Reaping the Benefits of Discrete Data Capture: Decreased Paper, Increased Satisfaction, Improved Data Quality

Chris Joyce | Director, Healthcare Solutions
Introduction

In healthcare, as in many industries, paper remains the enemy. On the most basic level, managing paper healthcare forms and documents decreases efficiency, increases costs and can have an adverse effect on patient care, patient safety and financial reimbursements. Now, in addition to the traditional reasons for eliminating paper-based processing, there is an even more pressing issue bearing down on healthcare providers: the rising demand for electronic data.

Increasing competition, changing regulatory requirements, pay-for-performance initiatives and Meaningful Use incentives require healthcare organizations to capture, access and share discrete data throughout the healthcare continuum. While the electronic health record (EHR) and other initiatives continue to reduce paper and increase the availability of discrete data, there are several areas and activities that have defied automation. These are most often at the nexus where patients and hospital staff interact, such as admission/registration and bedside care.

Fortunately, there are now solutions available that can:

• Cost-effectively eliminate paper in areas that have resisted automation
• Effectively capture accurate, discrete data and deliver it to the proper downstream systems
• Streamline processing and improve both patient and staff satisfaction

Better Healthcare Through Electronic Data Capture

Frost & Sullivan estimates that while only 12 percent of U.S. hospitals were utilizing an electronic health record in 2009, 75 percent of U.S. hospitals will have an EHR system in place by 2013, rising to 90 percent penetration in 2016.1 EHRs and other recent initiatives such as health information exchanges are changing the way healthcare is practiced by providing real-time electronic data that can be used to improve patient care, increase patient safety and improve efficiency.

These initiatives are helping create “a data-rich environment that facilitates the provision of care by arming providers with real-time actionable data.”2 Yet, according to Frost & Sullivan, “many healthcare organizations are struggling to implement timely and accurate data capture processes within new and existing workflows.”3 In order to get the most out of their systems and data, healthcare organizations “must strategically and proactively integrate data capture and collection processes within workflows to successfully enhance the patient experience and clinical efficiencies.”4

The creative use of mobile technologies makes it easy to collect and deliver vital healthcare data while at the same time improving patient and provider satisfaction — and helping facilities prepare for future regulatory demands that will require clean, accurate data.
Grappling With Paper

While the adoption of EHR systems has extended the reach of automation, there are vital areas and applications that remain relatively untouched. Areas such as registration, admissions, and discharge are often saddled with paper and manual processing—typically because of signature requirements and the challenges posed by direct patient interactions.

The drawbacks of paper processing are well documented:

- Costs and delays caused by paper forms, including storage, scanning and data entry
- Inefficiencies in workflow
- Misplaced forms
- Errors in data entry
- Dissatisfaction among patients, providers and staff

Now, with the increasing need for accurate, immediately accessible data across the entire healthcare continuum, the lack of efficient and effective data capture has moved to the top of that list. Fortunately, new mobile and Web-based solutions have recently emerged that make it easy to collect and disseminate patient and clinical data in areas that have previously resisted automation.

Getting It Right From the Start

One of the clearest examples of an area that can benefit from the creative use of mobile technology is admission and registration, which has been difficult to fully automate for several reasons:

- There are a number of documents and consent's forms that must be completed and signed, including advance beneficiary notices, patient privacy forms, and Medicare and insurance forms.
- Direct interface with patients requires systems that are intuitive and as easy or easier to understand than using paper.
- Workflow needs to be flexible to manage a wide variety of patient scenarios.

