

Intensivist Presence at Code Events Is Associated with High Survival and Increased Documentation Rates

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KEYWORDS

- Cardiopulmonary resuscitation • Hospital rapid response team • Documentation
- Electronic health record

KEY POINTS

- Team leadership has been shown to be a significant factor in outcomes from cardiopulmonary arrest, and intensivist physicians are skilled in managing these crisis situations.
- Data assimilation from both integrated devices and provider documentation is necessary to support quality improvement efforts for cardiopulmonary arrest events.
- Attending intensivists can provide billable documentation which improves the ability to generate revenue to offset the cost of providing care at cardiopulmonary arrest events.

INTRODUCTION

In the United States, approximately 55% of all adult patients achieve return of spontaneous circulation (ROSC) following an in-hospital cardiac arrest and less than 25% survive to hospital discharge.¹⁻³ To improve outcomes, hospitals have employed emergency response teams, often referred as code teams, rapid response teams (RRTs), or medical emergency teams. Although RRTs have generally shown benefit through reductions in cardiopulmonary arrest (CPA) and in-hospital mortality, the factors associated with optimal rapid response system function are still being elucidated.⁴ Some have hypothesized that team leadership may affect RRT effectiveness

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and patient outcome, but research on RRT leadership has generated conflicting results.^{5,6}

To better support the highest function of the Johns Hopkins Hospital (JHH) adult code teams and RRTs, the authors created a team leadership role for a faculty intensivist. The International Liaison Committee on Resuscitation, the European Resuscitation Council, and the American Heart Association all recognize teamwork, communication, and leadership as significant factors in the performance of resuscitation teams.⁷⁻⁹ The intention for this role was to integrate these elements and improve processes of care delivery, documentation, and decision-making. This article examines outcomes associated with the introduction of this role.

PROCESS

The JHH employs separate code teams and RRTs for adult medicine, surgery, and neurosciences. The composition of the RRT for each department is similar and employs an intensive care unit (ICU) charge nurse, a resident or fellow, and a nursing shift coordinator who are specific to the department. In addition, a pharmacist and respiratory therapist are notified of all RRT activations, but their presence is not mandatory and is driven by unit and ward demand.

Each department also maintains their own code team, which includes a member of the RRT and several other staff members. The medical intensive care senior resident is a member of all 3 code teams and responds to all events, regardless of department. In addition, a pharmacist and respiratory therapist are required to attend all code calls. A security officer responds to all code events to manage safety and coordinate expedited hospital transport if necessary.

In October of 2013, the central intensivist physician (CIP) was added as the team leader to all adult code team and RRT events. Before this time, the role of the CIP was largely operational because they performed ICU bed allocation and triage for patients requesting specialty surgical ICU and enhanced postoperative care.¹⁰ Over time, the need to provide 24-hour support for allocation and triage of ICU services was identified. In addition, many requests for ICU care were generated following code team and RRT events. Therefore, the CIP role expanded in October 2013 to include (1) overnight coverage, (2) team leadership for all adult rapid response and code teams, and (3) consultation in 2 general surgical ICUs. Most important, the CIP serves as the airway management expert and critical care proceduralist at critical events.¹¹

Before inclusion of the CIP on the code team, leadership varied based on the primary service caring for the patient (eg, medical vs surgical). None of the teams had dedicated attending level coverage and documentation of events varied based on the responding service.

Before July of 2017, there was no structured data collection tool in the electronic health record (EHR) for code-type events, therefore specific, identifiable documentation for code events was variable. Often, documentation consisted only of the resuscitation flow sheets and comments made by providers in progress notes. In July of 2017, the hospital deployed a combined code team and RRT note template within the Epic EHR (Epic Systems Corporation, Verona, WI, USA) and created a Code note type. The goals of these changes were to allow easy identification of specific event documentation and to standardize the entry of event data by the CIP. The JHH cardiopulmonary resuscitation (CPR) Committee's resuscitation science research group collects data and reviews performance of all code team and RRT events in the hospital. This information is used as part of a continuous learning model

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