

Advances in health and medicine

Rapid advances are being made in diagnostics and therapies for some medical conditions. These could significantly improve longevity, mobility or quality of life. However, more people are losing trust in traditional health providers and methods. Equity of access to existing and medicines, devices, & treatments remains a significant challenge.

What we're seeing

A turning point in cancer

Recently, significant advances in cancer diagnoses and treatments have been made. This is due to new therapies as well as better targeting of therapies based on genetic information. The developments are bringing individualised medicine closer.¹ Methods to get drugs to the right places are also a factor.²

Advances in heart care and dementia prevention too

Heart surgery is becoming less invasive, new implants are reducing irregular heartbeats, and diagnostics are also improving.³ While there is progress on Alzheimer's disease, effective treatments have not yet been developed.⁴ But lifestyle interventions can prevent cognitive decline in older people.⁵

Surgery, devices, & therapies are improving mobility

Many hip and knee surgery operations or replacements can now be performed without a hospital stay.⁶

Exoskeletons are also being used to improve mobility for some. Their cost can be very high currently, but that is likely to fall.⁷ There is also hope that injectable treatments to repair spinal cord injuries may also prove successful in people.⁸

Artificial Intelligence enters healthcare, slowly

Expectations are high that artificial intelligence will transform many aspects of medicine.⁹ Adoption is still in the early stages. After early hype IBM's Watson Health system failed to deliver.¹⁰ However, other more specific clinical applications are being assessed. Such algorithms still need an effective audit system before clinical use.¹¹

Precision medicine

Genomics & other fields, combined with data analytics, are helping make some diagnoses & treatments more personal. But there is still a long way to go before, or whether, it becomes standard for everyone and every condition.¹²

Other trends

Robots are becoming increasingly common in operating theatres, as well as nursing home.¹³ Social prescriptions, where doctors prescribe cultural and recreational activities are becoming more common, recognising the broader factors affecting wellbeing.¹⁴ However, there is also a rise in distrust of traditional health services. Digital technologies help find alternatives, and/or social media can fuel distrust.¹⁵

Inequities persist despite medical advances

Ensuring equity of access and treatment remains a critical issue for healthcare, which new drugs & technologies often don't address. Health funding, and retention of skilled staff, are coming under increasing pressure. Establishment of Te Mana Hauora Māori is a start to recognising that health systems & services need to change, as well as treatments.¹⁶

Potential implications

Create

- Longer and more active lives

Relate

- Medical treatments that take greater account of lifestyle and other wellbeing factors

Consume

- Changing ways to access and receive health advice and care

Degrade

- Affordability of, and access to, health services may become harder for some if health systems don't change

Connect

- More effort to retain the human element of healthcare in the face of increasing automation

Define

- Quality of life beyond just physical health

More information (links)

¹ [A turning point in cancer](#)

² [Cancer research: What's exciting the experts?](#)

³ [Medical advances making a difference in heart care](#)

⁴ [Alzheimer's treatments: What's on the horizon?](#)

⁵ [The ground-breaking FINGER trial](#)

⁶ [Breakthroughs in hip and knee replacement surgery](#)

⁷ [Exoskeleton is improving mobility for injured patients](#)

⁸ ['Dancing molecules' successfully repair severe spinal cord injuries](#)

⁹ [Will A.I. make medicine more human?](#)

¹⁰ [How IBM's Watson went from the future of health care to sold off for parts](#)

¹¹ [The medical algorithmic audit](#)

¹² [Medicine is getting to grips with individuality](#)

¹³ [The Future of Robots in Medicine](#)

¹⁴ [2022 key trends in healthcare](#)

¹⁵ [Emerging trends in health care](#)

¹⁶ [Māori Health Authority / Te Mana Hauora Māori](#)