

# **EHR Best Practices: Four Award Winning Installations Share Their Wisdom**

## **Introduction:**

Achieving the full transformational promise of an Electronic Health Record (EHR) requires more than simply implementing the technology. Leveraging the EHR for truly dramatic improvements in quality and reductions in cost requires that physician practices develop creative solutions to everyday problems.

The following three physician groups (and one physician) exhibited award-winning implementations and applications of the TouchWorks™ Electronic Health Record (EHR) from Allscripts, earning each an award at the recently concluded 2007 Allscripts Client Experience (ACE) conference in Chicago, IL. Their best practices for the EHR included hospital-clinic integration, at-risk population management, and an automated interface with a state immunization registry, among many other creative solutions.

## **I. Eastern Virginia Medical School – Health Services (EVMSHS)**

### At-Risk Population Management and Quality Medical Care: Influenza and Diabetes

**About EVMSHS:** The physicians, mid-level providers, and support staff of EVMSHS provide patient-centered quality health care to thousands of patients in Southeastern Virginia and Northeastern North Carolina. Over 150 physicians affiliated with the Eastern Virginia Medical School specialize in family and internal medicine, obstetrics, gynecology, medical and surgical specialties, as well as radiation oncology, laboratory and pathology services.

**Quality Focus:** “The real reason we initiated a program to install TouchWorks was to demonstrate an ongoing commitment to patient quality,” explains Jim Lind, Chief Executive Officer of EVMSHS. “It’s true that we’ve reaped many benefits from our EHR including excellent ROI, but our overriding concern from the beginning has been to move our large medical group into a patient-centered, quality oriented health care program.”

The new model adopted by EVMSHS focuses on leveraging TouchWorks to develop a patient-oriented health care team, planned patient visits, health maintenance reminder systems, and ongoing education to keep the patient informed, engaged, and actively involved in their care.

To implement the new model, EVMSHS installed the following TouchWorks modules: Charge Capture, Rx Plus, Scan, Note, Dictate, Order/Results, Forms, and Analytics. Additionally, the group integrated the iHealth™ online personal health record for patients and, which is actively promoted on the EVMSHS website.

### **Measuring Quality: Influenza**

EVMSHS undertook an initial population management initiative to increase influenza immunizations among EVMSHS at-risk patients in the fall of 2006. Richard Bikowski, M.D., Chief Quality Officer, engaged the IT staff to identify at-risk patients using the TouchWorks database. Within a matter of hours, the EHR identified 4,000 at-risk patients over the age of 65 – a process that would previously have required several months of sorting through paper medical charts. EVMSHS immediately sent a survey letter to this group and then a follow-up to determine if they had received their immunization at EVMSHS or elsewhere, and conducted an analysis of the same at-risk population several months later. The results: 84% of EVMSHS at-risk patients received influenza shots, nearly double the 44 percent of at-risk patients nationally who receive the flu shot, according to the Centers for Disease Control and Prevention.

### **Measuring Quality through Analytics: Diabetes**

In 2007, Dr. Bikowski used the Analytics module of TouchWorks (without assistance from the IT department) to identify the 2,500 patients in the EHR database with Diabetes Mellitus Type 1. He also determined that only 1,652 of those patients had received the Hemoglobin A1C test in the past year. As a result, EVMSHS initiated a program in partnership with the primary care physicians for each of these patients to ensure they all were informed of the need to get an A1C or other appropriate test.

### **More Coming Soon: Diabetes**

Dr. Bikowski and his team have added each of the following indicators, tests, and appropriate recalls: annual eye exam, annual foot exam, stop smoking support, blood pressure control, cholesterol control, and weight. They will soon be instituting additional outbound measures including reporting individual patient search results from Analytics to the appropriate member practice. The team will also implement automated reminders to the primary care physician, based on data derived from Analytics research, so they will be prompted during a patient visit if the patient needs a particular test.

Using Analytics, the system now allows EVMSHS physicians to query the EHR database and determine exactly which patients have received the relevant test(s) in the past year, whether A1C, blood pressure, eye, foot, etc. In the second step, the system identifies levels of performance, such as sugar control, and eventually, the system will be able to identify patient trending on tests.

