Online-only content for "Critical Appraisal of the Evidence: Part I," by Fineout-Overholt and colleagues in the *American Journal of Nursing*, July 2010, p. 47-52.

Table 1. Evaluation Table, Phase I

First Author (Year)	Conceptual Framework	Design/Method	Sample/Setting	Major Variables Studied (and Their Definitions)	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
Chan PS, et al. *Arch Intern Med* 2010;170(1):18-26.	None	SR Purpose: effect of RRT on HMR and CR • Searched 5 databases from 1950-2008, and "grey literature" from MD conferences • Included only studies with a control group	N = 18 studies Setting: acute care hospitals; 13 adult, 5 peds Average no. beds: NR Attrition: NR	IV: RRT DV1: HMR DV2: CR				
McGaughey J, et al. *Cochrane Database Syst Rev* 2007;3: CD005529.	None	SR (Cochrane review) Purpose: effect of RRT on HMR • Searched 6 databases from 1990-2006 • Excluded all but 2 RCTs	N = 2 studies 24 adult hospitals Attrition: NR	IV: RRT DV1: HMR				
Winters BD, et al. *Crit Care Med* 2007;35(5): 1238-43.	None	SR Purpose: effect of RRT on HMR and CR • Searched 3 databases from 1990-2005 • Included only studies with a control group	N = 8 studies Average no. beds: 500 Attrition: NR	IV: RRT DV1: HMR DV2: CR				

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Hillman K, et al. *Lancet* 2005;365(9477): 2091-7.	None	RCT Purpose: effect of RRT on CR, HMR, and UICUA	N = 23 hospitals Average no. beds: 340 • Intervention group (n = 12) • Control group (n = 11) Setting: Australia Attrition: none	IV: RRT protocol for 6 months • 1 AP • 1 ICU or ED RN DV1: HMR (unexpected deaths, excluding DNRs) DV2: CR (excluding DNRs) DV3: UICUA	HMR CR rates of UICUA			Note: • Criteria for activating RRT
Chan PS, et al. *JAMA* 2009;300(21): 2506-13.	None	Cohort study Purpose: effect of RRT on HMR and CR over 12 months (data excluded over the 4-month active intervention period)	N = pre: 24,193 adult adm; post: 24,978 adult adm Setting: 404-bed hospital in midwestern U.S. Attrition: NR	IV: RRT • 2 ICU RNs • RT • ICUF or AP on request by RRT DV1: HMR (mortality rates/100 adm) DV2: CR (hospital-wide cardiopulmonary arrest rates/1,000 adm [code = unexpected arrest requiring resuscitation and hospital alert) Process outcomes: Code location, code type, quality of RRT implementation	HMR: all deaths CRO: rates/1,000 PD and 1,000 adm; adjusted for CMS case mix index			
Sharek PJ, et al. *JAMA* 2007;298(19):2267-74.	None	Cohort study Purpose: effect of RRT on HMR and CRO over 2 years	N = pre: 22,037 peds adm/ 102,537 PD; post: 7,257 adm/ 34,420 PD Setting: 76 beds in nonobstetric, nonnursery, non-ICU peds units in 218-bed hospital in western U.S. Attrition: NR	IV: RRT • Peds ICUF or AP • ICU RT • NS DV1: HMR (total no. deaths for 1 month) DV2: CRO (cardio [chest compressions] and pulmonary [tracheal intubation] arrests occurring outside ICU) Process outcomes: Reasons for activating RRT, actions after RRT activation, patient disposition after RRT intervention	HMR: all deaths CRO: rates/1,000 PD and 1,000 adm; adjusted for CMS case mix index			

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DeVita MA, et al. *Qual Saf Health Care* 2004;13:251-4.	None	Retrospective descriptive study; analysis of RRT responses (historic controls) Purpose: change in CR after RRT	N = 3,269 RRT calls; 1,220 CR over 6.8 years Setting: 662-bed hospital in eastern U.S. Attrition: NR	IV: RRT • AP • ICU RN • RT • Floor RN DV1: FCR (same-day death) DV2: NSCR (died before discharge) DV3: RRT use	CR/1,000 adm			Notes: • Criteria for activating RRT • Roles of each team member
Dacey MJ, et al. *Crit Care Med* 2007;35(9):2076-82.	None	Preexperimental (pre-post) Purpose: change in HMR, CRO, and UICUA after RRT	Specific N = NR; all patients seen within 17 months Setting: 350-bed community hospital in eastern U.S. Attrition: NR	IV: RRT (efferent arm of RRS) • PA • ICU RN • RT DV1: HMR DV2: CRO DV3: UICUA Process outcomes: • Airway management (in fewer than 2 tries) • MD review before transfer • RN satisfaction • 24-hour follow-up visits				Note: • Afferent arm of RRS: recognizing the need to call RRT; major educational efforts

