



Published in final edited form as:

*J Healthc Qual.* 2016 ; 38(4): 202–212. doi:10.1097/JHQ.0000000000000047.

## A survey of hospitals that participated in a statewide collaborative to implement and sustain rapid response teams

Deonni P. Stollendorf, PhD, RN<sup>1</sup>, Lorraine C. Mion, PhD, RN, FAAN<sup>1</sup>, and Cheryl B Jones, PhD, RN, FAAN<sup>2</sup>

<sup>1</sup>School of Nursing, Vanderbilt University, Nashville, Tennessee, United States

<sup>2</sup>School of Nursing, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, United States

### Abstract

**Objectives**—To determine the level of sustainability of Rapid Response Teams (RRTs) among a group of hospitals that participated in a statewide collaborative to implement and sustain RRTs.

**Setting and Sample**—Fifty-six hospitals located in a southeastern state in the United States participated in a statewide 9-month collaborative that provided organization leaders with resources to implement and sustain RRTs. Thirty-three of these hospitals completed the electronic survey. Two hospitals were excluded due to missing data.

**Measurement**—The RRT-Institutionalization Scale (RRT-IS), adapted from the Level of Institutionalization Scale, measured the degree of institutionalization (i.e., passages, routines, and niche saturation) across four subsystems: production, maintenance, supportive, and managerial.

**Results**—Thirty-one hospitals participated (Response Rate 55%). RRT sustainability levels ranged from 1.0 – 5.98 (Mean = 3.78, 95<sup>th</sup> % C.I. = 3.40 – 4.17). The highest sustainability score was reported in the managerial subsystem (Median = 5.3, IQR = 4.5–7.33) and the lowest score was reported in the supportive subsystem (Median = 1.0, IQR = 1.0–2.0).

**Conclusions**—RRT sustainability levels varied across hospitals in the collaborative. Different levels of sustainability were also observed across organizational subsystems. The lack of resources, staff, and dedicated funds hampered organizations' sustainability efforts.

### Keywords

Rapid response team; sustainability; institutionalization; quality; patient safety

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**Lead Author:** Deonni P Stollendorf, 600-C Godchaux Hall, 461 21<sup>st</sup> Ave South, Nashville TN 37240, Deonni.stollendorf@vanderbilt.edu

**Contributors:**

Agree with manuscript being submitted including results and conclusions: DPS, CBJ, and LCM. Conceptualized, designed, and conducted the study, analyzed the data, and wrote up the results: DPS. Wrote the first draft of the manuscript: DPS. Contributed to and provided oversight over the design and execution of the study: CBJ. Reviewed the first draft and contributed to additional revisions: CBJ and LCM.

**Competing interests**

The authors declare no competing interests related to the development and submission for publication of the manuscript.

## INTRODUCTION

The need for improvements in the quality of care in United States' hospitals is well known (Institute of Medicine, 1999; Institute of Medicine, 2001). The desire to achieve quality in hospitals serves as a particular impetus for innovation adoption (Bates, 2001). When the implementation of innovations result in positive outcomes for organizations, their clients and their employees, organizations become more attractive to clients and potential employees and gain a strategic advantage over competitors (Compton et al., 2012). Failure to sustain innovations lead to investment losses, opportunity costs, and replacement costs incurred to correct past adoption and implementation processes or innovations that failed (Manfredi et al., 2001). Sustainability research is essential because the effects of sustained innovations can be lasting. The purpose of this study was to examine the level of sustainability of one common past innovation—rapid response teams (RRTs)—that was widely adopted and implemented in U.S. hospitals to improve the quality of care and patient outcomes.

## LITERATURE REVIEW

Rapid response systems (RRS) are one innovative mechanism to provide for the needs of patients in crisis on acute care units. An RRS has four limbs: an afferent limb consisting of a trigger mechanisms to detect patient deterioration, an efferent limb consisting of the response team, an evaluation, patient safety and process improvement limb, and a governance and administration limb (DeVita et al., 2006). RRTs are an integral part of the afferent limb of the RRS, consisting of a group of expert clinicians who respond and provide care to patients on acute care units who are experiencing a sudden medical crisis or deterioration (Arashin, 2010).