EVMSHS will launch their next quality analytics project on hypertension and chronic heart disease, while continuing to refine their existing diabetes and influenza initiatives.

## **II. Cheshire Medical Center Dartmouth - Hitchcock Keene**

### Connecting Hospital & Clinic, CMS “Pay-for-Performance,” and Med Reconciliation

**About:** Cheshire Medical Center and Dartmouth-Hitchcock Keene operate under a Joint Partnership Agreement (JPA) and provide the majority of physician and hospital services

to some 90,000 people in rural southwestern New Hampshire. Cheshire Medical Center is a 169-bed community hospital with Level 3 Trauma certification. Dartmouth-Hitchcock Keene (DHK) is one of four community practice sites of the greater Dartmouth-Hitchcock medical system. DHK has 115 physician and mid-level providers covering 14 specialties.

### **Connecting Hospital & Clinic:**

Prior to initiating their partnership, Cheshire Medical (the hospital) and Dartmouth-Hitchcock (the clinic) had maintained at least an arm's length relationship. The joint partnership encouraged the two organizations to literally sit down in the same room and discuss crucial management structure and governance issues. One of the first steps taken under the partnership was the establishment of service and support functions such as IT and Facilities as joint operations functioning as a single entity. Chief Information Officer Mike House says having one IT department to serve the needs of ambulatory and inpatient physicians is crucial, especially for cases in which a single clinic and a single hospital serve nearly the entire population.

“The first part of connecting the ambulatory and hospital IT systems was not difficult; we just established the technical interfaces between the two facilities, such as TouchWorks and Siemens Unity (the hospital's health information system),” said House. “The second step was getting the hospital and clinicians into the same room and talking about their needs. Workflow proved to be the transformative piece. We simply kept asking, ‘Can we do things in a better way?’ The forcing action was the National Patient Safety Goals (of the Joint Commission), which helped make the change easier.”

Now that the hospital, clinic, labs, and pharmacy are electronically connected, all the participant managers and physicians realize that they are jointly responsible for the system. For example, when the hospital lab acquires a new instrument and plugs it into their lab information system, it is integrated with the hospital information system and with TouchWorks. If the lab manager doesn't confirm that the output from the new instrument is compatible with the EHR, then the clinicians may receive incomplete or garbled lab reports from the new instrument. Maintaining a culture of joint responsibility helps to ensure that no one passes the buck on issues that affect patient care.

### **CMS “Pay-for-Performance”**

Dartmouth-Hitchcock Clinic was selected as one of 10 national test sites for a national demonstration project sponsored by the Centers for Medicare and Medicaid Services (CMS). The “pay-for-performance” program tests whether Medicare can cut costs and reduce medical errors by rewarding physicians who use information technology to improve care of chronically ill patients. In the demonstration project, the group met nine of 10 quality indicator goals during the first year of the program. According to House, TouchWorks allowed Dartmouth-Hitchcock to achieve much more accurate registries of patients with chronic disease. The EHR's problem list proved to be one of the key capabilities. Since a number of the quality indicator goals address screening and

preventative measures, the physicians are much more aware at an earlier stage about when a patient's health might be taking a downturn.

### **Medication Reconciliation – Avoiding Drug Interactions:**

The medication reconciliation, or “med recon,” process starts when a patient is admitted to the hospital or Emergency Department and consists of tracking each patient's prescribed medications from the time they arrive in the hospital until they are discharged. Each patient's medications list is made immediately available via TouchWorks interconnection to the patient's primary care physician. Likewise, primary care physician records including prescriptions are available to hospital staff.

Developing this capability involved 6-8 months of discussion on the workflow design and necessary system modifications. Even developing the details on the final forms took quite some time. The result was well worth it -- an exceptionally good process that provides superior levels of patient safety and that was praised in Dartmouth-Hitchcock's most recent Joint Commission review.

Although House and his team know they've improved the quality of their drug reconciliation process as a result of the interconnectivity, they have no baseline against which they can establish improved performance criteria. However, anecdotal evidence from the medical staff indicates that the new Med Recon program has resulted in improved decision making and prevented many drug interaction errors.

