

INSIDE IE EDGE

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Consumer-centered Care, Part One

The Emerging Personal Health Information Network

EXECUTIVE SUMMARY

Scottsdale Institute's mission, as we've reiterated here, has always focused on facilitating the advancement of healthcare IT and associated process improvement, a mission that promises to restructure healthcare into a safer, more effective and efficient industry. What could dramatically accelerate that movement—and perhaps result in the emergence of a new business model—is the transformation of telehealth by the personal communications revolution.

This new model exploits wireless and cellular technology, but even more significantly places the consumer at the center of a universe that involves the emergence of retail clinics in WalMarts and CVS pharmacies, as well as Google and Microsoft's entry into online personal health records. The latter we will cover in the next issue of IE. In this issue we focus on what is characterized as the "Personal Telehealth Opportunity" as articulated by the Continua Health Alliance. Continua is a group of technology firms aimed at developing interoperability standards for personal telehealth devices and services that in just a year has mushroomed to more than 120 firms, including Intel, Philips and GE Healthcare.

In as apt a description as any, Continua's website describes the promise of personal

telehealth: "In a system well-designed for improving health, people with heart disease or diabetes can transmit their vital signs—blood pressure, heart rate, glucose levels, temperature, weight, respiration—seamlessly from home to their health professional, and get real-time feedback on their condition. A busy professional is able to receive a daily electronic check-up on the health status of his aging parent who lives alone, suffers from a series of chronic conditions and is on multiple medications. A traveling businessperson can have a real-time discussion about the workout she just completed with a trainer who is hundreds of miles away."

In this IE report, we talk to an executive at telecom-giant Qualcomm, to ascertain what opportunities these high-tech firms see in this market. We also feature Partners Healthcare in Boston, which has several "connected health" initiatives underway, to explore what the application of mass communications means for SI-member hospitals and health systems. And we talk to two keen observers: a physician IT adviser to the American Academy of Family Physicians and a consultant who works with health plans, disease-management firms and other healthcare service organizations in the area of innovative technologies.

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WELCOME
NEW
MEMBER

VCU Medical Center
Virginia Commonwealth University

**The Scottsdale Institute
is proud to welcome
new member VCU
Health System based in
Richmond, Va.**

The VCUHS, the only academic medical center in central Virginia, has been rated as a technology leader by being recognized as one of the "Most Wired" healthcare organizations.

MCV Hospitals is the teaching hospital component of the VCU Health System, which also includes a number of outpatient clinics and MCV Physicians, a 600-physician, faculty group practice. The VCUHS, as the clinical delivery component of the VCU Medical Center, is a regional referral center for the state. With 779 licensed beds, MCVH has approximately a 20% share of the Richmond inpatient market. The VCUHS records 30,000 admissions and more than 500,000 outpatient visits each year. Over 80,000 patients are treated annually in the hospital's emergency department, which is the region's only Level I Trauma Center.

Welcome Rich Pollack, CIO, Alistair Erskine, CMIO and the entire VCU Health System team.

A framework without a name

While most observers agree that a new frame of reference is emerging, nobody yet agrees on what to call it. "The framework doesn't quite have a name yet," says David C. Kibbe, MD, MBA, senior advisor, Center for Health Information Technology of the Washington, DC-based American Academy of Family Physicians. He contributes his own suggestions: the "extended medical home" or "personal healthcare infrastructure or network. Some are calling it Health 2.0"



David Kibbe, MD,
senior advisor,
American Academy
of Family Physicians,
Washington, D.C.

also the ATM and a whole network at my service. I have a personal banking account online that can interact with my personal financial adviser's stock portfolio. If you look at the way consumer-oriented service industries over the past decade made it possible for individuals to create personalized access, you can see it combines the physical and virtual: Internet, telephone, personal experience. That's the framework, web or network providing similar solutions for healthcare needs," says Kibbe.

"These devices and technologies and online communities are going to become increasingly integrated. Suppose I go to Google Health and store my health record. At Google I can subscribe to a health service that sends

me an email on my cell phone every time a new drug comes out," he says. Similarly, iPods will enable personalized healthcare information to be downloaded the way Kibbe says he has detached his radio experience to receive NPR on a Podcast.

