Digital Pen and Paper: Meeting the Communication Challenge in Healthcare

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The use of paper continues to be a primary form of communication when it comes to the Healthcare industry. Doctors and nurses alike are accustomed to using pen and paper when speaking with patients and filling out necessary data. However, all of that is evolving thanks in part to the Health Information Technology for Economic and Clinical Health Act (HITECH Act [1]), which went into effect in February, 2010. The HITECH Act, part of the 2009 economic stimulus package, is aimed at encouraging more healthcare professionals to adopt electronic health records (EHRs). As doctors consider how to best make the shift toward entering data in digital form, digital pen and paper technology is quickly becoming the preferred solution for many within the industry due to its mobility, ease of use, durability, security benefits and more.

The HITECH Act promises maximum incentive payments for Medicaid and Medicare to those who adopt and use “certified” EHRs. Doctors are eligible to receive as much as $44,000 in total incentives from Medicare for “Meaningful Use” of a certified EHR, since 2011. Physicians reimbursed by Medicaid can receive as much as $67,750 also since 2011, based upon state-defined guidelines. Incentives last until 2015, at which time those who are not using EHRs will receive penalties totaling a one percent reduction in Medicare reimbursements per year and as much as three percent by 2017.

Transitioning to EHRs
The demand for improved technology has steadily increased as healthcare facilities transition to electronic health records. Though there are a number of technologies available to capture information, many healthcare workers have found digital pen and paper technology to be a preferred option, thanks in part to the minimal training involved and the fact that it doesn’t require any major change in the way employees already work. The result is striking – a clear migration path to electronic records and a win-win for healthcare professionals who receive incentives for doing so.

How Digital Pen & Paper Technology Works

The digital pen and paper solution uses what looks like an ordinary pen, but it is in fact equipped with a miniature digital camera that captures up to 70 images per second. The paper used is everyday paper – and includes whatever content is typically needed on healthcare forms such as patient charts. Imprinted on the forms is a barely-visible Anoto dot pattern which is read by the digital pen. The unique placement of the dot pattern on the paper allows the pen to pick up every pen stroke written. As such, healthcare professionals are able to spend the majority of their shift meeting with patients. At the end of the day, instead of exhausting hours transcribing their notes and data into the computer system as they did previously, they simply dock the pen at their computer (or transmit data from the digital pen via Bluetooth through a mobile phone), and all of the information is instantly transferred to the central database. Furthermore, there is still a paper copy that can be kept on file if needed.

Implementing the technology

Since deploying the solution, many healthcare professionals have noticed significant benefits, such as the following:

1. Increased efficiency – Using digital pen and paper technology, healthcare professionals have immediate access to the data in back-end systems and no longer have to spend countless hours each day transcribing the data into the computer database.
2. Minimal training required – Since the technology is so similar to using pen and paper – which is what healthcare professionals are comfortable with – they are able to make the shift toward implementing the solution without spending excessive time and money interrupting workflow.
3. Improved patient care – As previously mentioned, healthcare professionals no longer need to spend hours each day transcribing patient data, so they have more time to interact with patients and ensure they are receiving the best care possible.
4. Durable – Unlike tablets, the technology is extremely sturdy and can be transported from patient to patient without various concerns of being dropped, breaking a screen and more.
5. Highly Secure – The technology is encrypted, so healthcare facilities and patients can remain confident that information remains private and untouched.

Pacific Cataract and Laser Institute
Pacific Cataract and Laser Institute (PCLI) is a referral and consultation center that specializes in cataract surgery and laser vision correction. The facility has the rather unique challenge of having mostly first-time patients. Additionally, with cataracts being an age-related condition, a large proportion of the patients treated are more than 65 years old.

Previously, when patients arrived at PCLI, they were asked to fill out their information using traditional pen and paper forms. As the organization shifted to EHRs, administrators realized they needed to somehow take that data and transfer it into their computer system. However, scanning or typing the information by hand was too time-intensive. Administrators also needed to ensure that patient health history records were incorporated alongside signed consent forms.

In order to fulfill their needs, PCLI was interested in a data capture solution that would expedite the processing and sharing of patient data, while preserving the ease and simplicity of information collection using pen and paper. Administrators chose digital pen and paper technology, as it required minimal training for staff and virtually no change in the current process being used by patients to fill out registration forms. The joint solution – from Anoto and NextGen Healthcare– interprets handwriting with high accuracy and provides the added benefit of verifying health history information instantly.

“This technology provides the efficiency of electronic data capture using pen and paper, while requiring only a minor amount of user training,” said Robert Jasa, director of healthcare informatics at Pacific Cataract and Laser Institute. “The solution has resulted in more efficient operations and has been a significant advantage for us as we continue to roll this out to each of our 17 locations in the

Pacific Northwest."

The paper forms – which are imprinted with the Anoto dot pattern – are transformed into a temporary, yet extremely intuitive data entry device. Information is stored in the digital pen until it is uploaded to the patient's record in the NextGen® Ambulatory EHR, [2] where the data is then reviewed and approved.

Conclusion
As healthcare professionals increasingly shift toward EHR use, many are looking for a solution that streamlines the process without disrupting their current workflow. As a result, a number of administrators have found digital pen and paper technology to do just that – increase efficiency and improve patient care all while using a solution that's simple for both physicians and patients – pen and paper.

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