RRT sustainability is important because of the observed positive patient and organizational outcomes. Patient outcomes include reduced cardiac arrest rates outside of ICU and reduced unanticipated ICU admissions (Al-Qahtani et al., 2013; Bellomo, Goldsmith, Uchino, et al., 2004; Butner, 2011; Mitchell et al., 2010; Randhawa, Turner, Woronick, & duVal, 2010; Winters et al., 2013). Organizational outcomes include improved quality and safety (Berwick, Calkins, McCannon, & Hackbarth, 2006; Sarani et al., 2009; Williams, Newman, Jones, & Woodard, 2011) through the early detection of medical errors, and the prevention of avoidable adverse events and treatment errors by staff inexperienced in caring for critically sick patients (Braithwaite et al., 2004; Chen et al., 2009; Iyengar et al., 2009; Stolldorf, 2009).

Reports of RRT underutilization and delayed use suggest RRTs have not yet become a sustained organizational practice (Astroth, Woith, Stapleton, Degiz, & Jenkins, 2013). Barriers to RRT calling include RRT staff characteristics, unit culture, and negative RRT member behavior (Astroth et al., 2013; Williams et al., 2011). Nurses also feel incompetent in front of their colleagues for needing to call the RRT and, even when patients meet RRT calling criteria, they would consult with others or continually page the physician before finally calling the RRT (Stolldorf, 2009).

Examining RRT sustainability capitalizes on an exemplar innovative program since hospitals nationwide were encouraged to implement RRT programs. Also, RRT implementation and continuation require the use of organizational resources and a change in the clinical practice of nurses working in acute care units. Achieving RRT sustainability could potentially facilitate continued improvements in patient outcomes, reduce the risk of losing the initial investments that were made when the teams were implemented, and enhance staff member support for the RRT.

This study conceptualized hospitals as organizations that consist of four subsystems (Katz & Kahn, 1978). The *production subsystem* includes activities specific to organizational production like achieving RRT program “permanence” through RRT policies and procedures. The *maintenance subsystem* defines how staff members’ role and performance expectations are met through recruitment, socialization, rewards, and sanctions. This subsystem encompasses the formalization of RRT-related role expectations and RRT-related education and training of staff members. The *supportive subsystem* includes the acquisition and distribution of resources such as staff members and supplies to support the RRT program in the hospital. The *managerial subsystem* includes the functions of coordinating and directing all other subsystems. Activities include goal setting and facilitating organizational efficiency by evaluating and monitoring RRT program effectiveness and providing program oversight.

Sustainability was conceptualized as three degrees of institutionalization: passages, routines, and niche saturation (Yin, 1979). To achieve full institutionalization, RRTs must progress from passages to routines and from routines to niche saturation within each of the aforementioned subsystems. *Passages* reflect the first phase that organizations would go through to employ RRTs; these RRT-related passages must occur before the next step, RRT-related routines, could occur. *Routines* signify RRT permanence in the hospital by indicating the continuation of RRT-related passages over time and the number of years that specific aspects of the RRT had been in place. Routines suggest RRT permanence in the hospital. *Niche saturation* is achieved after RRT-related passages and routines are established, and as RRTs spread to reach all areas of the hospital. RRT sustainability is optimized when niche saturation is achieved within each organizational subsystem, indicating the embeddedness of RRTs within subsystems.

## Objectives

The objective of this study was to determine the level of sustainability of RRTs in a group of hospitals that participated in a state-wide collaborative.

## METHODS

### Study Design

A cross-sectional design was used to conduct this study in late 2011 and included a self-reported web-based survey that was designed specifically for the research study.