"[Former national healthcare IT coordinator] Dr. David Brailer calls it the mass consumerization of health information," he says of the change occurring. "There are enormous amounts of health information previously locked away or difficult to access that are now becoming accessible. The question is, on balance, is this trend better or worse for consumers? I think this is going to be tremendously valuable to helping consumers stay well and live longer."

Partners

If there's anyone with his finger on the pulse of what innovative communications can potentially do for healthcare, it's Joseph C. Kvedar, MD. Kvedar is director of the Center for Connected Health (Partners Healthcare) in Boston, which works with Harvard Medical School-affiliated teaching hospitals like Mass General and Brigham and Women's to apply communications and Internet technology to increase access and improve patient care. He launched the first physician-to-physician online consultation service in an academic setting and is leading research into novel approaches for telemedicine in various medical specialties, including post-operative care in the home, wound care and remote monitoring of patients with chronic diseases.

A year ago Kvedar established the Connected Health Initiative, a collaboration of technology, healthcare and academic organizations which aims to create a more patient-centered delivery system using communications technology (www.connected-health.org).

[Kvedar presented an SI teleconference on the topic “The Connected Health Imperative from a Hospital Perspective” on May 30, 2007. The audio presentation and slides are available to members on the SI website. Click on “Teleconferences” in the left column under “Members Only.”]



Joseph Kvedar, MD,
director, Center for
Connected Health,
Boston

Patient-centric care, says Kvedar, means providing care when and where the patient needs it. It brings the doctor to you rather than you having to visit the doctor, but it also makes a person become their own doctor. And, says

Kvedar, “at the end of the day, it keeps people out of the high-cost part of the health system.” It also creates a rich data stream from wherever the patient happens to be.

Connected health provides patients with tools to support and comply with care plans—especially adhering to medication regimens. “Adherence becomes a very important aspect. It’s frightening how little attention is paid to adherence from the time the doctor writes the prescription to the pharmaceutical company to the patient who doesn’t complete taking their meds,” says Kvedar.

The flip side, he says, is that “we need to give providers tool sets so the patient doesn’t have to visit the doctor every single time.” Self-care components include feedback, motivation and support, and patient education. Remote care incorporates remote monitoring, remote diagnostics and remote care and communications.

Am I blue?

The Center for Connected Health has launched a number of programs and pilots

that support self care and remote care. One of the more simple but effective ones aims to improve medication adherence by providing reminders to patients. Key is making the technology unobtrusive and blend into the home so it doesn’t look like the doctor’s office moved there.

A simple, melon-sized globe turns red when a hypertensive patient needs to take his meds, blue when the patient has done so. The latter is facilitated by a “smart” pill bottle that has a little attachment with the “guts” of a cell phone inside it. When you take the cap off the bottle it sends a text message. The globe changes color based on the messages. In the pilot, patients who had these tools were more compliant and said they actually enjoyed having the simple, unobtrusive signal in their home.

“It’s not so easy for people to recall if they have taken their medications. This is a powerful tool to improve medication adherence,” says Kvedar. He cites World Health Organization studies that show patients take their prescription drugs only half the time. Partners is working directly with an employer, EMC Corp., to implement hypertension self-management. EMC employees will use wireless blood pressure cuffs and an Internet site developed by Partners to learn more about their hypertension and be more engaged in their health.

“My SmartBeat Dashboard” gives patients access to their readings—displayed in a visually compelling graph over time--and educational content for this subset of employees to better manage their disease. They can print out the graph and bring it or fax it to their physicians, but are not required to do so. Each patient stays on the pilot for six to 12 months; the entire pilot will run another 18 months.

Get Connected

Dr. Joe Kvedar, Partners HealthCare Center for Connected Health, is sponsoring a Symposium entitled “Building the Connected Health Economy: Innovation, Implementation & Investment” on Oct. 22-23 at the Conference Center at Harvard Medical, Boston.

The theme is practical economics—revenue generation and business viability.

There is a special price for Scottsdale Institute members. Please see our website www.scottsdaleinstitut.org for more info on this Symposium.

WELCOME
NEW
MEMBER

Alegent Health

This is your healthcare

The Scottsdale Institute is proud to welcome our new member Alegent Health based in Omaha, Nebraska.

Alegent Health is the largest not-for-profit, faith-based healthcare system in Nebraska and southwestern Iowa. It is sponsored by Catholic Health Initiatives and Immanuel Health Systems.

