AI will change the face of patient care

There is no doubt that artificial intelligence (AI) and machine learning will change the way healthcare is managed and delivered, particularly in helping patients in tangible and life-saving ways.

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A recent Price Waterhouse Coopers (PwC) report found that the potential for both AI and robotics in healthcare is vast and that they are increasingly becoming immersed in the modern healthcare system. They allow for more seamless treatments, better decision making for doctor and patient alike, more effective diagnoses and even early detection of diseases.

Dispensing medication

"A superb example of how AI is changing the face of healthcare on the ground level is in the prescription of medication," says Murray Izzett, business intelligence manager at MSH. "If a doctor is prescribing medication for a patient already on chronic medication from someone else, they run the risk of contraindications or interactions. With AI, the data is already on file so the doctor can check if the drugs interact and be alerted to any potential issues. The system can also provide them with alternatives so they can assist their patients with the right medications."

When working with specific regimens that are tailored to tackle certain diseases or patient outcomes, AI can be used to inform the development of a regimen very effectively. In addition to showing the relationship between drugs, to ensure there are no issues; it can provide insights into the overall effectiveness of the regimen as a whole. This is also where machine learning can play a pivotal role.

"Machine learning is all about probability. It can be used to determine the best treatment plan for patients of a certain age, certain morbidity conditions and which of the available regimens funded by the scheme give the better outcomes. And all this is all based on probability. In addition, in a machine learning environment, patient outcomes would be recorded and these would feedback into the knowledge base that refines its recommendations even further," he says.

The blend of AI and machine learning can highlight treatment plans that have been scientifically shown to work the most effectively and support medical practitioner decision making. Doctors aren't expected to be all knowing, all the time, and can use the technology to gain the information they need around regimes, drug interactions and more. As medical care and medication are a vast subject this refines patient care significantly while ensuring they are on the best possible treatment for their illness.

Reducing fraud

Another benefit to the patient is the fact that these systems are already in use by medical aid companies to reduce fraud. Often fake prescriptions and appointments are registered using their medical aid details without patient consent. AI and machine learning systems are capable of detecting fraudulent behaviour at extraordinary levels and are not only minimising the impact on consumers, but on their costs.

These applications of AI and machine learning are already in play across the world and South Africa. Although they don't have the glamour of robot surgeons, they do make patient care and experiences significantly better.

"It's also worth mentioning the variety of applications that have been developed to enhance patient care when they are on a very tight and controlled drug regime. These apps ensure patients remember to take their drugs on time and alert practitioners if the patient isn't following the plans. They can then get in touch, ensure the patient is alright and encourage them to remain on track," Izzett says.