



Coronavirus reveals the need for a healthcare transformation

Academy report recommends rapid transition of medical sector to meet future challenges

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Australia's healthcare system must quickly incorporate technologies including remote consulting, wearable monitors and full digitisation if it is to meet the challenges of the coming decade, an investigation by the Australian Academy of Technology and Engineering (ATSE) has found.

Smart devices that check temperature and oxygen levels, health appointments via Skype, e-health records that tell hospitals which antibiotics patients are allergic to, digital disease surveillance, and modelling that pinpoints regions showing signs of outbreaks – these are new health technologies that are desperately needed as the world responds to the coronavirus pandemic.

ATSE's investigation found that such innovations could transform health delivery.

"Even before the coronavirus pandemic, our year-long examination of the health system identified the changes needed to meet rising demands, particularly in regard to chronic and age-related diseases," said ATSE President, Professor Hugh Bradlow FTSE.

The investigation, [*A New Prescription: preparing for a healthcare transformation*](#), is published today. It includes four recommendations to help policymakers, businesses and researchers implement necessary changes, including:

- switching to electronic health records as soon as possible;
- using telehealth and mobile technology to improve access;
- supporting and empowering healthcare workers to retrain, adapt and develop skills to use new digital technologies; and
- targeted government support for translating medical research and preparing it to get where it's needed – to patients.

Professor Bradlow says the response to coronavirus could have been different if the disease had emerged after all four recommendations had been fully implemented.

"In a fully digitised healthcare system, governments and the medical community would have been able to identify and monitor cases in real time, using advanced data analysis to identify disease outbreaks by looking for spikes in the reporting of symptoms," he said.

"This data could be used to predict pandemic risk, target quarantining measures, and allocate medical resources for diagnosis and treatment where they're most needed.

"Using telehealth, at-risk people could be diagnosed and supported without having to leave their homes. This would also reduce the risk of exposure to the virus for healthcare workers, preventing

inadvertent spread to other vulnerable patients and saving personal protective equipment for when it's really needed."

ATSE spoke to experts in business, government and research to find the best solutions available through digital and data technologies for delivering precision medicine and integrated care. Importantly, they also explored the potential barriers that could prevent or impair the uptake of these technologies.

"The clear response was that we need to invest in education as well as equipment," said Professor Bradlow.

"We need to make the jobs of our healthcare workers easier, not harder, and we need to ensure that the broader public has confidence in the system."

A critical step in achieving the transformation will be the widespread adoption of the fully integrated digital records system through which – with permission – patient information is available to GPs, hospitals, homecare, rehabilitation and aged-care providers. This will begin with the digitisation of all health records, and getting rid of hand written notes and fax machines.

ATSE is a Learned Academy of the country's leading experts in applied science, technology and engineering. The report [*A New Prescription: preparing for a healthcare transformation*](#) is part of a major three-year project, funded by the Australian Research Council. Its brief is to examine the technology readiness of different Australian industry sectors with a view to informing policy decisions that will help prepare our industries and communities for the oncoming wave of technological disruption.

The report can be downloaded via atse.org.au/healthtech.

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ATSE President, Professor Hugh Bradlow FTSE is available for interviews.

Full report and media kit: scienceinpublic.com.au/media-releases/atse-health-technology-report

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Report launch

The report will be launched at a Committee for Economic Development of Australia interactive livestream event on Tuesday 7 April, 1.30 – 2.30pm. Journalists are able to attend for free. Email alix.ziebell@atse.org.au to register.

About ATSE

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