Data collected in admissions/registration is extremely important and drives several facets of the healthcare process, including patient care, patient safety, coding, billing, quality control and analytics. Unfortunately, much of this data has gone untapped because it has been trapped on paper. If it is available at all to downstream systems, it isn’t until much later in the process, after it has been scanned or manually entered into the correct system.
Paper-Free, Data-Smart Registration

Paper-free, data-smart registration and admission solutions are now available. Using a tablet or other mobile device, these solutions support:

- Workflow management, which can automatically guide the clerk and/or patient through the registration process based on the type of patient, insurance coverage and procedure
- Flexible and forms management, which can allow the department to quickly create electronic documents that are patient and staff-friendly
- Interfaces to hospital systems that automatically populate documents with correct demographic information—saving time and improving accuracy
- Real-time capture of discrete data as part of the forms completion process, with validation to ensure that proper values are entered and that there is no missing or incomplete information
- Electronic signature, which can automate the consent and approval process
- Immediate information delivery downstream to EHR, coding, billing and other systems to ensure that data is available when and where it’s needed

Faster, cleaner data from registration can have a profound effect throughout the enterprise. In clinical care, the information collected at admission may be used straightaway by clinicians to proceed with triage, assessment and treatment, while patient consents can help guide informed care. Billing personnel can receive the exact information needed to substantiate a claim—without having to waste time researching or validating information. Coders receive more complete information, resulting in more precise coding and faster, more accurate reimbursements. And correct demographics help drive the informatics and analytics process that will play an increasingly important role in understanding and analyzing patient populations for clinical, financial and operational purposes.

Mobile Admissions in Action

Bottomline Technologies provided a mobile admission solution to Alamance Regional Medical Center, a community hospital in Burlington, North Carolina. The solution employs tablet PCs to present hospital forms to patients, who then use a stylus to fill them out—retaining a familiar experience—while capturing discrete data that is validated and accurate, that can be passed to downstream systems.

Here’s how it works: When a patient arrives at registration, an electronic packet based on insurance type, service and patient’s primary language is automatically created using the system’s workflow rules. All forms are prepopulated with relevant demographic information, saving time and eliminating unnecessary keyboard entry. Color highlights on required fields further enhance the patient experience and ensure that all required data and signatures are completed. Finally, validation rules ensure that all required information is present before the patient is registered and the discrete data is passed to systems downstream.

Benefits:

- Collects accurate information for patient care needs and faster, cleaner claims processing
- Eliminates cost and expense of paper, scanning and indexing
- Improves patient satisfaction
Real-Time Capture of Clinical Data

Mobile technologies can also play an important role in capturing clinical data that is currently missed by EHR solutions. According to the Frost & Sullivan white paper titled “The Real Action Is Still at the Bedside,” “The process of entering patient data into the EHR can interrupt clinician-patient interaction and add delays to traditional clinical workflows. Healthcare administrators will need to develop systems that enable clinical and allied staff, nurses in particular, to deliver better care to patients while improving job satisfaction and promoting the shift from paper to electronic documents.”

Real-time data capture at the point of care is essential to improved care quality, yet many clinicians complain that “the structured nature of electronic interactions takes longer than paper transactions.” This can interrupt or decrease interaction with patients. Bedside care is another issue. Without a convenient means to enter information at the bedside, caregivers may postpone data input until the end of rounds. This leads to inefficiencies and “increases the chances that information will be left out or entered incorrectly.”

Mobile solutions can augment EHR systems by effectively capturing and validating data at the point of care and automatically feeding the data into the EHR. Using tablet-based technology and human-engineered forms design, the right mobile solutions allow caregivers to collect and manage information in a more efficient and simple way. The result: more time to spend with patients and more accurate data. And since automated forms management technology on a mobile device does not require customized changes to the EHR, it saves time, money and effort.

The Drive for Discrete Data

Capturing and distributing discrete data is not only important for right here, right now needs, such as patient care, patient safety, billing, and reimbursement - it is also vital for a number of future initiatives.

**Meaningful Use:** The Health Information Technology for Economic and Clinical Health (HITECH) Act provides incentive payments to healthcare providers that meet Meaningful Use standards. While requirements for the upcoming stages of the HITECH Act are being released incrementally, it is apparent that electronic data capture throughout the enterprise will be vital. Capturing “structured machine readable data” is expected to be an important requirement for Meaningful Use Stage 3.

**Accountable Care:** Healthcare reimbursement is likely to change dramatically in the near future. Pay-for-performance models such as accountable care are expected to replace fee-for-service. Accountable care is based on the provider’s ability to better manage patient diseases and conditions. This model will require discrete data to help track, analyze and successfully manage populations, all of which are key for pay-for-performance reimbursement.

