



Complete Summary

TITLE

Advanced chronic kidney disease (CKD): percent of patients with anemia work-up.

SOURCE(S)

Renal Physicians Association. Appropriate patient preparation for renal replacement therapy. Rockville (MD): Renal Physicians Association; 2002 Oct 1. 78 p. (Clinical Practice Guideline; no. 3).

Brief Abstract

DESCRIPTION

This measure assesses the percent of patients with advanced chronic kidney disease (CKD) and hemoglobin (Hb) less than 12 g/dL who have had an anemia work-up.

RATIONALE

Anemia is common in patients with advanced chronic kidney disease (CKD) and can lead to a variety of detrimental effects. In addition to the direct effects of anemia on performance and ischemic symptoms, it has also been suggested that mortality and major complications during end-stage renal disease (ESRD) are associated with anemia that develops early in the course of CKD. Correcting anemia before the initiation of renal replacement therapy (RRT) may improve health outcomes.

Iron deficiency is the most common cause of anemia in advanced CKD and can lead to erythropoietin resistance. Many secondary causes of anemia are treatable.

PRIMARY CLINICAL COMPONENT

Advanced chronic kidney disease; anemia; hemoglobin; hematocrit; serum iron; Total Iron Binding Capacity; percent transferrin saturation

DENOMINATOR DESCRIPTION

The number of adult patients with advanced chronic kidney disease (CKD) for at least three months, not currently receiving renal replacement therapy with a hemoglobin (Hb) less than 12 g/dL

NUMERATOR DESCRIPTION

The number of patients from the denominator with an anemia work-up (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Process

SECONDARY MEASURE DOMAIN

Not applicable

EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

A systematic review of the clinical literature

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [Appropriate patient preparation for renal replacement therapy.](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Unspecified

State of Use of the Measure

STATE OF USE

Pilot testing

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Ambulatory Care

Physician Group Practices/Clinics

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Individual Clinicians

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Two studies have identified anemia as being prevalent in patients with advanced chronic kidney disease and it is also clear that the severity of anemia increases considerably with worsening renal function.

EVIDENCE FOR INCIDENCE/PREVALENCE

1999 Annual report: ESRD clinical performance measures project (formerly ESRD Core Indicators Project). Opportunities to improve care for adult in-center hemodialysis and adult peritoneal dialysis patients. Baltimore (MD): U.S. Department of Health and Human Services, Health Care Financing Administration Office of Clinical Standards and Quality; 1999 Dec.

Obrador GT, Ruthazer R, Arora P, Kausz AT, Pereira BJ. Prevalence of and factors associated with suboptimal care before initiation of dialysis in the United States. *J Am Soc Nephrol* 1999 Aug; 10(8): 1793-800. [PubMed](#)

Pickett JL, Theberge DC, Brown WS, Schweitzer SU, Nissenson AR. Normalizing hematocrit in dialysis patients improves brain function. *Am J Kidney Dis* 1999 Jun; 33(6): 1122-30. [PubMed](#)

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Anemia is associated with increased mortality, detrimental effects on cardiac function, exercise capacity, quality of life, and cognitive function.

EVIDENCE FOR BURDEN OF ILLNESS

Fink J, Blahut S, Reddy M, Light P. Use of erythropoietin before the initiation of dialysis and its impact on mortality. *Am J Kidney Dis* 2001 Feb; 37(2): 348-55. [PubMed](#)

Kleinman KS, Schweitzer SU, Perdue ST, Bleifer KH, Abels RI. The use of recombinant human erythropoietin in the correction of anemia in predialysis patients and its effect on renal function: a double-blind, placebo-controlled trial. *Am J Kidney Dis* 1989 Dec; 14(6): 486-95. [86 references] [PubMed](#)

Lim VS, DeGowin RL, Zavala D, Kirchner PT, Abels R, Perry P, Fangman J. Recombinant human erythropoietin treatment in pre-dialysis patients. A double-blind placebo-controlled trial. *Ann Intern Med* 1989 Jan 15; 110(2): 108-14. [37 references] [PubMed](#)