## Setting and Sample

All hospitals (n=56) in a southeastern state in the U.S. that participated in a statewide RRT Collaborative (RRTC), had implemented an RRT, and had, at the time of the study, an RRT in place were eligible for participation in the study. The purpose of the 9-month RRTC was to establish, implement, measure, evaluate, and sustain RRTs at acute care hospitals in the state. Hospitals that participated in the collaborative received a tool kit with guidelines for RRT program implementation (such as examples of RRT calling criteria and standing orders) and evaluation, and strategies for effective communication and staff education. At the end of the collaborative, 91% (n=53) of participating hospitals had implemented RRTs, 73% of these hospitals provided 24/7 RRT coverage and in 59% of hospitals' RRT availability spanned across the entire hospital (Spade, 2007). It was estimated that 344 lives were saved in the 9-month period, a reduction in codes outside of ICU was observed, and acute care inpatient mortality rates trended downward (4.4%) (Spade, 2007). However, the results also indicate that RRTs have not yet been integrated to their fullest extent in many hospitals and thus the sustainability of RRTs in some hospitals may not have been achieved. Furthermore, although anecdotal evidence suggested that the level of RRT sustainability was likely to vary across the participating organizations (Dr. J. Space, personal communication, 2010), RRT sustainability has not yet been formally evaluated. Therefore, Chief Nursing Officers (CNOs) or, in the absence of a CNO, the Chief Executive Officer (CEO) of hospitals that participated in the collaborative were targeted to receive an electronic pre-notification letter, followed by a mailed recruitment letter with a link to the electronic survey, to evaluate RRT sustainability in these hospitals.

## Variables and Measurement

Table 1 lists the variables, definitions and measures for the study. A survey was administered and included questions about organizational characteristics and RRT characteristics and outcomes. RRT sustainability was measured by the Rapid Response Team Institutionalization Scale (RRT-IS), adapted from the Level of Institutionalization Scale (LoIn) developed by Goodman, McLeroy, Steckler, and Hoyle (1993). The RRT-IS includes the organizational subsystems and degree of institutionalization components proposed by the LoIn and therefore measured sustainability of RRTs in the four organizational subsystems as passages, routines, and niche saturation (see Table 1). However, the wording and response options of some questions were modified to fit with the hospital and RRT contexts of this study. The validity (content and criterion) and reliability of the LoIn has been evaluated (Goodman et al., 1993; Barab, Redman, Froman, & Robin, 1998).

The sustainability score was derived by calculating the mean of the sum of means of the subscale scores. Items were weighted; the minimum score that could be reported was one and the maximum score was 7.25. Adequate internal consistency was demonstrated for the newly developed tool: passage subscale ( $\alpha = .684$ ), routines subscale ( $\alpha = .732$ ), niche saturation subscale ( $\alpha = .732$ ).

Before it was administered, RRT content experts, CNOs from non-RRTC hospitals, and survey experts' pilot tested the electronic survey. Upon completion of the survey, these experts completed a questionnaire asking about the content included in the survey and the

clarity and interpretability of the survey questions. Subsequently, two additional questions about RRT characteristics were added to the survey.

### **Ethical considerations**

Institutional review board approval was obtained prior to the start of the study.

### **Data Collection Procedures**

With the assistance of the representative who led the RRT collaborative, a pre-notification email was sent to all RRTC participants to alert them to the study. Two days following the pre-notification, the researcher sent a recruitment letter with an electronic survey link by email to all hospitals in the RRTC. This letter was sent to the appropriate administrator (CNO, CEO, or Chief Operating Officer [COO]) at each hospital and they were invited to participate in the study. In one week, a follow-up email was sent to thank those who had responded to the survey and to remind others that the opportunity to participate in the survey was still available to them. Two weeks after the initial recruitment letter was emailed a hard copy of the recruitment letter and consent form, the survey, and the link to the electronic survey were mailed to the respective administrator of all hospitals that had not completed the electronic survey to remind them of the study and request participation, using either the paper or electronic form. A final reminder was made by phone one week after the hard copies were mailed. The electronic survey remained activated for four weeks from the date of the initial recruitment letters.

