Every Defect is a Treasure

Quality problems that result in adverse outcomes provide opportunities for quality improvement. A series based on actual examples of care.

Inadequate transmission of patient information across a continuum of care environments precedes a fatal outcome

A 47-year-old woman with a long-standing history of abdominal pain is urgently admitted to a hospital after being seen on four consecutive days in various settings, and dies while being intubated for a small bowel obstruction.

Late on Friday afternoon, a 47-year-old woman presents to the emergency department (ED) with severe abdominal pain, vomiting and chills. She describes six previous episodes and an extensive diagnostic work-up that includes a small bowel series, CT scans, colonscopy and laparotomy, none of which identified a definite cause of her pain. The ED room physician interprets the kidney, ureter and bladder (KUB) x-ray and mistakenly assesses that the patient does not have an early small bowel obstruction. After receiving pain medication and intravenous fluids, the patient is instructed to see her internist if her symptoms persist. The ED physician contacts the patient’s new internist (who, as a result of a recent change in her health insurance, the patient has not yet seen) and informs him of the visit. The internist dictates a note that takes a few days to be added to the patient's medical record.

The next day, the patient presents to the internist’s office with continuing nausea. The physician on duty calls the ED and has a copy of the emergency report from the previous day faxed to her office. Contained within is a poorly worded note implying that the KUB is essentially normal, which helps the internist in her decision to rule out a small bowel obstruction. Meanwhile, at the hospital the radiologist dictates his report on the KUB stating ‘Several moderately distended loops of small bowel in the right upper quadrant which may represent a small bowel obstruction; follow-up films recommended.’ This report by the radiologist is accidentally misdirected and goes directly to the patient's record instead of to the ED for follow-up.

Over the next 2 days, two physicians and a physician’s assistant (PA) examine the patient. Multiple tests and exams fail to fully identify the source of her abdominal pain; palliative treatments provide temporary relief. Of particular importance, the PA contacts the surgeon who performed the patient’s exploratory laparotomy several years ago and finds out that the laparotomy showed sarcoid adhesive disease. Although the PA includes this finding in his note, it is either not picked up or not fully appreciated by the reviewing physician.

Fragmentation of the health care system is progressing and patients frequently require medical services across multiple sites of care. As a result, about one-third of the time, providers lack critical information when making treatment decisions. In the office practice setting, the paper record is complete in so far as the provider is concerned, but contains little information pertaining to care outside the office practice (for example, ED visits, or discharge summaries from hospitalizations). A computer-based patient record can bridge current medical information needs at any site, reducing the potential for incorrect decisions and improving health care in general.

Lag times in getting clinical information into the medical record or computer can cause injury. Failures of systems in the radiology and emergency departments in the transmission and follow-up of abnormal test results are perilous. Examination of ‘near-misses’ and exploration of methods to ensure that results of tests are correctly directed, received, and acted upon, will lead to progress in preventing harm to patients.

When a patient is admitted to the hospital, communication between the surgeon and the ambulatory care providers is vitally important. The ideal health care setting, where all disciplines work together in a co-ordinated fashion, is difficult to achieve in reality because patient care involves hand-offs to multiple departments or specialists. More often than not, co-ordination of care is absent, resulting in a lack of accountability with poor outcomes.

Adapted with permission by Kathleen Dwyer, MS, from Forum August, 2001; 21(2). Forum is a publication of the Risk Management Foundation of the Harvard Medical Institutions, Cambridge, Massachusetts, USA.
Early the next morning the patient, now acutely ill, is rushed to the ED with abdominal pain, nausea, vomiting and as well as a new problem, shortness of breath. The surgeon obtains the chronology of events over the past 4 days, as described by the patient at this time. However, he is not aware of the patient’s history of sarcoid adhesive disease, which places her at increased risk of abdominal obstruction. Without these clues, the surgeon decides to rule out a pulmonary embolism and orders ventilation–perfusion scans of the lungs followed by an abdominal CT scan.

Assuming that the diagnostic testing will proceed within a reasonable time period and that the ICU staff will keep him informed of significant changes in the patient’s status, the surgeon begins operating on another patient. When he encounters complications, his return to the first patient’s bedside is delayed. Meanwhile, this patient’s condition takes a turn for the worse.

Later that night, the surgeon becomes aware of an earlier hypotensive episode and abnormal blood work. The patient is finally taken to surgery, but during intubation experiences a brief run of ventricular tachycardia followed by atrial fibrillation. Resuscitative measures are unsuccessful.

Diagnostic delays need to be reviewed at a systemic level and improvement efforts structured according to the primary source of the delay. This case demonstrates multiple failure points in the system, including the incomplete record, poor communication among providers and administrative delays in obtaining CT scans which had come to be tolerated over time.