

# Quality of Care for Acute Myocardial Infarction in Rural and Urban U.S. Hospitals

## Issues

Acute myocardial infarction (AMI) is a common and important condition cared for in rural hospitals. Most recommended interventions do not require sophisticated technology and should be available in rural and urban hospitals. This study examined the quality of AMI care in urban and rural hospitals with differing degrees of remoteness from urban centers (remote small rural, small rural, large rural).

## Study Design

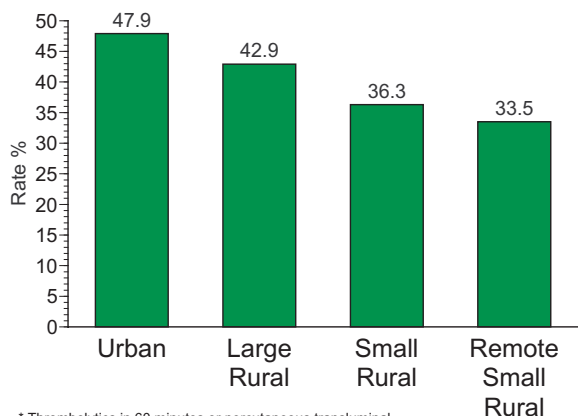
This cohort study used data from the 1994 and 1995 Centers for Medicare & Medicaid Services' Cooperative Cardiovascular Project (CCP) and the 1995 American Hospital Association's Annual Survey of Hospitals. The study involved 4,085 U.S. acute-care hospitals with 135,759 direct admissions of Medicare beneficiaries ages 65 and older for a confirmed AMI between February 1994 and July 1995. Study outcomes included receipt of treatments recommended by the American Heart Association and American College of Cardiology guidelines: use of aspirin, reperfusion, heparin, and intravenous nitroglycerin during hospitalization; use of beta-blockers, aspirin, and angiotensin-converting-enzyme inhibitors at discharge; avoidance of calcium channel blockers at discharge; as well as 30-day mortality.

**Findings:** Substantial proportions of Medicare beneficiaries in all types of rural and urban hospitals did not receive the recommended AMI treatments. Medicare patients treated in rural hospitals were less likely than urban hospitals' patients to receive aspirin either during hospitalization or at discharge, intravenous nitroglycerin, heparin, and either thrombolytics or percutaneous transluminal coronary angioplasty. In general, the smaller and more remote the rural hospital, the less likely the patients were to receive the treatments. Only one treatment—ACE inhibitors at discharge—was used more for patients in rural hospitals compared to patients in urban hospitals. Medicare patients in rural hospitals had significantly higher adjusted 30-day post-AMI death rates from all causes than those in urban hospitals.

**Policy Implications:** Efforts are needed to help hospital medical staffs in both rural and urban areas develop systems to ensure that patients receive recommended AMI treatments.

This project was supported by a grant from the Federal Office of Rural Health Policy. Findings are more fully described in WWAMI RHRC Working Paper #72: Baldwin LM, Beaver SK, Hart LG, MacLehose RF, Every N, Chan L. Quality of Care for Acute Myocardial Infarction in Rural and Urban U.S. Hospitals. June 2002.

Early Reperfusion\* Rates by Hospital Location  
( $p \leq 0.001$ )



\* Thrombolytics in 60 minutes or percutaneous transluminal coronary angioplasty (PTCA) within 12 hours.

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