients with suspected glaucoma should be screened with a visual field test, and that follow up visits should occur between 3 and 24 months later, depending on whether the patient is undergoing treatment, high risk, and whether target intraocular pressure is achieved.[8, 9]
- The United States Preventive Services Task Force recommends that individuals at increased risk for glaucoma should be referred to an eye specialist who has access to specialized equipment to evaluate the optic disc and measure visual fields.[10]
- The American Optometric Association recommends that individuals with one or more risk factors, who have higher probabilities of developing primary open angle glaucoma (POAG), need more frequent evaluation to rule out the presence of the earliest clinical signs of glaucoma. This
evaluation should be done at least yearly in the absence of complicating factors, but perhaps more often, depending on the person's relative risk of developing glaucoma. New glaucoma patients or new glaucoma suspects should follow-up weekly to biweekly in order to attain their target pressure. Glaucoma suspects should seek follow-up every 6 to 12 months, depending on level of risk.[11, 12]

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<td>Definition</td>
<td>Continuously enrolled members with at least 1 primary diagnosis of borderline (suspected) glaucoma made by an ophthalmologist or optometrist in an outpatient setting during the 1 year period beginning 1 month before the year prior to the measurement year.</td>
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<td>Denominator Exclusion Claims Criteria</td>
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<td>Members who had at least 1 follow-up visual field test or optic nerve evaluation by an ophthalmologist or optometrist during the 0-13 months after the index date.</td>
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<td><strong>Physician Attribution</strong></td>
<td>Score all physicians (in the selected specialties) who saw the member 0-13 months after the index date.</td>
</tr>
</tbody>
</table>

**References**


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1 *Indicator Classification* (Adapted from HEDIS® technical specifications)

**Diagnosis**

Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**

Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**

Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**

Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
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2 **Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**
FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)
Client: HMSA: PQSR 2010

Measure Title: X-RAY PRIOR TO MRI OR CAT SCAN IN THE EVALUATION OF LOWER BACK PAIN

Disease State: Back pain  
**Indicator Classification**¹ Utilization

Strength of Recommendation: B

Organizations Providing Recommendation: 
- American Academy of Family Physicians
- American Academy of Neurology
- American College of Physicians
- Agency of Health Care Policy and Research
- American Pain Society
- Institute for Clinical Systems Improvement

Clinical Intent: To ensure that an x-ray is conducted prior to an MRI for eligible members diagnosed with lower back pain.

Physician Specialties: Refer to PQSR 2010 Specialty Matrix

Background: **Disease Burden**
- According to the 2002 National Ambulatory Medical Care Survey, low back pain was the most frequent cause of pain reported by patients seeking outpatient medical care. Approximately 26% of patients surveyed reported experiencing low back pain within the last 3 months, and 2% of primary diagnoses for office visits during that year were for low back pain.[1]
- Total costs of low-back pain exceed $100 billion per year[2], of which greater than $20 billion is from direct costs.[3] Individuals with back pain incurred 60% higher health care costs per capita than those without back pain.[3]
- Examination of Medicare data from 1996 to 1997 indicated that rates of advanced spinal cord imaging vary 5.5-fold across all geographic regions and account for 22% of overall spine surgery rates.[4]
- The use of MRI for patients with low back pain is increasing. Between 1987 and 1990, MRI utilization increased 3.4-fold. As a consequence of this increased imaging, costs rose $70-$170 million.[5]

**Reason for Indicated Intervention or Treatment**
- Early or frequent use of advanced imaging of the spine, CT or MRI, is discouraged because disk and other abnormalities are common among asymptomatic adults and the predictive value of such tests has not been proven.[6-9]
- Guidelines for the treatment of lower back pain recommend conservative
treatment and consider imaging studies to be of less value than proper physical examination and a review of the patient’s history. However, X-rays are recommended as the first line diagnostic tool when the history suggests spinal disease. In typical patients with lower back pain or radiculopathy, MRI has not been found to be of value for the planning of conservative care.[9-12]

