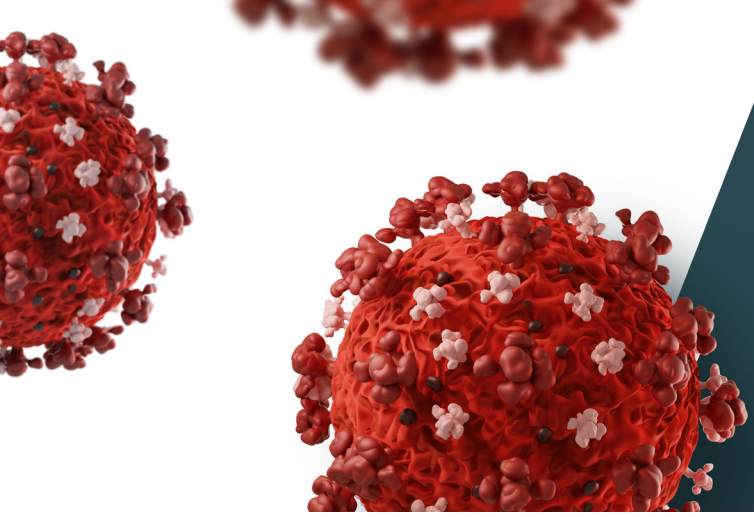

COVID-19 CORONAVIRUS

GENERAL PRACTICE SNAPSHOT

ISSUE 7 10 June 2021

The impact of the COVID-19 pandemic on cancer screening in general practice

INTRODUCTION

General practitioners (GPs) play a critical role in providing preventative care through cancer screening and counselling patients to reduce cancer risks. However, recent reports have shown a decline in the number of GP visits as well as pathology testing during the COVID-19 pandemic,[1 2] suggesting a potential disruption to routine cancer screening activities in general practice.

In Australia, cancer screening is undertaken by both GPs and specialists, and through national screening programs. The national screening programs include BreastScreen Australia for mammograms and the National Cervical Screening Program (NCSP) for cervical screening tests. The national screening programs invite the participation of eligible persons (women aged 50-74 years for mammograms and those aged 25-74 for cervical cancer screening tests [3 4 5]) via reminder notifications. A recent report on national screening services,[6] showed a decline in the number of participants who undertook the national cancer screening programs during the first and second waves of the COVID-19 pandemic. The findings of the report were not surprising, considering the COVID-19 restrictions (e.g., stay-at-home orders) that were put in place, and the suspension of BreastScreen services.[6] While these results indicate a drop in cancer screening by the national programs, it is unclear to what extent cancer screening in general practice settings was affected by the pandemic.

The primary objective of this Snapshot is to examine the impact of the COVID-19 pandemic on the number of mammograms and cervical screening tests using general practice data obtained from the POLAR platform. We compared our results with the national screening program data reported by the Australian Institute of Health and Welfare (AIHW).[6]

METHODS

The national screening program data (AIHW report)

We accessed publicly available national screening program data which was provided in the recent AIHW report[6]. Both mammogram and cervical cancer screening data presented in the AIHW report were originally supplied by the national screening programs: BreastScreen Australia and the National Cancer Screening Register.

Mammograms ordered in general practice from January to September in 2020 (vs 2019): ↓11.9% in NSW & ↓32.2% decrease in Victoria.

Both general practice data and the AIHW report identified large declines in mammograms and cervical cancer tests during the months with surges in COVID-19 cases.

BreastScreen Australia provides asymptomatic women aged 50-74 years free screening mammograms every two years at specialised facilities.[3] Although GPs are not directly involved in the service provision of BreastScreen Australia, Cancer Australia recommends that GPs and specialists offer an individualised surveillance program in women at increased risk of developing breast cancers regardless of age (e.g., annual mammograms are recommended from 40 years of age if there is a first-degree relative aged <50 years diagnosed with breast cancer)[7].

The cervical screening tests under the NCSP are generally carried out by GPs. The NCSP recently introduced a new cervical screening test which directly detects the presence of human papillomavirus (HPV) that leads to cervix changes. In contrast to the previous screening test (the

Pap smear) which was recommended every 2 years, the NCSP currently recommends the new cervical screening be undertaken every 5 years for women aged 25-74 years.[4] Due to the change from 2-yearly to 5-yearly screening on 1 December 2017, the number of new cervical screening in 2020 was expected to be lower than 2019, irrespective of the COVID-19 pandemic.[8]

POLAR general practice data

The general practice data from the POLAR platform covers nearly 30% of the Australian population, including urban and rural regions from approximately 800 general practices (456 from Victoria and 347 from NSW). The participating Primary Health Networks (PHNs) included two urban (Eastern Melbourne and South Eastern Melbourne) PHNs and a predominantly rural (Gippsland) PHN from Victoria, and Central and Eastern Sydney (urban) and South Western Sydney (incorporating rural areas Wingello to Bundanoon) PHNs from NSW.