Alegent Health has nine acute care hospitals, more than 100 sites of service, over 1,300 physicians on its medical staff and roughly 8,600 employees.

Recently, Alegent Health has distinguished itself as a leader in healthcare by introducing a new model of consumer-driven healthcare; hiring one of the first Chief Innovation Officers in healthcare; launching the Alegent Health Catalyst Fund, which has provided millions in grants to help community-based organizations better address the needs of the community's vulnerable and underserved; creating an accelerated decision making tool called *Right Track*, which is engaging

continued on next page

Patient self portraits

Another initiative involves a remote-care platform for Acne E-visits that makes possible remote monitoring and remote care delivery for patients with this chronic condition. In this pilot, patients have four successive online visits with their dermatologists, using a digital camera to take three different views of themselves each time. “The photos are clinical evidence of their progress,” says Kvedar. “You can add a code and diagnosis and it’s all done in a nice, tidy way from a provider perspective.”

While Partners does not yet have data on quality from this pilot, he says the returns are excellent in terms of reimbursable “time spent and general engagement.” Kvedar notes that an actual visit to the physician’s office by a patient would typically require 30 minute travel time one way to get five minutes with the doctor. In contrast, an E-visit takes 20 minutes total on average. “Most patients ‘come in’ between 10am and midnight” for those E-visits, he says.

Kvedar quotes one patient as saying, “I never felt alone. I felt connected,” by the E-visit experience. “So, there’s something to this. It’s a way to think about getting patients on a rapid control program. We see it as a successful platform,” he says.

The most successful pilot so far has been for heart-failure monitoring, which involves components of self care—patient feedback and education—and remote care—remote monitoring and care delivery. Telemonitoring nurses from Partners Home Care monitor homebound patients with heart failure, chronic obstructive pulmonary disease (COPD) and renal failure. “This is a great opportunity to keep these patients out of the hospital and it does this in a remark-

able way. Data goes into a central system, whose parameters we get from physicians. The nurse who’s monitoring the dashboard can act very quickly” in response to factors tracked like weight gain and pulmonary edema, says Kvedar.

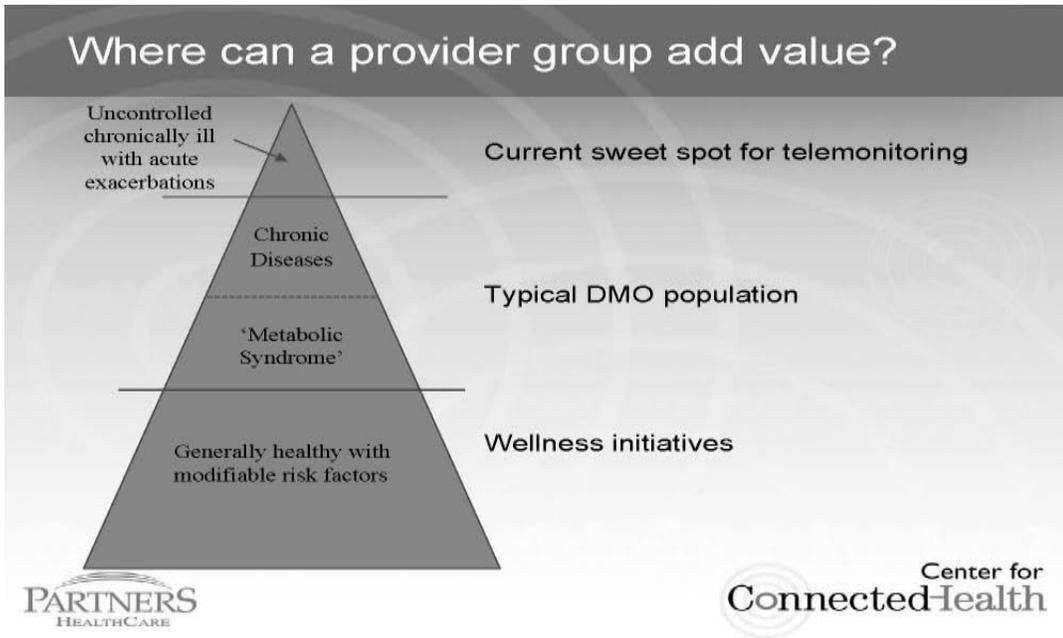
Data for the period nine months after the CHF trial shows the following results:

- For patients with a primary diagnosis of CHF: 22 percent re-hospitalization rate (30/136);
- Patients with a secondary diagnosis of CHF: 24 percent re-hospitalization rate (9/38);
- For the **telemonitored patients** with *primary* CHF there was a 5.2 percent re-hospitalization rate;
- There were **no telemonitored patients** with a secondary diagnosis of CHF re-hospitalized in nine months;
- For the MGH **telemonitored patients** there was an overall (all diagnosis) re-hospitalization rate of 13.8 percent.

