

Research Communication

Impacts of the COVID-19 pandemic on early detection of prostate cancer in Australia

Healthcare utilization has changed as a result of the COVID-19 pandemic. Many studies have reported a reduction in services such as cancer detection and treatment, and a reduction in patient participation in cancer early-detection programmes [1,2]. As the pandemic continues, there are concerns that service disruptions due to the pandemic response may lead to reduced referrals, ‘missed’ care and presentations of malignancies at more advanced stages.

There have been previous changes in PSA testing trends, such as in 2012 when the US Preventative Services Task Force (USPSTF) issued a Grade D recommendation against PSA screening due to concerns about overdiagnosis [3]. From 2012 to 2017, following this recommendation, a reduction in PSA testing in North America and Australia was reported [4]. Concerns regarding the impacts of the USPSTF recommendation were raised by the Melbourne Consensus Statement in 2014, highlighting the need to ‘decouple prostate cancer diagnosis from treatment’, and not to use PSA testing in isolation but to adopt a multifactorial approach to early prostate cancer detection [5]. Consequentially, a reduction in prostate cancer incidence and a steady increase in annual prostate cancer-related deaths in the USA have been reported, leading to the USPSTF upgrading their recommendation to Grade C, to include testing in well-informed men aged 55–69 years [6]. In Australia, the National Health and Medical Research Council released guidelines in 2016 recommending testing in well-informed asymptomatic men at average risk aged between 50 and 69 years [7].

Restrictions due to the COVID-19 pandemic may serve as a ‘natural experiment’ to selectively prioritize patients for prostate cancer early detection and reduce unnecessary tests. While there are Australian reports on changes in participation rates in screening for breast, cervical and colorectal cancer, the impact of the coronavirus pandemic on early detection of prostate cancer is less well described because of the reliance on patient-initiated conversation, usually with the patient’s GP, before proceeding with PSA testing rather than a central screening service. Thus, population data such as Medicare claims data are best suited to gauge the impact of the pandemic on prostate cancer services.

We hypothesized that there would be evidence of a selective reduction in prostate cancer early-detection tests after examining the procedures performed during the pandemic period.

We searched Medicare Benefits Schedule item numbers relating to prostate cancer diagnostic and therapeutic care from June 2018 to June 2021, covering three financial years. The Services Australia Medicare Benefits Schedule Item Reports (<http://medicarestatistics.humanservices.gov.au/>) cover all outpatient tests and procedures provided through the private hospital system. Medicare item numbers 66655 (screening PSA test) and 66659 (follow-up PSA free-to-total ratio at or above the age-related median) were used as surrogates for PSA testing for early detection, as these were limited to one item per 12-month period. Item 63541 was used to assess number of persons undergoing multiparametric MRI (mpMRI). Items 37219 and 37216 were used for prostate biopsies. To measure treatment techniques, items 37210 (radical prostatectomy) and 37211 (radical prostatectomy with pelvic node dissection) were used for surgery and item 37217 (implantation of prostate fiducial markers) as a surrogate for radiotherapy. Monthly data were used to account for seasonal changes. The number of GP attendances, including telehealth were also examined using the time-based item numbers for care delivery. For narrative context, monthly COVID-19 notifications were collected by accessing the Australian Department of Health National Notifiable Diseases Surveillance System Report (http://www9.health.gov.au/cda/source/rpt_3.cfm) to help explain the impacts of the pandemic on service delivery. The database displays age-related demographics in 9-year intervals after the age of 5 years. Episode counts for males aged 55–74 years and those 75 and over was examined. Data were exported and analysed using Microsoft Excel.

A summary of item number claims is shown in Table 1. Using the 2018–2019 year as a baseline, there was a 5% reduction in PSA tests in 2019–2020 (34 553 tests), and a 2% uptrend in 2020–2021 (14 067 tests). There was an uptrend in free-to-total PSA tests, with a 3% and 15% increase for 2019–2020 and 2020–2021. There was no reduction in mpMRI, prostate biopsy, number of radical prostatectomies, or number of fiducial marker implantations compared to baseline. While the number of radical prostatectomies increased from baseline in 2019–2020, there were 630 fewer surgeries performed in the 2020–2021 year compared to the previous year, including 289 fewer surgeries claimed for nodal dissection. There was a continual downtrend in GP attendances, including telehealth services, by 6% and 18% in 2020 and 2021, respectively.

Table 1 A comparison of PSA tests, multiparametric MRI, prostate biopsy, radical prostatectomy, placement of prostate fiducial markers and GP attendances.

Financial Year	PSA tests (item 66655)	Free-to-total PSA tests (item 66659)	mpMRI	Prostate biopsy	Radical prostatectomy	Prostate fiducial markers	GP attendance
2018–2019	692 021	135 775	31 750	19 923	6259	2419	121 096 335
2019–2020	657 468	140 024	35 672	21 453	7107	2807	114 089 347
2020–2021	706 088	156 321	35 942	21 574	6477	2962	99 330 510

Analysis by month when compared to the same month in the preceding year revealed the largest reduction in PSA tests in April 2020, 38%, coinciding with the lowest claims for GP attendance, 22%, and first peak of COVID-19 new-case notifications of 4536 in March 2020. A similar pattern in August 2020 occurred, with reductions in PSA tests by 10% and GP attendance by 34%, and a second peak of COVID-19 cases (8866) occurring predominantly in the state of Victoria, where the highest reduction for any state of 24% in PSA tests was observed. Analysis by age found that PSA tests for the age groups 45–54 and 55–64 years in 2020 declined to 91% and 94% of rates of PSA tests in 2018 and to 62% and 72% of rates of testing in 2012, respectively. The proportion of men aged 75 years and over was 14–15% of those receiving PSA testing in 2019 (14%, 96 535/692 021) and 2020 (15%, 105 160/706 088).

This study shows a non-age selective reduction in PSA tests in 2020 compared to 2019 and no reduction in other tests such as free-to-total PSA, mpMRI and prostate biopsy. Compared to 2012 and 2018 data, there have been ongoing downward trajectories in PSA testing overall in Australia since the USPSTF recommendations of 2012. The uptake of prebiopsy mpMRI has become widely adopted as standard of care, resulting in opportunities to reduce unnecessary biopsies that are favoured especially in a pandemic-adapted environment and could possibly explain the stable numbers despite the dramatic fall in PSA testing and GP attendance during the pandemic in 2020 [8]. However, concern remains given the reduction in radical prostatectomies performed in 2021 because of missed PSA testing opportunity.

There are obvious limitations to these data, including the lack of information regarding the indication of testing given there is no distinction between asymptomatic and symptomatic tests. Older men are more likely to develop symptoms and may be tested based on their presentation for LUTS in which PSA tests may be considered for alternative reasons, which will influence the interpretation of results. A second limitation is that the results of the tests are unavailable, and we are unable to ascertain the rate of diagnosis of ‘clinically significant’ disease and thus draw any conclusions regarding whether risk-adapted strategies or appropriate testing were able to take place based on the outcomes at biopsy or




otherwise. A third limitation is that the proportional data presented assume that, based on Medicare criteria of one test in 12 months, some men undergoing a follow-up free-to-total PSA test may have had an initial PSA test previously, which may influence interpretation of results. Nonetheless, PSA tests should not be used in isolation; rather, a multivariable approach, as recommended by the Melbourne Consensus statement, that includes clinical variables, should be used when prioritizing early detection for prostate cancer in the pandemic setting.

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None declared.

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