

Quality of Care for Acute Myocardial Infarction: Are the Gaps Between Rural and Urban Hospitals Closing?

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Background

In the mid-1990s, quality of care for AMI lagged significantly in rural hospitals, with patients in the smallest and most remote rural hospitals at greatest risk. Overall quality of AMI care has improved in the United States since that time. Whether these improvements have been consistent across rural and urban hospitals is unknown.

Purpose

To determine whether the demonstrated gaps in quality of acute myocardial infarction care between rural and urban hospital admissions in the mid-1990s has narrowed.

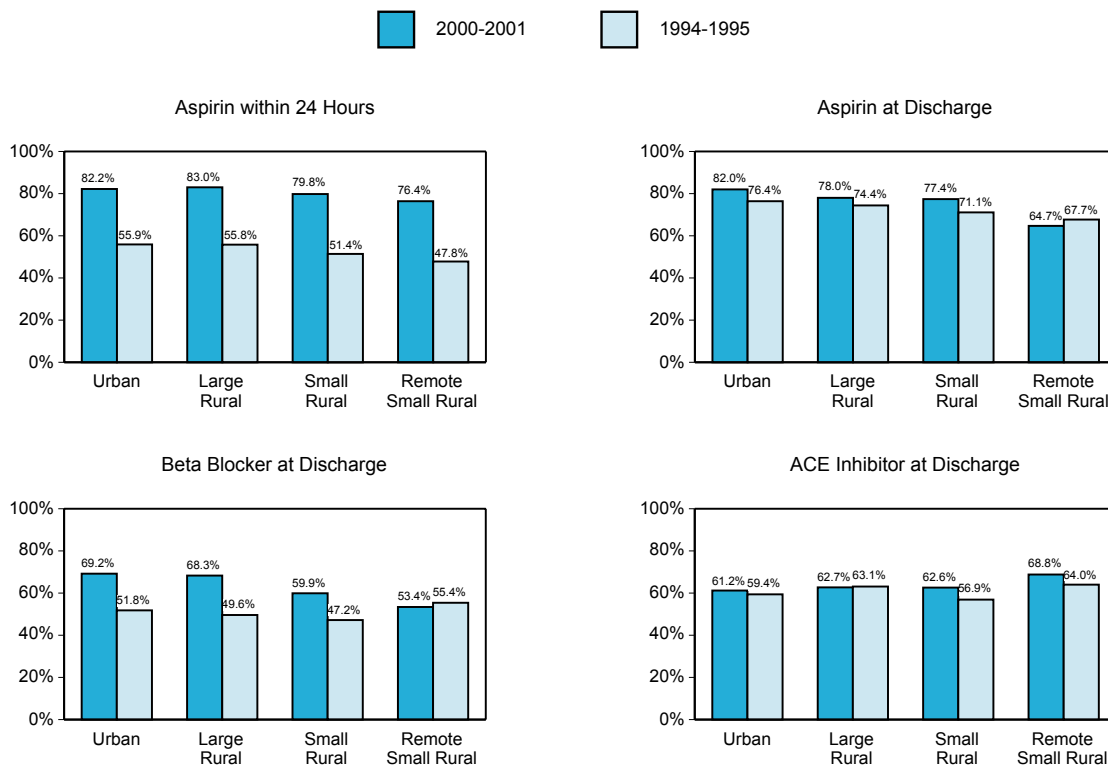
Study Data Source

Medicare Quality Improvement Organization database of detailed clinical information abstracted from the hospital records of Medicare patients discharged from short-term, nonfederal hospitals with a diagnosis of acute myocardial infarction.

Study Population

21,616 admissions of Medicare beneficiaries in 2000-2001 for acute myocardial infarction to hospitals in four geographic areas defined by Rural-Urban Commuting Area codes—urban, large rural, small rural, and remote small rural.

