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The Business Case for Ambulatory IT

EXECUTIVE SUMMARY

In only a few short years it now seems, healthcare IT has broken from its hospital in-patient box and—excuse the pun—made a run for the ambulatory sector. Physician offices and clinics, once the most daunting prospect for implementing clinical information systems, have become clinical automation's beckoning frontier. The federal government's emphasis on interoperability and national health information sharing, the RHIO movement, looming pay-for-performance requirements from Medicare and hospital self interest are driving the implementation of the electronic health record (EHR) among physicians in the community. CMS's imminent release of its VistA Office EHR, which was developed by the VA and will be provided free to physicians, also figures to spur the trend.

While this movement has really just begun—estimates put EHR penetration among physician offices at only 5% to 15%—the business case for ambulatory EHR is being made. This issue of Information Edge aims to clarify what this ROI model looks like through interviews with executives at Advocate Healthcare, HealthPartners, Northwestern Memorial, ProHealth Care, DSS Inc., American Academy of Family Physicians and SI Sponsoring Partner Cerner Corp.

Two lessons have emerged: One, physicians do not constitute a single bloc, but vary in terms of practice size, specialty, geographic location and other factors, all of which require different implementation strategies; Two, while ROI is a necessary element in any physician-adoption strategy, a more compelling issue may be professionalism: an EHR forever changes the way doctors practice medicine. That fact must be incorporated into the ROI equation.

Crawling before walking

"The physician office EHR movement is definitely in its infancy," says Kent Westervelt, senior marketing manager for Cerner. "It's not like the 85% of physicians who lack an EHR are all planning to acquire one in the next few months. It's in the early phase of the classic S curve," he says, in which most technology products undergo slow growth until reaching a critical mass or tipping point at which adoption explodes rapidly.

Westervelt says cost is the biggest obstacle to adoption, especially among small physician offices of 10 doctors or less, which comprise 80% of all practicing physicians. Larger physician practices will continue to adopt the EHR more quickly because they tend to have younger, more IT-savvy physicians and have the resources to invest in IT. If growth continues at the same pace, he estimates it will take five to seven years

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for widespread adoption. However, the financial risk that physicians perceive today in adopting an EHR could be greatly mitigated by change in any of a number of factors, including possible loosening of the Stark laws that prohibit hospitals from providing gifts like computers to independent physicians and the provision of federal tax incentives or grants for IT adoption.

Westervelt added that pay-for-performance programs may also be a driver for ambulatory EHR adoption, citing programs like Blue Cross Blue Shield of Massachusetts' initiative that pays physicians for e-prescribing and other aspects of automation. "Data shows of the physicians who have adopted EMRs, 86% use e-prescribing as opposed to manual script writing," he says, adding that this shows e-prescribing is a huge workflow driver on the doctor's side because, among other benefits, it automates a portion of the cumbersome and costly manual processes of prescription refills. "Physicians really understand the pain eliminated by automating that workflow component alone and will begin to understand the many others to come," says Peister.

Cerner breaks down the physician office market into three segments: 1) Physician practices and clinics owned by integrated delivery networks (IDNs) or academic medical centers; 2) Mid-to-large independent groups ranging from 10-15 physicians to 100-plus doctors; and 3) Small independent practices of 10 or less. Each has different needs. Larger groups are more concerned with specialty reporting and practice workflow and may often have IT and professional practice managers; smaller practices are in need of solutions that are easy-to-use, implement and maintain.

"Herding cats" metaphor still applies

IDNs struggle with the same landscape when it comes to implementing the EHR among physicians.

Bruce Smith, CIO, Advocate HealthCare, Oakbrook, Ill.

Oakbrook, Ill.-based Advocate HealthCare may be typical. "We're really just getting started with our ambulatory clinical systems," says Bruce Smith, Advocate's CIO. "Our focus has been the standardization of clinical systems at our acute sites. We're working with medical groups on how best to centralize clinical systems." As a result, while Advocate has developed some preliminary figures on how much it may cost, the organization has not done the final benefits analysis yet, he says.

