Practitioner Input and Industry Best Practices Drive Adoption of Clinical Applications

What is the key to developing electronic health record (EHR) and other clinical solutions that healthcare practitioners will actually use? At Healthland, we firmly believe the answer is to actively engage practicing clinicians in the design and development process from start to finish, while also leveraging industry best practices.

Although many Healthland employees have healthcare industry experience, there is no substitute for the input of doctors, nurses, and other clinicians who deliver healthcare on a daily basis. That kind of hands-on experience is invaluable in creating solutions that:

- Work the way practitioners work
- Reflect the actual workflow of a healthcare facility
- Overcome the barriers that often keep clinicians rooted in the past instead of embracing the present and future

Healthland Computerized Physician Order Entry (CPOE) is a perfect example of why it’s beneficial to seek out and integrate practitioner experience into a clinical application.

Because it’s a central component of an EHR, there’s a lot at stake when choosing a CPOE solution. A smart CPOE solution needs to:

- Deliver on expectations for improving patient care and operational efficiency
- Be designed to promote adoption by the physicians who will use it
- Fully support a healthcare organization’s ability to demonstrate meaningful use in order to qualify for ARRA reimbursement incentives
With such stringent requirements, the more physician input that a CPOE developer receives the better. Before writing a single line of code, we established the Healthland CPOE Advisory Team, which consisted of 15 physicians and 14 other clinicians. Healthland looked to these practitioners for guidance on best practices, workflow structures, application features, interface design, and overall functionality.

“Only physicians can speak to how they construct their approach to orders, which in turn drives the organization and visual presentation of CPOE,” says Kim Witkop, M.D., an internal medicine specialist at Snoqualmie Valley Hospital and Clinics in Snoqualmie, Washington, and member of the Healthland CPOE Advisory Team. “Our orders are so integral to patient care. Working with a cumbersome system would distract us from applying our full attention and thoughtfulness to creating safe orders.”

That’s an opinion Healthland Chief Medical Officer Eric Westberg, M.D., shares. Dr. Westberg specializes in family medicine and obstetrics at Glacial Ridge Health System in Glenwood, Minnesota. He’s another advisory team leader and lead adopter who provided input in the design and development of Healthland CPOE.

“It’s great to be able to shape the product to fit my practice and how I actually work, rather than how a programmer thinks I work,” says Dr. Westberg. “I love that I can order labs during patient visits as I’m talking to them about their care. And my patients feel like they’re that much more part of the process—part of taking care of themselves.”

**Taking a Proactive Approach**

While some companies are satisfied with gathering end-user feedback in beta testing, Healthland understands the value of a proactive approach that engages end-users before, during, and after the actual coding of a product. The result is a CPOE solution that’s proving to be best-in-class for critical access and community hospitals.

“Healthland’s developers have been incredibly receptive to listening to and understanding needs from the ordering physician’s perspective, rather than just creating a simple substitute for paper orders,” according to Dr. Witkop.

When software development is a collaborative process between the vendor and end-users, we’re able to develop robust solutions that are more readily adopted by healthcare providers. This in turn helps organizations meet the requirements for meaningful use that drive ARRA reimbursements.

**A Single Solution for Multiple Practitioners**

A CPOE solution is not just for doctors. A truly functional CPOE needs to provide a single, efficient point of order entry for nurses, pharmacists, lab technicians, and ancillary services. It has to be comprehensive in scope so that no detail is overlooked, yet flexible enough to meet the needs and processes of different departments and practitioners.

From the very beginning, the Healthland CPOE Advisory Team stressed that CPOE should be a solution for all practitioners within a facility. A single solution provides more streamlined procurement, administration, and maintenance—an additional factor that adds value and reduces overall cost of ownership.

Another important objective of the Healthland CPOE Advisory Team was the ability to access the same CPOE solution from their inpatient and ambulatory EMR systems. Healthland CPOE satisfies all of these clinician priorities with a solution that unifies workflow processes and delivers a full range of features, function, and benefits to all practitioners who use it, regardless of whether they are entering orders from the hospital, clinic, or a remote location.
Making Order Entry Intuitive and Responsive

According to the National Research Council (NRC), today’s clinical systems provide poor support for the cognitive tasks and workflow of clinicians. In addition to having a profound effect on patient safety, these issues can dramatically impact user acceptance and productivity.