### **Data Analysis**

Survey data were analyzed using frequencies, descriptive, and inferential statistics. Means (M) and standard deviations (SD) are reported for normally distributed data and medians and interquartile ranges (IQR) for skewed data. Data for categorical variables are reported as counts (N) and percentages (%). An exploratory comparison was conducted to determine whether hospital size or type influenced sustainability. Because of the low number of participants per group, we used a Kruskal-Wallis non-parametric ANOVA test to examine the sustainability scores of hospitals by size and type. Organizations with survey results that contained missing data that prevented the calculation of a sustainability score for the facility were excluded from the final analysis.

## **RESULTS**

### **Sample Characteristics**

Fifty-six hospitals (N=56) were invited to participate in the survey, and 33 participated: 32 surveys were completed on-line and one survey was returned by mail. Two hospitals were excluded from the analysis; one was excluded because, except for organizational characteristics, no questions were answered; the other indicated that the hospital did not have an RRT. Therefore, the final sample was 31 (55% response rate). Hospital and RRT characteristics are summarized in Table 2. An in-depth description of hospitals and RRTs has been reported elsewhere (Stolldorf & Jones, 2015). Hospitals' RRT sustainability scores were calculated using the RRT Institutionalization Scale (RRT-IS). The mean sustainability scores of all the hospitals in the study was 3.78 (Median = 3.98, SD = 1.06).

## Organizational Demographics and Sustainability Scores

The distribution of sustainability scores by hospital size and type are shown in Table 3. The highest sustainability score was reported by large (> 500 beds) hospitals (M =4.48, SD= 1.14) and by corporate health systems (M = 5.33, SD = .92). There was no difference in the distribution of sustainability scores based on hospital size ( $\chi^2_{(2)}=5.641$ , p=.065) and hospital type ( $\chi^2_{(3)} = 5.668$ , p=.129).

## Sustainability by Subsystems and by Passages, Routines, and Niche saturation

The sustainability scores across passages, routines, and niche saturation for the individual subsystems and the mean score for items within each subsystem are reported in Table 4.

**Sustainability of RRTs by subsystems**—RRTs achieved the highest level of integration in the managerial subsystem (i.e. monitoring/evaluating and supervising RRTs) (Median = 5.3, IQR = 4.5–7.33) and the lowest level of integration in the supportive subsystem (i.e., assigned FTEs and permanently dedicated funding) (Median = 1.0, IQR = 1.0–2.0).

Median scores were also determined for individual items within subsystems. For the maintenance subsystem, the highest median score (Median = 5.33, IQR = 4.7–6.7) was reported for the formalization of RRT members' roles, expectations, and performance, whereas the education and training of RRT members was scored the lowest (Median = 3.33, IQR = 2.7–3.5). Within the supportive subsystem, scores for the assignment of FTEs and the allocation of funds within a hospital's annual budget were similarly low (Median = 1.0, IQR = 1.0-1.0). Within the managerial subsystem, RRT program monitoring and evaluation scored highest (Median = 6.67, IQR = 5.33–8.0).

**Passages, routines, and niche saturation achieved by RRTs**—For passages, the supportive subsystem scored the lowest overall score (Median = 1.0., IQR = 1.0–2.5) indicating that the allocation of resources to support the RRT program are problematic for organizations. Median passage scores were similar for the remaining subsystems and individual items (Table 4).

The second level of RRT integration is the establishment of RRT routines within subsystems. The highest routine scores were reported for the production subsystem (Median = 4.0, IQR = 4.0-4.0), followed closely by the maintenance subsystem (Median = 3.67, IQR = 2.33–4.0). The supportive subsystem scored the lowest (Median = 1.0, IQR = 1.0–2.0). With the exception of items in the supportive subsystem, median scores for items within each subsystem were similar across items.

The final level of RRT integration is niche saturation (i.e., penetration). The highest overall score was reported for the managerial subsystem (Median = 10.0, IQR = 8.0–14.0), followed by the maintenance subsystem (Median = 4.17, IQR = 3.33–5.50). Within subsystems, low niche saturation was reported for the education and training of RRT members (Median = 2.0, IQR = 1.0–2.5) and of hospital staff (Median = 2.5, IQR = 2.0–2.5), whereas RRT program monitoring and evaluation scored the highest (Median = 12.0, IQR = 8.0–16.0).

