

Changes in cancer preventive behaviours, screening and diagnosis during COVID-19

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Prevention, screening and diagnosis of cancer have all been affected by the disruption of health services during the COVID-19 pandemic. Here, we discuss how COVID-19 has impacted preventive behaviours that can affect cancer risk, the challenges encountered by restrictions to cancer screening services, and opportunities and possible solutions to improve preventive counselling during a pandemic crisis.

1 | CANCER PREVENTIVE BEHAVIOURS

The COVID-19 pandemic has implications for many lifestyle factors that can influence an individual's long-term health and risk of developing cancer. A survey of 1491 Australian adults found since the pandemic started 48.9% reported a reduction in physical activity, 40.7% had poorer sleep quality, 26.6% increased alcohol consumption and 6.9% increased smoking intake.¹ These negative changes are linked to higher stress, anxiety and depression symptoms.¹ A meta-analysis combining studies conducted across Asia and Europe found the prevalence of stress, anxiety and depression due to the COVID-19 pandemic in the general population are 29.6%, 31.9% and 33.7%, respectively.² Those who had to self-isolate or work from home may have decreased their incidental physical activity. Additionally, the pandemic has affected food accessibility, led to food stockpiling, caused production issues and increased food prices. This also led to an increase in purchases of highly processed foods with a long shelf life. Shelter-in-place restrictions can result in irregular eating

patterns and frequent snacking which are associated with increased risk of obesity. Restrictions in public spaces, loss of routine, reduction in working hours or loss of job and reduced social contact with others may contribute to increased feelings of isolation, depression or anxiety. Such feelings may further diminish people's motivation or confidence to undertake preventive health action. Without swift action, these significant behaviour changes may become ingrained and contribute to increased risk and subsequently additional cancer diagnoses in the medium to long-term.

In contrast, some might also argue that there were positive impacts on health during COVID-19 lockdowns. For example, those who worked from home had access to more time by not commuting and were protected from traffic pollution. This extra time at home could be used for exercise, relaxation, spending time with family and cooking healthy meals, which are all behaviours associated with a lower risk of cancer.

2 | CANCER SCREENING AND DIAGNOSIS DURING COVID-19

The declining rates of new cancer diagnoses during COVID-19 are concerning, as a cancer diagnosis at later stages is commonly associated with worse prognosis. Through a pandemic's peak, urgent cancer treatment for established patients should continue, but other health services require restrictions or postponement. Depending on the countries' extent of COVID-19 infections, cancer screening tests

decreased due to service closures or delays including reductions in colonoscopies, mammograms and HPV tests among others. In many countries, only symptomatic case detection whereby patients self-present to GPs continued. For example, all screening services were suspended in the United Kingdom and referrals for cancer dropped dramatically by 75% since the pandemic started, with an estimated 2300 cancers going undiagnosed per week during the lockdown period.³ In the United States, screening tests for breast, prostate, colorectal, cervical and lung cancer were down 87%, 60%, 90%, 83% and 39%, respectively in April 2020, compared to February 2020, with an estimated 80,000 missed cancer diagnosis over a 3-month period.⁴ In Australia, bowel, cervical and breast screening also declined rapidly.⁵ There were 145,000 fewer mammograms conducted between January and June 2020, compared to the same period 2 years prior.⁵

Media outlets reported health and hospital systems were 'hot-spots' for infection, and overwhelmed during the pandemics' peak, which resulted in many patients being cautious about seeking healthcare for fear of contracting the virus or further straining the healthcare system. The Australian national bowel screening program continued to provide test kits by mail. However, research suggests that patients tend to avoid or forget to attend to routine cancer screening when feeling anxious or overwhelmed by other life stressors.⁶ Given the physical, social and economic challenges people face due to COVID-19, participation in cancer screening may provoke more anxiety than usual, and not be a priority for patients during these times.