**Advanced Analytics:** Hospitals will rely on data sharing and advanced analytics to understand and analyze patient populations in order to find new ways to improve care and remain competitive. According to the Gartner Group, “healthcare is catching up with other industries in its demand for more timely and robust performance analytics.” The report goes on to state that the data will aid conformity to care standards and business best practices. Having the right discrete data—including health records, claims data, and patient and population information—will be key to creating actionable intelligence.

**Changing Regulations:** Having systems that are flexible and agile enough to capture the right data will be instrumental to cost-effectively keeping pace with fast-changing compliance mandates.
Healthier Data, Happier Patients and Caregivers

In addition to capturing discrete data, mobile technologies and other creative solutions can reduce friction between patients, caregivers and technology systems. Areas that have defied automation are typically those with the highest level of human touch and involvement in the process of information collection and distribution. That’s why using mobile technology to manage these interactions can provide an institution with the opportunity to improve personal interactions and to positively impact the hospital’s reputation.

With the rising use of personal technologies such as smartphones, iPads and tablets, patients and caregivers have growing expectations for technology. Their tolerance for systems that are complicated and difficult to use is rapidly decreasing. Solutions must be intuitive and simple to use and must streamline processing. Successfully doing this increases patient and provider satisfaction because it:

- Saves time
- Decreases operational delays
- Reduces excessive administrative efforts
- Improves the patient and provider experience

Furthermore, if the solution is user-enticing, it promotes its use, which makes it easier to collect and distribute quality data.

The experience of Griffin Hospital in Derby, Connecticut, a Bottomline customer using tablet computers and styluses to collect patient information exemplifies this opportunity. Susan Anderson, Griffin’s director of registration, explains, “The patients really like the system. Even older patients, who may not typically use computers, get very excited. Bottomline is also a big hit with our staff. It is definitely quicker, since most of the information is pre-populated.”

Conclusion

Healthcare is in the midst of dramatic changes, and data is at the core. Every aspect of the healthcare enterprise—from clinical care to finance to marketing—is becoming more reliant on granular access to the right data. While the widespread use of EHRs played an important role in instigating the data revolution, they also have limitations when it comes to collecting all the needed data.

There are applications such as registration/admissions where consents and signatures are required, and data continues to be trapped on paper. In addition, there are other areas within the clinical care cycle that resist automation either because of mobility issues or because the structure of electronic entry takes longer than paper transactions. Flexible, agile mobility solutions present an important alternative.
Conclusion (Cont.)

Paper-free, data-smart mobile solutions offer the following benefits:

- They can go anywhere and are available on devices—such as iPads, tablet computers and smartphones—that patients and providers are comfortable with.
- They present information in familiar formats (even duplicating paper documents where appropriate) that are easy to understand, which promotes use and increases patient and provider satisfaction.
- They support electronic signature and tailored workflow management.
- They can easily capture discrete data, validate it and deliver it to downstream systems for immediate use.
- They increase the value of the EHR by creatively augmenting its workflow with quality inbound data.
- They nearly eliminate the burden of scanning and manual data entry.
- They are cost-effective and can be quickly configured to support new data and functional requirements.

In short, capturing discrete data is vital to helping healthcare organizations survive and thrive in the 21st century. And thanks to the creative use of new technologies, capturing and delivering discrete data doesn’t have to be difficult. And the best part? The benefits it offers can be capitalized upon right here, right now.

References


3-7. Ibid.


About Bottomline Technologies

Bottomline Technologies (NASDAQ: EPAY) provides cloud-based payment, invoice and document automation solutions to corporations, financial institutions and banks around the world. The company’s solutions are used to streamline, automate and manage processes involving payments, global cash management, transactional documents and invoice approval. Organizations trust these solutions to meet their needs for cost reduction, competitive differentiation and optimization of working capital. Headquartered in the United States, Bottomline also maintains offices in Europe and Asia-Pacific. For more information, visit www.bottomline.com.