“We’d argue that this one doesn’t need any more clinical trials and is ready to go system-wide at Partners,” says Kvedar.

Kvedar summarizes the value provided by connected health:

- Improving quality—Greater information flow; Timely intervention; Capacity to take in, synthesize and act on data from outside the system.
- Increasing supply—More effective use of providers; Care when and where it’s needed.
- Decreasing demand—Increasing self-care activity.
- Lowering costs—Moving care to a lower cost environment; Moving decision-making to lower-cost providers.



Providers can use remote monitoring for certain chronically ill today, but that will grow to the rest of the patient pyramid in coming years.

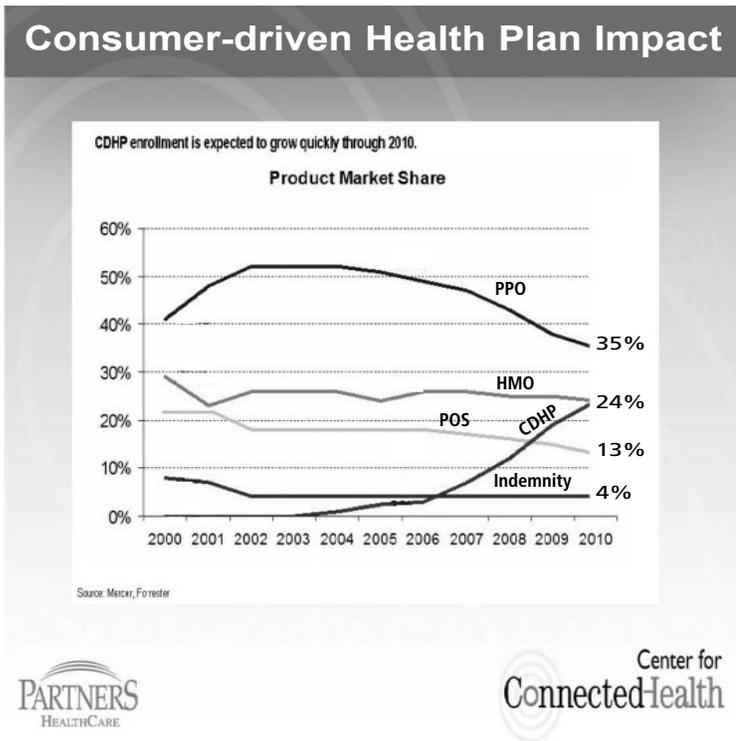
Kvedar says a key driver for connected health will be the growth of consumer-driven health plans (CDHPs). “If you can marry

good patient education and self-care tools with patient-savings account it’s a real proactive strategy.”

Welcome continued

its community and its stakeholders in designing the next generation of healthcare; pioneering a more proactive method for reporting quality data in meaningful, transparent ways that empower consumers to make better-informed health choices; and offering a first-of-its kind tool called “My Cost” to share cost information transparently with the community.

Welcome to Wayne Sensor, CEO, Ken Lawonn, CIO, Amy Protexter, Corporate Communications, and the entire Alegant Health organization.



Consumer-driven health plans will climb to equal penetration of HMOs by 2010.

WELCOME STRATEGIC PARTNERS

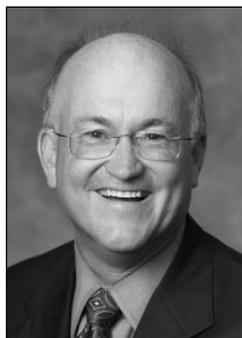
Scottsdale Institute is proud to welcome San Francisco-based HealthTech and Orem, Utah-based KLAS as new Strategic Partners.

