Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Delayed access or provision of care in Italy resulting from fear of COVID-19

During Italy's national lockdown for coronavirus disease 2019 (COVID-19), official hospital statistics in the period March 1–27, 2020, show substantial decreases—ranging from 73% to 88%—in paediatric emergency department visits compared with the same time period in 2019 and 2018 (figure). Similarly, family paediatricians widely report a considerable reduction in clinic visits, although this is difficult to measure precisely.

Schools and sports activities have been closed since March 1 in Italy, so it is understandable that the numbers of acute infections and traumas among children are lower than usual. In addition, relatively few cases of COVID-19 among children have been reported.[1] As of April 2, the 1624 cases in the paediatric population (<18 years) account for 1·5% of COVID-19 positive cases in Italy.[1] Of these paediatric cases, only 84 (11%) required hospital admission, none needed intensive care, and no deaths have been recorded.[1] In line with reports from China,[2] COVID-19 in children is generally mild and presents with few symptoms.

However, children continue to get sick with occasional infections and complications or acute onset of chronic conditions such as cancer, endocrine disorders (eg, diabetes), and surgical conditions (eg, appendicitis). The substantial decreases in paediatric care access in Italy might reflect scarcity of available resources due to pandemic-related redistribution, or reticence on the part of parents and caregivers to risk exposure to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in a health-care setting, in addition to lower rates of acute infections and trauma. This reduced access to health care can be detrimental to paediatric health, and children with special needs (eg, due to cerebral palsy, epileptic encephalopathy, severe syndromic illnesses, or iatrogenic or disease-related immunosuppression) are potentially at higher risk of severe illness from not accessing health care than their healthy peers.

Within an Italian Pediatric Hospital Research Network, 12 cases of delayed access to hospital care have been reported during the week March 23–27 across five hospitals (three third-level referral hospitals and two second-level hospitals; figure). Two children presented to the emergency department with acute-onset type 1 diabetes and severe ketoacidosis due to delayed access to hospital care, even though parents had recognised abnormal symptoms (eg, polydipsia, polyuria, and dyspnoea); both required admission to the intensive care unit (ICU). Of two children with acute-onset leukaemia, one arrived in the emergency department after 7 days of very high fever (>39°C) and the other presented with severe anaemia (haemoglobin 4·2 mg/dL) and respiratory distress after emergency department access was delayed. One of these patients died several days after hospital admission. One child presented with long-lasting convulsions after three previous episodes of convulsions had been treated at home without medical assistance; the patient was eventually diagnosed with bacterial pneumonia. A 3-year-old girl was admitted to hospital after 6 days at home with very high fever (>39°C), with a sepsis secondary to a pyelonephritis. A neonate was kept home despite vomiting for several days because of hypertrophic pyloric stenosis and arrived in the emergency department in hypovolaemic shock. Another child, aged 2 years, had been vomiting for several days and unable to eat before presenting with severe hypoglycaemia. One child arriving in the emergency department having been unable to pass faeces for more than a week was diagnosed with an abdominal mass of 15 cm diameter, later diagnosed as Wilm's tumour; the diagnosis by telephone from his paediatrician had been functional constipation. An adolescent with cerebral palsy and severe malnutrition got in touch with the hospital after 10 days of fever at home with increased oxygen needs, and died in the ambulance on the way to the hospital. The precise cause of fever and death was not ascertained but the adolescent was negative for COVID-19 infection. Another child with cerebral palsy, tracheotomy, and enteral nutrition died on route to the hospital after 3 days of bloody stools. A child with Mowat Wilson syndrome, in dialysis for chronic renal insufficiency, arrived at the hospital after 3 days of being "less active than usual" with capillary refill time of 4 s, heart rate of 50 beats per min, oxygen saturation level not detectable, mixed acidosis, and creatine 4 mg/dL; the child died after 4 days in the ICU.

