



## How Generative AI Will Change The Jobs Of Doctors And Healthcare Professionals

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The roles of professionals in society are shifting thanks to the development of truly useful and powerful generative artificial intelligence. Every industry will be impacted, but we have already seen that healthcare, with its heavy use of data and technology, will be disrupted more than most.

Generative AI has the potential to revolutionize the way we treat disease, develop new medicines and personalize treatments to fit individual patients. It will also fundamentally change both the day-to-day working lives of doctors, nurses and other clinical health professionals and even the way they are seen by society. As a result, they will find they are more reliant than ever on the human qualities like compassion, communication and the instinct that many who fill these jobs have for providing care.

So here's my overview of some of the most dramatic and meaningful transformations we can expect to see in the near future, as well as some of the practical and ethical challenges that will have to be overcome.

### **AI As A Diagnostic Assistant**

Generative AI helps with diagnosing conditions by interpreting data and providing clear, in-depth insights into what is known about the patient. It can be used to examine hundreds of x-ray, MRI and CT scans and quickly give a statistical summary of its findings. This will lead to more accurate, data-driven diagnosis of many common or not-so-common conditions.

This communication can then be fine-tuned depending on the role of the healthcare professional who is using it, whether they are a doctor, nurse, consultant, or specialist. Communicating only the insights relevant to them means there will be less noise between the professional and the specific information they need.

The World Economic Forum has also **predicted** that generative AI will lead to improved outcomes as it becomes able to efficiently extract data from the many disparate and siloed sources that have traditionally existed across healthcare.

It will also increasingly be used to create **synthetic data**. This is particularly useful for situations where there is limited training data, such as with rare conditions and diseases. It can also reduce the security and data protection workload that healthcare professionals have to take on board when they work with personal data provided by real patients. Synthetic data can also be used to simulate healthcare scenarios like pandemics or the emergence of antibiotic-resistant organisms that could cause a global healthcare crisis.

### **Automating Routine and Administrative Tasks**

It will become increasingly common for medical professionals to use generative AI to automate many of the repetitive and routine administrative tasks they carry out every day. This will free up their time to focus on directly providing care, as well as continuing their training and learning.

From managing and updating patient records to scheduling appointments, healthcare professionals engage in many time-consuming tasks that can be streamlined or even entirely taken over by AI. According to [one study](#), doctors spend half of their working day on tasks involving maintaining electronic health records (EHRs).

Generative AI can drive more efficient EHR management by intelligently organizing doctors' notes, test results and medical imaging. It can then provide quick summaries of individual patients, highlighting aspects of their health that are a concern, and generating reports for other professionals. Automating many of these tasks is likely to also have the effect of reducing errors that could impact quality of care and patient outcomes.

### **Generative AI in Drug Discovery**

The same capabilities that allow generative AI to create text and writing can also be used to develop new candidate medicines and vaccines for clinical trials. This means that researchers can speed up the lengthy process of shortlisting potential candidates.

Last year, Oxford-based biotech firm Etcembly produced the [first immunotherapy drug](#) created with the help of generative AI.

The process promises to speed up the transition of potentially lifesaving new treatments from lab to patient, ultimately leading to better patient outcomes. This indicates that just like doctors and nurses, healthcare researchers and scientists will also have powerful generative AI tools to enable them to work more quickly and efficiently.

### **Ethical Consideration – The Human Touch**

Clearly, however, integrating generative AI into healthcare in this way creates a long list of ethical challenges that can't be ignored. This is because most use cases revolve around the use of personal data. This means that safeguarding against data leaks, losses and breaches is of paramount importance.

It's also essential that AI algorithms make decisions that are transparent and explainable – this will be crucial for building the public trust that will need to be placed in these systems in order for their potential to be realized.

The damage that can be caused by bias in data are also more pronounced than in nearly any other field. It's been shown that generative AI models can amplify bias present in training data. We know that women and people from minority ethnic backgrounds are more frequently diagnosed due to their under-representation in medical studies, and this issue could scale as AI becomes more widely used.

Data, models and outcomes must all be continually monitored and updated in order to mitigate these biases, which could otherwise further perpetuate inequalities.

Like many other professionals, those in healthcare will find themselves required to learn the skillset of the AI ethicist. This means developing the capability to evaluate potential use cases in order to determine whether applying AI is likely to cause damage, risk or danger, and ensuring adequate guardrails are in place at all times.

### **The Future Of Doctors and Healthcare Workers?**

Doctors, nurses and other clinical healthcare professionals are probably more insulated than many from the risks of being replaced by AI. Their jobs require them to function at an advanced level across many human skills that machines will not replicate any time soon. Intuition and experience all play a role, and that isn't going to change.

AI does, however, offer the opportunity for these professionals to redefine the way they work and even their role in wider society. Shifting to models of work that allow them to spend more time with patients will also mean more time to continue their ongoing education and develop their own medical expertise.

This is likely to lead to new specializations as the need grows for clinical staff focused on AI-enhanced diagnoses, data-driven medicine, and ethical AI, as well as helping patients navigate the range of new AI-assisted treatment options that will become available.

With AI handling routine analysis, record keeping and interpretation of scans, imaging and other data, doctors and nurses will spend more time getting to the bottom of more complex and nuanced patient issues.

Ultimately, the essence of providing healthcare will continue to revolve around empathy, compassion, and the human touch. Generative AI creates the opportunity to augment

these qualities in ways that will make professionals in this field even more essential to society. Those that are able to embrace this paradigm shift will find they are able to use their skills and training to cure sickness and improve patient lives in ever more rewarding ways.

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### **About Bernard Marr**

Bernard Marr is a world-renowned futurist, influencer and thought leader in the fields of business and technology, with a passion for using technology for the good of humanity. He is a **best-selling author of over 20 books**, writes a regular column for Forbes and advises and coaches many of the world's best-known organisations.

He has a combined following of 4 million people across his social media channels and newsletters and was ranked by LinkedIn as one of the top 5 business influencers in the world. Bernard's latest book is '**Generative AI in Practice**'.