

# The state of smarter healthcare

*Smarter Industries Symposium, Barcelona, November 2010*



### **The possibility of smarter industries**

Two years ago, IBM first introduced the concept of a Smarter Planet, a world in which collaboration, systems thinking and data analytics improve the efficiency and effectiveness of the many systems that facilitate life on earth. It was a bold idea, but one that resonated within the business and government communities because it is rooted in a deep understanding of what's possible with today's technologies and capabilities. For this reason, our clients and business partners immediately embraced and echoed the concept.

Two years later, IBM has collaborated with more than 600 different organizations worldwide that are each doing their part in making this vision a reality. In November 2010, we brought many of these world leaders in government and

business to Barcelona to share their stories of a Smarter Planet. We called the event Smarter Industries Symposium because while the notion of a Smarter Planet may be global in scope, the work of building it happens industry by industry, company by company, government by government, and process by process.

Representatives from ten different industries attended the event, including banking, communications, energy and utilities, healthcare, government, insurance, oil and gas, retail, transportation and electronics. And though each of these industries faces unique circumstances in today's economic environment, the most advanced organizations in each field share a common outlook. They are the organizations that have stopped seeing change as a threat and started seeing it as an opportunity. They have changed the conversation from one about problems to one about possibilities.



**IBM** Smarter Industries Symposium

**Smarter Industries. Smarter Business.**

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“We are climbing out of a global downturn in an environment of accelerating complexity and uncertainty, with an explosion of data all around us,” said Frank Kern, Senior Vice President and Managing Partner at IBM Global Business Services. “Yet the question on the mind of global business leaders is shifting from ‘What’s my biggest problem?’ to ‘What’s my greatest opportunity? What are my prospects? What’s available to my enterprise now that wasn’t before?’”

#### **Analytics, ROI and the customer**

During the course of the Symposium, attendees saw many examples of how organizations are answering those questions with action. In particular, they saw the power of data and analytics in making smarter industries a reality. “Analytics: The New Path to Value,” a study jointly conducted by IBM and the *MIT Sloan Management Review*, found organizations that utilize analytics outperform those that are just beginning to adopt analytics by a factor of three.<sup>1</sup> They use them to understand historical trends, to model current conditions and to predict the return on investment of different courses of action.

And though the approaches to analytics vary, every organization shared a remarkably consistent design point: the customer. From Fundacio TicSalut, an institution of the regional healthcare administrator in Spain that has built a shared electronic medical records system to improve health services for its citizens, to Best Buy, the electronics retailer that is listening to its customers across multiple channels and engaging them over social networks, smarter industries are being built around serving the needs of the customer.

“Our customers are asking us to know them, empower them, offer them and support them,” said John Thompson, Senior Vice President and General Manager at BestBuy.com. “We’re inclined to listen to them.”

#### **A path to possibilities**

Having the design point of the customer is important because without it, all the innovation in the world has no purpose. John Kao, Chairman of the World Economic Forum’s Global Advisory Council on Innovation, explained it to symposium attendees like this: “Creativity and innovation are not the same thing. Creativity is the ability to generate new ideas. But innovation requires a goal to move forward.”

Kao advocates having a plan, or a system, when pursuing any innovation. And smarter industries are no different – which is why IBM has produced more than 30 industry-specific progression paths that identify key transformation milestones, outline the return and benefits of each step, and simplify the journey to getting smarter. The progression paths address specific aspects of various industries, from building a collaborative care model in healthcare to meeting regulatory requirements for municipal water systems.

Not surprisingly, some consistent patterns emerge at each stage of transformation, which Ginni Rometty, Senior Vice President and Group Executive for Sales, Marketing and Strategy at IBM, noted to attendees of the symposium:

- 1. Instrument to manage** – The collection of data to measure, monitor and understand a system
- 2. Integrate to innovate** – The analysis of that data to see patterns and identify opportunity
- 3. Optimize to transform** – The action of reaching system-specific goals and redefining what’s possible.

Throughout this report, you will read about what was shared at the Smarter Industries Symposium and the stories of how many organizations in your industry are applying this progression path. It’s a path that is helping improve the efficiency and operations of hundreds of IBM clients and business partners around the world. It is a path to possibility. And it’s a path to a Smarter Planet, one industry at a time.



### **The state of smarter healthcare: Seeing the system**

When a critical system becomes a victim of its own complexity, when its constituent parts operate in isolation or when the entire apparatus is

entangled and inefficient, change can be slow to come. And so it is with healthcare, one of the most complex systems on earth, where progress is often measured one electronic health record at a time.

