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By Damian Mingle

Are you relevant in healthcare's brave new world?

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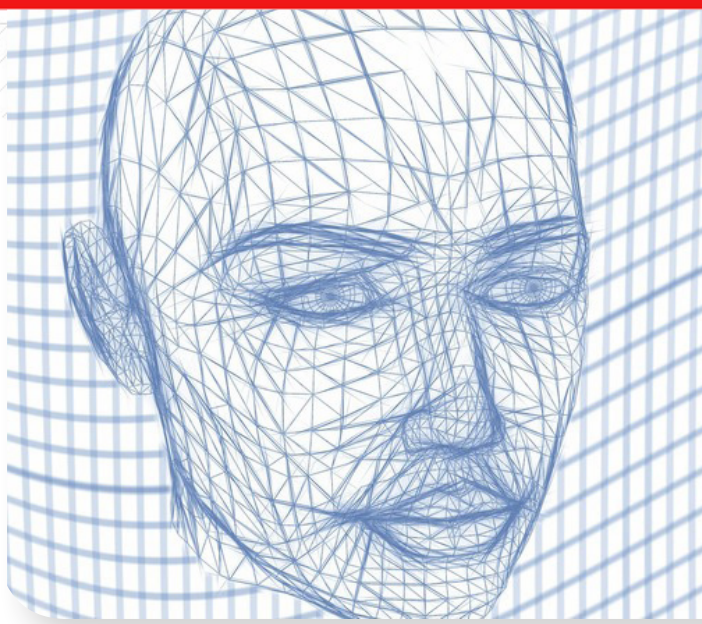

Imagine a computing platform that can read a healthcare organization's email, Word documents, PDFs, EHR, and text files at marvelous rates of speed, all in an effort to combine its own unique learning into a knowledgebase without any help from you, the healthcare professional. When you are ready, you can ask questions of it to help develop a working theory on facts, associations, or entities extracted from your enterprise data.

This is interesting on many levels, but what could such power mean for healthcare providers in the brave new world of data science?

Don't panic—at least not yet!

The approach that many organizations are taking in the race to Big Data and beyond will certainly impact the level of panic. In my efforts to answer healthcare's most challenging questions, I use machine-learning algorithms to help healthcare providers and health plans across the United States generate better outcomes clinically, financially, and operationally. However, there are ethical issues to consider as we leverage machines within healthcare. In my judgment, creating pure, undirected "artificial intelligence" is not as desirable as creating "beneficial intelligence" designed to support the work of healthcare professionals.

Recently, Hospital Corporation of America (HCA) made a strategic investment in Digital Reasoning to formalize their efforts to improve patient outcomes and reduce cost of care. In broad terms, Digital Reasoning has a corporate mission of using cognitive computing to create a better world. What is meant by "cognitive computing" and how will it make the world "better"?

Generally speaking, cognitive computing involves self-learning systems that use data mining, pattern recognition, and natural language processing to mimic the workings of the human brain. The goal of cognitive computing is to create automated IT systems that are capable of solving problems without requiring the need for human assistance.

It is the last part of that statement that may have executives, clinicians, and coders anxious—and for good reason. After all, no one likes the idea of being replaced by a machine. Many healthcare professionals are certainly right to be guarded when vendors claim that data has great potential to create a more personal, automated, value-focused, and productive healthcare system and potentially reduce head count.

HCA has amassed a tremendous amount of patient data since its founding in 1968, so it's easy to see why they are interested in exploring how machine-based intellectual capabilities could impact their business.

The healthcare problems that HCA is attempting to solve are absolutely important; however, there are differences in the approach to these problems that involve the addition or deletion of human value. Most healthcare professionals would agree they are already committed to improving outcomes and reducing cost, and the last thing they want is to be marginalized by expensive technology platforms. For this reason, healthcare organizations should carefully measure the real long-term value created by such strategic initiatives.

Both artificial and beneficial intelligence have the capacity to improve patient outcomes and reduce cost. For those who are new to data science, "beneficial intelligence" is the marriage of data science and human expertise to produce results that neither can do separately.

Consider the individuals who worked with the Foldit online game. Together humans and machine were able to discover the structure of the virus that causes AIDS in only three weeks—a feat that neither people nor computers could have accomplished on their own.

In the end, striving to bring together the complementary talents of professionals in both big and small healthcare organizations with smart computing systems is the true standard of achievement. In other words, findings ways to make artificial intelligence beneficial to address both business goals and human beings simultaneously is a better path forward.