- MRI of the spine, on the other hand, has been shown to have little clinical benefit in comparison to X-rays and to increase the number of surgical procedures performed.[4, 13] Also, in comparison to X-rays, the use of MRI to diagnose cancer is ten times more expensive.[14]

**Evidence Supporting Intervention or Treatment**

- Several studies demonstrate that the routine use of MRI for patients with simple low back pain cannot be recommended. MRIs do not improve clinical outcome, may increase costs, and do not identify any occult serious pathology.[13, 15, 16]

- A comparison of the use of MRI to plain radiograph in a randomized, controlled trial of 380 patients over the age of 18 whose primary doctor had ordered that their low back pain be evaluated by radiograph found that nearly identical functional and pain outcomes resulted for patients regardless of the imaging done. However, MRI did lead to higher numbers of surgical procedures and hence, as suggested by the study’s authors, also led to higher costs of care for these patients.[13]

- Swedlow et al. retrospectively examined two groups of physicians reimbursed by the California Workers Compensation program to understand their referral practices. This comparative study found that physicians tended to favor imaging techniques like MRI when they owned or had an interest in the imaging facility, and that in 38% of these cases, the MRI was deemed to be medically unnecessary compared to only 28% of cases when the physician did not have a similar interest.[17]

- A review of a random 5% sample of Medicare’s National Claims History Part B files showed that rates of advanced spinal imaging accounted for 22% of the variability in overall spine surgery rates and 14% of the variability in lumbar stenosis surgery rates leading the study’s authors to conclude that a significant proportion of the variation in rates of spine surgery can be explained by differences in the rates of advanced spinal imaging.[4]

- A meta-analysis of literature surrounding low back imaging determined that X-rays are an appropriate diagnostic tool when the back pain is potentially complicated by metastatic cancer, fracture, and ankylosing spondylitis.[11]

- Alternatively, MRI was found to be most useful in few (approximately 7%) of cases of low back pain. These include arachnoiditis, spinal stenosis, osteomyelitis, disc space infection, malignant infiltration of the bone marrow, and spinal dysraphism.[6, 11]

- A systematic review published in the Annals of Internal Medicine
suggests that first line MRI use is indicated in patients with a history suggestive of lumbar spinal stenosis, neurological deficit, radiculopathy with or without urinary or fecal retention or incontinence, saddle anesthesia, or abscesses.[11]

- MRI of asymptomatic patients has shown that many individuals exhibit signs of disk trauma without back pain. For instance, in one study of 98 asymptomatic patients given a back MRI, only 36% exhibited normal disks at all levels.[7] In a review of 4 studies looking at MRI results for asymptomatic individuals ranging in average age from 35 to more than 60 years, rates of many back problems occurred at very high average rates, including: herniated disks (32%), bulging disks (58%), degenerative disks (71%), and stenosis (10%).[6]

- A cost-estimate of different strategies for identifying cancer using Medicare data and evidence-based prevalence rates found that if MRI alone were used to diagnose cancer when a patient’s history suggests this as a possible cause of low back pain, then the cost per cancer found would be $49,814 as opposed to $5,283 if a conservative strategy of ESR and X-ray were first used to identify potential follow-up cases.[14]

Clinical Recommendations

- A recent joint guideline issued by the American College of Physicians and the American Pain Society states the following:
  - MRI or CT be used in patients who have severe or progressive neurologic deficits or are suspected of having a serious underlying condition (such as vertebral infection, cauda equina, or cancer with impending spinal cord compression), (strong recommendation, moderate-quality evidence) and only if they are potential candidates for surgery or epidural steroid injection (strong recommendation, moderate-quality evidence).[18]
  - Plain radiography is recommended for initial evaluation of possible vertebral compression fracture.
  - Plain radiography is a reasonable initial option for persistent low back pain for more than 1 to 2 months with no symptoms suggesting radiculopathy or spinal stenosis.