In fact, a recent *New England Journal of Medicine* article examined factors impacting use of electronic health records in U.S. hospitals. That survey found that, among all of the factors surveyed affecting adoption of EHR systems, physician resistance was the only factor that increased after an EHR system was implemented. This lesson was not lost on the Healthland User Interface Creative Design Team.

“When we start a project, we first learn about the users’ past and current barriers, and the goals for the future,” says Odell Tuttle, chief technology officer for Healthland. “We ask a lot of questions and listen. Next we review the information and build up design ideas. There are no judgments, just ideas. This eliminates the fear of failure and encourages maximum input and participation. If we’ve done all the upfront work correctly, we can use the visual design and content to create a set of designs for construction, and deliver an extremely intuitive user interface.”

In addition to the Healthland CPOE Advisory Team, developers engaged industry best practices for application usability as developed by the Healthcare Information Management Systems Society (HIMSS) EHR Usability Task Force. These recommendations encompass no less than 11 usability parameters, including simplicity, consistency, readability, use of language and color, minimizing cognitive load, and more. Ultimately, HIMSS researchers recommended making usability part of the EHR certification process, believing that if certified EHRs were guaranteed to be user friendly, decision-makers would feel more confident in selecting such systems, according to HIMSS EHR Usability Task Force Chair Jeffery Belden, M.D.

The Healthland CPOE solution features clean, uncluttered forms that are easy to find and navigate, yet present all of the detail needed for safe and effective order entry. Leveraging web design creates a highly intuitive interface that users recognize as similar to their favorite search engine or e-commerce web site. That familiarity dramatically reduces the learning curve and eliminates barriers to adoption.

Healthland CPOE also incorporates internal logic that actually anticipates and responds to practitioner needs, preferences, and thought processes. This results in flexible workflow routines that reflect actual order entry processes, grouping the most common orders with prevalent diagnoses and incorporating automated prompting to improve order accuracy. Many elements can be customized to meet the specific needs of a particular clinician, department, or facility.

According to Dr. Witkop, this use of interface design best practices in Healthland CPOE delivers both efficiency and safety advantages. “A well-structured order entry format prevents items from being forgotten or left out. In other words, we don’t have to go back later and make changes. It also gives us a safety mechanism—we always have essential reminders in front of us.”

Value-added Features and ARRA Readiness

Healthland CPOE functionality is a component of Inpatient EMR and Ambulatory EMR, and delivers value-added features that further differentiate it in the marketplace.

- **Medication interaction alerts** notify of potential interactions on a variety of levels.
- **Duplicate test checking** supports billing compliance by alerting the practitioner to duplicate tests and by minimum time parameters.
Customizable order sets present all relevant tests by diagnosis or physician preference on a single screen.

Order templates allow practitioners to set up “Favorites” menus based on specialty, department, or type of facility.

Patient information displays basic metrics, such as height, weight, body mass index, and body surface area, as well as allergies and relevant lab results.

Patient quick-summary view provides a single-screen snapshot of a patient’s allergies, current medications, and diagnoses.

User prompts include alerts to any special prep instructions required for a procedure and suggested orders related to the initial order.

Links to reference sites enable practitioners to link to a customer-selected web site for clinical guidelines related to the diagnosis.

If your facility is like so many others today, you want assurance that qualifying for the ARRA incentive program beginning next year will not be an issue. As another example of how we incorporate client feedback into our solutions, we have made sure that Healthland CPOE includes all of the order entry functionality needed to demonstrate meaningful use under the Stage 1 requirements.
A Principled Approach to Clinical Software Development

When it comes to software, everybody has their own unique perspective, experiences, and expectations. Some users (and IT administrators) are like shade-tree mechanics— they like to tinker and tweak until they know the software inside and out, preferring to have their applications customized just so. But most users are more like commuters. For them, software is a means to an end, a way to get them where they need to go, and they would much rather spend their time behind the wheel than under the hood. Finally, there are those who only get behind the wheel reluctantly and would rather leave the driving to someone else if they could.

