5G applications in healthcare could add an estimated US$530 billion to global GDP by 2030 through productivity gains.

5G Impact on the Health Sector

Key challenges faced by the healthcare industry include escalating expenditures; labour shortages and an aging workforce; an aging global population; health impacts stemming from climate change; barriers to healthcare for rural and remote populations; and growing socio-economic gaps that disparities in the quality of people's health.

5G will be an enabler of various innovative applications that could mitigate or even eliminate these challenges and facilitate a healthcare ecosystem that aligns with 4P medicine – predictive, preventative, personalized and participatory. These digital 5G solutions include real-time patient monitoring, remote diagnostics and surgery, and predictive analytics; augmented/virtual reality (AR/VR)enabled medical training and patient care; drone-enabled medical supply delivery; interactive smart pharmaceutical devices; distributed artificial intelligence (AI) capable of personalized patient treatment; and medical telecare.

These 5G solutions could facilitate a reduction in the likelihood of medication and medical errors, enhance remote diagnosis, imaging, surgery, patient monitoring and medical training; allow fast and reliable medical data sharing; reduce healthcare expenditures on facilities and equipment; and remove the need for human involvement in some medical procedures.

5G-enabled fixed wireless access (FWA), which allows network operators to deliver wireless ultra-high-speed broadband internet to homes and businesses in rural and remote regions where last-mile fibre is unfeasible, will expand the reach of virtual care models to remote communities and homes.

As well, 5G will deliver new interactive capabilities built on AR/VI and AI technologies that enhance the quality of life for those living with disabilities.

Policy recommendations

- Support the reskilling of the energy sector workforce for the digital economy through training programs designed for the sector.
- Cultivate digital innovation in the sector through collaborations between hospitals, primary providers, technology companies, research institutes and other stakeholders to develop, test and roll out new technologies to help address the diverse challenges faced by sector.
- Measure, track, and report on the deployment of 5G solutions to demonstrate the quantitative linkages between 5G use and the sector's performance.

Deetken Insight was commissioned by TELUS to complete a comprehensive review of published research about 5G and its potential socio-economic impacts, with a particular focus on Canada. To download the full report, *The Socio-Economic Impacts of 5G*, visit [insert link to website.]