## DISCUSSION

We examined the level of sustainability of RRTs in a group of hospitals. Variations in RRT characteristics (i.e., type and composition of team) suggest hospital administrators adopted RRT models that best fit with the needs of the organization and the resources available, a reflection of flexibility that is crucial for the success of RRT programs.

Hospitals' sustainability scores ranged from 1.0 to 5.98. These findings suggest that, despite participating in the RRTC and the Joint Commission requirement for establishing a RRS like RRTs, these teams have yet to become fully integrated and sustained in the hospitals that participated in this study. Further work is necessary to understand the lack of sustainability despite these external motivators.

We postulate several possible reasons for the lack of RRT sustainability. The RRTC was a 9-month collaborative conducted in 2006 and 2007. It may be due to waning of the initial excitement that is usually evident when first implementing a new project or innovation (Parsons & Cornett, 2011). Therefore, once the RRTC ended, hospitals may have lost the impetus for RRT sustainability that participation in the collaborative initially provided. A second potential explanation is the challenge of competing priorities. In their examination of RRT implementation across nine multihospital organizations, Donaldson and colleagues (2009) reported that leaders found it challenging to prioritize RRTs in the face of other competing initiatives. Thus, in our sample, competing organizational priorities may have shifted organizational leaders' focus away from the RRT program and the mobilization of the resources needed to sustain the RRT program.

We found that RRTs have been primarily integrated in the production and managerial subsystems of hospitals. Monitoring and evaluation activities were common; some hospitals also included a supervisor to provide oversight. Activities within these subsystems are likely less resource intensive compared to the maintenance and supportive subsystem. Ongoing resources are necessary for extensive and ongoing education and training of both RRT members and RRT end-users. The allocation of personnel and budgetary support may not have been possible in organizations with restricted resources.

The level of RRT integration was determined by examining the presence of integration across three subsystems: passages (i.e., the first step towards institutionalization), routines (i.e., the second degree of institutionalization signifying RRT permanence), and niche saturation (i.e., the highest degree of institutionalization that signifies optimal expansion of the RRT program in hospitals). With the exception of the supportive subsystem, hospitals have achieved passages and routines in the various organizational subsystems, but niche saturation remains lacking in many aspects of the subsystems.

## LIMITATIONS

Limitations of the study include the use of a small, purposive sample of hospitals and a self-report survey. Generalizability of our findings is therefore limited. Whether the presence of a statewide collaborative and response bias overly estimated the level of sustainability is unknown. Nevertheless, we found wide variation in the level of sustainability across these

hospitals. To address non-response bias, we conducted a comparison of responder and non-responder hospitals. We did not find a statistically significant difference between responders and non-responders ( $z = 1.75$ ,  $p = .081$ ).

## DIRECTIONS FOR FUTURE RESEARCH

Variations existed in organizational and RRT characteristics and sustainability scores. Sustainability also varied across organizational subsystems and in regard to passages, routines, and niche saturation. Further research should seek to understand how RRT sustainability can be achieved. The role of organizational context and processes and the characteristics of innovations in sustainability must be explored. Last, the relationship between facilitating elements and sustainability needs to be described to better inform administrators' decisions and interventions to sustain RRTs and perhaps, other innovative interventions.

## Acknowledgments

The authors wish to acknowledge the contributions of Dr. Donna Haven, Dr. David A. Hofmann, Dr. Barbara A. Mark, and Dr. Bryan Weiner, in the conceptualization and development of the dissertation research project, which is reflected in some of the content presented in this manuscript. The authors also wish to acknowledge Dr. Jeff Spade for his willingness to provide the researcher with access to the group of hospitals. The authors also wish to acknowledge that the material is based upon work supported by the Office of Academic Affiliations, Department of Veterans Affairs' VA National Quality Scholars Program and with use of facilities at VA Tennessee Valley Healthcare System, Nashville, Tennessee. The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs, the United States government, or other organizations with which the authors are affiliated.

