Changes in Systemic Cancer Therapy in Australia During the COVID-19 Pandemic: a Population-Based Study

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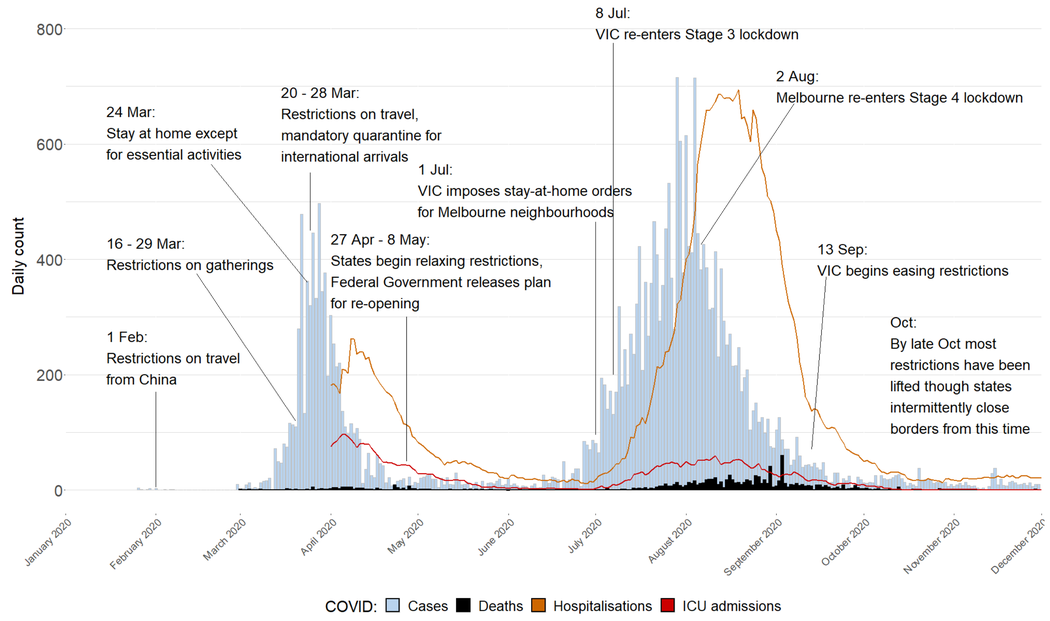
Background

Since the emergence of COVID-19, there have been increasing concerns about delays and/or discontinuations in cancer care. In Australia in 2020, there were relatively low COVID-19 infection rates, with the first wave of infections occurring in March 2020 and a second wave in July 2020. It is unclear to what extent systemic cancer therapy was impacted by COVID-19 in Australia in the context of low rates of COVID-19 transmission in 2020.



COVID-19 cases, hospitalisations and restrictions in Australia in 2020

Aims

We aimed to examine changes in systemic cancer therapy in Australia during the COVID-19 pandemic in 2020. Specifically, we describe changes in dispensing, initiation and discontinuation of antineoplastic and endocrine medicines used to treat cancer.

Methods

We undertook a population-based, observational study using all records of cancer medicines dispensed to a 10% sample of PBS-eligible people between 1 January 2017 through 31 December 2020.

Medicines of interest included:

- Antineoplastic agents (medicines beginning with ATC code L01)
- Endocrine therapies (medicines used to treat cancer beginning with L02)

We examined 3 monthly medicine utilisation measures:

- Dispensings – reported per 100,000 population
- Initiations – defined as a dispensing of a cancer medicine where no cancer medicines were dispensed during the preceding 365 days, reported per 100,000 population
- Discontinuations - defined as a gap of 90 days between cancer medicines dispensings or following the last observed dispensing, reported per 1,000 people treated in the previous month

We used interrupted time series analysis with autoregressive integrated moving average (ARIMA) models to quantify changes in these utilisation measures. We modelled temporary changes in March, April and July 2020 and level shifts from April through December 2020 in our ARIMA models.