But at the IBM Smarter Industries Symposium, the healthcare industry signaled an important shift in thinking – one that could lead to an acceleration of progress. Among participants in the healthcare track – which included senior hospital administrators, government officials, pharmaceutical company executives, venture capitalists and more – there was unanimous agreement that the healthcare industry is beginning to recognize itself as one globally connected system. The silos are coming down. And constituents are making decisions that not only improve their immediate operations, but also lay the foundations for a broader, integrated system to emerge.

Driving this system awareness is an increasing clarity of purpose among members of the healthcare community. There is agreement across the spectrum of healthcare on a common system design point for smarter healthcare: the patient. “The whole system is moving toward a single goal,” said Luca Finelli,

Head of Strategy and Communications, Novartis Pharma AG Global Development, the Swiss pharmaceutical company. “And that is better outcomes.”

### **The building blocks**

If the patient is the heart of the system, electronic medical records are its bedrock (see Figure 1). Throughout the three-day conference, one smarter healthcare success story after another began with these basic necessities. Electronic health records can reduce redundant testing and help avoid medical mistakes. And they enable everything from e-prescribing to health informatics. But they are not easy to do.

At the symposium, Sue Hyatt, President and CEO of HYATTDIO Inc., a healthcare strategy consultancy, shared her stories from working with Canada Health Infoway, a national effort to have electronic health records for all Canadians by 2016. Started in 2001, Infoway is an independent, publicly-funded not-for-profit organization that works with ten provinces and three territory governments that oversee a system of 36,000 general practitioners, more than 600 hospitals and 4,700 long-term care facilities, all operating in two different languages.<sup>2</sup>

“It was a complex challenge,” said the understated Hyatt. Infoway has approved investing C\$1.6 billion in nearly 300 electronic health record initiatives throughout the country, all pegged to common standards and a common plan for interoperability. It is a system that is expected to deliver as much as C\$7 billion in annual benefits to the country.<sup>3</sup> And the key to it, according to Hyatt, is collaboration between the public and private sectors.

“In national initiatives like this, you need to bring industry in early and often,” says Hyatt. “Government needs to loosen up the procurement rules, and industry needs to stop selling, and do what it does best: innovate.”

### The return

When the hard work of establishing electronic medical records is done right, the results can be transformational. For example, Servicio Extremeño de Salud (SES) delivers public healthcare

services to the Extremadura region of Spain. It administers 14 hospitals, 104 primary care facilities, 394 local surgery units, and dozens of dental, mental health, drug addiction and rehabilitation units. Six years ago, each facility had its own patient records system, significantly slowing the quality and speed with which the system could deliver care. Duplicate tests were the norm. Doctors were burdened with time-consuming paperwork. And patients experienced uncoordinated services and long wait times.<sup>4</sup>