Both firms provide critical technology research information to healthcare leaders for strategic decision making and have proven track records in contributing to SI conferences and teleconferences. "SI Strategic Partners are of significant benefit to SI members and SI's participation will also benefit the work of these important research firms," says SI Executive Director Shelli Williamson. "These organizations are making selected for-fee research products available to SI members at no charge and are creating special forums for SI member collaboration."

continued on next page

Full circle

Donald Jones likes to tell the story of how, when he was working in the medical-transport business in the early 1970s, they disconnected the radio system used to transmit patient EKGs from the ambulance to the hospital because doctors had begun to trust paramedics to carry out standing orders without having to call them. Today, he says, the situation has reversed itself.



**Donald Jones, VP,
Health & Life Sciences,
Qualcomm, San Diego**

"There's lots of interest from hospitals with \$5-million cath labs to get 12-lead EKG information from the field to more quickly deliver patients to the facility and reduce time-to-needle. But paramedics are not connected, they're not part of the system. And the hospital is the only partner that has a financial interest to connect IT to drive more referrals. For the lack of IT they're not able to ID in the surgical suite," says Jones. It's just another clear example to the VP of business development for telecommunications giant Qualcomm of how cellular communications has the potential to change business model in healthcare.

San Diego-based Qualcomm, a \$7.5-billion-a-year maker of chips that act as the brains of most of the world's cell phones, is working to leverage its wireless technologies in multiple areas of healthcare, including wirelessly-enabling medical devices. "Any device can be a node on a network. Anywhere connectivity is possible, we're not just restricted to a

LAN. And there are lots of models emerging," says Jones.

A case in point, he says, is the Alaris IV pump, which is basically a WiFi device. "Alaris is a pump-manufacturer-turned-IT-systems-vendor that happens to hang pumps on their system. It's now a network-driven company, not a pump-driven company, and the CIO is now a bio-engineering guy. Today, Alaris is into pump maintenance, medication management and asset location. It's no longer about my pump being more accurate and faster. The real selling point is the software that can manage 1,500 pumps—it's a completely different paradigm," says Jones.

He predicts that if trends continue Alaris will eventually sell wireless network infrastructure and medication-management software and give the pumps away. "All the killer apps are more valuable than the pumps. It used to be maximizing the value around the pump, now it's around quality and safety. We take a similar view--we don't view applications through the limiting walls of a hospital," says Jones.

Taking the box out of the device

A subset of wireless technologies enables eliminating the device altogether. Take the case of a conventional 12-lead, standalone EKG machine that costs \$10,000 to \$30,000 and is not connected to the Internet. Imagine instead just a set of wireless-enabled leads costing only \$200 that can transmit the data back to the provider where a central processor resides.

The point, says Jones, is that wireless communication can change the capital structure. "Instead of having to place an EKG machine on every hospital floor you can change to

merely wires, taking the box out of the device, so to speak. We think there are some intriguing possibilities in cardiology with ultrasound, in which you could reduce the machine to just the transducer.”

Another strategy involves embedding the medical device or biosensor into a mobile phone to measure heart activity, blood glucose or body-fat. “There are telephones in Japan and Korea that have Breathalyzers or blood-glucose meters. There’s also a subset of this category in which the phone acts as the communicator with the device or biosensor. For example, it’s possible to enable a phone to communicate with a pacemaker so you can not only remotely monitor the patient’s health but monitor the operation of the pacemaker as well.” German firm Biotronic has developed the first such phones, which require close-range radio frequency to communicate with the pacemaker and then use the cellular network to transmit the real-time data.

Cell phones are being used with body-worn sensors such as the belts that runners use to measure cardiac activity. There are also “smart wireless band-aids”—peel-and-stick devices that consists of a tiny power supply, radio transmitter and one or more biosensors. “Healthcare is about to take advantage of hundreds of billions of dollars in cellular networks already out there. There are many, many different businesses,” says Jones, leveraging, one, the consumer’s willingness to carry a phone, two, the consumer’s willingness to defray costs, and, three, the huge investment in the existing network.

At this point, many hospital executives have yet to grasp the changes. “Phone-based

video conferencing has just been launched in Canada. How will hospitals use phone-based video conferencing? Some times I get a reaction from hospital executives: I don’t need to get into that yet, or, Do I take the chance? You can ignore it or play wait-and-see,” he says. However, technology like video conferencing can find ready applications in healthcare, including, for example, to enable a mother to call her infant’s pediatrician and visually document her child’s condition.

