

BRIEF REPORT

The COVID-19 pandemic reduced paediatric emergency department visits but did not significantly increase urgent cases

Austria partly spared its healthcare system from the catastrophic effects of the COVID-19 pandemic with an early lockdown. This led to a marked decrease in visits to the paediatric emergency department (PED) at the Medical University of Innsbruck.

The PED is the central point of contact for patients under the age of 18 with any health concerns, except trauma. Approximately 18,700 patients visit the PED per year and 17.6% are admitted to the hospital.

Paediatric primary care is mainly supplied by community-based paediatricians and general practitioners, who can refer patients to the ED. Patients are also brought in, without a referral, by their parents or ambulances. The costs of public sector medical services are covered by insurance and patients may choose where they are treated, within certain limits. Private services attract a surcharge. We have found that families increasingly visit the PED rather than see a community-based primary care physician first, even for minor issues.¹

The Manchester Triage System (MTS) was used in the PED to assess the urgency levels, from one for immediate care required to five for non-urgent care. We compared the six weeks before and after Austria entered lockdown: 1 February to 15 March versus 16 March to April 30.² Ethical approval was not required for the study.

A study of emergency departments in British Columbia, Canada, found that visits to PEDs fell by 57%.³ Our previous paper reported 26% fewer PED visits during the spring 2020 pandemic lockdown than the same period in 2018.¹ Figure 1 shows the daily visits to our PED during the 2020 study period, by MTS levels.

Although overall admissions to inpatient care increased significantly, from 16.6% pre-lockdown to 22.9% during lockdown (z-test 484/2918 versus 186/811; $z = -4.2$, $p < 0.00001$), the daily number decreased from 11 to four per day. The same pattern was seen for patients admitted to the paediatric intensive care unit at some point during their hospital stay. The proportion significantly increased from 2.1% to 3.5% (z-test 61/2918 versus 28/811; $z = -2.25$, $p = 0.02$), whereas the number decreased from 1.4 to 0.6 per day.

Remarkably, the distribution of MTS urgency levels remained unchanged (Cochran–Armitage trend test $p = 0.09$) (Figure 1), unlike

the Canadian study, which reported more paediatric patients acute with illnesses attending emergency departments during lockdown.³

We believe there were two reasons for the substantial decrease in paediatric ED visits during lockdown, aside from seasonal fluctuations. The first was that children had reduced exposure to infectious diseases during the spring 2020 lockdown as schools were closed. In addition, infections account for a high proportion of encounters between paediatric patients and healthcare professionals and this is particularly true for urgent PED visits.⁴ Fewer PED visits may have reduced the chance of infections being transmitted.

The second was that families may have avoided PEDs because they may have perceived hospitals as threatening environments during the COVID-19 pandemic. This appears to have raised thresholds for seeking medical advice, as reported by a study from Northern Italy.⁵

Our previous study found that substantial proportions of Austrian paediatric ED visits were for non-urgent problems and overcrowding was frequent.¹ If health anxieties and increased thresholds were the principal cause of the reduced patient visits during lockdown, surely this would have been reflected in fewer less-urgent cases. However, an unexpected finding of our study was that there was no significant increase in more urgent cases during the lockdown than pre-lockdown period. Figure 1 shows that the distribution of the MTS levels remained unchanged.

Our results can be explained by our hypotheses complementing one another. Lower levels of contagion from infectious diseases during lockdown led to a substantial decrease in urgent PED visits and a minor decrease in non-urgent patient visits. In the meantime, avoiding PEDs led to a further decrease in non-urgent patient visits. The combination of these two factors resulted in no change in the proportions of urgent and non-urgent visits.

Comparisons with northern Italy, which borders our region and was very badly hit by the pandemic, offer interesting opportunities for speculation. Lazzarini et al. reported 12 cases with serious consequences due to delayed access to care in northern Italy,⁵ but we did not see this during our short study period. We also suspect that the fear of contamination and infection in our PED was lower.

