

# REcovery after in hoSpital Cardiac arrest: late outcomes and Utilization



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## Partners:

Iowa VA Medical Center  
VA Eastern CO Healthcare System  
VA Puget Sound  
Saint Luke's Health System  
UM ISR and SRC

## Anticipated Impacts on Veterans' Health:

The twin goals of ResCU are to: (a) map the long-term patient-centered outcomes of survivors of in-hospital cardiac arrest (IHCA); and (b) build performance measurement tools to understand and improve VA hospitals' role in promoting Veterans' recovery from IHCA. This project will be among the first to link acute inpatient care to long-term outcomes. ResCU will benefit the large number of Veterans suffering IHCA each year by improving clinical decision-making, identifying hospital factors associated with better outcomes, and making possible feedback and benchmarking to facilities and VISNs for optimizing long-term care in these high-risk patients.

## Project Background:

In-hospital cardiac arrest (IHCA) is common and it is associated with considerable mortality, morbidity and resource costs. Few contemporary data exist – either nationally or in the VHA – on the long-term survival, care requirements and health status of patients with IHCA. VHA hospitals currently allocate substantial resources to care for IHCA but to date little research has been done on understanding the end results of these efforts. The fundamental goal of ResCU is to understand patterns of long-term outcomes and care requirements after IHCA and then to use these insights for quality improvement both within the VHA and elsewhere.

## Project Objectives:

**Aim 1: Measure long-term outcomes and care requirements after IHCA and determine key patient-level factors that are linked to adverse outcomes.** We will use linked data to evaluate 4 long-term outcomes after IHCA in Veterans: mortality; resource utilization; independent living; and, for a prospective subset of patients, health status. At the same time, we will empanel a new longitudinal cohort of all survivors of IHCA from VA hospitals nationwide, and prospectively survey them at 3, 6, 9 and 12 months after IHCA to hear their voices describing their recovery.

**Aim 2: Identify hospital-level factors related to long-term outcomes and utilization.** Building on VHA's established platform for measuring inpatient quality, we will determine hospital-level factors associated with long-term outcomes after IHCA following patient-level risk-adjustment. Aim 2 hypothesizes that hospitals with fewer resources and worse measures of organizational culture will have worse 1-year outcomes after IHCA..

**Aim 3: Determine the extent of variation in long-term, risk-adjusted outcomes across hospitals and VISNs.** We will generate multilevel models that nest patients within hospitals within VISNs to explore variation across different levels of care.

## Study Design:

This project will be primarily a retrospective cohort study of over 18,000 hospital admissions with IHCA from 2005-2015; our objective is to use detailed and comprehensive data sources both within and outside of the VHA to more fully characterize the experience after IHCA of more than 4,500 survivors of IHCA.

## Potential Impact:

Findings from ResCU will directly enhance Veterans' care by: improving clinical decision-making (Aim 1); identifying hospital-level factors associated with improved outcomes (Aim 2); and making possible risk-adjusted measures to guide quality efforts within the VHA (Aim 3).