Messaging provides another opportunity for wireless applications in healthcare. “There’s an opportunity to have a very highly personalized, interactive message: Push 1 to confirm, Push 2 to reschedule. Or, Here are the lab results. It cuts out wasteful labor costs. This is an opportunity to use IT infrastructure in a very personalized and targeted way to patients. There are multiple orders of magnitude in ROI in just restructuring messaging in healthcare,” says Jones.

The cellular-application opportunity in healthcare, he says, rests on two facts often lost to healthcare executives and policy makers: 1) More people have cell phones and cell numbers than land lines. 2) The number of people with cell phones and no land line is higher than the number of people with a land line and no cell phone. “Why are healthcare providers collecting home phone numbers?” he asks. The question for providers: how they can better leverage the new communications paradigm.

New silos to break down

“We’re moving care and care coordination away from centralized locations to a virtual and decentralized system wherever the patient happens to be,” says Vince Kuraitis,

Welcome continued



Kent Gale, president of KLAS, says, “We find it valuable when working with Scottsdale that the exchange of information multiplies itself and everyone wins.”



Molly Coye, MD, founder and CEO of HealthTech, says, “HealthTech is delighted to establish a formal collaboration with the Scottsdale Institute, and we look forward to building on the complementary nature of our two organizations’ programs to advance the adoption of beneficial innovations that combine clinical and information technologies.”

Better Health Technologies LLC



Vince Kuraitis,
principal, Better Health
Technologies, Boise,
Idaho

principal of Better Health Technologies, a Boise, Idaho-based consulting firm that works with companies in disease management, eHealth, technology and remote patient monitoring. Traditional healthcare is organized in silos that are now breaking down, he says, leading to a new business model that supports working across boundaries.

Kuraitis estimates there are about 300 companies that offer remote patient monitoring alone. “Whatever you can imagine is being done somewhere in a garage, a laboratory, in a company’s R&D department or in a government demonstration project,” he says. Still, providers organizations are lagging in this area. “We have a big gap in adoption because hospital executives are overwhelmed by technology and wondering, Where do I invest? It’s the risk of being an early adopter,” he says, adding that full interconnectivity still must wait on widespread the EHR adoption.

There’s also a need for many companies jumping into this market to mature in their business strategies. “What you’ve seen is a clinical or technical founder who has developed a product with good fundamentals but who’s not necessarily a good business person—and they neglect to get customers. There are also Fortune 500 firms who anticipate the needs of aging Baby Boomers and have entered this market. But being big doesn’t give you insight. So, a lot of large

companies are experimenting in this space,” says Kuraitis.

Watch for indicators of rapid movement in the market: 1) Standards organization Continua should release guidelines this fall for plug-and-play interoperability. “One day you will be able to go to your local electronics store and ask, Will this heart-rate monitor fit into my PC?” he says. 2) On the mobile front, a major corporate player is working on a mobile platform that aims to “bring it all together,” making it possible to buy a diabetes application here and a CHF application there. 3) A major health plan may overcome their cautiousness, step up and say, “We get it,” and invest significantly in this area.

Conclusion: Who will pay?

While certain wireless clinical solutions are reimbursed—CardioNet, which provides mobile cardiac telemetry, is an example—reimbursement remains a major impediment. According to a 2006 report by San Francisco-based HealthTech, “The Future of Remote Health Services,” payers in general have not covered remote health services technologies and “...except for some demonstration projects in Medicare or occasional programs in commercial health plans, remote health services technologies have been considered a cost of doing business and part of the IT infrastructure of the health delivery system, rather than separately identifiable and reimbursable services.

“HealthTech’s Expert Panels thought that the pressure for coverage and reimbursement would continue to build, especially from employer groups and the public sector. Within five years, managed care plans will pay both the primary clinician and special-

For information on any of these teleconferences, please register on our Website www.scottsdaleinstitute.org

October 9

Palm Beach County Community Health Alliance Case Study: Technology Enabling Access to Care

- Robert Olmedo, Director of Technology, Palm Beach County Community Health Alliance, Palm Beach, Fla.

October 11

Digital Hospital

- Baldur Johnsen, HP, Palo Alto, Calif.
- Ben Wilson, Intel, Santa Clara, Calif.