At Healthland, we make it a point to consider the needs, backgrounds, and preferences of a variety of different users. That’s why, in addition to utilizing industry best practices, we regularly seek input from users like you and your coworkers to help guide our product development.

Through our lead adopter program, our regional user groups, beta testing program, customer experience surveys, and other means, we actively pursue user input to make sure we are delivering what each of you need and want. (See our feature story, “Practitioner Input and Industry Best Practices Drive Adoption of Clinical Applications.”)

As we develop the next generation of Healthland solutions, we have adopted a set of guiding principles based on industry best practices to ensure we always deliver best-in-class solutions. These principles are essential to creating solutions that meet requirements for CCHIT certification and help community and critical access hospitals like yours demonstrate meaningful use for ARRA incentives. They’ll also continue to influence solutions that automate workflows, streamline processes, and integrate and protect electronic patient information. Ultimately, these principles will ensure that every Healthland solution will help you do what you do best: deliver the highest quality healthcare to your communities.

The Guiding Principles

- **Simplicity and Usability** — Complexity is a roadblock to usability. Users should be able to operate applications without training or reliance on manuals.

- **Security and Scalability** — Patient information is private, but must be accessible to caregivers regardless of location. Electronic medical record (EMR) solutions should leverage a single security framework and an architecture that scales with organizational growth and the needs of all stakeholders.

- **Interoperability and Flexibility** — EMR solutions have to communicate with other systems. Our web-based solutions incorporate industry standard communication protocols to easily integrate with customer enterprises, partner systems, and health information exchanges.

- **Accessibility and Mobility** — Patient care isn’t delivered at a computer workstation. In order to truly affect the delivery of care, applications have to extend to portable and mobile devices. It’s the basis of our Access Anywhere promise, and we’re delivering it with our web-based solutions.

In our continuing commitment to serve the needs of community hospitals, it’s important that our new web-based solutions hold true to our promises. The next generation of web-based Healthland solutions is driven by a strategic technology vision that is both deliberate and incremental. This approach allows us to continue improving and upgrading our current solutions now while offering all the benefits of web-based solutions going forward.

We’ll be unveiling our newest web-based solutions this fall at Connect 10, our annual user conference. In the meantime, I have been hosting a monthly series of webinars called the Exec-Tech Forum for our clients. The Exec-Tech Forum presentations give a detailed overview of the solutions’ web-based technology foundation and how we are using the guiding principles to deliver best-in-class enterprise solutions for hospitals like yours.

Please join me for the next presentation. You can learn more about the Healthland Exec-Tech Forum series, register for upcoming webinars, and view recorded webinars at [www.healthland.com/exec-tech](http://www.healthland.com/exec-tech).

Odell Tuttle, Chief Technology Officer
announcements

Connect 10 Sessions Announced
It’s time to start planning your Connect 10 experience! Healthland recently released a list of education sessions for our annual user conference taking place Sept. 27–30 at the magnificent new JW Marriott Hotel Chicago. With dozens of session topics to choose from, Connect 10 is the event for learning and networking. For the full list of sessions and more information about Connect 10, please visit www.healthland.com/connect, and use the password CONNECT to access the sessions listing.

Stage 1 Meaningful Use Readiness Assessment
Are you prepared to meet meaningful use criteria requirements? With a Meaningful Use Planning Session, Healthland will make sure you are. Meaningful Use Planning Sessions take you through an evaluation process to determine where you are in EMR adoption, and what you will need to do to meet each of the 23 different Stage 1 meaningful use measures. Click here to schedule a courtesy Meaningful Use Planning Session today.

Stimulating EMR Use
Getting doctors to use an EMR solution is the final hurdle in demonstrating meaningful use to qualify for ARRA incentives. Dr. Eric Westberg of Glacial Ridge Medical Center in Glenwood, Minnesota, has some great advice for getting doctors to adopt EMR technology. Dr. Westberg shares some very practical advice in a recent Healthland webinar, Gaining Physician Adoption: The Key to Meaningful Use. You can watch the webinar and find other useful information about achieving ARRA requirements at www.healthland.com/stimulus.

