



Diagnosis for a smarter planet.

The problems with our healthcare system are well known and well documented—and endlessly debated. What’s not so apparent is that many of them arise because our healthcare system isn’t, in fact, a system.

Rising costs, limited access, high error rates, lack of coverage, poor response to chronic disease and the lengthy development cycle for new medicines—most of these could be improved if we could link diagnosis to drug discovery to healthcare providers to insurers to employers to patients and communities. Today, these components, processes and participants that comprise the vast healthcare system aren’t connected. Duplication and handoffs are rampant. Deep wells of lifesaving information are inaccessible.

A smarter healthcare system starts with better connections, better data, and faster and more detailed analysis. It means integrating our data and centering it on the patient, so each person “owns” his or her information and has access to a networked team of collaborative care. It means moving away from paper records, in order to reduce medical errors and improve efficiencies. And it means applying advanced analytics to vast amounts of data, to improve outcomes.

Smarter healthcare is *instrumented*, so our health systems can automatically capture accurate, real-time information. IBM’s joint initiative with Google Health™ and the Continua Health Alliance enables individuals and families to store and track their health information and stream data from medical devices. Implanet, a French orthopedics manufacturer, is using RFID technology to track surgical implants from manufacture until they’re inside patients.

Smarter healthcare is *interconnected*, so doctors, patients and insurers can all share information seamlessly and efficiently. Sainte-Justine, a

research hospital in Quebec, is automating the gathering, managing and updating of critical research data, which is often spread across different departments. Then they’re applying analytics to speed childhood cancer research and improve patient care—while drastically lowering the cost of data acquisition and enhancing data quality. Servicio Extremeño de Salud, a public healthcare service in Spain, has built a regionally integrated system that lets patients go to many health centers within the region, knowing a doctor there can have the patients’ complete, up-to-date records for faster and more accurate treatment.

Smarter healthcare is *intelligent*, applying advanced analytics to improve research, diagnosis and treatment. Geisinger Health Systems is integrating clinical, financial, operational, claims, genomic and other information into an integrated environment of medical intelligence that helps doctors deliver more personalized care. This enables them to make smarter decisions and deliver higher-quality care, all because they can easily turn information into actionable knowledge. And IBM is helping some of the world’s top universities develop a global network of medical data, giving doctors diagnostic resources that were once unimaginable. These repositories currently hold millions of digital images.

Smarter healthcare systems like these hold promise beyond their particular communities, patients and diseases. The smart ideas from one can be replicated across an increasingly efficient, interconnected and intelligent system. This should result in lower costs, better-quality care and healthier people and communities. In other words, we’ll have a true healthcare system, with the focus where it belongs—on the patient.

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