### Grant Support

Partial funding for the project was provided by the National Institute of Nursing Research Grant Number 5 T32 NR 008856.

## Biographies

Dr. Stolldorf has a PhD in Nursing and is a post-doctoral fellow in the VA's Quality Scholars Program. Activities in the program include the completion of a quality improvement curriculum, quality improvement projects, and conducting research and scholarly work. She is an affiliate with Vanderbilt University School of Nursing, Nashville, TN.

Dr. Mion has a doctorate in Nursing Science. She is the Independence Foundation Professor of Nursing at Vanderbilt University School of Nursing. She is also a faculty member in the VA's Quality Scholars Program, Nashville, TN and mentors several fellows in the Quality Scholars Program. One of her research interests is patient, nurse-, unit-, and organizational-level determinants impacting implementation of new procedures, practices, and technology.

**Dr. Jones** has a doctorate in Nursing Science with a minor in economics. She is Professor and Chair of the Division of Health Environments at the University of North Carolina at Chapel Hill School of Nursing, and Director of the UNC-CH Hillman Scholars Program in Nursing Innovation. She is also a current Robert Wood Johnson Foundation Executive Nurse Fellow (2013 cohort). She has work underway to evaluate the business case for nurse residency programs, and to develop nurse educational trajectories using longitudinal data.



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**Table 1**

## Sustainability Variables, Definitions, and Measures.

Variable	Definition and Measure
<i>Hospital Characteristics</i>	
Bed Size	Small (<300 beds), Mid-size (301–500 beds), Large (>500 beds)
Type	Academic Health Center (AHC), Community Hospital (CH), Corporate Health System (CHS), Critical Access Hospital (CAH)
<i>Organizational Subsystems</i>	
Production	Activities focused on organizational production. <ul style="list-style-type: none"> <li>➤ RRT program achieved permanent status</li> </ul>
Maintenance	Defined expectations for roles and performance of organizational members. <ul style="list-style-type: none"> <li>➤ RRT member' roles, expectations and performances formalized through written, defined job/role descriptions or organizational policies and procedures</li> <li>➤ Education and training of RRT members</li> <li>➤ Education provided to all hospital staff</li> </ul>
Supportive	Procurement of resources. <ul style="list-style-type: none"> <li>➤ FTEs assigned to the RRT program</li> <li>➤ Permanently dedicated funds designated to support the RRT program</li> </ul>
Managerial	Coordinating, adjusting, controlling, and directing the other three subsystems. <ul style="list-style-type: none"> <li>➤ RRT program monitored/ evaluated</li> <li>➤ Supervisor formally oversees the RRT program</li> </ul>
<i>Level of Institutionalization</i>	
Passages	The first level of institutionalization that signifies the emerging embeddedness of RRTs in hospitals. <ul style="list-style-type: none"> <li>➤ Yes = 4; No=1</li> </ul>
Routines	The second level of institutionalization. <ul style="list-style-type: none"> <li>➤ 4-point Likert scale (1 = no passage, 2 = passage + one year of a routine, 3 = two to three years of a routine, and 4 = four or more years of a routine).</li> </ul>
Niche Saturation	Highest level signifying optimal expansion of the RRT. <ul style="list-style-type: none"> <li>➤ 4-point Likert scale (1= not achieved; 4 = fully achieved) (n=3)</li> <li>➤ Multiple choice questions: Choice selected =4; choice not selected=1 (n=4)</li> </ul>

**Table 2**

Descriptive summary of the sample of hospitals and their RRTs.

	N	%*
<i>Hospital size</i>		
Small (<300 beds)	20	65
Mid-size (301–500 beds)	4	13
Large (> 500 beds)	7	23
<i>Hospital type</i>		
Academic Health Center	6	19
Community Hospital	22	71
Corporate Health System	2	7
Critical Access Hospital	1	3
<i>RRTs</i>		
RN-led teams	22	71
MD-led teams	3	10
RN-MD co-led teams	6	19
Dedicated RRT RN (RN without a clinical patient assignment; can be an ICU RN or not)	7	23

*Note.* Size reflects all licensed and staffed beds in each hospital. RN = Registered Nurse; MD= Physician; ICU=Intensive Care Unit.

