APRIL 2010

THE NATION'S CAPITAL AND HP

In this issue:

An Evolutionary Leap in Health Care Depends on IT

Preventative care, pharmaceuticals, diagnoses, procedures, medical technology, outcomes and follow-up care. Each patient's medical experience is built upon information—whether it's patient history, accurate and archived imaging and scanning, and research drawn from clinical trials and in-the-field reporting. Every aspect of medical care is improved by ensuring the right parties have the right information when it's needed.

The simple term "Information Technology" encompasses advancements that lead to better care, more efficient data processing and myriad ways to lower health care costs. HP is developing the sort of convergent systems to create greater availability and accessibility of medical information to medical professionals, bringing the benefits to patients—while ensuring patient information is secure.

Did You Know?

An estimated $1.2 trillion is wasted annually in the U.S. healthcare system, with redundant procedures and inefficient administration cited as two of the largest reasons.

Affordability Through Improvements in Administration and Medical Processes

Even in a digital environment, administrative costs can eat up about 25 percent of every healthcare dollar spent. Reducing administrative costs is a tremendous opportunity for hospitals, medical offices and governments administering state and federal programs.

One of the most vital ways to reduce health care costs is to process claims more efficiently. HP has worked with clients to build companywide administration and finance systems to process data faster, with resulting increased satisfaction and reduced fraud. For example, HP's work with Blue Shield of California cut claims processing time by 15 percent while maintaining full Health Insurance Portability and Accountability Act (HIPAA) compliance.

HP is the nation's leading provider of Medicaid process management services, operating 22 state Medicaid programs, handling one billion claims and administering $100 billion in benefits per year. HP also manages state programs for immunization, fraud and insurance eligibility—all while pushing costs down through state-of-the-art IT systems.

HP has developed radio frequency identification (RFID) systems to provide hospitals real-time information on the dispensing of medicines, food freshness and supplies in the hospital. By keeping close track of hospital inventory, RFID helps hospitals improve patient service while reducing costs and staff time. For example, HP helped Cancer Institute Milan increase its patient safety by 99 percent in the hospital's transfusion center using an innovative RFID-based blood pack tracking system.

Reducing Errors and Redefining the Limits of Quality Health Care

According to the Institute of Medicine, as many as 98,000 people die in the U.S. each year due to medical errors. IT can dramatically improve the quality and safety of care by ensuring that the right thing is done at the right time, in the right way by the right person.

Safe care starts with patient identification. According to the College of American Pathologies, one in 12 patient ID wristbands contains erroneous data. The HP Patient ID Solution uses LaserJet technology to produce bar-coded ID wristbands to allow for instant connections with pharmacy systems to verify the patient is receiving proper medication—a simple, low-cost way to improve quality of care. Utilizing bar codes, HP reduced the error rate at Veterans Health Administration hospitals by 70 percent, effectively reducing incidents of mistakes associated with administering medication.

HP is also improving care through its Digital Hospital solution. At St. Olav's hospital in Norway, HP has built a seamless technology infrastructure that incorporates critical medical devices, intelligent information systems, facility control systems and communication tools – all of which are integrated to improve hospital operations. People, processes and technology are united into a coherent whole creating a productive, safe and secure environment for patients and staff.

At the Newfoundland and Labrador Centre for Health Information, HP is redefining the boundaries of quality health care, creating an integrated patient registry that helps the whole province maintain access to the patient's records. Not only does this benefit patients, it also provides epidemiologists the data to spot trends in illness—exactly the sort of information that can lead to broad solutions in preventative care.

Advancements in Medicine Through IT

IT is the engine expanding the boundaries of medical knowledge and treatment. The rapid increase of processing power paired with industry standard hardware can lead to improved research capabilities and the treatments of tomorrow.

continued on page 3

continued from page 2

HP is working with Partners HealthCare Center for Personalized Genetic Medicine (PCPGM) to implement an advanced computer processing and digital storage system to capture the massive amounts of data produced in genetic sequencing. In the near future, patients will be treated based on not only their medical histories, but also their genetic profiles.

M.D. Anderson Cancer Center is able to reduce the time it takes to analyze massive data sets from 20 minutes to 20 seconds, thanks to partnership with HP. The center is also developing a platform to link molecular data with clinical information, improving cancer care further.

Future of Health Care: Information Every Step of the Way

Imagine you're a patient receiving an annual exam, and you report a symptom that's out of the ordinary. The combination of your personal medical history and research built upon histories, trials and reporting can lead to a faster diagnosis, while each step of treatment—from pharmaceuticals to surgery to outpatient care—is informed by your medical data. Even your hospital stay is smoother, as IT services help staff keep track of devices, carts and tools, while IT improves the administration of your billing and insurance coverage.

Health IT has a role in making health care more affordable, improving care and spurring innovations and advancements in the field.

HP 2009 Global Citizenship Report Released

Global Citizenship has long been integral to the success of our business. It drives us to meet higher standards of integrity, contribution and accountability as we align our business goals with our impact on society and the environment. Meeting today's needs while looking forward is at the core of our citizenship practices.

On April 7, HP released its ninth Global Citizenship Report (GCR). The piece highlights our business practices worldwide, while describing the new frontiers of innovation to be brought about through IT. We're doing our part to push ourselves, exceeding our commitments in the following areas:

Education

At HP, we believe we can fuel learning and economic development by applying technology to broaden education's reach and transform its impact. Students today need the skills to use technology to find, synthesize and apply information efficiently in the classroom and in life. HP is working with communities around the nation to give students greater access to technology, making education more relevant to more people.