Any ambulatory automation effort is complicated by the physician diversity Advocate faces, including its own 500 employed doctors as well as about 4,000 community physicians—2,800 of whom belong to Advocate Health Partners, an IPA-like group affiliated with Advocate. Also complicating the situation: practices range in size from solo physicians to 10 or 15 and cover all specialties.

Smith says he has learned from physician focus groups that they want technology and are not afraid to share clinical information. "But they want input into system design, complete support, and yet maintain complete autonomy while still being able to work with other hospital systems—and they don't want to pay anything. We tell them that it's hard to fit that into a good business model," he says.

WHAT'S NEW

Current and Upcoming Projects: *See details at www.scottsdaleinstitute.org.*

Quality Improvement Networking—Connecting with peers working on similar QI projects is now available. See details and use a simple submission form if you are interested. Thus far over 300 projects and their key contacts have been submitted.

"A Collaborative for Clinicians on Clinical Systems Implementation"—Designed to help clinicians address medical, safety and patient care issues that surface when information systems are implemented to automate clinical workflow. Concepts for the collaboration will be reviewed at teleconferences on September 22 and October 6; sign up to attend either one.

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What Advocate is likely to do is first determine the cost of rolling out an ambulatory EHR to its own medical groups. Because those groups do not add to the margin of the organization, it justifies the ambulatory EHR on the basis of patient safety and continuity of care—and the objective is to define reasonable cost. "With independent physicians, the goal is to determine if there's any reasonable case to be made for an ambulatory EHR and part of that process involves negotiating with Advocate's core system vendor," says Smith.

External factors could change the scenario. Should significant numbers of physicians begin to adopt an ambulatory EHR like the VA's VistA Office EHR, for example, Smith says that would influence Advocate's strategy. "If we saw physicians jumping on that bandwagon, we would give it consideration." However, he says the jury's still out on the VA-originated system's portability and the resources required to support it. "It's not just the investment in the software but the support and training to make it successful," Smith says, adding, "I've never found any software yet that clinicians haven't found a reason to challenge."

Green light in Minnesota

HealthPartners in Minnesota is probably farther downstream than most when it comes to determining the business case for an ambulatory EHR.

"We've done as good a job as we can on ROI," says Kevin Palattao, VP of patient care systems at HealthPartners in Minneapolis/St. Paul, acknowledging, "Everybody struggles with that."

The organization defines two types of ROI: 1) "dark green" ROI for tangible, hard-dollar savings; 2) "light green" ROI for softer improvements in experience and quality. "It depends on where your organization is in determining dark green," says Palattao. "For us it started with redundant paper systems and redundant electronic systems, the result of a merger. We said we're the most expensive model you can dream up. We had at least two of everything."

HealthPartners

Kevin Palattao, VP, patient care systems, HealthPartners, Minneapolis

The organization went through the process of defining its core system. "For us it was simple: make it easy for providers to do the right thing right every time. We needed unfettered access to health information whenever or wherever a provider or patient needed it. That was the vision," says Palattao.

Key to this vision is that medical records belong primarily to patients, and so it's giving them access to them through a secure web portal. The idea was to use a single-vendor system in its hospital, surgicenter and 30 ambulatory clinics as an integrated, "single source of truth." Given that HealthPartners counts nearly 40 subspecialties in its medical group, however, it expects some best-of-boutique clinical applications will be allowed as adjuncts to the core system.

With its goal of eliminating the paper record, HealthPartners has stopped filing paper altogether. Palattao says the move is saving the organization $3 million to $4 million in annual operating expenses related to paper processes. And while it does some scanning of older paper records, the organization did not have to scan every piece: it had already begun in the 1990s

What's New continued

"A Collaborative Forum on Knowledge Sharing in QI"—Upcoming webinars will demonstrate a proposed collaborative website for SI members to support knowledge exchange; the pilot project will be in the area of QI. Sign up to attend November 1 or November 16.

