Medicine & Health
Perspectives

Scanned records or images transmitted electronically don't allow a system to generate a graph or chart of a specific set of lab results that can show a patient's changing condition over time. Scanned records can't trigger an automatic prompt from a computer-information system programmed to recognize certain trends or threshold values and alert physicians to questions they should ask or actions they might want to take.

Having data in digital form is key to enlisting the computer as an aid in diagnosis and treatment. Using computers to transmit data requires interoperability.

Health providers don't work alone. Clinical data has to travel, from a primary-care physician, for example, to specialists, attending nurses, pharmacists, diagnostic laboratories, and more.

"Every place you go, the question is, 'How are we going to interface?'" says Nick van Terheyden, MD, chief medical officer for e-health vendor SoftMed Systems.

Standards for interoperability and for a nationally used EHR have been in development for years, but the road to consensus is a long one, and technology moves ahead more quickly, much of it currently in silos, analysts say.

"By the time standards are implemented, the world has moved on," producing new gizmos that don't meet the standards or that surpass premises on which standards are based, van Terheyden says.

With more overt federal interest in EHRs, the standards-development and adoption process is becoming more high profile, which could help. When Health and Human Services Secretary Tommy Thompson this summer procured the Systematized Nomenclature of Medicine-Clinical Terms — SNOMED-CT — for free public use through the National Library of Medicine, many experts agree that it was a giant step forward.

Standard setting is an arena where a search for the perfect can easily take the place of implementing the good.

When it comes to SNOMED, "whether it's best or not, it's a standard and available to everybody, which is what was needed," says van Terheyden.

The adoption of a nomenclature standard is only one of many necessary standardizations yet to come. Beyond the simple movement of data among facilities and providers, there are many different e-functionalities and technologies that also must interoperate in an EHR, notes Ron Loeppke, MD.

"Unfortunately, the majority of innovation that occurs has left these things separate," says Loeppke, president of Health and Productivity Corporation of America, chair of the committee on health-related productivity for the American College of Occupational and Environmental Medicine, and former chief medical officer of PhyCor, Inc.

Right now, technologies such as e-prescribing and digital radiology mostly operate completely independently — and without interoperability — says Loeppke. Forward movement will be slowed "until all those are in a consistent architecture and standardized language, until you can plug and play," he says.

Federal-government attempts to move the process forward aren't new. "It's an unfortunate thing: Buried within HIPAA were some attempts to move the industry toward it, but they are so buried in hassles" that not much progress has resulted, Loeppke says.

• *Has billing hijacked standardization?* Many but by no means all EHR experts argue that to develop the standards that will be most useful for health care in the long run, and to nudge physicians toward EHRs, clinical activities and terminology must drive standards development.

"Billing and coding hijacked the standardization process," says van Terheyden. **In the United States, "the driving force" behind computerized health-care operations has been billing. That fact has contributed to physicians' ultra-slow warming to computerization,** he and others suggest. Computerized records, diagnosis codes, and the like may be viewed by some as belonging wholly to the billing side, and therefore not adaptable to or useful for the clinical side.

For the future, "let's build this on clinical activity," says van Terheyden.

If a clinically based e-system is developed, it will make computerization more palatable to doctors and will still be useful for the accounting department, he argues. "Billing can be a relatively simple build-out" from an e-system that's clinically based. "The clinical, after all, is the most complex, and all the rest will fall out as a consequence of a clinical system."

Among companies that develop systems for e-health, many have specialized in either billing or clinical systems. That must change, and is beginning to, as billing-based companies, especially, are beginning to move into the clinical area, according to van Terheyden. "You are seeing a merger of sorts."

Not everyone agrees that the most useful system will be a clinically driven model first.

Clinical medicine is just too complicated to lend itself to expeditious standards development, says Don Rucker, MD, chief medical officer of Siemens Medical Solutions.

"I think the question is, 'Do you want to have national standards that you can enforce?' If so, you want to do it around billing.

"When you say you're going to have an [EHR] standard — For whom? For what? There are 60 board-certified [medical] specialties. What are we going to standardize around?"