Chapter 12
Comparisons of Patient Severity Indices

INTRODUCTION

In this section, we will briefly discuss two methods of ranking patient severity. The first method we consider is the AHRQ comorbidities, which is a collection of 30 patient conditions that are used to define an index consisting of the number of comorbidities that a patient has been diagnosed with. In this chapter, we will also discuss the Charlson Index and compare it to the AHRQ comorbidities.

Another measure we will define in this chapter uses the patient diagnoses that have the highest mortality rates. As we find, many of these diagnoses are related to serious and resistant infections that are generally not included in other indices, which tend to focus on chronic patient conditions.

We will show that the severity of a patient’s condition can be highly variable, depending upon the severity index that is used.

BACKGROUND

We list three examples where a patient severity index was used to determine the patient condition, and to examine the likelihood of specific outcomes. In this first example, the risk of mortality was examined. (Modrall, et al., 2008) This paper states, “Renal artery bypasses were identified using a combination of ICD-9-CM procedure and diagnosis codes. The ICD-9-CM procedure codes for aortorenal bypass [RABG] (39.24) and “other abdominal bypass” (39.26) were merged with the diagnosis codes for renal atherosclerosis (440.1)
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and fibromuscular dysplasia (447.3) to identify patients undergoing RABG for these diagnoses. The database lists 29 comorbidities defined by the HCUP based on the presence of secondary diagnoses after excluding postoperative complications and diagnoses directly related to the primary diagnosis.” Other studies use the same indices to identify the severity of the patient condition. (Phillips, Clark, Nathens, Shiloach, & Freel, 2008)

Note that ICD9 codes were used to define the patient condition, and specific patients were extracted from the database based upon the values of these ICD9 codes. The study concentrated upon primary diagnosis and procedure only. The measure used to investigate patient condition is the list of AHRQ co-morbidities using secondary diagnoses. Providers who under-report on these secondary conditions will have patients defined as not severe compared to providers who tend to overcode, meaning that when there is any potential to define a diagnosis, the patient will receive that diagnosis. (Patil, Lad, Santarelli, & Boakye, 2007)

Probably the biggest problem with defining these severity indices is the requirement that all providers studied must enter patient information uniformly. If one hospital “overcodes” patient conditions while another provider “undercodes”, then the provider who “undercodes” is penalize in risk adjustment models while the provider who “overcodes” is rewarded. In addition, there is a greater incentive to improve the provider’s ranking by improving coding rather than improving care simply because it is less costly to improve coding than it is to improve care.

We give some advice provided to physicians (Hayward & Kent, 2008) specifically on how to “game” the system, clearly demonstrating that many providers are very aware on how to improve their rankings through coding. This gaming includes providing incorrect blood pressure readings for hard to treat patients and suggests that adults can always be diagnosed with something. These “something” diagnoses can be used to increase reimbursements.

All too often clinicians are stingy in diagnosing patients with disease. These physicians carelessly mislabel many patients as “healthy,” overlooking more subtle signs of disease, giving patients a false and dangerous sense of security. In the era of P4P, this is virtually malpractice. Fortunately, experts are beginning to recognize what simple common sense tells us: people are either diseased or prediseased, since good health is always temporary. Thankfully, it’s now quite difficult for an adult patient to avoid having at least one of the following diseases: diabetes/prediabetes, hypertension/prehypertension, obesity/overweight/flabby thighs, or a detectable LDL level.... This one little activity can (1) lower costs per diseased patient (since your “diagnosed” cases are now less sick on average), (2) make your patients appear more ill (since they will now have more comorbid conditions), while (3) improving your quality measures (since it’s much easier to control hypertension if the patient rarely had BPs above 130/80 to begin with). Your average control of these diseases and costs per patient will soon run circles around those of physicians who allow themselves to be hamstrung by more old-fashioned diagnostic criteria. So, screen aggressively and diagnose generously!... Wouldn’t it be better for all involved to just keep taking her blood pressure until the blood pressure goal is met? If 2 or 3 checks don’t do the trick, a conscientious physician should be willing to sacrifice a Korotkoff sound or two for the sake of quality. We have found that ultrarapid cuff deflation can be an equally effective nonpharmacologic remedy for these resistant cases, and improve patient comfort at the same time. Be creative—you will find a way to reach the recommended goal!

For example, patients were diagnosed with diabetes if fasting glucose values were above 140 mg/dl. Then diabetes was redefined for a fasting glucose of 126 mg/dl. Now 100 mg/dl is defined as pre-diabetes, and can be treated with diabetes medications. Similarly, patients were treated for
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