"The 2005 Leadership Report: Healthcare IT Governance Research Study Results" conducted by Scottsdale Institute and HIMSS Analytics and sponsored by Lawson Software is available in full to the public.

Coming soon:
"Knowledge Management Benchmarking"—A summary report from the 2004-5 SI collaborative study on the state of the art in healthcare KM will be posted to the SI site in September.

to convert appointment, billing, lab results and digital dictation into electronic data. Today, it stores three million electronic patient records going back a dozen years.

"We've completely rolled out our base EHR, but haven't fully implemented CPOE in all specialties yet; much of that will be completed in first quarter 2006," says Palattao. A cost area HealthPartners has been less successful in controlling involves charting tools. "Dictation and transcription continues to account for a huge slice of cost. We haven't seen adoption rates high enough by physicians," he says, of charting tools that allow the transcription of long strings of commonly used phrases with a keystroke. "Old habits die hard. It's not as easy as rambling into a dictation machine."

Palattao says it's a matter of breaking habits highly refined over many years, and that involves making the right level of investment in training and integrating the tool into the workflow process.

Doing the right thing in Chicago

Large, urban physician practices are already into the early adopter phase.

Northwestern Memorial Physicians Group

Lyle Berkowitz, MD, medical director, clinical IT, Northwestern Memorial Physicians Group, Chicago

Lyle Berkowitz, MD, is the medical director of clinical information systems at Northwestern Memorial Physicians Group (NMPG), the largest primary care group in Chicago. As of September 1st, all NMPG physicians will be using the enterprise EHR system, which includes results, messages, prescriptions and visit documentation. Future plans include the integration of secure messaging with patients.

As the hospital-owned group, NMPG can be considered the first wave of "early adopters" for the hospital's ambulatory EHR system, but now there is a second wave. These second-wave early adopters are independent physician groups who want to be the next physicians to roll out the hospital's ambulatory EHR system. "They don't need a business case presented to them, they know it's the right thing to do", says Berkowitz. "However, these physicians still want a stable financial model explained to them—how much they need to pay per month, and what software and services will be supplied. That said, we're still working on formalizing an ROI model that we'll use in these pilot offices, as it will be more important for the other independent physicians in the organization who are not going to be early adopters."

Berkowitz said the three key factors determining successful implementation of ambulatory EHRs are *Executive Support, Physician Adoption* and *Enterprise Teamwork*.

The first major factor is *executive support* because a project can only be successful if the key executives and any key subgroups of that organization fully believe that implementing an EHR is absolutely the right thing to do for their patients and their organizations. "They need to look at the big picture and keep pushing ahead through the change management struggle that can ensue," he says. Second, *physician adoption* needs to be ensured by implementing a system that balances any "hassle factor" with the ability to improve the efficiency and effectiveness of care, and is at least cost-neutral to physicians. Finally, to succeed with an ambulatory EHR in an enterprise setting, a lot of *team-*

Upcoming Events

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September 13
(Co-hosted with AMDIS) IT Reduces Infection Rates, Improves Patient Safety and Lowers Cost at Memorial Hermann
- Edward Septimus, MD, medical director, Infectious Diseases and Occupational Health, Memorial Hermann Healthcare System, Houston
- Harvey Nix, director, Payor Initiatives, MedMined, Birmingham, Ala.

September 15-16
Clinical IT Success in Community Hospitals: What Works and What Doesn't
- Fall Conference hosted by Trinity Health and Spectrum Health, Grand Rapids, Mich.

September 20
(Co-hosted with HIMSS) Building a RHIO, the Santa Cruz Experience
- Robert Keet, MD, president, Western Medical Associates, Inc., Santa Cruz, Calif.

more events on next page

work between the inpatient and outpatient teams needs to occur to take advantage of any synergies while also ensuring a good change control process so that the two systems do not conflict.