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Mailey J, et al. *J Trauma Nurs* 2006;3(4):178-82.	None	Preexperimental (pre-post) Purpose: change in HMR, CR, LDC after RRT	N = 1,335 RRT calls; 207 ICU DC over 8 months Setting: General practice units in a large teaching hospital in the midwestern U.S. Attrition: NR	IV: RRT • AP • ICU RN • NS • RT • 24/7 DV1: HMR DV2: CR DV3: LDC DV4: Days between CR Process outcomes: • CR outside ICU • No. RRT calls • Location, reason, time of RRT as well as outcome	CR/1,000 DC			Notes: • Nurses required to have 2-3 years ICU experience and be ACLS and BLS certified (nurses were ACLS instructors) • ICU nurses had difficulty with no monitoring capabilities • Had an RRT committee, but included no staff
McFarlan SJ, Hensley S. *J Nurs Care Qual* 2007;22(4):307-13.	None	Preexperimental (pre-post) Purpose: change in HMR and CR after RRT	Specific N = NR; all patients seen within 12 months Setting: community hospital in eastern U.S. (472-bed, level 1 trauma center)	IV: RRT • ICU RN DV1: HMR (unadjusted deaths) DV2: CR (percent in acute areas) DV3: UICUA				Notes: • December 2004 – IHI 100,000 lives campaign • Require RN with 5+ years experience • No MD on team • Roles and responsibilities • Data on what initiated RRT call

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Offner PJ, et al. *J Trauma* 2007;62(5):1223-8.	None	Preexperimental (pre-post) Purpose: change in CR after RRT	Specific N = NR; all patients seen within 10 months Setting: community hospital in western U.S. (level 1 trauma center) Attrition: NR	IV: RRT • ICU MD • ICU RN • RT • 24/7 DV: CRO				Note: • Criteria for activating RRT
Bader MK, et al. *Jt Comm J Qual Patient Saf* 2009;35(4):199-205.	None	Evidence implementation Purpose: change in CRO and UICUA after RRT	Specific N = NR; all patients seen within 2 years Setting: 304 community hospitals in western U.S. Attrition: NA	IV: RRT • ICU RN • 24/7 DV1: CRO DV2: UICUA				Note: • RRT committee: first administrators and then staff nurses • RRT checklist
Benson L, et al. *Jt Comm J Qual Patient Saf* 2008;34(12):743-7.	None	Evidence implementation Purpose: change in HMR and CR after RRT	Specific N = NR; all patients seen within 9 months Setting: 350-bed teaching hospital in midwestern U.S. Attrition: NA	RRT • APN • ICU RN • RT DV1: HMR DV2: CR				
Bertaut Y, et al. *J Vasc Nurs* 2008;26(2):37-42.	None	Evidence implementation Purpose: change in HMR and CRO after RRT	Specific N = NR; all patients seen within 12 months Setting: 508-bed large teaching hospital in southern U.S. Attrition: NA	RRT • ICU RN • RT • MD PRN DV1: HMR DV2: CRO	CR/1,000 DC			Notes: • Major education of all staff • Example of a record for RRT call

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Hatler C, et al. *MedSurg Nursing* 2009;18(2):84-126.	None	Evidence implementation Purpose: change in CRO and UICUA after RRT	Specific N= NR; all patients seen within 31 months Setting: 620-bed large teaching hospital in the southwestern U.S. Attrition: NA	IV: RRT • NS • ICU RN • ICU RT DV1: CRO DV2: UICUA DV3: ICU admissions after RRT				Notes: • RRT checklist • RRT flowchart

Shaded columns indicate where data will be entered in future installments of the series.

ACLS = advanced cardiac life support; Adm = admissions; AP = attending physician; APN = advanced practice nurse; BLS = basic life support; CMS = Centers for Medicare and Medicaid Services; CR = cardiopulmonary arrest or code rates; CRO = code rates outside of the ICU; DC = discharge; DNR = do not resuscitate; DV = dependent variable; ED = emergency department; FCR = fatal arrest; HMR: hospital-wide mortality rates; ICU = intensive care unit; ICUF = ICU fellow; IHI = Institute for Healthcare Improvement; IV = independent variable; LDC = percent of live discharges after coding; MD = medical doctor; NA = not applicable; NR = not reported; NS: nurse supervisor; NSCR = no survival arrest; PA = physician assistant; PD = patient days; Peds = pediatrics; PRN = as needed; RCT = randomized controlled trial; RN = registered nurse; RRS = rapid response system; RRT = rapid response team; RT = respiratory therapist; SR = systematic review; UICUA = unplanned ICU admissions; U.S. = United States.