Paperless health care? One hospital's long journey

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(AP) -- Baby Riley Matthews wheezed noisily on the exam table. "He's belly-breathing," the emergency-room doctor said worriedly - Riley's little abdomen was markedly rising and falling with each breath, a sign of respiratory distress.

In most emergency rooms, the doctor would grill Mom: Has he ever been X-rayed? Do you remember what it showed? But in the new all-digital Children's Hospital of Pittsburgh, doctors just clicked on a COW - a "computer on wheels" that rolls to each patient's side. Up popped every test and X-ray the 6-month-old has ever had.

This is the eerily paperless hospital of the future, what the "electronic medical record" that President Barack Obama insists will transform what health care looks like.

No chart full of doctors' scribbles hanging on the bed. No hauling around envelopes full of X-rays. No discharge with a prescription slip. Even the classic ER patient list has changed from the white-board of TV-drama fame to a giant computer screen.

By the best count, only 1.5 percent of the nation's roughly 6,000 hospitals use a comprehensive electronic record.

Even that statistic belies how hard it will be for health care to jettison its 19th-century filing system by 2014, the federal government's goal - despite the $19 billion that the economic stimulus package is providing

to help doctors start. It took Children's seven hard years and more than $10 million to evolve a system that lets its doctors check on patients with a few mouse clicks from anywhere and use speedily up-to-date records in directing their care.

"Sometimes before I even see the ER patient, the X-ray is in here and finished and read," said Dr. Jonathan Bickel, the ER attending physician who whipped out his laptop to check on Riley's overnight stay. Not too long ago, "I had to take mom's word for it."

Look, he pointed: An outpatient lung specialist tested Riley for cystic fibrosis just before his mother brought the 6-month-old to the emergency room. The specialist's detailed exam notes hit the ER computer in hours, not the days it takes to transcribe into a paper chart. Cystic fibrosis didn't cause his wheezing; quick, test for something else.

Still, Children's evolution isn't finished.

Money, and doctors' resistance: A study in the New England Journal of Medicine this spring named hospitals' top two reasons for not going digital.

"When you walk into a hospital, you're like, 'Whoa, I'm back in the 1970s,'" said lead researcher Dr. Ashish Jha of the Harvard School of Public Health. Younger patients growing up with the speed of e-mail and now Twitter "are shocked."

It's not just the equipment's price tag. Administrators find the cash to buy new MRI machines or build new hospital wings, said Dr. David Blumenthal, the Obama administration's new health IT director.

Studies show electronic medical records, or EMRs, can greatly improve the quality of patient care and reduce errors. Children's has seen medication errors drop 45 percent since it started automating in 2002. But hospitals won't necessarily recoup their investment, because a patient who goes home sooner means lost revenue.

"Our health care system has not valued quality and efficiency," said Blumenthal.

So Congress added a stick to the carrot of the stimulus money: Health providers that aren't digital enough by 2015 will start losing Medicare dollars. Blumenthal told The Associated Press he's seeing a sudden surge in interest.

Children's moved from a decades-old building to a new hospital in May, a final step in its digital journey. One wing is inpatient, the other houses offices for specialists' outpatient care, all linked by the "eRecord."

Some 4,000 computers line the halls. Nurses swipe patients' wristbands with bar-code scanners to see when it's time for medication, and then match the bar-coded dose to the prescription.

In the intensive care unit, computer "dashboards" automatically graph patients' vital signs and other readings from monitors and lab tests - letting nurses spot at a glance a drop or spike that signals a patient about to get in trouble, instead of rifling pages of a paper chart to tell.

And the giant patient database lets health IT chief Dr. James Levin spot practices that need improving. He found too many doctors ordering specially filtered blood transfusions, at $30 extra a bag, when medical guidelines say few patients truly need them.

Building an EMR doesn't just mean buying software and flipping a switch. It physically changes how doctors and nurses work, a disruption that Harvard's Jha sees as key to even tech-savvy doctors' resistance.

Children's first step: Install electronic prescribing. In October 2002, verbal or paper orders for medications, lab tests, X-rays, IVs ended hospital-wide. Medication errors immediately started dropping.

But ICU doctors reported a surprise, a temporary jump in deaths among just those patients transferred in from other hospitals. Those handoffs are a perilous time, and the doctors examined 75 deaths over 18 months to conclude in the journal Pediatrics that the death rate doubled in the five months after the computer switch. They blamed changes to their well-organized routine: Patients weren't registered en route, delaying medication orders; clicking through unfamiliar software took longer; wireless computers weren't always at the bedside.

Changes were made, but Levin said the real lesson: Get doctors to help customize their piece of the EMR upfront. That's who was tapped when it was time to cut paper charts.

"The way physicians think is different" from off-the-shelf EMR software, said ICU specialist Dr. Shekhar Venkataraman, who found himself a convert to the resulting custom digital dashboard. "It is elegant."

It's also a work in progress. On the next floor, 7-year-old Nicholas Swinehart had multiple organ transplants and now is recovering from an infection. It takes repeated swipes before the bar-code reader OKs his medication.

"This takes longer, we never used to scan," said nurse Lindsay O'Toole.

Officials are working on better scanners. "We have to make it work-friendly or they just don't want to do it," said hospital president Christopher Gessner.

People always ask, what if the power goes out? There are back-ups for the backup generators, and for the servers. That's the easier side of going digital.

The big hurdle: Most of today's EMRs can't be read by the computers at another doctor's office or hospital across town.

Children's aimed for a community approach, with the eRecord available at all 20 University of Pittsburgh-affiliated hospitals. More than 100 primary-care doctors in western Pennsylvania are adopting it.

But just three miles down the road, Dr. Kristin Hannibal illustrates the hitch. Her 60-pediatrician practice is affiliated with Children's but only partly digital. She logs in to check on hospitalized patients, but must scan her own patient checkup information into the eRecord. And her practice next year is buying a competing company's software, one it deemed better suited for outpatient use. The systems don't read each other.

"We are far better off than we were even five years ago when there was no ... access," Hannibal said. "It's just we have another big step to make."

But Riley Matthews' mother, Kenya, sees the change with every visit. She hauled chest X-rays from doctor to doctor when her oldest child, now 9, was diagnosed with asthma.

"We had to wait on records" just to make appointments, she said. Riley's ailment isn't solved yet, but the electronic system is "making our

specialist appointments easier."