A major lesson learned is that this effort is a journey, not a destination. "We're learning new things every day and expect to keep learning new things," says Berkowitz. "From a quality standpoint, we found improvements immediately by being able to create legible prescriptions and having anywhere access to a centralized repository of information. Long-term, we will use the system to improve both wellness and disease management via a variety of reporting and decision support tools. From a financial standpoint, we found some significant benefits from improving our coding since the system allowed us to more easily document complex visits, meaning we could bill appropriately for them. Additionally, by moving paper charts out of the offices we could use that space to generate revenues in other ways. Long-term, we also expect to benefit from pay-for performance initiatives."

Another important lesson learned is that efficiency is relative, meaning that although efficiency can be improved in some areas, parallel inefficiencies may crop up elsewhere—so that, while efficiency of the whole system is improved, efficiency for a physician may worsen. One example involves lab or radiology results. With an EHR it is simple for the physician to find those results while in the room with the patient. On the other hand, before an EHR, the physician either flipped to that section in the chart or asked an assistant to get those results and hand it to them. Another example involves prescription refills. On one hand, an EHR makes it much quicker to refill medications in the office for the patient. On the other hand, refills that are requested via phone or fax used to be completed with a simple signature, but now can take longer if the EHR system is used to appropriately refill the medications online. And unfortunately, "physicians don't pay as much attention to the efficiencies saved as they do to the inefficiencies created. In other words, physicians are minute managers, so, you'll be most successful if you map out their entire workflow and figure out how your system can save them any time any place," says Berkowitz, adding that it's too soon to provide any quantified ROI for the ambulatory EHR as those figures are still being calculated.

Southern exposure

There's nothing like going on the road.

David Kibbe, MD, director, Center for Health Information Technology, American Academy of Family Physicians, Charlotte, N.C.

David Kibbe, MD, director of the Center for Health Information Technology of the American Academy of Family Physicians and co-chair of the EHR Coalition, just completed onsite visits to five family physician practices in North Carolina and Tennessee: two suburban, two rural and one large practice in Charlotte, N.C. "They were all comfortable users of the EHR and typical in terms of products, representing four different vendors within similar cost range and features—not bleeding edge," he says.

Kibbe queried the practices as to what they were getting out of using the EHRs. "My strongest impression was that these systems have rolled up into the way doctors think. These systems are now

Upcoming Events continued

September 21
(Co-hosted with HIMSS) Thinking, Leadership & Emotional Styles of Successful CIO's; and how CIO's compare to their C-Level Counterparts
- Dora Summers-Ewing, Ph.D, managing director, Leadership Development Solutions, Korn/Ferry International, Chicago
- Doug Greenberg, client partner, Healthcare, Korn/Ferry International, Chicago

September 22
A Collaborative for Clinicians on Clinical Systems Implementation
- Shelli Williamson, executive director, SI, Chicago
- Suzi Birz, principal, HiQAnalytics, Chicago

September 26
Medical Archiving: Cost-effective, Scalable Storage Solutions for Diagnostic Images"
- Susan Van Ness, director, Medical Imaging Solutions, Worldwide Public Sector, Health and Education, Hewlett Packard, Palo Alto, Calif

September 27
Grasping Implementation Barriers: Strategies to Aid HIT Adoption at Catholic Healthcare Partners
- Lynn Barrow, corporate director, Information Management, Catholic Healthcare Partners, Cincinnati

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Upcoming Events continued

September 29
Patient Flow System Technology
- Steve Stanic, CIO, Memorial Health System, Savannah, Ga.
- Mike Wendelken, RNC, RRT, clinical nursing systems specialist, Memorial Health System, Savannah, Ga.

October 3
A New Patient Centric RHIO Model
- William Yasnoff, MD, NHII Advisors, Washington, DC

October 6
A Collaborative for Clinicians on Clinical Systems Implementation
- Shelli Williamson, executive director, SI, Chicago
- Suzi Birz, principal, HiQAnalytics, Chicago

October 12
EHR Trends and Usage: MRI Survey Results
- Jeff Blair, VP, The Medical Records Institute, Washington, DC

October 13
Hosting an ASP-based EHR: Building a Virtual Medical Community
- Bill Miller, CIO, ProHealth Care, Waukesha, Wis.
- Dan Peterson, director, ProHealth Care, Waukesha, Wis.

