

Literature review as per article

Paper Title: Rapid response systems for pediatrics: Suggestions for optimal organization and training

Paper Link: <https://cps.ca/documents/position/rapid-response-systems-for-paediatrics>

Adam Chang et al. further discuss the role of RRS and RRTs in pediatrics. The study suggests that resuscitations and cardiac arrests in the pediatric population are uncommon. Moreover, it reveals that crucial resuscitation information, skills, and behaviors are not retained within three to twelve months after graduation outside ICU. This dilemma has led hospitals that care for severely sick children to examine how resuscitative treatment is administered outside of the emergency room and intensive care units. In order to resolve and evaluate the above-mentioned issue, hospital-based simulation training was introduced for pediatric RRTs for giving effective care before critical care is needed. The study further highlights and focuses on educating staff about vital signs monitoring and pre-deteriorating symptoms for establishing an effective RRT along with an improved RRS. The author suggests, that the role of RRTs may vary in different settings but prove beneficial in enhancing clinical results, particularly in pediatric settings. The research further explains that effective implementation entails a succession of phases, as well as continued support from institutional leaders. Establishing a program timeline, identifying team members and defining their roles and responsibilities, developing call criteria and activation processes, developing physician order sets and call records, gaining health care provider support, pilot testing system function, record keeping, data collection, and, finally, implementing an educational program are all part of the process. Team training was a major plus point in establishing effective RRS and RRTs in hospitals and avoiding code blue situations.

Paper Title: Factors influencing the activation of the rapid response system for clinically deteriorating patients by frontline ward clinicians: a systematic review

Paper Link: <https://academic.oup.com/intqhc/article/29/8/981/4643383?login=false>

The systematic review by Chua et al. adds that over the last decade, there has been a growing body of research focusing on detecting and reacting to clinically worsening patients in general ward settings. It further highlights that the process of activating the rapid response system (RRS) was impacted by the views and clinical experiences of ward nurses and physicians, and was

helped by tools and technologies such as the sensitivity and specificity of the activation criteria, as well as monitoring technology. The study explains the variables impacting RRS activation stem from a mix of socio-cultural, organizational, and technological elements, and the fear of criticism faced by the staff. The authors suggested that hospital administrators have a critical role in altering individual thought, organizational culture, and professional hierarchy in medicine. While it takes time for attitudes and behaviors to change and organizational culture changes to become established, hospital administrators may offer some fast wins as the initial steps toward winning support and acceptance from RRS stakeholders.

Paper: Trends of in-hospital cardiac arrests in a single tertiary hospital with a mature rapid response system

Paper Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0262541>

Another study found that In-hospital cardiac arrest (IHCA) continues to be associated with poor outcomes. Many instances of IHCA are considered avoidable based on retrospective studies. A rapid response system (RRS) was created to detect early indicators of clinical deterioration and activate a specialized team of caregivers. More precisely, the use of RRS increases the chance of DNACPR. Preventable IHCA (P-IHCA) was defined as a cardiac arrest with pre-existing signs of acute physiologic disturbance following MET criteria for drug distribution, whereas Non-preventable IHCAs (NP) was defined as a cardiac arrest that occurred within 8 hours of admission or without any record of vital signs within 8 hours before the arrest, or within 30 minutes after drug administration or procedures, respectively for RSS evaluation.