Guiding the Future
All spring and summer long, Chief Technology Officer Odell Tuttle is giving Healthland clients an advance look at our web-enabled software solutions in the Exec-Tech Forum webinar series. From a technology overview to the guiding principles driving development of our next-generation solutions, the Exec-Tech Forum gives you unprecedented insight into the future of Healthland solutions. To view webinar recordings and register for the next Exec-Tech Forum webinar, visit www.healthland.com/exec-tech.

Share Your Experiences of Distinction
We love to hear when our clients have a positive experience with Healthland employees. So, in an effort to ensure we recognize and celebrate the experiences that matter most to you, we’re pleased to announce the launch of a new recognition program for Healthland employees called “Experiences of Distinction.” Please take a moment to recognize those Healthland employees who have made a significant impact on your business. Tell us about your Experience of Distinction.

Extended Care Solutions
If your hospital operates a long-term care facility or home health agency, you need to be aware of coming changes to Minimum Data Set (MDS) and OASIS documentation and reporting requirements. To see what’s in store, and how Healthland Long-Term Care and Healthland Home Health Solutions are ready to comply, check out the Extended Care Solutions on our Solutions Spotlight page at www.healthland.com/solutionsspotlight.
The amount of data captured by even the smallest hospital can be staggering. But it can also power smart decision making.

The Challenge: Finding a way to turn that data into the kind of business intelligence you can use to optimize clinical operations and improve financial performance.

The Complication: Reliance on time-intensive manual reporting tools and techniques that are slow, cumbersome, and costly.

Many hospitals are realizing that their current model for executive decision support is badly in need of updating. Discover how Healthland Analytics helps hospitals meet their decision support reporting challenges.

Developed in partnership with the Performance Management Institute (PMI), Healthland Analytics pulls relevant data from the Healthland Financial System solutions and other sources, then presents it in easy-to-grasp, actionable snapshots of financial, operational, and clinical performance.

Healthland Analytics delivers key performance metrics in three critical areas:

Financial and Utilization Review Indicators
Your hospital’s financial health depends on a clear understanding of commercial mix percentage, days cash on hand, operating profit margin, bad debt percentage, and many other key indicators. Healthland Analytics adds utilization review data to the picture to deliver a more complete perspective on finances, productivity, quality, and satisfaction levels. From number of acute discharges to number of swing bed days, Healthland Analytics empowers fast, easy comparisons of current performance with previous results and future targets. Standard Healthland reports are delivered automatically, so decision-makers can focus on quality improvement instead of sifting through reams of irrelevant data.

Core Measures Reporting
The Centers for Medicare and Medicaid Services (CMS) implemented core measures to help consumers make informed decisions about their healthcare providers. For providers themselves, these core measures drive quality improvement programs assuming the information is timely, accurate, and easy to understand.

Healthland Analytics automatically extracts clinical quality data from the CMS Abstraction and Reporting Tool (CART) and repackages it into quick-reference graphical views, as well as more detailed board reports. The net result is sharp insights into treatment outcomes and physician performance at your fingertips, without waiting for reports from Medicare’s Hospital Quality Compare tool.

Surveys Reporting
How do patients perceive your hospital and the services you provide? What are the attitudes of your employees and medical staff? Ready access to this level of data can be tremendously helpful in identifying areas of strength and opportunities to improve. But many smaller hospitals don’t have the resources to survey their patients, employees, and medical staff.

Thanks to our partnership with PMI, you have access to a wealth of patient opinions about their experiences in the emergency department, inpatient, and outpatient settings. Healthland Analytics lets you tap into the perceptions of clinical employees, non-clinical employees, and physicians. As you navigate through survey results, you can gain more granular insight by drilling down to additional detail.

Visit www.healthland.com/solutionsspotlight to view a demonstration of Healthland Analytics today.
READER SURVEY
Let us know how Healthland helps you and your organization, and you’ll be eligible to win an iPod® Touch.

