



## NEWS RELEASE

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### **Realist evaluation framework guides improvement of pediatric rapid response system**

*Study in April 2022 issue of The Joint Commission Journal on Quality and Patient Safety*

(OAKBROOK TERRACE, Illinois, March 29, 2022) – Rapid response (RR) systems provide a process for early detection and management of clinically deteriorating patients to prevent out-of-ICU cardiopulmonary arrest (CPA) and mortality. Because evaluations of RR systems traditionally rely on CPA and mortality, rare in children, alternative pragmatic metrics for pediatric RR evaluation are needed.

A report from the April 2022 issue of *The Joint Commission Journal on Quality and Patient Safety (JQPS)*, "[Longitudinal Evaluation of a Pediatric Rapid Response System with Realist Evaluation Framework](#)," by Darlene E. Acorda, PhD, RN, CNE, CPNP-PC, represents part of ongoing work of a multidisciplinary team led by Aarti Bavare, MD, MPH, at Texas Children's Hospital and Baylor College of Medicine, Houston, Texas. The team developed a new metric called REACT (Rapid Escalation After Critical Transfer) to review clinical outcomes after RR events to appraise pediatric RR systems and identify improvement opportunities.

The researchers applied the realist evaluation (context-mechanism-outcomes) framework to review significant RRs defined as REACT events, including all with CPA and/or ventilation and/or hemodynamic support instituted within 24 hours after RR. A continuous quality improvement process was employed to identify, debrief and review REACT events to recognize and act on RR mechanistic and contextual deficiencies.

From 2015 to 2019, 5,581 RR events occurred, of which 67.2% were transferred to the ICU, and 24.9% were identified as REACTs. In the first two years, 100% identification and review within three months of 90% of REACTs was accomplished. Findings showed after five years:

- Proportion of REACTs with crisis resource management (CRM) gaps decreased from 62.3% to 26.5%
- Proportion of REACTs with multiple deficiencies reduced from 72.5% to 23.2%
- CPAs outside ICUs decreased from 15 to 3 per year

The realist evaluation framework facilitated a holistic assessment of an RR system. Review of REACTs yielded useful information to guide systemwide improvement.

“With this report by Acorda and colleagues, the foundation for RRS that was proposed more than 15 years ago is finally being realized more fully,” notes an accompanying editorial by Michael DeVita, MD, FCCM, FRCP. “The quality arm, long neglected, may now bear fruit to save even more lives by preventing the events that lead to RRS activation. They [health care organizations] should be analyzing why the events occur and reporting reductions in the care gaps that result from analysis of RRS events (both event review and database analysis). This report explains not only how to, but why.”

Also featured in the April issue:

- [2021 Bernard J. Tyson Award for Excellence in Pursuit of Healthcare Equity recipient: Prioritizing Child Health: Promoting Adherence to Well-Child Visits in an Urban, Safety-Net Health System During the COVID-19 Pandemic](#) (UMass Memorial Health, Worcester, Massachusetts)
- [An Initiative to Improve Performance on a National Transition of Care Measure and to Reduce Readmissions in an Academic Psychiatric Hospital](#) (Yale New Haven Psychiatric Hospital, New Haven, Connecticut)
- [Virtual Education for Patient Self-Testing for Warfarin Therapy Is Effective During the COVID-19 Pandemic](#) (University of California, San Francisco)
- [Patient Care Extra-Aedificium: The Time is Now](#) (editorial)
- [Potentially Harmful Medication Dispenses After a Fall or Hip Fracture: A Mixed Methods Study of a Commonly Used Quality Measure](#) (Kaiser Permanente Southern California, Los Angeles)
- [Addressing the Drivers of Medical Test Overuse and Cascades: User-Centered Design to Improve Patient-Doctor Communication](#) (Brigham and Women’s Hospital, Boston)
- [The Joint Commission’s New and Revised Workplace Violence Prevention Standards for Hospitals: A Major Step Forward Toward Improved Quality and Safety](#) (open access commentary)

For more information, visit [The Joint Commission Journal on Quality and Patient Safety website](#).

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**Note for editors**

The article is “[Longitudinal Evaluation of a Pediatric Rapid Response System with Realist Evaluation Framework](#)” by Darlene E. Acorda, PhD, RN, CNE, CPNP-PC; Julie Bracken, BSN, RN, CCRN; Karla Abela, PhD, RN, CCRN-K, CPN; Joyce Ramsey-Coleman, MBA, MSN, BSN, RN, NEA-BC; Angela Stutts, MS, RN, CCRN-K; Erin Kritz, DO, FAAP; and Aarti Bavare, MD, MPH. The article appears in *The Joint Commission Journal on Quality and Patient Safety*, volume 48, number 4 (April 2022), published by Elsevier.

**The Joint Commission Journal on Quality and Patient Safety**

[The Joint Commission Journal on Quality and Patient Safety](#) (JQPS) is a peer-reviewed journal providing health care professionals with innovative thinking, strategies and practices in improving quality and safety in health care. JQPS is the official journal of [The Joint Commission](#) and [Joint Commission Resources, Inc.](#) Original case studies,

program or project reports, reports of new methodologies or the new application of methodologies, research studies, and commentaries on issues and practices are all considered.