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focused and capable of delivering communications for exchange of information and workflow purposes."

For example, the systems allowed internal messaging between the front and back office, and among different physicians. "A phenomenal time saver," says Kibbe, with its ability to allow messages to queue up and not be "dropped" like paper or voicemail.

Also, remote access was a key workflow benefit. "All the practices had the capability to allow physicians to access information from home, the hospital or even while on vacation, without having to be at the practice office. They could multitask, take 30 minutes to check labs after putting the kids to bed. You're handling information the way other people in other industries do," he says.

Another benefit of the physician office EHRs, according to Kibbe, were completely paperless EKGs, Holter monitors, completely integrated with the EHR. What used to be a five-foot long roll of paper now is viewable on a computer display screen—from anywhere there's a computer.

He agrees e-prescribing capability is another advantage. The information flow from the pharmacy to the physician sometimes can be dynamic data or a scanned image via a fax server, but either way it's paperless. Some are now using PDF images, so, while not a complete pharmacy record, it is in a common document format.

Veteran EHR

The government is getting into the ambulatory EHR act. With the aim of accelerating EHR adoption by physician practices and facilitating interoperability within the health system, CMS is planning this month to release "free" to the public the VistA Office EHR, a totally integrated EHR developed over two decades by the VA. This highly regarded clinical system, which provides standardized, comprehensive patient information to VA clinicians from anywhere in the world, will still require guidance and support, however.

"This is a tried and true, high-quality clinical information system, but it's not plug-and-play," says Don Meehan, project manager of DSS Inc., a former CIO at the VA. DSS, which helped the VA develop enhancements for VistA, has launched a website for just that purpose—www.vistaexperts.com—that features FAQs, an online community bulletin board and streaming video presentations on how to implement VistA Office EHR. Nearly 400 parameters need to be set up to customize the system for a physician office, he notes, adding that there's also the need for training and support.

Meehan says the VA was never under any constraint to calculate an ROI per se for VistA because the agency relies on appropriated funds for the express purpose of providing the best quality healthcare for veterans. "So, VistA was designed as a quality tool. There absolutely is an ROI, but it shouldn't be the reason a doctor implements an ambulatory EHR. Quality of care should be the driver," he says.

Whether it's a hard economic ROI or quality, the potential of any ambulatory EHR will be lost unless there's adequate training and support. Every time the VA would release a new software module, says Meehan, users would receive four to six hours of hands-on training followed by onsite mentoring. "You've got a lot of

training and handholding, so you really know how it works." There's no reason to expect anything different once VistA is in the private sector.

Wired in Waukesha

ProHealth Care, a Waukesha, Wisc.-based IDN with two hospitals, a large ambulatory care center and 13 clinics, has been rolling out an ambulatory EHR for the past year and expects to have it in all clinics by the end of 2005. While the original plan of completing clinics one at a time would have taken two years, the organization realized doing it in phases with all the clinics at the same time would require only 13 months. Phase two, which included rolling out 250 wireless tablet PCs, was just completed, according to Bill Miller, ProHealth's VP of information services and CIO.

Bill Miller, VP & CIO, ProHealthCare, Waukesha, Wisc.

ProHealth Care built its ROI on transcription cost savings, among other factors. By utilizing the documentation templates within the EHR, physicians can reduce their dictation/transcription by 30-50%. "We built a business case to sell the EHR to our own organization as well as to any physician who wants to use the system on an application service provider (ASP is remotely-hosted) basis. ProHealth charges $200 per concurrent user per month, along with a one-time implementation and training fee. The program's goal is to add 150 independent physicians to its own 100 clinic physicians and create a "virtual medical community" in Waukesha County, connecting the hospitals, system physicians and independent practices.

The value proposition Miller uses to sell the ambulatory EHR to physicians has more to do with clinical quality, clinical collaboration and interoperability than pure economics. "We ask them to think five to 10 years down the road. We say if you want to be able to click a button and forward a referral to a specialist, you're going to need an EHR that is connected to your peers. That is extremely valuable from a patient care perspective."