After extended diagnosis delays, cancer services will likely experience a large patient backlog. A sudden surge in cancer diagnoses will increase demand for cancer treatment and if more patients are diagnosed with advanced disease, could further overwhelm health and hospital services, as well as psychooncology and supportive care services as well as palliative care. This may have a critical effect if a second, third or seasonal wave of COVID-19 infections occurs. The long-term impact of these delays will only become apparent in the future. In the United Kingdom, the estimated increase in cancer deaths up to 5 years after diagnosis range from 4.8% for lung cancer to 16.6% for colorectal cancer.⁷ COVID-19 also threatens to impact how cancer treatment is delivered and the implications for cancer survivors have been discussed elsewhere.⁸

3 | OPPORTUNITIES AND POTENTIAL SOLUTIONS

To reinstate paused cancer screening activities, patients may need to be provided with a cue-to-action, such as a letter from their health care service provider that it is safe to return in-person, or patients could be encouraged to attend by adding an incentive such as a free flu vaccination. In response to the COVID-19 pandemic and the issue of patients potentially staying away from their doctors, Cancer Australia released a nation-wide campaign 'Cancer Won't Wait' to educate people on cancer symptoms, and the importance of prompt

Key points

- Prevention, screening and diagnosis of cancer have all been impacted by COVID-19
- Some people may have experienced dramatic changes in lifestyle habits that can have long-term impacts on their health including reductions in physical activity, poorer sleep quality, mental health, diet and increased alcohol and smoking intake
- Closures and delays to cancer screening services have resulted in referrals for cancer dropping since the COVID-19 pandemic started
- There is a need to increase the accessibility of telehealth-delivered preventive counselling
- To reinstate cancer preventive and screening activities, patients may need to be provided with a cue-to-action

presentation, either by telehealth or in-person, to a health professional if they are concerned. Cancer early detection campaigns have successfully been used in Australia prior to COVID-19 and can serve as models for future use during pandemics.

The pandemic has reinforced the need for telehealth, which was previously advocated for use primarily in regional and rural areas. Globally, despite the numerous benefits of telehealth, its limited uptake prior to COVID-19 was frequently reported to be a result of patient and clinician barriers including time, infrastructure, equipment, cost, education and preference for in-person consultations. In Australia during March–May 2020, the volume of GP telephone consultations increased (from 0% to 34% of all consultations), while there has been little change in GP consultations conducted via videoconference (from 0% to 1% of all consultations).⁹ Limitations of in-person healthcare delivery such as inequity in access have become even more evident during this pandemic and changing attitudes towards telehealth indicate a need to increase availability and accessibility. For example, self-collection of vaginal samples for cervical cancer screening is currently only available for women whose screening is overdue, but may actually increase participation more broadly, with telehealth consultations facilitating this process. Virtual skin checks, whereby consumers send images of lesions suspicious for skin cancer, are another example of a cancer screening service conducted via telehealth. However, many countries do not have regulatory frameworks in place to integrate and reimburse telehealth.¹⁰ There has been a global call to action for governments to implement a national strategy and operational plan to increase education and guide clinicians to switch to telehealth in a standardised manner.¹⁰ A proactive approach to health promotion and cancer prevention could be facilitated by increased reimbursement of preventive health checks and counselling. Telehealth delivery of cancer prevention has enormous potential to improve access particularly for those in isolation and should be sustained and expanded during the post-COVID period.

In summary, as a consequence of the COVID-19 lockdowns, more than ever the onus for cancer prevention has been firmly pushed back to each person's self-management. Contributing to the containment of a pandemic, whilst balancing risks and benefits about how and when to obtain cancer prevention and early detection services will be an ongoing issue and requires better preparation. Collaborative research into the long-term impacts of pandemics is crucial to address these issues. Intervention trials should use standardised COVID behavioural assessment tools to allow results to be comparable and facilitate sharing of lessons learned.

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CONFLICT OF INTEREST

The authors have declared that they have no conflict of interest.

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