



Fact Sheet: Doctors Will Get Enhanced “Super-Senses” to Better Diagnose and Treat You

In the next five years, your visit to the doctor’s office will be completely different, allowing them to see, hear and understand your medical records in entirely new ways, using technology to beef up their own visual, audio and cognitive abilities by organizing patient records in an entirely new way.

All of your medical history: past visits, blood tests, medicines prescribed, MRIs, x-Rays, and more will be organized in the same way a doctor interacts with you – by looking at the human body. An avatar -- a 3D representation of the human body – will allow doctors to visualize your medical records in an entirely new way, so they can click with the computer mouse on a particular part of the avatar "body" to trigger a search of medical records to retrieve relevant information, instead of leafing through pages of notes.

For example, when a patient visit a doctor’s office today and complains of chest pain, the doctor will ask the patient about any history the patient can recall, do tests and visually and physically examine the patient. After that, the doctor will usually sort through stacks of paper records but will most likely not have access to the full patient history and similar complaints. Doctor’s can “click” a specific part on the 3-D avatar of the human body – in this case the heart – and instantly see all the available medical history and information related to that patient’s heart, including text entries, lab results and medical images such as radiographs, EKGs or MRIs. Or the doctor might be interested only in information related to a particular part of the heart; in this case, the practitioner can zoom in, narrowing the search parameters by time or other factors.

Going even deeper, they can then access 3-D visualizations and audio clues of the heart and immerse themselves in the data in a very visual way – at a scale and resolution beyond anything they can view today – to better understand your personal situation and ailments. The computer will automatically compare those visual and audio clues to thousands or hundreds of thousands of other patient records, and be much more precise in diagnosing and treating you, based on people with similar issues and makeup. For example, your cardiologist can identify specific symptoms based on analysis of the audio and video of your heart beat from an echocardiogram and find patterns they could never find on their own by analyzing thousands of other records to find treatments that are the most successful based on your situation.

The explosion of medical information available to your doctor and emerging visualization technologies that were once the sole domain of supercomputing geeks, will transform how doctor’s diagnose and treat you right in their office.

In effect, doctor’s will gain superpowers: Technologies to allow them to gain x-ray like vision to view medical images, super sensitive hearing to find tiniest audio clue in your heart beat, and ways to organize information in the same way they treat a patient, by using the human body as a metaphor for a filing cabinet. While technology can never replace your doctor’s experience and education, it is poised to aid them in ways to more quickly know what ails you and be able treat you in more specific ways. This means acceleration in medicine as we know it, and benefits that we can only begin to imagine.