

# Racial Differences in Time to Defibrillation and Survival Outcomes After In-Hospital Cardiac Arrest

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[http://www.ncbi.nlm.nih.gov/pubmed/19755698?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_RVDocSum&ordinalpos=1](http://www.ncbi.nlm.nih.gov/pubmed/19755698?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum&ordinalpos=1)

- Racial differences in incidence and survival have been reported for several medical and surgical conditions.
- Racial differences in post-resuscitation survival are in large part attributable to overall lower survival in hospitals with a higher concentration of minority cardiac arrest patients.
- Implementation of the best resuscitation practices identified in high performing hospitals may help eliminate racial disparities.

## Top 10 Things to Know

1. In hospital cardiac arrest (IHCA) due to a ventricular arrhythmia is an emergent condition for which there is little debate regarding clinical appropriateness of treatment-defibrillation in eligible patients.
2. Because patients are already in the hospital, potential racial differences in access to care are unlikely to confound the association between the care delivered and patients' outcomes.
3. The purpose of this research is to assess if there is an association between race and survival to hospital discharge (SDC) after IHCA.
4. The NRCPR \* study population consisted of 10,011 adults (18 years of age or older) from 274 hospitals with IHCA for which the first identifiable rhythm was shockable [2/3 ventricular fibrillation (VF) or 1/3 pulseless ventricular tachycardia (VT)].
5. Study IHCA patient characteristics included:
  - White patients (81.2%) were older, more likely male with prior pacemaker implant and a cardiac admitting diagnosis (especially congestive heart failure and myocardial infarction).
  - Black patients (18.8%) were more likely to be unmonitored with VF as initial arrest rhythm, and were sicker at time of IHCA (higher rates of renal insufficiency, diabetes mellitus, baseline CNS depression, acute stroke, pneumonia, sepsis, major trauma, and hemodialysis).
6. Black patients (25.2%) had a significantly ( $p < .001$ ) lower rate of survival to discharge (SDC) compared with white patients (37.4%).

7. Rates of delayed defibrillation (greater than 2 minutes) were significantly ( $p < .001$ ) higher for black patients (22.6%) than for white patients (17.4%).

8. Although there were differences in resuscitation and post-resuscitation survival between black and white patients in all hospitals, these differences were in large part attributable to lower survival in hospitals with a higher concentration of black cardiac arrest patients.

9. Further research on impact that may differ by race of relative severity of significant comorbidities, resuscitation process of care variables, physiological responses to cardiac arrest or clinician/institutional bias could help clarify how disparities may impact survival outcomes.

10. Strategies to eliminate racial disparities in survival must be accompanied by identification and implementation of interventions which improve resuscitation survival and quality of post-resuscitation care in hospitals that are poor performers and in which black patients are more likely to receive care.

\*NRCPR is a performance improvement tool that can be used to identify and monitor key process variables and patient outcomes for in-hospital cardiac arrest.  
Citation ---Chan JAMA (2009).