Study period and population

The study period covered January to September in 2019 and 2020 (corresponding with the availability of AIHW data). The study population included women aged 50-74 years for mammograms[3] and 25-74 years for cervical cancer tests[4 5], in line with the age recommendations included in the clinical guidelines[7] and age groups offered free screening tests by the national screening programs. Cervical cancer screening included both human papillomavirus (HPV) and cytology (i.e. Pap smear) tests.

We used data from the POLAR platform and the national screening program data provided in the recent AIHW report[6] to compare monthly total volumes of requested mammograms and cervical cancer tests.

Ethical approval

Ethics approval for the project was provided by Macquarie University Human Research Ethics Committee (52020675617176). Ethics to collect and use general practice data has been obtained by Outcome Health, the data custodians[6], granted by the Royal Australian College of General Practitioners (RACGP) ethics committee (17-008).

RESULTS

Mammograms

The longitudinal change in the number of mammograms was consistent between the general practice data from the POLAR platform and the AIHW report (Figure 1). The number of mammograms sharply dropped in April and May of 2020 when the first wave of the COVID-19 pandemic hit. After June 2020, the number of tests began to increase. By September 2020, the number of mammograms was similar to that of September 2019.

The total number of mammograms carried out during the study months (January to September) in 2020 was lower than in 2019. In NSW, the general practice and AIHW data showed that mammograms in 2020 were 11.9% (from 15,823 to 13,936) and 21.8% (from 244,426 to 191,204) less than in 2019. In Victoria, there were 32.2% (from

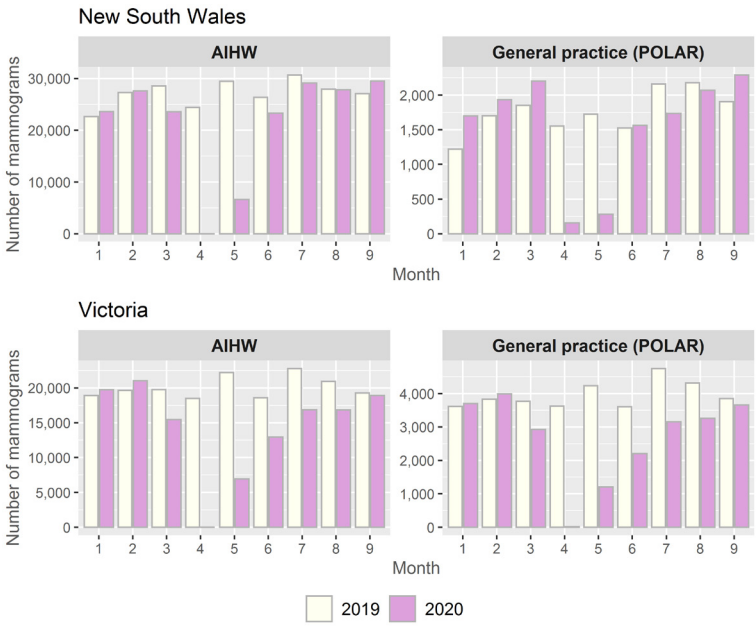

Figure 1: The number of mammograms identified by the general practice data (POLAR) and the AIHW report.

35,592 to 24,114) and 28.8% (from 180,636 to 128,646) decreases in 2020 based on the general practice and AIHW data, respectively.

Cervical cancer tests

The longitudinal changes in the number of cervical cancer tests were also consistent between general practice data from the POLAR platform and the AIHW report (Figure 2). As expected, both data sources showed the number of tests in 2020 were lower than in 2019, due to the recommended change in the screening test frequency from 2-yearly to 5-yearly.

The number of cervical cancer tests fell in April 2020 when the first wave of the COVID-19 pandemic occurred. In August 2020, a marked decrease in the number of cervical cancer tests was evident in Victoria, potentially an effect of the state's second wave of COVID-19 cases.