\* = total percentage value may be greater than 100 because of rounding.

**Table 3**

Descriptive summary of sustainability scores by hospital size and type.

	<b>N</b>	<b>M (SD)</b>	<b>Range</b>
<i>Hospital size</i>			
Small	20	3.46 (1.00)	1.00 – 4.75
Mid-size	4	4.18 (0.39)	3.73 – 4.52
Large	7	4.48 (1.14)	2.36 – 5.98
<i>Hospital type</i>			
Academic Health Center	6	4.12 (0.99)	2.36 – 5.19
Community Hospital	22	3.56 (1.00)	1.00 – 4.75
Corporate Health System	2	5.33 (0.92)	4.68 – 5.98
Critical Access Hospital	1	3.58	

*Note.* Small = up to 300 beds, Mid-size = 301 –500 beds, and Large = > 500 beds.

**Table 4**

A comparison of passages, routines, and niche saturation by subsystem

Subsystem	Passage	Routine	Niche Saturation	Overall Score <sup>b</sup>
	Median(IQR)			
<b>Production<sup>a</sup></b>	<b>4.0</b> (4.0-4.0)	<b>4.0</b> (4.0-4.0)	<b>4.0</b> (3.0-4.0)	<b>4.0</b> (3.5-4.0)
RRT program achieved permanent status	4.0 (4.0-4.0)	4.0 (4.0-4.0)	4.0 (4.0-4.0)	4.0 (3.5-4.0)
<b>Maintenance<sup>a</sup></b>	<b>4.0</b> (3.0-4.0)	<b>3.67</b> (2.33-4.0)	<b>4.17</b> (3.33-5.50)	<b>3.7</b> (2.9-4.4)
RRT member' roles, expectations and performances formalized through written, defined job/role descriptions or organizational policies and procedures	4.0 (4.0-4.0)	4.0 (3.0-4.0)	8.0 (8.0-12.0)	5.33 (4.7-6.7)
Education and training of RRT members	4.0 (1.0-4.0)	4.0 (1.0-4.0)	2.0 (1.0-2.5)	3.33 (1.0-3.5)
RRT program related education provided to all hospital staff	4.0 (4.0-4.0)	4.0 (2.0-4.0)	2.5 (2.0-2.5)	3.33 (2.7-3.50)
<b>Supportive<sup>a</sup></b>	<b>1.0</b> (1.0-2.5)	<b>1.0</b> (1.0-2.0)	<b>1.0</b> (1.0-1.0)	<b>1.0</b> (1.0-2.0)
FTEs assigned to the RRT program	1.0 (1.0-4.0)	1.0 (1.0-2.0)	-- <sup>c</sup>	1.0 (1.0-3.0)
Permanently dedicated funds designated to support the RRT program	1.0 (1.0-1.0)	1.0 (1.0-1.0)	1.0 (1.0-1.0)	1.0 (1.0-1.0)
<b>Managerial<sup>a</sup></b>	<b>4.0</b> (2.5-4.0)	<b>3.5</b> (2.5-4.0)	<b>10.0</b> (8.0-14.0)	<b>5.3</b> (4.5-7.33)
RRT program monitored/ evaluated	4.0 (4.0-4.0)	4.0 (4.0-4.0)	12.0 (8.0-16.0)	6.67 (5.33-8.0)
Supervisor formally oversees the RRT program	4.0 (1.0-4.0)	3.0 (1.0-4.0)	8.0 (1.0-16.0)	5.33 (1.0-7.33)

Note. Because of the skewness of the majority of the variables, median and IQR are reported.

<sup>a</sup> = Overall mean score for each subsystem by passage, routine and niche saturation;

<sup>b</sup> = Overall mean score across passages, routines, and niche saturation for each subsystem;

<sup>c</sup> =No questions were included for niche saturation.