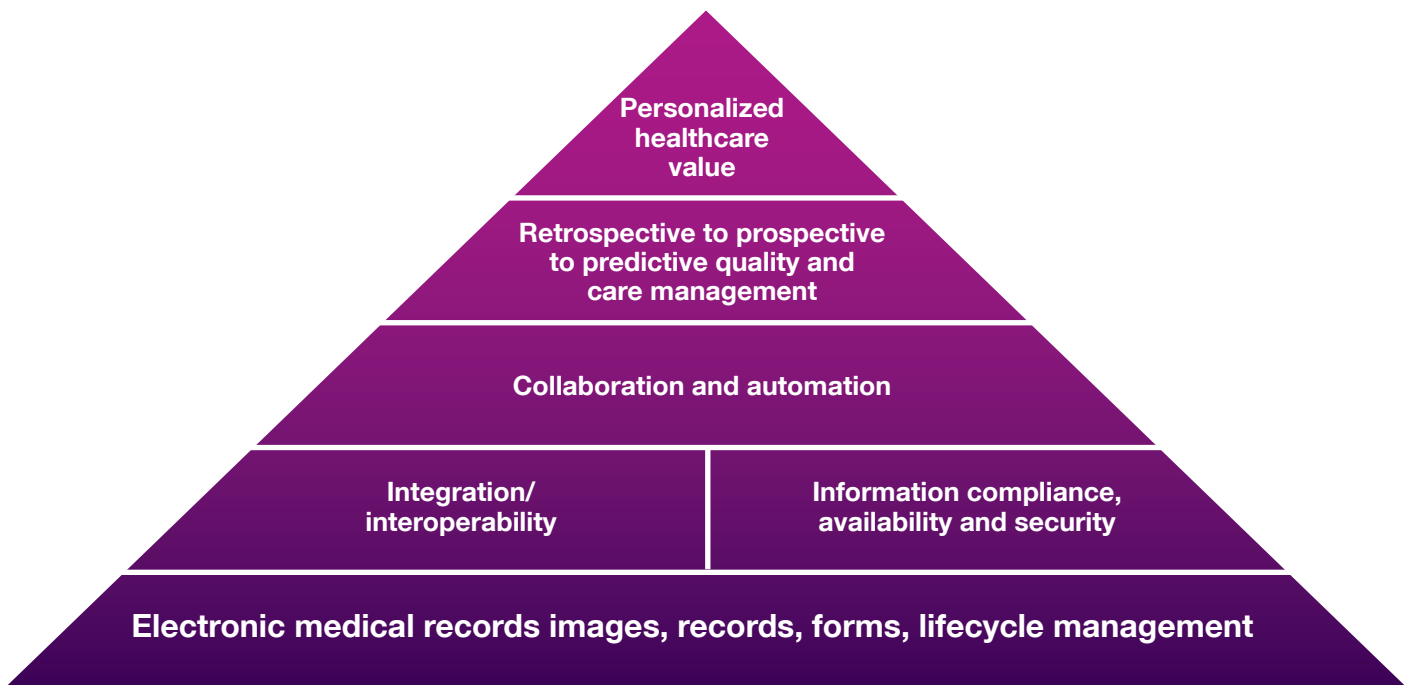


Figure 1: Smarter healthcare – A system of common purpose.

To resolve these issues, SES developed an integrated healthcare system that digitized patient records and consolidated the medical and administrative data for the entire region in a central repository. Now, when patients visit any health center in the region, their caregiver has instant access to their complete records. The benefits to SES are reduced costs and more administrative efficiency. The benefits to patients are shorter wait times, fewer prescription errors through e-prescribing, a reduction in duplicate tests, and a pathway to more personal and collaborative care.<sup>5</sup>

“We used the IT system as leverage to transform the entire healthcare system,” said Santiago Thovar, CIO of Servicio Extremeno de Salud, during a panel discussion at the symposium. “These systems help us deliver transparent, specialized care.”

### **The possible**

Discussions at the symposium moved organically up the pyramid of smarter healthcare, from the hard work of building electronic health record systems, to the efficiencies of integrated information systems and e-prescribing, to the benefits of cross-regional collaboration. But at the top of the mountain are the deep, powerful possibilities of analytics and truly personalized healthcare.

In one panel discussion, attendees got a glimpse of this future through the work of the Rizzoli Orthopedic Institute in Bologna, Italy, and Rice University in Houston, Texas. Rizzoli researchers are building a BioMedical Imaging Management Solution (BioMIMS) to integrate image, phenotype, and genomic data to research, identify and treat rare genetic skeletal diseases. The system is designed to include family histories, collect and classify research, and leverage advanced pedigree analytics. These analyses will allow for an unprecedented level of personalized treatment, taking into account clinical and genomic data from parents, aunts, uncles and other close relatives.<sup>6</sup>

“We are the hub of a spoke network, collecting and integrating data from other genetic labs, and analyzing it against all genetic factors,” explained Dr. Marina Mordenti, Senior Investigator of the Medical Genetics Unit at Rizzoli. “We work to deeply analyze each patient in a patient-centric approach.”

At Rice, researchers are collaborating within the Texas Medical Center system to use supercomputers to study cancer, AIDS and other complex diseases. They are doing genomic sequencing, protein folding, drug modeling and simulations of molecular-level interactions in tissues, in the hopes of tailoring specific treatments to specific diseases.<sup>7</sup> “This is the process of taking foundational research and translating it into practice,” said Dr. George McLendon, Provost at Rice University. “This is about going from the lab to the bedside.”

There are challenges to be sure. Attendees had long discussions on the difficulties of establishing standards across regions. And there were many pleas for leadership, both in driving those standards and maintaining the momentum toward healthcare transformation. That’s something IBM can help with. By conducting a business value assessment, we can determine an organization’s readiness for change, calculate the likely return on investment and create a blueprint for action that follows the progression path delineated above.

In the end, attendees saw the possibilities of a truly integrated, global, smarter healthcare system. And in the long, hard push toward healthcare transformation, that constitutes real, measurable progress.

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