Technology can also make education more engaging. Joining learning with the activities they are already drawn to gives students a way to more deeply connect to academic concepts. In Medellin, Colombia, an HP Innovations in Education grant helps students at the Universidad EAFIT to take the classroom wherever they go, employing blogs, e-mail and instant messaging as collaboration tools.

We're also working to open education up to everyone. Approximately 80 percent of the world's population lives in developing countries, where schools can be few and far between, and even skilled professionals in these areas of the world are prone to leave to work in developed countries. HP and UNESCO are collaborating to allow university faculty to engage in real-time scientific collaboration from their home countries through grid and cloud computing, turning this "brain drain" into a "brain gain."

> "Based on the leading IT companies' size, expertise and intellectual property at hand, there is an explicit opportunity to drive the agenda on a variety of global business and human issues, and much of this can be achieved through robust global citizenship programs."
>
> — Gabi Zedlmayer, Vice President of HP's Office of Global Social Innovation
>
> Read more at the Huffington Post

Did You Know?

Worldwide, 71 million children of primary school age aren't in school, leaving them unprepared to get ahead in today's knowledge economy.

Energy and the Environment

Energy consumption grew by more than a third between 1990 and 2006, and it is forecast to increase another 44 percent by 2030, resulting in increased anthropogenic greenhouse gas and depleted resources.

continued on page 4

continued from page 3

HP sees this as an opportunity, using IT to give consumers, businesses and all energy users the transparency to see how power is being generated and where it can be reduced.

HP is committed to ongoing innovation that makes IT more efficient. Combining transparency and efficiency leads to transformative energy technologies.

Did You Know?

HP will reduce energy consumption and associated greenhouse gas emissions of all products 40 percent below 2005 levels by the end of 2011.

Moreover, HP advocates energy-efficient technologies and the concept of individual producer responsibility for electronic waste, an approach that makes producers responsible for recycling their own products at the end of their life. HP products run using less power, helping reduce costs across the IT industry and reducing environmental impact.

Harnessing information on the way our energy is used allows us to control it. HP believes IT can lead to a more sustainable global society.

To learn more about HP's global citizenship strategy and programs, click here.

Computing Power's Next Level: HP Memristor Linking Storage and Computation

"Moore's Law" has long predicted that the power of an integrated circuit will double every two years. HP Labs' revolutionary research on Memristor may present a new avenue for processing growth, meeting or exceeding that hardware axiom. The concept of the Memristor, or "memory resistor" was imagined 39 years ago, but HP Labs put the concept in effect in 2008.

The HP Labs team that built the world's first memristor announced another significant advance in memristor research.

HP researchers have demonstrated that memristors are capable of performing logic functions. It's further evidence that memristors have the potential to make an impact on real world computing, says Stanley Williams, director of HP's Information & Quantum Systems Lab and lead researcher on the project.

"Our research is now moving out of the lab and towards fabrication of memristor-based circuitry," Williams reports. "And as we're getting closer to the practical implementation of memristor technology, we're learning more and more about it."

If memristors can perform logic, they might one day be used to create computer processors, suggests Williams. And since those processors could be made with industry-standard materials and processes, memristors might help extend Moore's Law past the point where silicon technology runs up against insurmountable technical barriers, he says. To read the full release, click here.

Mark Brownstein of EDF participates in the panel.

HP Holds Dialog on Smart Grid Technology

As part of its IMAGINE/INNOVATE Dialog series, HP shared the stage with a utility representative and an environmentalist at an April 12th forum on smart grid technology. Smart grids reduce energy costs and help the environment by giving customers, businesses, and utility companies more information on their energy use.

"HP has been an active leader in the utilities industry for decades." "About 60 percent of the systems that are out in substations and power plants are actually running on HP gear," Roy Pratt of HP Enterprise Services told an audience that included congressional staff and other policymakers.

continued on page 5

continued from page 4

Pratt explained how HP allows all of the smart grid technologies – from advanced metering to in-home displays – to work together seamlessly in collecting and analyzing data.

Michael Butts from Baltimore Gas & Electric said the utility's pilot smart grid program reduced energy consumption by 22-37 percent during peak times. "If customers are incented to reduce their peak load, they do respond," he said.

From left: Randy Dove (HP), Roy Pratt (HP), Mike Butts (Baltimore Gas & Electric), and Mark Brownstein (EDF)

Smart grids also have tremendous environmental benefits. "By reducing people's peak demand, we're avoiding some of the oldest and dirtiest power plants on the system," said Mark Brownstein of the Environmental Defense Fund. "The power plants that provide peak power are often times the oldest in the fleet and the highest emitting when it comes to things like particulate matter and the pollutions that causes urban smog. If we can get customers to shift away from peak demand, they are not only saving money, but also helping to clean the air."

Pratt said Washington can help with a "clear, consistent, long-term strategic energy policy" to encourage innovation and new technology around energy and sustainability.

Worldwide Investment

The Graduate Entrepreneurship Training through IT (GET-IT) program seeds entrepreneurial energy and develops business and IT skills in young people and recent graduates, age 16-25. Operating in 30 countries, GET-IT comprises a network of 100 training centers in communities with low-income areas, high unemployment rates and limited access to job opportunities. To learn more, click here.