Survival increases with clinical team debriefing after in-hospital cardiac arrest

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A new study found that staff members who joined structured team debriefings after emergency care for children suffering in-hospital cardiac arrests improved their CPR performance and substantially increased the rates of patients surviving with favorable neurological outcomes.

The study team, at The Children's Hospital of Philadelphia (CHOP), said their research suggests that including all members of the intensive care unit (ICU) team, not just those immediately involved in the cardiac arrests, broadens learning and may improve compliance with standardized national guidelines for performing CPR. "Bringing together all members of the multidisciplinary team for a post-event debrief better prepares everyone who could come in future contact with a patient in sudden cardiac arrest," said lead author Heather Wolfe, M.D., a critical care physician at The Children's Hospital of Philadelphia.

More than 200,000 cardiac arrests occur every year in U.S. hospitals. And while survival outcomes have improved over the last ten years, still more than 60 percent of these patients will not make it out of the hospital alive. This fact highlights how important it will be to disseminate the team's successful findings.

The current study appears in a recent issue of *Critical Care Medicine*.

The researchers performed a single-center prospective study of children who received chest compressions in the ICU at CHOP between

December 2008 and June 2012, encompassing 120 CPR events. The study team compared a historical control group, up to June 2010, with an intervention group of patients receiving CPR between December 2010 and June 2012, following the implementation of the post-arrest debriefing program. Patient survival with favorable neurologic outcome increased to 50 percent among the intervention group, compared to 29 percent during the pre-intervention period.

"The team debriefings were associated with a near-doubling of good neurological survival for children who suffer a cardiac arrest in our ICU," said Wolfe, who added, "Our unique, interdisciplinary debriefing program resulted in improvements of CPR technique to levels of American Heart Association (AHA) Guideline compliance previously not thought possible –this was truly a stellar achievement."

At The Children's Hospital of Philadelphia, all ICU physicians, respiratory therapists and nurses are certified in pediatric advanced life support and/or advanced cardiovascular life support and participate in frequent mock code and rolling refresher CPR training.

"This study demonstrates how doctors, nurses, and other healthcare providers can come together to improve in-hospital care and save lives," said Robert Sutton, M.D., M.S.C.E., chair of the hospital's Resuscitation Committee and senior author on the project.

"This is the first study in children showing that pre-training with simulation and debriefing teams on how we can do it better improves survival. It also highlights what a unique program we have here for cardiac arrest patients from prevention, care during arrest, and post-arrest care," said Robert Berg, M.D., chief of critical care medicine at The Children's Hospital of Philadelphia.

More information: "Interdisciplinary ICU Cardiac Arrest Debriefing

Improves Survival Outcomes," *Critical Care Medicine*, July 2014 issue.

Provided by Children's Hospital of Philadelphia