Figure 2: The number of cervical cancer tests identified by the general practice data (POLAR) and the AIHW report.

IMPLICATIONS

- The POLAR general practice data showed large decreases in mammogram and cervical cancer testing activities during the specific waves of the COVID-19 pandemic. The AIHW report similarly documented the longitudinal patterns. The comparative figures highlight the widespread nature of the disruption in cancer screening activities across general practices and specialist facilities during the pandemic.
- After the decline during the first wave of the COVID-19 pandemic, the number of mammograms began to recover, and in September 2020 reached the same level as in September 2019. However, the total volume of performed mammograms in 2020 was below that in 2019. This may suggest that there are patients who were recommended cancer screening tests in 2020 but missed or delayed undertaking them.
- The decline in cancer screening activities may have resulted in delayed diagnosis and treatment. The disruption of delivering timely diagnosis and prompt cancer care may potentially be associated with a lower survival rate and higher cost of care. It is important for future studies to identify the characteristics of populations who were recommended cancer screening tests in 2020 but missed or delayed carrying them out in order to develop effective follow-up strategies.

- Another important area for future study includes investigating the long-term effects of missed or delayed routine cancer screening tests during the COVID-19 pandemic on cancer outcomes such as disease conditions and deaths.

LIMITATIONS

- The POLAR data available to the research team provide only 5-year age bands that were based on the patient age as at February 2021. As some patients may have fallen into a different age band in 2020 and 2019, the identified number of screening tests may be slightly underestimated.
- As the data does not distinguish the purpose of tests, some females may have had mammograms and cervical cancer tests for monitoring/follow-up rather than for screening. Therefore, an interesting area for future study would include the impact of the COVID-19 pandemic on patients who were recommended monitoring tests (e.g., patients with previous abnormal results).

REFERENCES

1. Hardie R-A, Sezgin G, Dai Z, Georgiou A. The uptake of GP telehealth services during the COVID-19 pandemic. COVID-19 General Practice Snapshot. Issue 1: 2 December 2020. Sydney: Macquarie University; 2020. https://doi.org/10.25949/C3HE-F430

2. Imai C, Thomas J, Hardie R-A, Badrick T, Georgiou A. The impact of the COVID-19 pandemic on pathology testing in general practice. General Practice Snapshot. Issue 3: 12 February 2021. Sydney: Macquarie University. https://doi.org/10.25949/ZX36-8S49

3. Australian Institute of Health Welfare. BreastScreen Australia monitoring report 2020. Canberra: AIHW, 2020.

4. Commonwealth of Australia. National Cervical Screening Program – Understanding the National Cervical Screening Program Management Pathway. Canberra: Australian Government, 2017.

5. Australian Institute of Health Welfare. National Cervical Screening Program monitoring report 2020. Canberra: AIHW, 2020.

6. Australian Institute of Health Welfare. Cancer screening and COVID-19 in Australia. Canberra: AIHW, 2020.

7. The Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. 9th edn, updated. East Melbourne, Victoria: RACGP, 2018.

8. Smith MA, Gertig D, Hall M, Simms K, Jie-Bin L, Malloy M, Saville M, Canfell K. Transitioning from cytology-based screening to HPV-based screening at longer intervals: implications for resource use. BMC Health Services Research 2016;16(1):147. doi: 10.1186/s12913-016-1375-9

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About the project

Since its identification in December 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and its associated coronavirus disease (COVID-19) has had a devastating effect on communities around the world. Health systems have been forced to make rapid choices about how to prioritise care, manage infection control and maintain reserve capacity for future disease outbreaks. The interruption of normal patterns of health care and the suspension of services has meant that the pandemic has also had a major impact on the detection and treatment of many non-COVID-19 conditions. Electronic general practice data are a valuable resource which can be used to inform population and individual care decision-making.

This project is based on a collaborative relationship involving the Digital Health Cooperative Research Centre, Macquarie University, Outcome Health, Gippsland, Eastern Melbourne and South Eastern Melbourne Primary Health Networks (PHNs), and the Royal College of Pathologists of Australasia Quality Assurance Programs, with participation from Central and Eastern Sydney and South Western Sydney PHNs. It will use an innovative secure and comprehensive digital health platform, Population Level Analysis & Reporting (POLAR) to:

- Generate near real-time reports to identify emerging trends related to COVID-19, its diagnosis, treatment and medications prescribed, and its impact on patients.
- Monitor the impact of interventions/policy decisions.