

Patient Safety Tip of the Week

April 26, 2016

Lots More on Preventing Readmissions But Where's the Beef?

Busy month for articles on preventing readmissions! Two on tools for predicting readmission and more on programs looking to prevent readmissions.

The **HOSPITAL** score is a readmission prediction score originally derived and internally validated on medical patients at the Partners HealthCare Network in Boston in 2013 ([Donzé 2013](#)). It is based on 7 independent factors:

- H** hemoglobin at discharge
- O** discharge from an **O**ncology service
- S** sodium level at discharge
- P** procedure during the index admission
- IT** index type of admission (urgent)
- A** number of admissions during the last 12 months
- L** length of stay

Donzé and colleagues now have validated the HOSPITAL score in an international multicenter study that demonstrated the score could identify patients at high risk of 30-day potentially avoidable readmission with moderately high discrimination and excellent calibration in medical patients ([Donzé 2016](#)).

Another study ([Siracuse 2016](#)) showed that risk-stratification models, such as the Readmission After Total Hip Replacement Risk (**RATHRR**) Scale, can identify high-risk patients for readmission and permit implementation of patient-specific readmission-reduction strategies to reduce readmissions and health care expenditures. The variables (from total hip replacement patients in a large administrative database) found to be associated with increased risk of readmission after total hip replacement were: being older than 71 years, African American, in the lowest income quartile, revision replacement, liver disease, congestive heart failure, chronic pulmonary disease, renal failure, diabetes, fluid and electrolyte disorder, anemia, rheumatoid arthritis, coagulopathy, hypertension, and obesity. These were used to create the RATHRR Scale, which was applied to the validation cohort and explained 89.1% of readmission variability in that cohort. The authors suggest that the RATHRR Scale could be used

preoperatively to identify patients at greatest risk for readmission and pay special attention to their needs before and after discharge.

The RATHRR score weighs comorbidities heavily. Another recent study ([Havens 2015](#)), looking at readmissions following emergency general surgery, also found that a Charlson Comorbidity Index score of 2 or greater was a predictor of readmission, along with public insurance and leaving against medical advice.

Both the HOSPITAL and RATHRR scores do identify patients at highest risk for readmission. However, we're not sure they are really of much use in implementing care plans to reduce the risk of readmission. We've had this discussion before in our many columns on fall prevention. Fall risk "scores" are not of much benefit if they just identify patients at highest risk without directing focus to those factors that are most amenable to interventions.

So what are those factors that might be amenable to intervention and prevent readmissions? Auerbach and colleagues ([Auerbach 2016](#)) reviewed in detail 1000 cases where general medicine patients (average age 55 years) were readmitted to academic hospital within 30 days of discharge and found that about one-quarter (26.9%) of readmissions were potentially preventable. Perspectives of patients, physicians and intense case review were used. Some factors identified but that did not prove to be independent variables were failure to adequately treat symptoms, failure to monitor for medication adverse effects or noncompliance, failure to schedule timely followup visits, and need for additional or different home services. Of factors independently associated with preventable readmissions, premature discharge was a factor in some cases but other factors were equally or more important. Such included inability of patients to keep followup appointments, patient lack of awareness of whom to contact after discharge, failure to relay important information to outpatient healthcare professionals, and lack of adequate discussion about care goals for patients with serious illnesses. But another big factor identified was decision making by the emergency department (admitting patients that others felt did not need admission), though we concur with the accompanying editorial ([Atkins 2016](#)) that hindsight bias may be influencing that perception. The authors also note some factors that were somewhat surprisingly **not** found to be contributing factors. These included patient functional status and patient reports of and satisfaction with care. Significantly, in about half the admissions deemed preventable, gaps in care during the index admission were felt to have been present.

And what is the impact of interventions designed to prevent avoidable readmissions? Another new study reported results of a multicomponent intervention in which Yale-New Haven Hospital and an affiliated community hospital partnered with community resources in attempt to prevent readmissions ([Jenq 2016](#)). This was part of a special Medicare program to promote programs aimed at preventing readmissions. The teams screened inpatients, using a tool from the BOOST project (see our May 10, 2011 Patient Safety Tip of the Week "[Preventing Preventable Readmissions: Not As Easy As It Sounds](#)") to identify patients at high risk for readmission. The intervention consisted of patient/family education, use of community care "consultants", followup phone calls

aimed at making sure patients were engaged in their care, medication management, compliance with discharge instructions, and home visits if necessary. There was also coordination between the care “consultants” and staff if the patient had been discharged to an SNF or long-term care facility.

The adjusted readmission rate for the target group decreased from 21.5% to 19.5% (that for the control population went from 21.1% to 21.0% during the same period). The relative risk reduction was 9.3%, a modest reduction at best and less than the target Medicare had set. In fact, the number needed to treat (NNT) to avoid one readmission was 50, a substantial number. Figuring in the costs of the program, the authors calculated it took \$7000 of resources to prevent one readmission. The authors do note, however, that the average cost to Medicare for readmission is about \$12,000 so there may still be some incentive for Medicare to support such intervention programs. We note that does not take into account the additional services and costs on the outpatient side so any potential savings to Medicare is even smaller.

The study, one of the few done on sizeable populations, illustrates the challenges and somewhat frustrating results seen in this endeavor.

Almost all the studies done on preventing readmissions focus on fiscal issues. Not surprising since hospitals may now be penalized by CMS and other payors for readmissions. But lost in all of this is what happens to the patient in terms of outcomes, patient safety, mortality, and quality of life. Almost no studies on readmissions deal with those issues. We concur with the editorialists ([Atkins 2016](#)) that perhaps the most important lesson from the Auerbach study is that it highlights the fragmented healthcare system and gaps in communication and continuity of care. We can't tell you how often we see instances where primary care physicians (PCP's) are never even informed that their patient was in the ER or hospitalized. Or instances where patients show up in the PCP office after discharge and no records of the hospitalization or ER visit are accessible. Or, worse yet, results of pending tests done during the hospitalization are never received and acted upon by anyone. We've even seen instances where on admission to the hospital the patient's PCP's name gets replaced in an EMR field with the name of a hospital-based physician and any information that might get routed to a PCP now gets routed elsewhere. And while the ER took some blame in the Auerbach study, there are likely reasons the ER was put in the position of making those decisions to admit. Often the patient went to the ER because the physician cross covering for the PCP (or other physician) did not know the patient and took the easy route, telling the patient “Go to the ER”. Particularly in academic settings such as those in the Auerbach study it is common for patient calls after hours to be taken by residents who do not know the patient and also take the “go to the ER” route.

So, yes, readmissions deserve attention but for the right reasons. We always recommend that whenever a patient is readmitted (or has an unplanned admission) a mini-RCA (root cause analysis) should be done. While the PCP should usually be the one to initiate that process, he/she may meet the same barriers that caused the problem in the first place. So if you are part of a larger organization or an ACO there should be one or more

individuals who should do the legwork and oversee a thorough investigation of the root causes.

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