### **III. St. Vincent Health**

#### Lab Orders Interface, Electronic Prescriptions, and Two-Way Link to State Immunization Registry

**About:** St. Vincent Health is Indiana's largest healthcare employer, with 16 health ministries serving 45 counties in central Indiana. St. Vincent is a member of Ascension Health, the nation's largest not-for-profit Catholic Healthcare System. The St. Vincent Physician Network is comprised of Family Practice, Internal Medicine, Pediatrics and other specialty physicians throughout central Indiana. The St. Vincent Primary Care Center includes the organization's charity care outpatient clinic that educates nearly 150 residents each year in Internal Medicine, Family Medicine, Geriatrics, OB/GYN and Pediatrics.

#### **Lab Interface:**

In 2005, the IT staff at St. Vincent developed an interface between TouchWorks and QLS, the software used by their third-party lab. The automated system employs a three-step process for ordering tests and reviewing results. Step 1: The physician places the lab order in TouchWorks and the order is automatically uploaded into the lab's QLS program. Step 2: The lab processes the test. Step 3: The lab returns the result to the physician (via QLS and back into TouchWorks). The returned lab result also “tasks” the

physician to verify the result (thereby confirming receipt of results) by checking one of three checkboxes and taking the appropriate action: calling the patient, mailing the results to the patient, or no action.

For lab tests ordered from the hospital's labs, the IT staff installed an interface with the hospital's Misys system. At this time, the hospital's labs process the test and post the results to Misys. Via the interface to TouchWorks, the results are transmitted to the physician with the identical verification task as noted above. In either case, when the lab result is received in the physician's office, it automatically becomes part of the patient's health record.

### **Automated Prescriptions:**

St. Vincent Health's physicians can now send prescriptions to pharmacies electronically using SureScripts, a TouchWorks partner. All prescription data for individual patients is stored in the EHR. When a patient arrives at one of St. Vincent Health's medical offices, the nurse asks what pharmacy the patient prefers to use and enters that data (if different from prior data) into TouchWorks.

When the physician or other licensed prescriber prescribes a medication, he or she simply chooses "retail" in TouchWorks and the order is instantly transmitted to the pharmacy of the patient's choice. Depending on whether the designated pharmacy uses SureScripts or not (95 percent of all US pharmacies do), the prescription is automatically transmitted via electronic fax or using SureScripts' computer-to-computer connectivity.

Eliminating time-consuming telephone requests for refills proved particularly beneficial for St. Vincent. Now when a pharmacy receives a refill request from a patient, the pharmacy requests the physician's approval through SureScripts. The refill request appears on the physician's "task" list in TouchWorks. The physician either approves the refill request, which is transmitted electronically to the pharmacy, or denies the request with an explanation.

250 health care providers including M.D.'s, residents, and nurse practitioners currently use the automated prescription process at St. Vincent. [the numbers are lousy – 1450/month – because utilization is low]

### **Interface to Statewide Immunization Registry:**

When a new patient registers with a St. Vincent Health medical office, the staff enters the new patient data into the medical group's Centricity practice management software, which interfaces seamlessly with TouchWorks. The individual new patient records are batched and transmitted once per night to the Children's and Hoosiers Immunization Registry Program (CHIRP).

On receipt, the CHIRP data center determines which patients in the database are St. Vincent's patients. When new patients arrive in the office, they enter their immunization history. Under the new system, currently operating in a test environment, when the staff enters the new patient data and immunization history, TouchWorks queries CHIRP and

the patient's immunization history comes back into TouchWorks, verifying, confirming, and/or expanding the individual patient's written immunization history.

This system enables St. Vincent's physicians and staff to administer a two-month immunization, for example. If the patient then visits a separate immunization clinic for a four-month immunization, CHIRP will notify the St. Vincent's primary care physician and the patient's record will be automatically updated.

If one of St. Vincent's physicians is just starting on TouchWorks, St. Vincent's IT department batches all the new physician's patient records and sends them to CHIRP. CHIRP then returns each patient's immunization record to that St. Vincent physician and the data becomes part of the patient's health record. This process improves quality of care for St. Vincent's patients because their immunization record is accurate, current, and updated regularly.