Abbreviations: PED, paediatric emergency department; MTS, Manchester Triage System.

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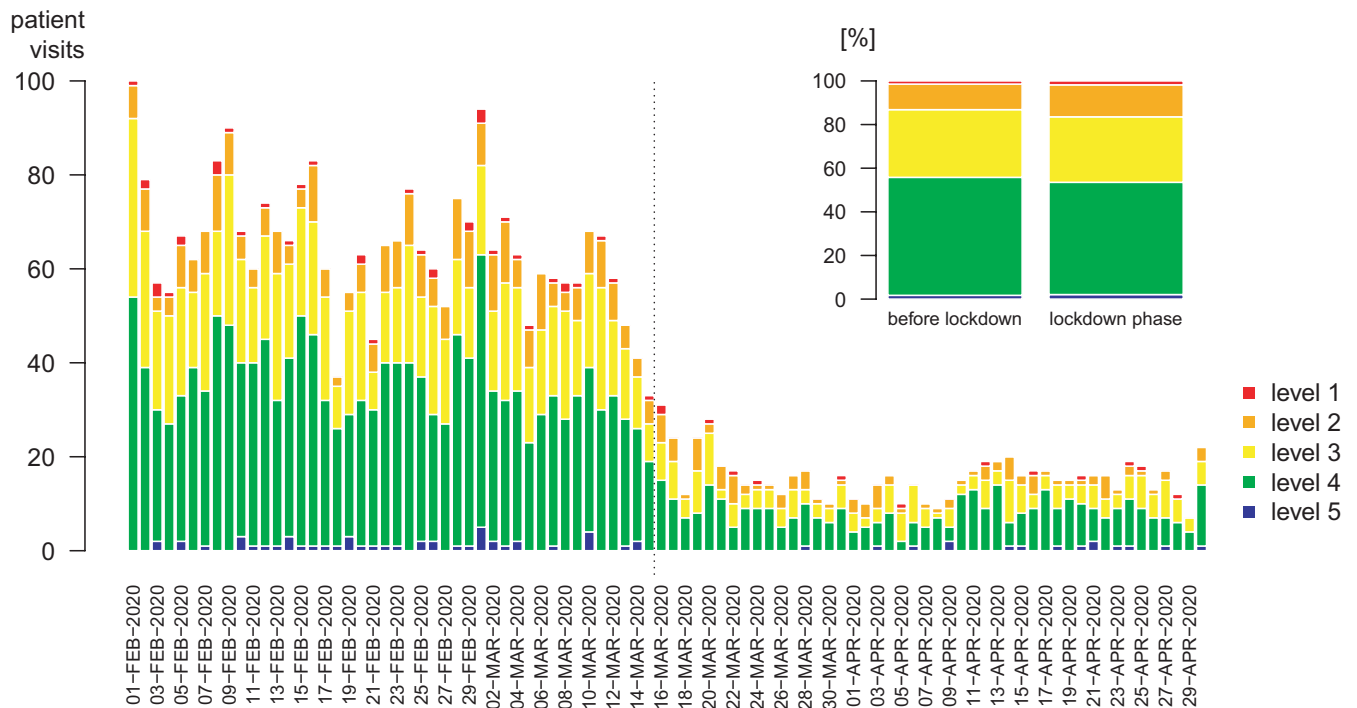


FIGURE 1 Daily patient visits to the hospital's PED from 1 February to 30 April, grouped by MTS levels. The illustration on the right summarises the MTS urgency levels before and during lockdown: red (immediate), orange (very urgent), yellow (urgent), green (standard) and blue (non-urgent)

In conclusion, visits to our Austrian PED fell during the spring 2020 COVID-19 lockdown but, unexpectedly, this did not lead to a significant increase in more urgent cases when we compared the data with the pre-lockdown period.

KEYWORDS

Covid-19, pediatric emergency department, patient numbers

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CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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