

# How technology is transforming healthcare

Artificial intelligence and data are revolutionizing healthcare technology, turning insights into action for clinicians and patients.

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The power of healthcare technology to enhance and improve lives is indisputable. With cutting-edge developments like artificial intelligence (AI), we have an extraordinary opportunity to enhance the diagnosis and treatment of complex and challenging conditions. And there are still so many ways this technology can be applied. In fact, we are on the cusp of a fundamental shift – AI used to support healthcare; now it's transforming it. And when technology is seamlessly integrated into healthcare systems, this transformation can bring life-changing benefits to patients and clinicians alike.

# The evolution of AI in healthcare technology

Here's a way of thinking about the way AI is being integrated in our everyday lives: We never used to have backup cameras in our vehicles, but they make driving more convenient and safer. The next generation of drivers may never even know how to use their mirrors – but they are very comfortable with cameras. It's an integral part of their driving experience.

Similarly, when it comes to healthcare, people want a positive experience and the best possible outcome. AI helps get us closer, by enabling more predictive – and thus more preventive – care.

The detection of colon cancer is a good example – it's the second deadliest cancer worldwide, but it's highly treatable if detected early. Our intelligent

endoscopy  
module  
scans



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This AI-powered system detects the potentially undetected, demonstrating the capacity for AI to impact patients' lives and assist clinicians in their essential work.

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thousands of images during a colonoscopy to alert physicians of hard-to-spot, potentially precancerous lesions that may not be visible to the naked eye and in a much timelier manner.

AI can also be a powerful tool in the assessment and treatment of comorbidities, such as diabetes and high blood pressure. By collecting and learning from a massive amount of patient data, AI can help form patterns and thus inform earlier diagnosis and impact a person's condition and quality of life.

Technology clearly plays a critical role in today's healthcare systems; it also makes a significant difference in improving patient outcomes and experiences. Our role is to work closely with clinicians to understand their needs and how best to enable them.

By offering solutions that enhance their ability to deliver care, we can push the boundaries of what's possible today.

## From impact to transformation

Healthcare technology's benefits continue to accelerate at an incredible pace. In training and education, for example, it can give surgeons real-time data about their own procedures – but also thousands of other surgeons' procedures. AI helps bring experts together, creating a bank of annotated surgical videos uploaded to the cloud so they can learn from one another, which could help reduce variability in procedures and improve patient outcomes.

Minimally invasive procedures are already being transformed by robotic-assisted surgery (RAS), which can enhance the eyes and hands of surgeons for accuracy, predictability, and dexterity – wherever they are in the world.

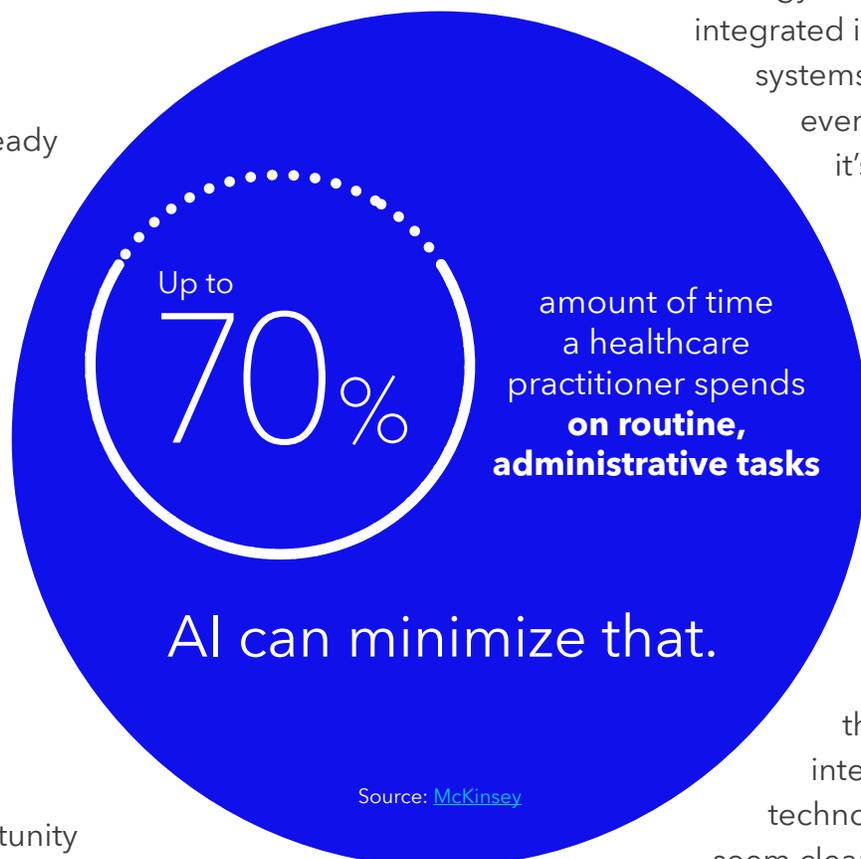
And there's a tremendous opportunity to increase the reach of remote virtual training. Technology can truly democratize training around the world, including in underserved markets – which

is both a vital need and a powerful way for us to fulfill the [Medtronic Mission](#). When AI is used to connect information seamlessly across siloes via a robust digital ecosystem, clinicians can personalize care so that hyper-individualized diagnosis and treatment are the standard. This next level of personalization is the future of healthcare technology. This is the transformation.

## How patients and clinicians embrace change

As technology like AI becomes more integrated into healthcare systems and people's everyday lives, it's become an indispensable part of the clinical workflow – and that means physicians and patients alike are learning to embrace the changes.

For clinicians, the benefits of integrating healthcare technology into their work seem clear. At its best, it can free them up so more time is spent where they are needed most – with patients, delivering care – and nonclinical tasks,



such as administrative work, are automated. Integrated technology can help reduce stress and burnout, improve consistency and accuracy, and create efficiencies.

For patients, healthcare technology can deliver earlier diagnosis and treatment. Although healthcare technology may seem intimidating, it's essential that we help physicians demonstrate how it can be used effectively and ethically to deliver better outcomes and help alleviate the fear of the unknown.

## When insights lead to action, the world can change

Healthcare technology like AI and RAS can shape the future of care – not just tech for the sake of tech, but as a means to improve experiences and outcomes for clinicians and patients, whoever they are and wherever they live. This shift can demonstrate the extraordinary power of healthcare technology to alleviate pain, restore health, and extend life.

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UC202305234EN ©2022 Medtronic.  
L001-08292022  
Printed in USA. 09/2022  
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