Madore F, Lowrie EG, Brugnara C, Lew NL, Lazarus JM, Bridges K, Owen WF. Anemia in hemodialysis patients: variables affecting this outcome predictor. *J Am Soc Nephrol* 1997 Dec; 8(12): 1921-9. [49 references] [PubMed](#)

Portoles J, Torralbo A, Martin P, Rodrigo J, Herrero JA, Barrientos A. Cardiovascular effects of recombinant human erythropoietin in predialysis patients. *Am J Kidney Dis* 1997 Apr; 29(4): 541-8. [PubMed](#)

Revicki DA, Brown RE, Feeny DH, Henry D, Teehan BP, Rudnick MR, Benz RL. Health-related quality of life associated with recombinant human erythropoietin therapy for predialysis chronic renal disease patients. *Am J Kidney Dis* 1995 Apr; 25(4): 548-54. [42 references] [PubMed](#)

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Adult patients 18 years and older with advanced chronic kidney disease (CKD) and hemoglobin (Hb) less than 12g/dL

DENOMINATOR (INDEX) EVENT

Clinical Condition

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Adult patients age 18 years and older with chronic kidney disease stage 4 or 5 (glomerular filtration rate [GFR] less than or equal to 30 mL/min/1.73 m²) for at least three months, not currently receiving renal replacement therapy and hemoglobin (Hb) less than 12 g/dL

Exclusions

Unspecified

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

The number of patients from the denominator with an anemia work-up*

*Operationally defined as at least one test in each of the following categories:

- Tests to detect anemia
 - Hemoglobin (Hgb)
 - Hematocrit (Hct)
- Tests to detect iron deficiency
 - Serum iron
 - Total Iron Binding Capacity (TIBC),
 - Percent transferrin saturation (TSAT [serum iron X 100 divided by TIBC])
- Test for occult blood in stool

Exclusions

Unspecified

DENOMINATOR TIME WINDOW

Time window precedes index event

NUMERATOR TIME WINDOW

Episode of care

DATA SOURCE

Administrative data
Laboratory data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Number of patients with anemia work-up / number of patients with advanced CKD and Hb greater than 12 g/dL.

MEASURE COLLECTION

[Renal Physicians Association Clinical Performance Measures on Appropriate Patient Preparation for Renal Replacement Therapy](#)

MEASURE SET NAME

[Renal Physicians Association Clinical Performance Measures for Anemia Recommendations](#)

DEVELOPER

Renal Physicians Association

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2002 Oct

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Renal Physicians Association. Appropriate patient preparation for renal replacement therapy. Rockville (MD): Renal Physicians Association; 2002 Oct 1. 78 p. (Clinical Practice Guideline; no. 3).

MEASURE AVAILABILITY

The individual measure, "Number of patients with anemia work-up / number of patients with advanced CKD and Hb greater than 12 g/dL," is published in "Renal Physicians Association Clinical Practice Guideline #3: Appropriate Patient Preparation for Renal Replacement Therapy."

For more information, contact RPA at 1700 Rockville Pike, Suite 220, Rockville, MD 20852; phone: 301-468-3515; fax: 301-468-3511; Web site: www.renalmd.org; e-mail: rpa@renalmd.org.

NQMC STATUS

This NQMC summary was completed by ECRI on May 2, 2003. The information was verified by the Renal Physicians Association on May 27, 2003.

COPYRIGHT STATEMENT

This NQMC summary is based on the original measure, which is subject to the measure developer's copyright restrictions.

For more information, contact RPA at 1700 Rockville Pike, Suite 220, Rockville, MD 20852; phone: 301-468-3515; fax: 301-468-3511; Web site: www.renalmd.org; e-mail: rpa@renalmd.org.

© 2004 National Quality Measures Clearinghouse

Date Modified: 11/1/2004

FIRSTGOV