Of this small series of 12 cases, half of the children were admitted to an ICU and four died. In all cases, parents reported avoiding accessing hospital because of fear of infection with SARS-CoV-2. Furthermore, in five cases, the family had contacted health services before accessing care, but their health provider was unavailable because of the COVID-19 epidemic, or hospital access was discouraged because of the possible risk of infection. All cases were either negative for SARS-CoV-2 or had a clinical

Lancet Child Adolesc Health 2020
Published **Online**
April 9, 2020
https://doi.org/10.1016/S2352-4642(20)30108-5

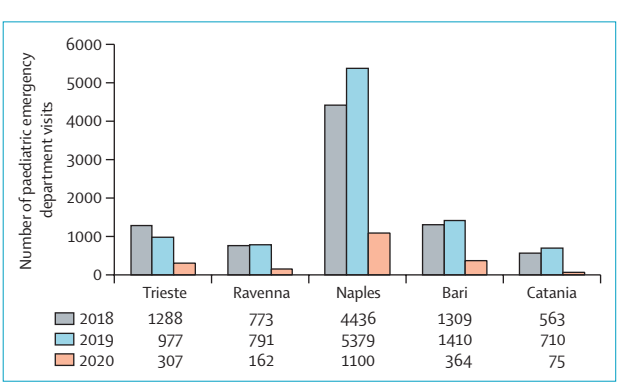

Figure: **Visits to paediatric emergency departments across five hospitals in Italy, March 1–27, 2020, compared with the same period in 2018 and 2019**
Data are official hospital statistics (courtesy of the authors).

presentation (eg, diabetes) that did not justify a diagnostic test according to the national criteria. Notably, no death occurred in the same hospitals during the same period in 2019, and the total yearly number of paediatric deaths in these hospitals ranges from zero to three.

These cases are clearly a small sample compared with the overall number of paediatric visits recorded in the five hospitals during this week (12 [2%] of 502). However, since delay in access to care was not monitored systematically, this small case series might underestimate the problem. We believe that further monitoring of access to routine clinical care is needed during the COVID-19 pandemic. There is a need to prevent delays in accessing hospital care and to increase provision of high-quality coordinated care by health-care providers. Both of these aspects should be considered as part of the overall public health impact of the COVID-19 pandemic, as evident in other epidemics,[3,4] and must be adequately monitored.

Both the general population and health-care workers need clear guidance and information. Specifically, parents should be made fully aware that the risks of delayed access to hospital care for emergency conditions can be much higher than those posed by COVID-19. Specific duties and obligations of different types of health-care professionals should be clearly defined, taking into consideration the risk level of the working environment, the health-care worker's specialty, the probable harms and benefits of treatment, and competing obligations deriving from workers' multiple roles.[4,5]

We obtained verbal consent from parents and caregivers of all patients reported here. We declare no competing interests. ML analysed the data and drafted the manuscript. All authors provided the data, and revised and approved the manuscript.

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1 Istituto Superiore di Sanità. Epidemia COVID-19. April 2, 2020. https://www.epicentro.iss.it/coronavirus/bollettino/Bollettino-sorveglianza-integrata-COVID-19_2-aprile-2020.pdf (accessed April 6, 2020).

2 Dong Y, Mo X, Hu Y, et al. Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. *Pediatrics* 2020; published online March 16. DOI:10.1542/peds.2020-0702.

3 Chang HJ, Huang N, Lee CH, Hsu YJ, Hsieh CJ, Chou YJ. The impact of the SARS epidemic on the utilization of medical services: SARS and the fear of SARS. *Am J Public Health* 2004; **94:** 562–64.

4 Sokol DK. Virulent epidemics and scope of healthcare workers' duty of care. *Emerg Infect Dis* 2006; **12:** 1238–41.

5 Voo TC, Capps B. Influenza pandemic and the duties of healthcare professionals. *Singapore Med J* 2010; **51:** 275–81.