

## Factors Associated With Differences in Outcomes of Black and White Patients After Heart Attack

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The full report is titled “Factors Associated With Racial Differences in Myocardial Infarction Outcomes.” It is in the 3 March 2009 issue of *Annals of Internal Medicine* (volume 150, pages 314-324). The authors are J.A. Spertus, P.G. Jones, F.A. Masoudi, J.S. Rumsfeld, and H.M. Krumholz.

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

Heart attack occurs when blood flow through the arteries to the heart is blocked long enough to damage a portion of heart muscle. Some people with heart attacks die before they receive medical attention. Others are admitted to hospitals and treated for their symptoms. Complications after heart attack include death, weakening of the heart’s pumping action (heart failure), abnormal heart rhythms, stroke, and continued chest pain or shortness of breath. Black patients tend to do worse than white patients after having a heart attack and are more likely to die. The reasons for these differences are unclear but may be that black patients are less likely than white patients to get recommended heart attack treatments or that black patients have worse heart disease or other health and social problems that lead to bad outcomes.

### Why did the researchers do this particular study?

To find out why black patients do worse than white patients after a heart attack.

### Who was studied?

1849 patients who had a heart attack and were hospitalized at 1 of 10 U.S. hospitals that participated in a registry of heart attack care.

### How was the study done?

The registry included information about patients’ health and social factors. It also included information about death, rehospitalization, chest pain, and quality of life after a heart attack. The researchers compared these outcomes in black and white patients, first without accounting for health and social factors and then after adjusting for these factors. They also looked at the types of care black and white patients received and whether care was related to outcomes.

### What did the researchers find?

When the researchers did not account for differences in health and social factors, black patients were more likely than white patients to die, be rehospitalized, and have chest pain and worse quality of life after a heart attack. However, when the researchers accounted for health and social factors, the differences between black and white patients were no longer present. Differences in treatments received did not explain the differences after health and social factors were taken into account. In other words, black and white patients who had similar severity of heart and other diseases and similar social factors, such as level of education, had similar heart attack outcomes. Black patients seem to have worse risk factors, such as being poorer; having less insurance or education; and having a higher incidence of diabetes, high blood pressure, and high cholesterol, and this may explain most of the differences in heart attack outcomes.

### What were the limitations of the study?

The study included only 10 hospitals and may have missed some factors that contribute to differences between black and white patients.

### What are the implications of the study?

The differences between black and white patients in heart attack outcomes seem to be due to worse risk factors for heart disease in black patients rather than to differences in care. Strategies to reduce black–white differences in outcomes after a heart attack should focus on improving heart risk factors in black patients.

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