UPCOMING EVENTS
MN CAH Conference (June 28–29)
TORCH CAH Conference (June 30–July 1)
Mid-South CAH Conference (August 18–20)
Colorado Hospital Association (September 15–17)
Montana Hospital Association (September 22–24)
Minnesota Hospital Association (September 22–24)
Rural Health Association of Oklahoma (September 22–24)
Physician Hospital of America (September 22–24)
Healthland Connect 10 (September 27–30)
NRHA Rural Health Clinic and CAH Conference (September 28–October 1)
Wyoming Hospital Association (September 29–30)
Idaho Hospital Association (October 2–5)
Iowa Hospital Association (October 5–7)

SUCCESS STORY
Randolph Medical Center Improves Patient Care with Easy-to-Use EMR and Single Patient Chart

One of the most important goals of the American Recovery and Reinvestment Act (ARRA) of 2009 is to increase the use of technology to reduce long-term costs and improve patient care. However, according to PricewaterhouseCoopers’ Health Research Institute, more than half of the estimated $2.2 trillion spent on healthcare in the United States per year is attributed to wasteful spending, with over $80 billion accounting for ineffective technology. Thus, the importance of vendor selection and usability of key technologies—specifically with an electronic medical record (EMR) solution—is vital.

In fact, usability is such a key factor to the success of an EMR solution that HIMSS created an Electronic Healthcare Record Usability Task Force. In 2009, the task force developed the 11 Principles of Usability, a framework that provides methods of usability evaluation and offers several alternative methods to measure efficiency and effectiveness, including patient safety. The task force also offers samples of objective, repeatable, and cost-efficient test scenarios to evaluate the usability of an EMR solution.

Usability has been a key factor of success for EMR implementation at Randolph Medical Center. According to interim CEO Michael Parsons, it’s the ease-of-use of the organization’s EMR that has helped to improve patient care and positively impact their bottom line.

Background
The EMR market is both extensive and complex. From multiple data interchange and reporting standards, to formatting and encoding standards, to clinical processes and procedures—not to mention complex government organizations and legislation—it can be difficult to get it right. For rural community hospitals, selecting a technology partner becomes even more important because their needs are unique and their budget can be minimal. These challenges were very familiar to Randolph Medical Center.

“Two years ago, we still had computers with floppy drives,” said Michael Tipsword, director of strategic development. “We were so far behind technologically, but we didn’t have the funds to improve our computers.”

Owned by the eastern Alabama city of Roanoke, Randolph Medical Center has been serving the population of 6,000 residents since 1952. The critical access facility has 25 beds with 212 employees and five physicians on site.

In 2006, the hospital’s CEO began serious discussions surrounding the funding for an EMR solution. He was the facility’s driving force toward EMR, convinced it was the future of healthcare and the only way the healthcare provider could survive and thrive in the increasingly challenging healthcare market.

“We received a federal grant that made it possible for us to implement an EMR solution. However, we were on a tight deadline to make it happen,” added Tipsword.

Randolph Medical Center began a formal search of EMR providers. Throughout the selection process, the organization established a review team, took part in several hospital site visits, and developed a scorecard system to rank each vendor.
UPCOMING EVENTS (cont)

Arkansas Hospital Association (October 6 – 8)
HIS Buyers Seminar (October 13 – 14)
TORCH HITCON (October 20 – 21)
Nebraska Hospital Association (October 27 – 29)

HEALTHLAND NEWS

Healthland Named to Healthcare Informatics Annual Ranking of the Top 100 Healthcare IT Providers
State of the EHR Usability and Human Factors Engineering Industry
10 Steps to Comply with ICD-10

RESOURCES

Healthcare Information Management Systems Society (HIMSS)
The Office of the Rural Health Policy
National Rural Health Association
Rural Assistance Center
Electronic Health Record Association (EHRA)
Rural Health Research & Policy Centers

FEEDBACK
If you have any thoughts or suggestions to make this newsletter work better for you, please email us.

small and mighty cont.

“We had our director of nursing looking at the clinical side of each EMR solution; the CFO looking at the accounting side; and our former CEO looking at the integration of all of those components to make sure the solution would run smoothly,” said Parsons. “We were down to two providers and then presented our findings to the board. We decided to go with Healthland because we were impressed by the customer service and the pricing.”

“Randolph Medical Center is a great example of a hospital looking at their needs for the long term,” said Angie Franks, Healthland senior vice president of sales and market development. “The facility had previously been using an application from another vendor, but decided to switch to Healthland because we better aligned with their strategic vision.”

Implementation

Randolph Medical Center purchased the full Healthland EMR, including: order entry, laboratory, pharmacy, radiology, medication dispensing, eMAR, PACS interface, physician access, transcription, Physician Practice Management, Physician Documentation, Patient Care Guidelines, and all of the financial applications.

