

Discharge Planning Technologies: The Current State of the Art

Discharge planning has always been fundamental to high-quality care and patient safety. With the new Medicare penalties for high readmission rates, however, and the fact that shorter hospital stays can mean patients go home sicker, the discharge planning process has become essential to the sustainability of the entire healthcare system. Discharging patients to an environment that cannot meet their medical needs, or sending them home without adequate instructions for self-care, can land them right back in the hospital. Since readmission reduction has become an industry-wide focus, the trend in discharge planning has been to implement evidence-based policies, a multi-disciplinary approach, and coordinated follow-up care. The newest trend of all, however, may be to adopt technologies that support discharge planning while helping to satisfy Meaningful Use requirements. Case managers may view Meaningful Use as largely an information technology (IT) initiative, yet they should understand how it ties into their own mission and expertise.

Making the Case for Technology-Assisted Discharge Planning

In today's healthcare environment, the discharge planning process is inherently complex, with numerous factors coming into play. Case managers must collect a vast array of information about the patient, including details about his illness and prognosis, home and family/caregiver situation, level of health literacy, and medical needs. They have to investigate multiple alternatives and formulate options before deciding which one is most feasible to deploy, given the desired outcome and the patient's preferences. And for the most part, they continue to acquire, record, organize, and disseminate all of the data necessary for a smooth discharge through manual processes – even though many other healthcare specialties are increasingly relying on IT to gather and process information more efficiently.

Basic discharge planning software is already available, but it is not yet comprehensive and there is no “gold standard” as to how it should function or what it should include. As the industry moves toward more standardization in the electronic medical record (EMR), and as health information exchanges (HIEs) strive to reduce fragmentation of care, it's reasonable to expect technology vendors to step up to the challenge of developing new discharge planning tools – and to collaborate on an industry standard.

Key elements in the discharge planning process include transition planning, medication reconciliation, patient and caregiver education, and the timely transmission of a discharge summary to those who will provide follow-up care. The following is an examination of how each component is – or might be – supported and optimized through technology.

Transition Planning

This basic function of discharge planning is to ensure continuity of care and an appropriate level of post-discharge services. It can sometimes be time-consuming to match a patient to a skilled nursing or rehabilitation facility based on location, available beds, payers accepted, and services provided. Patient placement systems (PPS),

sometimes known as discharge referral systems (DRS), can speed up the process by allowing case managers to electronically search facilities on a regional level and to make secure, paperless referral inquiries online rather than sending and waiting for faxes. These systems can also make it easier to track and monitor the referral status of multiple patients through instant alerts that case managers receive via email, a mobile device, or an online dashboard.

There are currently no standardized technological tools to assist transition planning for patients going from the hospital to home, although many hospitals are using paper checklists. Studies have identified factors that are predictive of a higher probability of early readmission, including history of heart failure, four or more admissions within the last eight years, noncompliance with medications, poor diet, lack of social support, and lack of access to primary care. Standardized screening for these factors should be based on protocols and a policy-driven approach, which could best be facilitated by information technology. For example, a screening tool could use data collected upon admission and data gathered from the EMR to subjectively identify those at high risk of readmission and automatically route that information to a case manager so discharge planning could begin early. It could also include templates for disease-specific discharge programs that essentially automate the paper checklist by creating workflows, assigning essential tasks to the appropriate staff member, and generating alerts when benchmarks aren't met (e.g. setting an appointment for follow-up care within seven days of discharge).

Medication Reconciliation

The importance of this step is universally recognized, yet the optimal method has never been determined. Providers currently must piece together an accurate list of pre-admission medications from multiple sources, including outpatient medical records, patient interviews, and community-based pharmacies – and then manually reconcile these with the post-discharge list. Clearly, errors in the reconciliation process can jeopardize patient safety. It's no wonder that Meaningful Use guidelines call for an automated process to more accurately and efficiently address medication reconciliation.

Under Stage Two requirements for Meaningful Use, hospitals must *electronically* perform medication reconciliation for 65 percent of patients making a transition of care. Furthermore, technology vendors cannot obtain certification for their EMR technologies without including the functionality to electronically compare two or more medication lists, so the IT industry is committed to developing these technologies. However, the automated process shares one key weakness with the manual process: it depends entirely upon the accuracy of the pre-admission medication list. This means reconciliation systems ideally must be able to aggregate prescription information from community and mail-order pharmacies and analyze refill histories to determine what the patient is actually taking – yet there is currently no centralized repository of pharmacy data to support this.

Current systems integrate with the hospital pharmacy and computerized provider order entry (CPOE) systems to provide a seamless reconciliation workflow once the pre-admission list has been compiled. They also require hospitalists making medication

changes to document the reasons for those changes, which helps to eliminate duplicate drug therapies, over-prescribing, and dosage errors.

Patient and Caregiver Instructions

There has long been a need for better patient educational materials, including discharge instructions, which are often too generic to be truly useful to an individual patient. Patient-specific materials have the potential to enhance the quality of care, improve patient safety, and overcome common communication barriers. Yet, creating these customized documents has traditionally been difficult and time-consuming, due to lack of resources.

Today, Meaningful Use requires healthcare providers to more actively engage patients in their own care by providing them with electronic access to their own health information. Guidelines specifically call for providers to “use certified EMR technology to identify patient-specific education resources and provide those resources to the patient if appropriate.”

Technology vendors are responding to these guidelines by providing document libraries that integrate with the EMR and make it fast and easy for providers to create individualized discharge instructions. The earliest systems were template-based and tied into ICD-9 codes, designed for the convenience of physicians in emergency departments. Today they are evolving to allow for a choice of different formats, illustrations, and multiple languages, as well as easy editing capabilities. In the future, perhaps we'll see the ability to electronically generate documents that are designed for a specific patient's cultural background and literacy level, as the system draws from EMR data that includes patient demographics.

Discharge Summary

The primary mode of communication between hospitalists and primary care providers is the discharge summary – and research shows that its timely transmission can increase the likelihood of follow-up care while decreasing the chance of readmission. Yet studies also reveal that this essential document rarely reaches the primary care physician before the patient's first follow-up visit and is likely to lack key information.

While it is not mandated by Meaningful Use, some technology vendors are including a discharge summary module to improve the flow of key information. Often it consists of user-friendly templates that physicians can complete quickly, eliminating dictation and transcription from the workflow. Ideally, templates would also offer more clarity to the receiving physician or facility, with standardized formats, clear sub-headings, a logical flow of information, and the most important information at the top – including the outcome of hospitalization, follow-up care needed, and plans for additional services (hospice, home health aides, patient monitoring devices, etc.) Integration with other EMR modules could identify lab work or other tests for which final results are not yet available at discharge, ensuring that the receiving physician is aware of pending tests and knows how to act on them. Where case managers are expected to make follow-up calls or set

follow-up appointments, an automated work queue could help them manage tasks and track patient status.

Conclusions

Shorter hospital stays will not result in overall cost savings if they lead to adverse events or emergency department visits down the line – meaning that discharge planning is more important than ever to the sustainability of the healthcare system.

A systematic, technology-enabled approach to optimizing the key elements of the discharge planning process is critical to a facility's effectiveness and to quality-of-care initiatives across the industry. As EMR use increases, Meaningful Use requirements will almost certainly advance the state of the art in emerging discharge planning technologies.