

Relationship of Quality-of-Care Measures and Outcomes for Patients Receiving Hemodialysis

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The full report is titled “Relationship between Clinical Performance Measures and Outcomes among Patients Receiving Long-Term Hemodialysis.” It is in the 3 October 2006 issue of *Annals of Internal Medicine* (volume 145, pages 512-519). The authors are M.V. Rocco, D.L. Frankenfield, S.D. Hopson, and W.M. McClellan.

What is the problem and what is known about it so far?

The kidneys filter waste products and water from the blood. Hemodialysis is a procedure that uses a machine to filter the blood when kidneys stop working. During hemodialysis, patients are connected to the machine by tubes that allow their blood to pass through the machine and then back into their blood vessels. Patients receiving hemodialysis usually receive treatment for 3 to 4 hours several times per week in special dialysis centers. Although hemodialysis is a lifesaving procedure for patients with kidney failure, they are at risk for poor health outcomes, including hospitalization and death. Guidelines for hemodialysis recommend several measures to indicate the quality of care that hemodialysis centers provide. However, it is uncertain whether patients whose care meets these performance measures have better outcomes than those whose hemodialysis care does not meet these measures. The quality-of-care measures include 2 laboratory tests, hemoglobin and albumin, at or above defined levels. Hemoglobin shows whether a patient has anemia (low blood counts). Albumin shows nutritional status. A third measure considers whether patients have fistulas. A fistula is a surgically created connection between an artery and a vein near the skin surface. Other studies have shown that using a fistula instead of other methods to gain access to the patient’s blood results in fewer patient complications. The fourth measure shows the efficiency of the filtering process.

Why did the researchers do this particular study?

To find out whether patients whose hemodialysis care meets these measures are less likely to be hospitalized or to die than those whose hemodialysis care does not meet these measures.

Who was studied?

15,287 patients selected at random from all patients in the United States receiving long-term hemodialysis.

How was the study done?

The researchers examined whether each patient met each of the 4 performance measures at the beginning of the study. They then compared the rates of hospitalization and death over the following year for patients who met 0, 1, 2, 3, or all 4 measures.

What did the researchers find?

More than half of the patients had at least 1 hospitalization, and 20% (20 of every 100) died during the study year. The more quality-of-care measures that were met, the less likely a patient was to be hospitalized or to die.

What were the limitations of the study?

This study was not able to determine whether patient factors or poor care explained the reason why patients did not meet the quality-of-care measures.

What are the implications of the study?

Patients receiving hemodialysis who meet more of the 4 studied performance measures are less likely to be hospitalized or die within the following year than those who do not meet these measures. However, such patient factors as co-occurring diseases make it more difficult to meet these quality-of-care measures for hemodialysis, so the failure to meet these measures does not necessarily mean poor care.

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