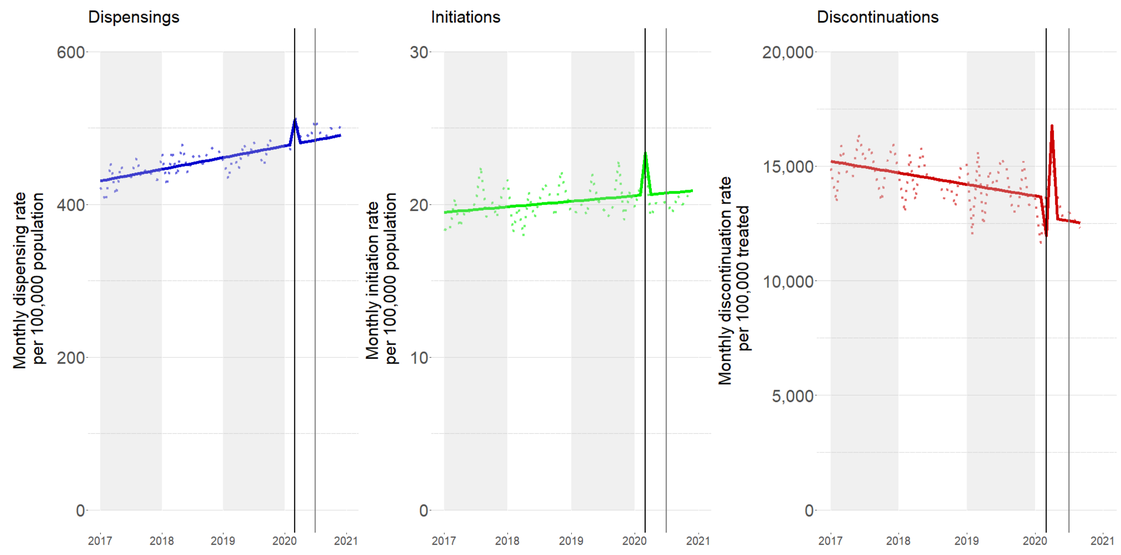
Conclusions

In Australia in 2020, there were minimal changes to cancer medicines relating the COVID-19 pandemic. Despite early concerns about the potential for COVID-19 to compromise the clinical care of people with cancer, effective control of community transmission during the first year of the pandemic in appears to have mitigated the impact of COVID-19 on cancer medicines use in Australia in 2020.

Results

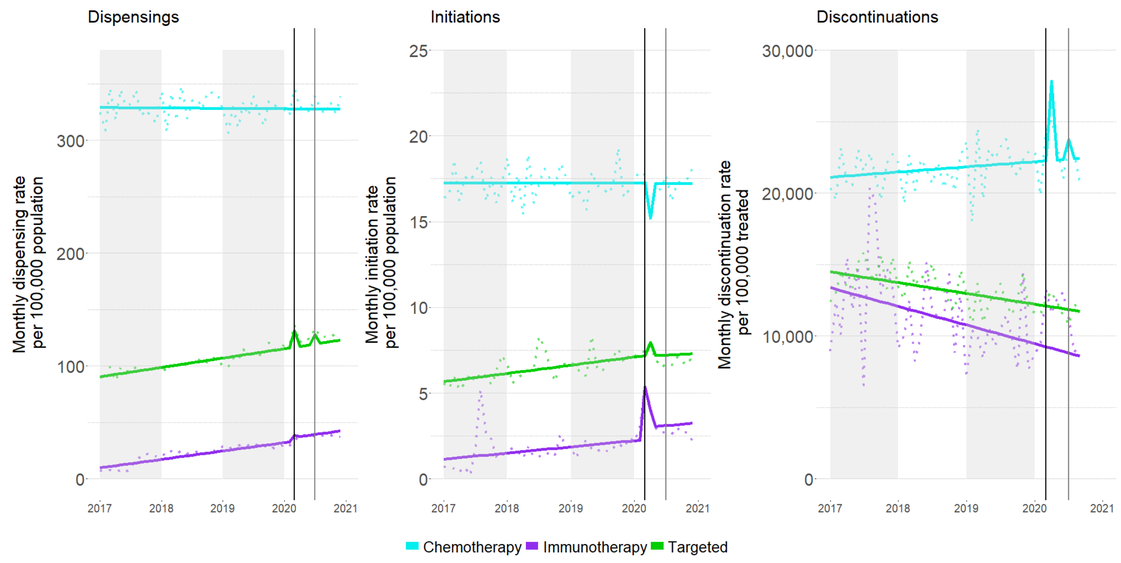
Dispensing, initiation and discontinuation of all antineoplastic medicines

