From Readers

To the Editor,

Re: Gould D. Promoting Patient Safety: The Rapid Medical Response Team. Perm J 2007 Summer;11(3):26-34.

Dawn Gould, RN, overstates the literature supporting these teams. One editorial claims: "Rapid Response Systems: move a bit more slowly."[1] Although initial small, largely uncontrolled studies appeared favorable, the large, randomized, controlled MERIT trial found "The Medical Emergency Team system greatly increases emergency team calling, but does not substantially affect the incidence of cardiac arrest, unplanned ICU admissions, or unexpected death."[2]

Nevertheless, I'm inclined to believe improvements in teamwork and communication were seen. I have to ask whether one aspect of this intervention may have been enhanced recognition of the severity of some patients' clinical conditions and whether new DNR orders were written to reflect the patients' and families' wishes regarding the appropriate intensity of care. If so, that would help explain why mortality rates were essentially unchanged, while Code Blue rates declined, especially in the nonICU setting. Was this information captured?

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References

1. Teplick B, Anderson AE. Rapid response systems: move a bit more slowly. Crit Care Med 2006 Sep;34(9):2507-9.
2. Hillman K, Chen J, Cretikos M, et al; MERIT study investigators. Introduction of the medical emergency team (MET) system: a cluster-randomised controlled trial. Lancet 2005 Jun 18-24;365(9477):2091-7. Erratum in: Lancet 2005 Oct 1;336(9492):1164.

—Reply

To the Editors and Dr McKenzie,

In response to Dr McKenzie's letter, there is total agreement that improvements in teamwork and communication support the successes we have seen with Roseville Medical Canter's Rapid Medical Response Team (RMRT). The Australian MERIT study[1] was reviewed for and cited in the article. Although it was the largest and best designed study to date, the study's implementation structure and process was very different from Roseville's where we relied more heavily on previous studies.

The MERIT study did include more than 120,000 patients from public hospitals, with a mean age much younger than found at Roseville. NonICU patients in this study included coronary care units and unsupervised high-dependency units. Staff training at intervention hospitals consisted of four months of researcher training with no education on early recognition or treatment of critically ill or unstable patients. At study implementation, all researcher-led training was ceded to individual hospitals. There was no indication if additional training was provided. Although the authors asserted that no training was provided in the control hospitals, they indicated information on patient safety and the study was being widely reported in the media, which could have influenced the control hospitals as both control and MET hospitals improved their adverse outcome rates during the study. Finally, the MERIT study timeframe was only six months. The researchers concluded "the results of our study will have been affected by the effectiveness of our implementation strategy" and stressed the implementation could have been improved by continuation of a comprehensive educational strategy. In fact, a second study was simultaneously carried out at the implementation hospitals by the MERIT group and has recently been published. The authors concluded the details of implementation are critical to the optimization of the intervention.

The MERIT study was invaluable to us for its conclusions that many adverse events are preceded by physiologic signs that are abnormal and for underscoring the need for continuing education during implementation, which was a keystone for our study.

Although we have had an expansive palliative care program in place since 2002, there has been no organized focus on changing our DNR process. Since the time of our study, we have analyzed an additional year's data and have found that we have maintained our nonICU code rate at 1.15 for the two years collectively since implementation (compared to the 1.90 for the year prior; p = 0.018). Collectively, the two years show an overall decrease in nonICU mortality from 2.01 per 1000 discharges for the pre-RMRT year to 1.96 per 1000 discharges for the collective two-year period postimplementation. As with our previous study, the data was unavailable to adjust for age, gender, or comorbidities.

Although the body of literature cited in the Roseville article focused on studies that were much smaller in scope than the MERIT study, they were more consistent in the structure, systematic approach, and patient population to those found at Roseville.

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References

1. Hillman K, Chen J, Cretikos M, et al; MERIT study investigators. Introduction of the medical emergency team (MET) system: a cluster-randomised controlled trial. Lancet 2005 Jun 18-24;365(9477):2091-7. Erratum in: Lancet 2005 Oct 1;336(9492):1164.
2. Cretikos MA, Chen J, Hillman KM, Bellomo R, Finfer SR, Flabouris A; MERIT Study Investigators. The effectiveness of implementation of the medical emergency team (MET) system and factors associated with use during the MERIT study. Crit Care Resusc 2007 Jun;9(2):206-12.