

SUBMISSION TO: NATIONAL ROBOTICS STRATEGY APRIL 2023

About this submission

The George Institute for Global Health is pleased to contribute a written submission to inform the National Robotics Strategy. We commend the Australian Government for its efforts in developing a robotics strategy to add value to the economy and provide new opportunities to Australians. We are particularly impressed with the government's focus on implementing these technologies in a responsible manner that has a positive social impact and improves the lives of Australians. The George Institute supports the concern for human factors in the implementation of these technologies. We urge the government to consider how these technologies might affect people's health-related behaviours. In anticipation of the changes that these technologies are likely to bring, we propose that the government should develop proactive, forward-thinking policies including a principles-based framework to ensure that the introduction of robotics benefits health outcomes.

About The George Institute for Global Health

The George Institute is a leading independent global medical research institute with major centres in Australia, China, India, and the UK, and an international network of experts and collaborators.

Our mission is to improve the health of millions of people worldwide, particularly those living in disadvantaged circumstances, by challenging the status quo and using innovative approaches to prevent and treat non-communicable diseases and injury. The George Institute is focused on the global health challenges that cause the greatest loss of life, the greatest impairment of life quality, and the most substantial economic burden, particularly in resource-poor settings.

The Commercial Determinants of Health team at The George Institute is actively involved in autonomous technology research and policy. Our work centres around understanding the potential public health implications of autonomous vehicles and developing strategies to maximise the health benefits of autonomous technologies.

Acknowledgement of Country

The George Institute acknowledges the Gadigal People of the Eora Nation as the Traditional Custodians of the land on which our Australia office is built, and this submission was written.

We pay our respect to Elders past, present and emerging.

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Trust, inclusion and responsible development and use

Our submission relates to Theme 2: Trust, inclusion and responsible development and use. It draws on our research on autonomous vehicles to inform the robotics strategy to ‘ensure robotics and automation are developed and adopted lawfully, responsibly and in a way that improves the lives of Australians’. Overall, we support the introduction of autonomous vehicles. They have the potential to offer enormous public health benefits, including crash reduction, emissions reduction, increased mobility for those unable to drive (e.g., elderly and disabled), reduced rates of drink-driving, and enhanced safety for vulnerable road users (Booth et al., 2020; Booth et al., 2022; Pettigrew, 2017; Pettigrew et al., 2018). Autonomous technologies are also set to disrupt home deliveries, enabling faster and cheaper deliveries (Pettigrew et al., 2022). This has potential benefits such as enabling efficiencies in the delivery network and increasing the accessibility of goods to those with impaired mobility and in remote locations (Pettigrew et al., 2023).

It will be crucial to encourage uptake of autonomous vehicles among older adults who are typically more apprehensive about new technologies so they can realise the manifold benefits. Our recommended practices to encourage use by older adults include ensuring autonomous vehicles are suitable for use by this group by making them accessible and practical for those with impaired mobility (Booth et al., 2022). Interactive demonstrations of autonomous vehicles that allow older adults to trial this new form of transport are also likely to be beneficial (Booth et al., 2022).

There are also potential disbenefits to autonomous vehicles being readily available. Access to this new convenient and potentially cheaper transport option may result in decreased use of active transport (e.g., walking and cycling) and public transport. In a survey we conducted, 18% of respondents stated they would use autonomous vehicles for trips they currently walk, 32% for trips they currently cycle, and 48% for trips they currently complete using public transport (Booth et al., 2019). The resulting decrease in population-level physical activity could increase rates of non-communicable diseases. Furthermore, these trends would contradict the government’s goals to increase participation in active and public transport and reduce reliance on cars (Infrastructure Australia, 2021). Strategies to combat this issue include implementing road user charging to discourage car use and developing urban environments that facilitate active transport (Booth et al., 2019).

We also anticipate issues with the advent of autonomous delivery services. If these systems are used to deliver alcohol they could increase the accessibility and affordability of alcohol, which are consistently linked to greater levels of alcohol-related harms (Burton et al., 2017). To minimise harms resulting from the autonomous delivery of alcohol, delivery systems need to fulfill responsible service obligations and avoid delivering alcohol to underage or intoxicated persons (Pettigrew et al., 2022). Autonomous technologies are also likely to make delivered meal options more affordable and convenient. Unfortunately, the majority of delivered food options tend to be unhealthy, meaning access to autonomous deliveries is likely to contribute to poorer diets and increased rates of obesity (Pettigrew et al., 2023). Potential strategies to mitigate these issues include applying charges to the delivery of unhealthy foods and restricting where deliveries can be made (e.g., schools).

We recently surveyed a large representative sample of 1000 Australians to gauge their support for regulating the autonomous delivery industry (findings to be published). Two thirds of participants backed limits on autonomous delivery bots operating on streets and prioritising autonomous delivery services for people with disabilities, with only one in ten

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opposing these measures. Half also wanted limits on the hours of operation for autonomous delivery services and bans on advertising unhealthy products on automated delivery vehicles, less than 20% of people disagreed with implementing these regulations.

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