

A Brave New World for Aged Care



It's more likely 'when', and not 'if' technological innovation will change the fabric of health and ageing. If the pundits are right, riding the age wave will mean riding the information technology wave too.

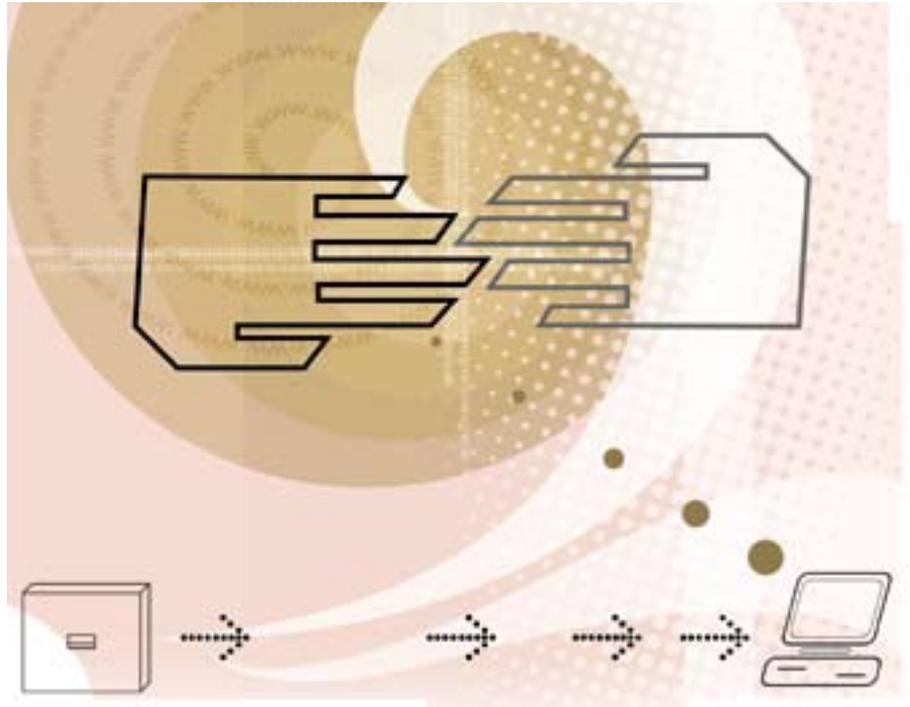
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IN THE next decade we are likely to see dramatic changes in health, in support for active ageing and in aged care. Over the past decades a broad spectrum of industries have been radically transformed by technology and by changes enabled by technology. There is no reason to presume that these changes will not impact health and ageing.

Once the largest buildings in any High Street were banks and the post office. These buildings are today likely to be found serving café latte or used for another retail outlet. Banking and postal services are delivered through cheaper shopfronts, devices such as ATMs, home-visiting loan brokers, call centres and the Internet. Beyond the gaze of consumers has been a revolution across many industries in e-enabled supply-chain management where transactions are electronic, fully integrated and instantaneous. An item swiped at a supermarket check-out triggers transactions all the way back to the producer.

Off-shore outsourcing has taken off, with India capturing the world's information processing, software development and call-centre services, impacting the world's IT just as Japan did for automobiles decades earlier. In all industries - education, aviation, manufacturing, all kinds of businesses, medical settings, even surgical training, the impact is being felt.

It may be when, rather than if, health and aged care will similarly be transformed through delivery of services through the Internet, outsourcing of services to overseas countries, downsizing to shop-fronts, greater use of robotics and embedded



intelligence, and greater integration of processes and information through technology and eliminating skills and professions, just as technology did in other industries. The advent of health tourism might be a first step in international outsourcing of some of our healthcare services.

A trigger for greater innovation and technology in health and ageing might come from the anticipated impacts of the ageing societies in most developed countries. Expectations of extending productive lives and of meeting increasing demands for care will be difficult, if not impossible to meet without the adoption of enabling technologies and restructure of health and ageing services. Baby-boomers are likely to be demanding of services and technologies for their

increasingly frail elderly parents as well as for themselves to retain their own lifestyles.

THE FUTURE IN AGED CARE SERVICES

The world's leaders in information technology for health and ageing have recently formed consortia to stimulate the development of technology in ageing and aged care. In the USA, CAST (Center for Aging Services Technologies) has been formed comprising care providers, universities, pharmaceutical companies, technology developers and others. This has stimulated innovation and technology for active ageing and aged care and will transform the experience of ageing and healthcare as we know

it. Similarly, in Australia work is well underway to form a national consortium. This has joined governments, providers, researchers and technology developers.

Central to the plethora of devices and technologies already available or under development is intelligent software in the form of a Personal Care Assistant (PCA). This will integrate smart homes, smart vehicles and wearable sensors. The consumer's PCA will be informed of their care plan, will manage their health history, will search for relevant research evidence and may broker access to care and other services. The PCA will have the capacity for learning about an individual's patterns of daily living, preferences and behaviours. It will adapt to cognitive decline and may understand its user's needs better than any human and with greater patience.

In the future, consumers may not need to leave home for health and

aged care; the services will come to them. Consumers will be able to directly interact with clinicians and family carers through devices and screens in their homes. RFID (Radio Frequency ID) tags on medications linked to monitors in your house, and supported by intelligent software, will allow you to better manage medications, ensuring pills are taken on time and reducing risks of missing or duplicate doses. The technology can check when the pill bottle was last moved and consequently when you last took your pills. You receive reminders of when it is time to take them again plus alerts on when the pills are near their use-by date, when the pill bottle is getting low and a new e-script needs to be filled; even where to find your medication bottle if you misplaced it.

Voice-activation will trigger alerts to family or emergency services if you've fallen or hurt yourself and facial recognition will tell you who

is at the front door, will open the door to authorized people and will record their movements in your house. The technology will allow you to interact with your remote grandchildren as if you were living nearby. The same devices will provide reminders of your daily appointments and requirements.

Health and aged care are currently labour intensive and demand already outstrips supply. Technology innovation will be essential to extend productive lives as well as to meet an increasing demand for care. In the process, hospitals as we know it will be transformed and the healthcare industry impacted by many of the changes that are evident in other industries. ^{nhj}

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