- A 2006 guideline from the Institute for Clinical Systems Improvement states:
  - CT or MRI is indicated in the following situations:
    - Major or progressive neurologic deficit
    - Cauda Equina Syndrome (loss of bowel or bladder control or saddle anesthesia)
    - Progressively severe pain and debility despite conservative therapy
    - Severe or incapacitating back or leg pain
    - Clinical or radiological suspicion of neoplasm
  - Use of MRI alone is indicated in:
    - Clinical or radiological suspicion of infection
    - Trauma
    - Severe low back pain or radicular pain, unresponsive to
conservative therapy, with indications for surgical intervention

- Use of CT alone is indicated in:
  - Bone tumors (to detect or characterize)
  - Severe or incapacitating back or leg pain (e.g., requiring hospitalization, precluding walking, or significantly limiting the activities of daily living)[19]

- The American Academy of Family Physicians suggests using a conservative course of management for low back pain, citing evidence that radiographs and laboratory tests are generally unnecessary, except in cases where a serious cause is suspected (infection, malignancy, rheumatologic diseases and neurologic disorders). The current recommendation is two or three days bed rest for patients with acute radiculopathy. The treatment should be reassessed in patients who do not return to normal activity within four to six weeks.[20]

- The Quality Standards Subcommittee of the American Academy of Neurology recommends the following regarding use of MRI in lower back pain: “Nonsurgical therapy is recommended before the application of further diagnostic imaging procedures in adult patients with [lower back pain] of less than 7 weeks duration when, after clinical evaluation by history and physical examination (1) the most likely diagnosis is confined to symptomatic low back pain alone, (2) there is no evidence of motor, sensory, reflex, sphincter or autonomic deficit, and (3) there is no evidence of significant trauma, infection or neoplasia. After 7 weeks, patients still symptomatic may undergo further clinical investigation”. Class II evidence.[21]

**Source**

Health Benchmarks, Inc.

The following items were adapted from Health Plan Employer Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement:

- Denominator definition of lower back pain from “Use of Imaging for Low Back Pain” [lowback28] (note that other diagnosis codes deemed acceptable by HBI’s clinical team are incorporated into this measure, as well)

**Denominator**

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<td>Denominator Definition</td>
<td>Continuously enrolled members ages 18 years and older by the end of the measurement year who received a primary diagnosis of lower back pain and underwent an MRI or CT scan of the lumbar spine during the measurement year.</td>
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**Denominator Index**

First instance of Members who had an MRI or CT scan of the lumbar spine after
Date

the first diagnosis of low back pain through the end of the measurement year (excludes cases where the first instance of denominator [Members who had a primary diagnosis for lower back pain or injury during the measurement year] and denominator criterion [Members who had an MRI or CT scan of the lumbar spine after the first diagnosis of low back pain through the end of the measurement year] occur on the same date of service).

Denominator Exclusion

Denominator Exclusion Definition

Members with a diagnosis of infection, persistent neurologic deficit, spinal stenosis, epidural abscess, anterior spinal cord infarct, discitis, abnormal weight loss, long-term steroid use, disc herniation, scoliosis, tuberculosis, intravenous drug use or pregnancy on the index date or during the 12 months prior. Members who have a diagnosis of cancer, HIV, or rheumatoid arthritis any time in their history. Additionally, members whose back pain diagnosis and MRI or CT scan occur on the same date of service.

Numerator

Numerator Definition

Members who had a radiograph of the spine in the 0-12 months prior to the index date (exclusive of the index date).

Physician Attribution

Physician Attribution Description

Score all physicians (in the selected specialties) who diagnosed the patient with lower back pain or injury during the 0-12 months prior to the index date (including the index date).

References

1 **Indicator Classification** (Adapted from HEDIS® technical specifications)

**Diagnosis**
Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
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