

Emergency Demand in Canberra Hospital During the 2020 COVID-19 Pandemic

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BACKGROUND

- The Australian Capital Territory (ACT) had a successful public health response to the COVID-19 pandemic, with 118 cases and 3 deaths during 2020 in a population of 431000
- Emergency Departments (EDs) were impacted by community lockdowns and the need to isolate all respiratory patients but had a minimal load due to COVID-19 cases

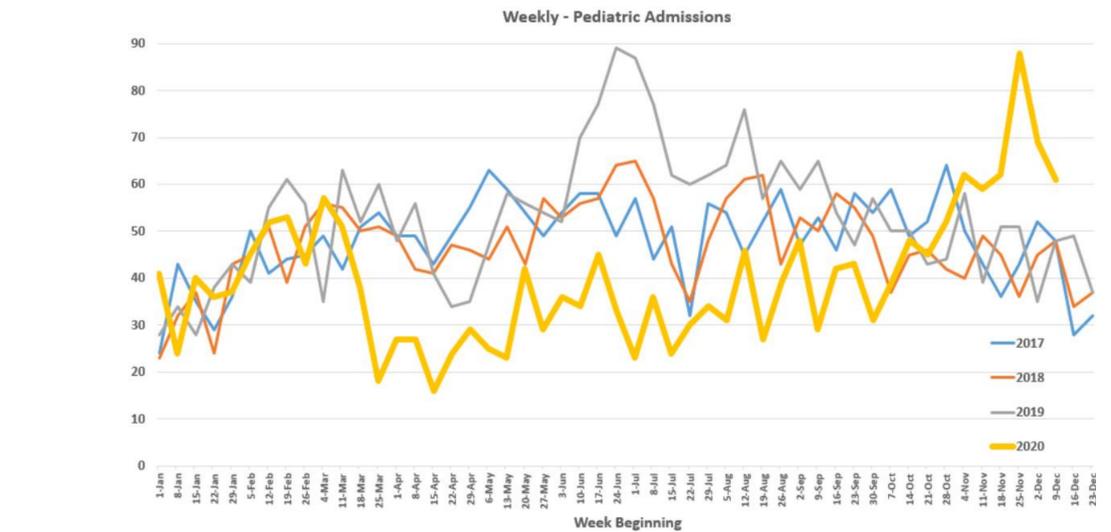


OBJECTIVES

- To describe the effects of the pandemic on demand in the Canberra Hospital mixed adult/paediatric tertiary ED in 2020

METHODS

- Prospective descriptive study of four consecutive 10-week periods from 06:00 11 Mar 2020 (Lockdown, Post-lockdown, Winter, Spring) with retrospective controls from 1 Jan 2020 (Baseline) and same periods in 2017-19
- Demand was measured as presentations, subdivided by age and as booked ward admissions subdivided by admitting unit
- The number of events in each period were compared using the Chi-square test to an expected value calculated by multiplying the 2020 baseline by the ratio of the period to baseline over the past three years



- Three specialty units were significantly different from this pattern:
 - Respiratory (-25.6%, -32.4%, -47.2%, -26.4% respectively)
 - Paediatrics (-46.9%, -33.1%, -37.0% and +18.7%)
 - Psychiatry (+7.6%, +12.8%, +26.5% and +14.7% respectively)
 - Because there had been previous ongoing growth in Psychiatry, admissions in the 40 weeks were only 4.3% above 2019 levels

DISCUSSION

- Lockdown was associated with a major fall in ED presentations but lesser reduction in ward admissions, suggesting that lower acuity patients were avoiding ED
- Presentations did not return to normal until the Spring, but admissions were close to the normal range by post-lockdown
- An epidemic of childhood disease in Spring at a time of minimal COVID-19 risk may represent unwell children again going to school/childcare (diagnostic data required)

LIMITATIONS

- Administrative rather than clinical dataset
- No diagnostic data collected

CONCLUSIONS

- There was an initial marked reduction in ED demand during the lockdown period, a reduction during the Winter and a surge during the Spring
- Respiratory disease, particularly in paediatrics was a major driver
- The demand for mental health services was constant or slightly raised throughout

RESULTS

- Presentations averaged 249 daily in the baseline period, similar to 2019 (-0.16%)
- All four study periods were significantly different ($P < 0.005$) from expected values: Lockdown -24.2%, Post-lockdown -12.1%, Winter -7.3%, Spring +3.6%
- For patients aged over 65 the figures were -24.5%, -8.2%, -14.3% and -7.1% respectively, and for those aged under 15 they were -37.6%, -36.8%, -21.4% and +8.9%
- The pattern was significantly different for admissions: Baseline was 62.7 admissions daily, 1.9% more than 2019, and the differences with expected values were: Lockdown -16.3% ($P < 0.0001$), Post-lockdown -2.3% ($P = 0.35$), Winter -6.6% ($P = 0.006$) and Spring +5.2% ($P = 0.04$)

