Table B.12: Failure To Rescue, Rapid Response Teams—Systematic Reviews and Meta-Analyses

Note: Full references are available in the [Section 2.2 reference list](#Section2point2refs).

| **Author, Year** | **Description of Patient Safety Practice** | **Settings and Population** | **Summary of Findings** | **Implementation Themes/Findings** | **Comments** |
| --- | --- | --- | --- | --- | --- |
| Chan et al., 20104 | Rapid response teams (RRT) | Acute care hospital, non-intensie care unit (ICU) setting, adults and pediatrics; 18 studies published between 1950 and 2008 | For adults, implementation of an RRT was associated with a 33.8% reduction in rates of cardiopulmonary arrest outside the ICU (relative risk [RR], 0.66; 95% confidence interval [Cl], 0.54 to 0.80), but was not associated with lower hospital mortality rates (RR, 0.96; 95% Cl, 0.84 to 1.09).  For children, implementation of an RRT was associated with a 37.7% reduction in rates of cardiopulmonary arrest outside the ICU (RR, 0.62; 95% Cl, 0.46 to 0.84) and a 21.4% reduction in hospital mortality rates (RR, 0.79; 95% Cl, 0.63 to 0.98). | Not provided | None |
| Daniele et al., 201111 | RRT | Acute care hospital, non-ICU setting, adults; 26 studies published between 1989 and 2010 | A statistically significant reduction in mortality rate was reported along with an equivocal result on length of stay in the cluster randomized control trial. An odds ratio of 0.52 (95% CI, 0.3 to 0.85) was calculated after RRT implementation. | There was no correlation between team composition and patient outcomes. Teams that were mature, dedicated, made rounds, and required mandatory activation had statistically significant results. | None |
| Maharaj et al., 20152 | Rapid response systems (RRS) | Acute care hospital, non-ICU setting, adults and pediatrics; 29 studies published between 1990 and 2013 | The implementation of RRS has been associated with an overall reduction in hospital mortality in both the adult (RR, 0.87; 95% CI, 0.81 to 0.95) and pediatric (RR, 0.82; 95% CI, 0.76 to 0.89) inpatient population. There was substantial heterogeneity across studies for both populations. | There was no dose to response relationship between the duration of the implementation phase, the presence of a physician on the team, or the number of activations per 1,000 and hospital mortality. | None |
| McNeill et al., 20137 | Early warning systems (EWS), emergency response teams (ERT) | Hospital, inpatient | Overall evidence is of poor quality.  For EWS, aggregate weighted scoring systems appear to be more effective than single parameter systems.  For ERT, introduction of a medical emergency team (MET) does appear to improve hospital survival and reduces cardiac arrest rates. | Not provided | Also included in Patient Monitoring Systems |
| Solomon et al., 20163 | RRS | Acute care hospital, non-ICU setting, adults; 30 studies published between 2000 and 2014 | The pooled analysis demonstrated that implementation of RRT/METs was associated with a significant reduction in hospital mortality (RR, 0.88; 95% CI, 0.83 to 0.93). There was heterogeneity among the contributing studies (I2 =86%). | Not provided | Builds off of the meta-analysis of Chan et al., 2010 |
| Winters et al., 20136 | RRS | Acute care hospital, non-ICU setting, adults; 43 studies published between 2000 and 2012 | Systematic review found moderate strength of evidence that RRSs improve outcomes from both a high-quality systematic review through November 2008 and the additional literature published through October 2012. | Implementation processes differed widely across studies, and local needs and resources tended to dominate the processes. Education and promotion of the new service was often a factor in preparing for implementation. For staff training and education, several studies introduced new staff, such as a nurse educator. | None |