October 18

Intermountain Healthcare Enterprise Data Warehouse: Outcomes Improvement through Analytics

- Steven Barlow, manager, Enterprise Data Warehouse, Intermountain Healthcare, Salt Lake City

October 24

How Hospital CIO's Can Embrace Translational Informatics

- Keith Strier, JD, principal, Deloitte Consulting LLP, San Francisco
- Mitch Morris, MD, principal, Deloitte Consulting LLP, San Francisco

October 25

Business Intelligence

- Paul Vosters, practice area leader, Health & Life Sciences, Hewlett-Packard Information Management, Palo Alto, Calif.

more events on next page

ist, as well as the costs of the telecommunications for synchronous remote health services care, which represents a new model of care. In addition, there will be growth in disease management programs using remote health services where there are potential cost savings or financial incentives to communicate in ways other than direct patient-clinician interaction. Video conferencing and patient-clinician messaging will add another dimension to disease management programs as they evolve. Patients will expect their insurance carriers to offer this service, and insurers will offer the service because of competitive pressure to do so along with the promise of cost savings.”

Center for Connected Health’s Kvedar says connected health is a compelling strategy for a provider organization to deal with this trend in healthcare. Drivers include capacity challenges that will continue to burden the healthcare system for years to come. Also, reimbursement is moving toward payment for quality and efficiency rather than units of service. Finally, employers, health plans and disease-management organizations are moving into the provider space and attempting to disintermediate provider organizations. And as Qualcomm’s Jones notes, the emergence of wireless and cellular communications has the potential to change the business model in healthcare. This is not your father’s telemedicine.



Upcoming Events continued

November 5

Texas Health Resources CPOE Case Study

- Ferdinand Velasco, MD, CMIO, Texas Health Resources, Arlington, Texas

November 8

Delaware Health Information Network (DHIN) Operations Review and Success Factors

- Gina Perez, executive director, DHIN, Dover, Del.

November 12

CalRHIO Status Update

- Karen Hunt, Chief Communications Officer, CalRHIO, San Francisco

November 13

Hackensack PI Case Study, Leveraging IT for P4P Accountability

- Regina Berman, executive director, Performance Improvement, Hackensack University Medical Center, Hackensack, N.J.
- Gerard Burns, MD, CMIO, Hackensack University Medical Center, Hackensack, N.J.

November 28

The “How To’s” of Identity Management

- Michele DeRoo, Account Manager, Laurus Technologies, Itasca, Ill.
- John McHan, Senior Project Manager, Laurus Technologies, Itasca, Ill.

For information on any of these teleconferences, please register on our Website www.scottsdaleinstitute.org

**Scottsdale Institute
Conferences 2007/09**

Spring Conference 2008

April 16-18, 2008

Camelback Inn,
Scottsdale, Ariz.

Fall Conference 2008

Hosted by Northwestern

Memorial Hospital

Sept. 25-26, 2008

Chicago

Spring Conference 2009

April 29-May 1, 2009

Camelback Inn,
Scottsdale, Ariz.

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Los Angeles, CA

Charleston Area Medical
Center, Charleston, WV

Children's Hospitals &
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CHRISTUS Health,
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St. Joseph, MO

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Intermountain Healthcare,
Salt Lake City, UT

Legacy Health System,
Portland, OR

Lifespan, Providence, RI

Memorial Health System,
Springfield, IL

Memorial Hermann
Healthcare System,
Houston, TX

Munson Healthcare,
Traverse City, MI

New York City Health
& Hospitals Corporation,
New York, NY

New York Presbyterian
Healthcare System,
New York, NY

North Memorial Health
Care, Minneapolis, MN

Northwestern Memorial
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Provena Health,
Mokena, IL

Rush University Medical
Center, Chicago, IL

Saint Luke's Health System,
Kansas City, MO

Saint Raphael Healthcare
System, New Haven, CT

Scottsdale Healthcare,
Scottsdale, AZ

Sentara Healthcare,
Norfolk, VA

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San Diego, CA

Sparrow Health,
Lansing, MI

Spectrum Health,
Grand Rapids, MI

SSM Health Care,
St. Louis, MO

SUNY Downstate,
New York, NY

Sutter Health,
Sacramento, CA

Texas Health Resources,
Arlington, TX

Trinity Health, Novi, MI

Truman Medical Center,
Kansas City, MO

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