### **St. Jude Heritage Medical Group**

#### Interface between Hospital and Clinic, Single Log-in to Integrated Enterprise system, Patient Portal with iHealth, Practicing Evidence-Based Medicine

**About:** St. Jude Heritage Medical Group (St. Jude) is widely recognized as one of Orange County's finest medical groups, consisting of over 140 physicians. In fact, in a recent independent survey, St. Jude out-scored every other medical group in Southern California. St. Jude's highly respected physicians have earned one of the nation's highest board certification rates. The group offers the latest treatments, technologies and a wide range of health classes and support services.

#### **Interface between Hospital and Medical Group:**

St. Jude implemented an integrated data delivery process between the medical group and their exclusive hospital affiliate, St. Jude Medical Center in Fullerton, CA. TouchWorks for the medical group is integrated with the Meditech information system in the hospital. Emergency Room staff experience the benefit of access to a patient whose primary care physician is part of the medical group. The ER staff has direct access to TouchWorks and can immediately see all the relevant data regarding medications, allergies, and lab tests.

A good example: When a physician in the medical group receives a patient's lab test result where the potassium level is high, the physician might well refer the patient to the ER. If the patient arrives at the ER and says, "My physician told me to come in," the ER physician or staff can access the patient's record stored in TouchWorks. Because the interface also includes "tasking" for admissions, discharge, and summary, the ER can see the lab result and the primary care physician's "tasking" referral to the ER, and take appropriate action.

Even the hospitalists who work in the hospital but are employed by the Medical Group have access to TouchWorks so that they can immediately see a patient's record to review history, medications, allergies, lab results, etc.

**Single Sign-In/Log-On:**

St. Jude is now testing a single sign-in/log-on process in a pilot clinic to improve the connectivity for all the physicians in the practice. The physician currently must remember multiple passwords for multiple programs including PACs, Meditech, TouchWorks, and EMPI and CCOW systems.

By simplifying the log-on process to just a few seconds with no passwords required, physicians no longer waste time and energy entering multiple passwords. Rather they have simultaneous access to all of the available software tools. This process is designed to overcome physicians' objections to adopting new technologies and/or frustration with prior log-on procedures. TouchWorks is compatible with all of these various files, facilitating the log-on process.

**iHealth Patient Portal:**

St. Jude is currently rolling out a pilot patient portal using TouchWorks iHealth. The portal will allow patients to create their own personal health record and communicate online with the Medical Group to schedule appointments, view lab results, request medication refills, and consult with their physician. It has been estimated that 70% of patients are seeking online services such as secure messaging, online refill requests, the ability to review lab results, maintain medication lists and access disease management plans. St. Jude believes TouchWorks iHealth will provide increased access, convenience and satisfaction for their patients.

**Evidence-Based Medicine:**

Although use of the Electronic Health Record by member physicians is voluntary, many of the offices are fully connected to providers during each appointment. Dr. Allison Foley, an internist, and one of the early adopters of the technology, also serves as the Medical Informatics Officer for St. Jude Heritage Medical Group.

Her practice is completely paperless. During appointments, she uses electronic tools in TouchWorks to document the patient's problems, symptoms and other clinical elements of the encounter. . She also uses the EHR's Note module for electronic referrals and tasking. With this system, Dr. Foley has achieved a completely paperless practice with all evidence-based resources immediately available at the point-of-care to improve patient outcomes. She completes all transactions by the conclusion of each patient visit, including billing, notes, referrals, tasks, and prescriptions.

**Conclusion:**

As these four examples demonstrate, TouchWorks is a highly effective solution that can help healthcare organizations achieve phenomenal results. With some ingenuity and

persistence, physician practices can emulate these examples and implement at-risk population management, clinic-to-hospital connections, patient access to online health records, advanced medication reconciliation, pay-for-performance applications, integration with third-party lab vendors, interfaces with state-wide immunization registries, single sign-in/log-in to multiple applications, and evidence-based paperless practice.