Delaware ASP

Vendors like Cerner have documented the hard numbers—and are finding the ASP model may be one answer to producing an ROI for the ambulatory EHR.

Three years ago, Delaware Cardiovascular Associates (DCA) adopted Cerner's PowerChart Office on an ASP basis from Blue Ox Medical Solutions, created by a cardiologist at the 17-physician practice who realized that single practices would have trouble purchasing the EHR alone. Using the system has allowed DCA's eight offices to easily call up a complete record of any patient. Within 24 hours of the drug Baycol being recalled, the practice was able to search 40,000 records, identify and notify all 138 patients taking the medication.

DCA was also able to use the tool to discover it was under-coding patient visits. Correctly coding these visits resulted in revenue increases of more than $76,000 per physician annually. After investing $351,000 in hardware, software, maintenance, support and connectivity, total ROI of the system was documented as about $2 million a year from the standardized coding ($1.9 million), elimination of dictation ($80,000), reduced no-shows ($300,000) and reduced FTEs ($60,000).

"The untapped potential—which we all believe is achievable—lies in leveraging these powerful systems to really improve care outcomes. That is, making sure every patient gets the best science that's right for their individual condition, every time. More than improving access to information, more than improving access to the care givers, is truly improving outcomes—that's our holy grail."

Kevin Palattao,
VP, Patient Care Systems
HealthPartners
Minneapolis/St. Paul

Bill Dwyer, VP, Cerner, Kansas City

Such success with the ASP model has spurred Cerner to consider hosting its own "cable model" that small physician offices could access through a secure DSL line over the Internet, says Bill Dwyer, Cerner VP. Besides providing a full-bodied EHR with a multidimensional database, the system could offer practice management software and other transactional services, including connections with laboratories and other community-based services.

"It would provide a very elegant, robust solution that is gaining a project scope of being loaded on the weekend at a small practice, with training ensuing the week following," he says.

Conclusion

In terms of cost-effectiveness and ease of operation, the ASP model may make the most sense for the physician-office EHR. It's not difficult to imagine hospitals hosting the service for community physicians like they used to provide laboratory services in the past. Third-parties could also offer the service to physicians, who would pay a subscription not unlike consumers do to Internet service providers. Either way, the host would take on the job of software updates, support and training, leaving the physician office to concentrate on patient care.

The office EHR may be at an inflection point in its development. AAFP's Kibbe is heartened by the progress made in EHRs that community physicians can now take advantage of. "Over the course of the last five years, the developmental locus of the EHR has shifted from making a document like a chart note look good to the communications aspect and informational workflow." That has spawned other changes in the physician office itself Kibbe witnessed, such as creation of library cubicles in the waiting room for patients to view their "instant medical histories" on a computer monitor. "They can do this instead of reading a magazine," he says.

"The important thing is that these improvements are iterative and cumulative. It's the accretion of these small, incremental improvements that help in planning a patient's care even before the patient gets to the office," says Kibbe. The ROI comes into play in the elimination of transcription costs and file staff. "That $50,000 employee is no longer on the books. One doc said he looks at the EHR as an efficient employee: he pays $12,000 a year for the EHR and replaces the $30,000 a year employee."

Still, he says, small, primary care physician practices rarely do the math. That's in contrast to hospital systems that roll out EHRs under a managed procurement process. Eventually those two trends—the doctor-driven approach and the hospital-driven approach—will merge in terms of standards and ROI, Kibbe predicts.

Perhaps the most telling example of the "business case" for an ambulatory EHR was the family practitioner Kibbe visited whose diabetic patient had resisted taking insulin. When he pulled up her chart, up popped half a dozen preventive measures to follow. He was also able to show her a graph displaying her blood sugars, an educational tool that helped convince her to begin taking insulin. "This physician, who had initially fiercely resisted using an EHR, said, 'I am practicing medicine in a fundamentally different way than three to four years ago.' People who look at the EHR only economically are missing a very important point."

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