Figure 1. Rates of Acute Myocardial Infarction Treatment Use in Rural and Urban Hospitals



ACE = angiotensin converting enzyme

Outcome Measures

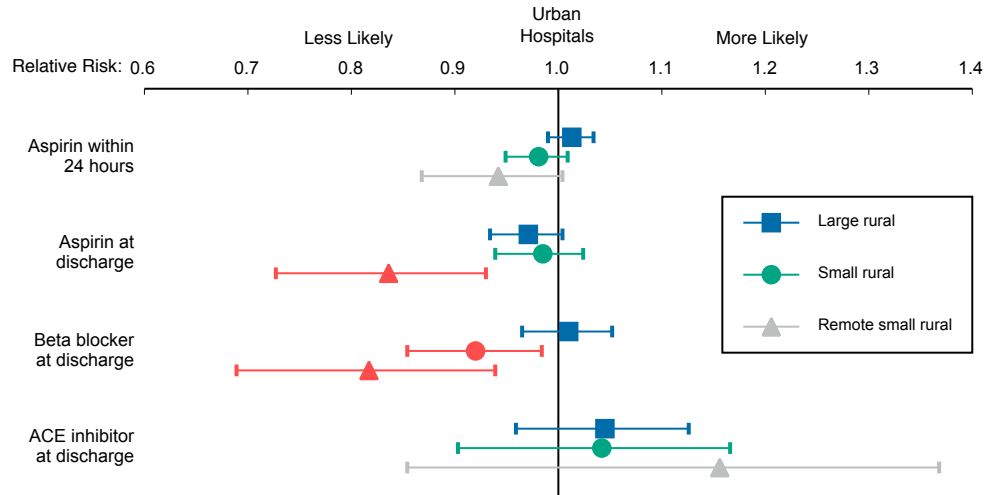
Four quality-of-care measures:

- Receipt of aspirin within 24 hours before or after hospital arrival.
- Aspirin prescription at discharge.
- Beta blocker prescription at discharge.
- Angiotensin converting enzyme (ACE) inhibitor prescription at discharge for those with moderate to severe left-sided heart failure.

Major Findings

- Compared to the mid-1990s, both rural and urban hospitals in 2000-2001 showed substantially higher rates of two important treatments for acute myocardial infarction (Figure 1): (1) aspirin use within 24 hours before or after hospital arrival and (2) beta blocker prescription at hospital discharge.
- Substantial proportions of hospital admissions in all four geographic areas still did not receive recommended treatments for acute myocardial infarction (Figure 1).
- In 2000-2001, individuals admitted to small and/or remote small hospitals were the least likely to receive three of the four recommended treatments (Figure 1).
- There were no significant differences between large rural and urban hospitals in quality of care for acute myocardial infarction in 2000-2001 (Figure 2).
- Disparities persisted between admissions to **remote rural** and urban hospitals in two of the four recommended treatments: prescription of aspirin and beta blockers at discharge.
- Disparities persisted between admissions to **small rural** and urban hospitals in only one of the four recommended treatments: prescription of beta blockers at discharge.

Figure 2. Acute Myocardial Treatment in Rural Compared to Urban Hospitals, After Adjustment for Patient Characteristics, 2000-2001



ACE = angiotensin converting enzyme.

Note: Only those values whose confidence interval lines do not cross 1.00 are significantly different from urban hospitals.

Conclusions

Many simple, evidence-based guidelines that improve acute myocardial infarction outcomes are inadequately implemented in both rural and urban hospitals. Overall, there has been improvement in acute myocardial infarction quality measures, and persistent rural-urban disparities in only a few. Particularly in small and remote small rural locations, developing strategies to increase use of beneficial discharge medications is important.

Policy Implications

Continued monitoring of adherence to recommended guidelines in AMI care is needed. Further improving acute myocardial infarction care in both rural and urban hospitals will require identifying hospitals' best practices, then translating these practices to the broadest range of institutions and providers.