Today, Randolph Medical Center is using the Healthland EMR solution in virtually every area of the organization. They’ve recently implemented Healthland Emergency Department Information System (EDIS), which will enable the hospital to:

• Rapidly register patients and get them into triage, even when little or no identifying information is available
• Enter, submit, and complete orders with minimal navigation and data entry
• Track the overall status of patients and beds from a single screen
• Easily perform on-the-fly assessments without having to wade through unnecessary information
• Minimize staff orientation and training with its intuitive and user-friendly screens

Challenges

Changes in technology can be daunting for any organization, particularly in the rural healthcare environment. Some of the challenges facing Randolph Medical Center included an aggressive implementation timeline, the lack of technology skills for the majority of the hospital staff, and employee resistance to adopting the new EMR.

To meet the criteria of the federal grant, the team at Randolph had just 18 months to complete implementation. “If we had the choice, we would’ve slowed down our timeline and spaced the implementation of each solution,” said Parsons. “Healthland’s support helped us get through it. Anytime we had a question or issue, they were there for us.”

“The Healthland training and support has been helpful,” added Carson Holbrook, IT director. “People with minimal skills are now using the system. Once they had completed training, that initial learning gap closed.”

As part of ARRA, stimulus funds of $19.2 billion have been designated to drive the adoption of electronic medical records between 2011 and 2015. This is expected to increase physician adoption from 17 percent today to 90 percent by 2015. Yet that adoption rate will greatly
depend on the usability of the EMR solution. “Physicians are becoming increasingly crucial to the selection of healthcare IT, and they are key to achieving meaningful use as doctors are now required to enter their orders through a CPOE [computerized physician order entry] system,” said Franks. “If these new standards are not met, a hospital’s meaningful use funds could be at risk.”

Randolph Medical Center had the support from one of their leading physicians immediately, which will be instrumental as the organization looks to achieve meaningful use. His involvement also helped to overcome the staff’s resistance to the technology.

“As one of the full-time physicians here, I thought it was important to have one of us involved from day one,” said Joseph Singleton, M.D. “I also wanted to be on the front end of learning the technology, and I wanted to go through the process with everyone else. And I’m so glad I did.”

**Healthland Solution**
The Healthland EMR solution enables healthcare providers to quickly and easily access a comprehensive view of demographic, historical, and clinical patient information from multiple care settings within the healthcare system—hospital, clinical, home health, and long-term care. The instant access to patient data helps improve patient care and reduce the risk of medical errors. And the unique single patient chart is accessible in one integrated system, in real time, creating operational efficiencies, improved communication, and reduced cost.

“For the patient presenting to the ER with several medical problems, it is a challenge when you don’t have all of their medical information,” said Dr. Singleton. “When you have that information available through EMR, it’s less frustrating and you feel better about caring for the patient because you have that relevant knowledge. We can now also access information from another facility which is a definite benefit. We are often the first responder, and that additional information can provide what we need in a life-threatening situation.”

“One patient chart across the continuum of care is critical in the rural environment,” concluded Franks. “These hospitals often own the clinic and long-term care facility, and many of the area residents are here from cradle to grave. One patient chart enables more accurate, up-to-date information that enables safe patient care.”

**Results**
Although IT Director Holbrook defines Randolph Medical Center in the transitional phase in terms of reporting the return of investment of the EMR technology, the hospital is experiencing many benefits. Some results to date include increased efficiencies, improved patient care, and decreased costs such as those incurred when storing paper medical records.

“EMR is good for patient care and safety,” said Dr. Singleton. “We’re more efficient with our rounds. Plus, the system allows me access to different disciplines involved in patient care and provides the information I need quickly.”

“As far as usability goes, the Healthland solution is very user-friendly,” said Parsons. “It is self-explanatory, and that has been amazing with efficiency in billing and with EMR. It has helped our doctors with their rounds and has increased patient care and the overall financial standpoint of the hospital.”

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**WELCOME TO THE FAMILY**

Danville Children’s Medical Center — Tucson, AZ

Greenwood County Hospital — Eureka, KS

Abrom Kaplan Memorial Hospital — Kaplan, LA