

Patient Safety Tip of the Week

April 28, 2015 Failure to Escalate

Our October 2009 What's New in the Patient Safety World column "[Complications – Prevent Them or Manage Them Better?](#)" highlighted a study with striking implications for patient safety in surgery ([Ghaferi et al 2009](#)). Using data from the National Surgical Care Improvement Project (SCIP), the researchers showed that a two-fold variation in surgical mortality rates amongst hospitals is not explained by the characteristics of the patients or by the occurrence of complications. Complication rates, in fact, were quite similar at high-mortality hospitals and low-mortality hospitals. What differed, however, were the **mortality rates in those cases where major complications occurred**. The study thus lends credence to the concept raised by Silber et al ([Silber 1992](#)) of "**failure to rescue**" as the major explanation for differences in mortality across hospitals. Essentially what it implies is that the variation in mortality rates is due to differences in the way hospitals react to and manage complications.

So you've probably all heard the term "failure to rescue" and we've done numerous columns on "failure to recognize early clinical deterioration" (see list at end of today's column). But somewhere in between those two phenomena is "**failure to escalate**". The latter was coined a year ago by researchers in the UK ([Johnston 2014](#)). Now that same group has published results and recommendations from a FMEA (failure mode and effects analysis) on the escalation of care process ([Johnston 2015](#)).

The first study ([Johnston 2014](#)) was a qualitative one in which participants from multiple disciplines and multiple hospitals underwent semi-structured interviews. It found that a decision to escalate was based upon five key themes: patient, individual, team, environmental, and organizational factors. Two key findings were that escalation protocols were nonexistent or unclear and that poor availability of senior surgical staff was a concern. It was also felt that the hospital pager system was archaic and should be replaced by mobile phones and direct communication. Hierarchical issues were identified as a barrier, with junior physicians often reluctant to contact senior physicians for fear of humiliation or criticism or because they were overconfident in their own skills and judgment. They also noted that fragmentation of the surgical care team as a result of the European Working Time Directive (which restricts resident work hours similarly to ACGME work hour restrictions in the US) made it difficult sometimes to determine who was in charge or whom to call. Transparent escalation protocols, increased senior clinician supervision, and communication skills training were highlighted as strategies to improve escalation of care.

One other key factor raised by nurses was lack of a "worried" criterion. We've noted in several columns that early warning systems work best when there is a component that

reflects the nurse's clinical impression, which is sometimes difficult to put in concrete terms (see our prior columns for March 2012 "[Value of an Expanded Early Warning System Score](#)" and July 15, 2014 "[Barriers to Success of Early Warning Systems](#)").

In the FMEA Johnston and colleagues identified 33 steps in the escalation process ([Johnston 2015](#)). Those steps were identified through 42 hours of observation on surgical wards at 3 London hospitals. A risk-assessment survey and expert consensus group identified then 18 hazardous failures associated with these steps and assigned risk scores to them.

They broke them down into various categories. Concerns during process steps involving nurses included insufficient staffing, failures in taking and transcribing vital signs, failure to identify early deterioration, difficulty communicating with patients (eg. dementia), fear of criticism by junior physicians, and limitations of the pager system. Their recommendations included better nurse:patient ratios, electronic vital sign recording and documentation, a formal escalation protocol that would remove the hierarchical barriers, and increased use of smartphones.

Concerns during process steps involving junior physicians included failure to take an adequate history or perform a thorough examination, failure to review medication or I&O charts or case notes, incorrect initial treatment, and failure to inform the senior physician. Recommendations included improved staffing (especially availability of senior physicians), better integration of electronic health records, and emphasizing the importance of the escalation protocol to junior physicians.

Concerns during process steps involving senior physicians included communication and availability issues plus lack of ICU beds or sufficient OR's at night. Recommendations included development of a clear escalation protocol, developing guidelines for appropriate levels of care based upon diagnoses, physiologic parameters, early warning scores, etc., and improved bed/OR availability.

Flattening of the hierarchy was stressed as a critical factor in improving the culture of safety.

Two other points are worthy of mention. First, the studies were largely done in academic and/or teaching environments so a key sequence of communication was from nurse to resident to attending in most cases. That might differ in a community hospital but there is still often another physician (eg. hospitalist, "house" physician, etc.) involved even there. So we don't know how many of their steps can be generalized to other settings. But the concepts are still the same. The second point is that early warning systems (the MEWS) are already widely used in the UK compared to their infrequent use in the US.

The editorial accompanying the 2015 Johnston study ([Ghaferi 2015](#)) discusses the comparative pros and cons of FMEA and RCA and the importance of a culture of safety. It highlights the need for further research into the phenomena of failure to escalate and failure to rescue.

Our regular readers know we are fond of the FMEA (failure mode and effects analysis) in healthcare. Both the FMEA and RCA (root cause analysis) have advantages. The obvious advantage of the FMEA is that you don't have to wait for an adverse event to have occurred. More importantly we find that, in addition to identifying potential vulnerabilities in your systems and processes, doing a FMEA is an excellent tool in helping to build a culture of safety and teamwork. Doing a FMEA requires you gather together a multidisciplinary team representing all the healthcare workers involved in a process and you map out all the steps involved in that process or processes. You'd be surprised at all the steps you never even thought about. It really gives you a good perspective of what your co-workers are doing. Moreover, it is done in a setting where everyone should feel free to speak up and there are no fears of blame, retribution, etc. Hierarchical barriers are (usually) not present.

Just as their predecessors raised awareness of "failure to rescue", Johnston and colleagues have done an excellent job of both putting "failure to escalate" on the map and showing us how to use FMEA as a learning tool.

Some of our other columns on MEWS or recognition of clinical deterioration:

- February 26, 2008 "[Nightmares: The Hospital at Night](#)"
- April 2009 "[Early Emergency Team Calls Reduce Serious Adverse Events](#)"
- December 15, 2009 "[The Weekend Effect](#)"
- December 29, 2009 "[Recognizing Deteriorating Patients](#)"
- February 22, 2011 "[Rethinking Alarms](#)"
- March 15, 2011 "[Early Warnings for Sepsis](#)"
- October 18, 2011 "[High Risk Surgical Patients](#)"
- March 2012 "[Value of an Expanded Early Warning System Score](#)"
- September 11, 2012 "[In Search of the Ideal Early Warning Score](#)"
- May 2013 "[Ireland First to Adopt National Early Warning Score](#)"
- September 17, 2013 "[First MEWS, Now PEWS](#)"
- January 2014 "[It MEOWS But Doesn't Purr](#)"
- March 11, 2014 "[We Miss the Graphic Flowchart!](#)"
- July 15, 2014 "[Barriers to Success of Early Warning Systems](#)"
- November 11, 2014 "[Early Detection of Clinical Deterioration](#)"
- February 2015 "[Detecting Clinical Deterioration: Don't Neglect Clinical Impression](#)"

Our other columns on rapid response teams:

- August 2007 "[Responding to Patients with Clinical Deterioration](#)"
- November 27, 2007 "[More on Rapid Response Teams](#)"

- August 2008 “[AHRQ's New Patient Safety Primers](#)”
- December 2008 “[Rapid Response Teams Don't Live Up to Expectations](#)”.
- April 2009 “[Early Emergency Team Calls Reduce Serious Adverse Events](#)”
- December 29, 2009 “[Recognizing Deteriorating Patients](#)”.
- February 2010 “[Rapid Response Teams Still Not Cutting It](#)”
- November 11, 2014 “[Early Detection of Clinical Deterioration](#)”

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