- March to December 2020: no decrease in antineoplastic dispensing
- March 2020: temporary increase in dispensing (39/100,000 population) and initiation of all antineoplastic medicines (3/100,000 population)
- April 2020: temporary increase in discontinuation of antineoplastic medicines (35/1,000 people treated)



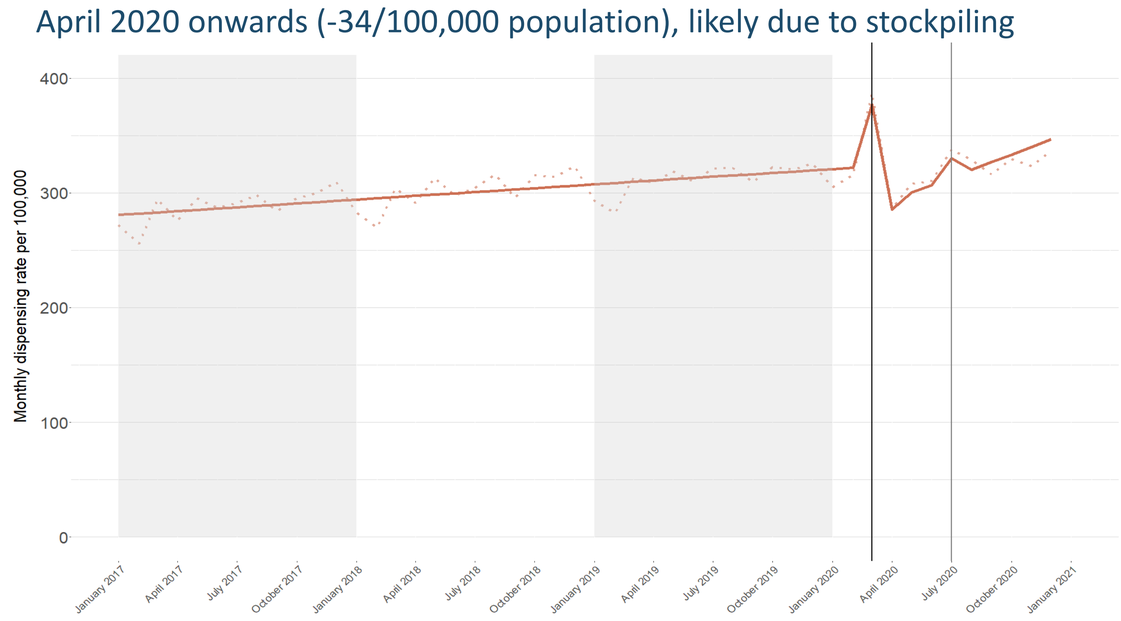
Dispensing, initiation and discontinuation of antineoplastic medicines, by drug class

- April 2020: temporary decrease in chemotherapy initiation (-2/100,000 population) and temporary increase in chemotherapy discontinuation (52/1,000 treated)



Dispensing of endocrine therapy

- Temporary increase in March 2020 (51/100,000 population) and decrease from April 2020 onwards (-34/100,000 population), likely due to stockpiling



Black line = March 2020, Grey line = July 2020

Please see publication for more details:
Tang *et al* The Lancet Regional Health 2021

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