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# The Implications of the COVID-19 Pandemic for Pediatric Primary Care Practice in Europe

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The COVID-19 pandemic has taken a heavy toll on the adult population<sup>1</sup>. In the US, out of 1.4 million diagnosed with COVID-19, 154 children have died<sup>2</sup>. In a large cohort study of 135,794 children tested for COVID-19, the infection rate was low (4%), many positive children remained asymptomatic, and if signs of illness were present, disease symptoms were typically mild. The case fatality rate in this group was 0.2%<sup>3</sup>. In Europe, early studies showed a low fatality rate (0.69%) in children who tested positive for COVID-19, and 4% developed severe illness<sup>4</sup>. Low mortality and morbidity rates due to COVID-19 in European children during the pandemic were confirmed by the statistical office of the European Union<sup>5</sup>.

However, despite the available evidence suggesting that the direct impact of COVID-19 on child and adolescent mortality and morbidity is somehow limited, child services suffered important indirect effects, mainly due to discontinuities shown throughout Europe by many local health systems strained by the pandemic<sup>6</sup>. The disruptions to care-seeking and preventive interventions in the majority of European countries, including checks for healthy children, vaccination plans, and mental disorders programs were extensive and concerned the European pediatric societies<sup>7</sup>. The aim of this commentary, jointly authored by the by the European Confederation of Primary Care Pediatricians (ECPCP) and EPA-UNEPSA, is to raise awareness of the indirect consequences caused by the pandemic on pediatric primary care practice in Europe and the risks for child health and wellbeing.

### **Indirect impact of COVID 19 on pediatric primary care practice in Europe**

European countries have seen a two-wave pattern in reported cases of coronavirus disease-19 in 2020, with a first wave during the months of March-July, followed by a second wave in late summer and autumn of the same year. The first wave caused a pronounced indirect impact on health services for children and changes in the daily practice of pediatric primary care. Considerable disruption of essential health services took place in many countries<sup>7,8,9</sup>. The measures taken by governments to contain the crisis often raised criticism from the European pediatrics societies, due to their frequent changes and the overall negative impact largely observed on children's physical and mental health, and on their education<sup>10,11,12</sup>.

In summer 2020, ECPCP performed a study involving the majority of its member societies. Data from primary care pediatricians working in 17 European countries during the first wave of the COVID-19 pandemic

were collected by a questionnaire, with the aim to obtain information about the consequences of the pandemic on pediatric primary care practice in different local realities and their risk for child health<sup>13,14</sup>. The study showed that significant adjustments in daily pediatric practice took place during the generalized lockdown accompanying the first pandemic wave of COVID-19. Several changes in routine clinical practice were made by pediatricians in order to minimize the transmission of COVID-19 from patient to patient and among the staff working in the office settings. At the beginning of the pandemic a serious shortage of protective equipment endangered health workers worldwide<sup>15</sup>, particularly in ambulatory settings<sup>16,17</sup>. However, 95% of European primary care pediatricians reported a systematic use of personal protective clothing and face masks within a short time from the onset of the pandemic, and their commitment (92%) to maintain this practice beyond its end<sup>13</sup>.

With the intent to compensate for potentially infectious encounters, in-person visits were significantly reduced and replaced with phone and, to a lesser extent, video consultations. 55% of primary care pediatricians reported that during Summer 2020 of the COVID-19 pandemic, in-person consultations dropped from 40% to over 80%. However, an effort was made to continue offering the option of pediatrician–patient encounters by applying the “ECPCP empty waiting-room policy,” characterized by well-planned schedules of appointments, which helped minimize the waiting time and discouraged unscheduled walk-in-visits<sup>13</sup>. In most European countries, primary care pediatricians followed the directions recommended by local public health departments and WHO health officials and limited the number of accompanying persons during visits in private setting such that children could only be accompanied by one caretaker<sup>18,19</sup>. As a result, crowding of patients in waiting rooms was significantly prevented<sup>13</sup>. Providing separate rooms and separate consulting hours for infectious and non-infectious patients was used as an additional important safety measure, although it was not possible in all circumstances.

However, the changes applied to routine practice due to the pandemic and fearful attitudes by parents caused unintended and sometimes negative consequences<sup>13</sup>. As reported by 40% of pediatricians participating in the ECPCP study, at the beginning of the epidemic a considerable number of patients with minor illnesses were discouraged to come to doctor’s offices, which had the unintended effect that serious conditions were sometimes recognized late, thereby increasing the risks for complications<sup>13</sup>. A large number of pediatricians in-

volved in the study (86%) reported that due to the restricted access to emergency services, in many cases, the families of their patients admitted to have failed or delayed to report to the local health authorities, serious health conditions or life-threatening diseases different from COVID 19 involving their children. The health conditions which were most often unreported included diabetic ketoacidosis, hematology and oncology diseases, appendicitis, peritonitis, child abuse, severe bacterial infections such as urinary tract infection, meningitis, pneumonia and acute cardiac problems<sup>13</sup>. Similar data were reported in the US<sup>20</sup> and Israel<sup>21</sup>. A study involving 53 Italian diabetes centers revealed that COVID-19 has significantly worsened the presentation of type 1 diabetes in children<sup>8</sup>.

### **Decline in vaccinations during COVID 19**

Since the summer of 2020 the World Health Organization and UNICEF warned of an alarming decline in the number of children receiving life-saving vaccines around the world<sup>22</sup>. According to data collected in collaboration with the US Centers for Disease Control, the Sabin Vaccine Institute, and Johns Hopkins Bloomberg School of Public Health, three quarters of 82 countries involved in a preliminary study, reported a significant COVID-19 related disruptions in their immunization programs by May 2020<sup>22</sup>.

Similar alarming data were recorded by the ECPCP study, as primary care pediatricians reported a decrease in vaccination coverage in the various European countries, which ranged from 11% to over 50%, in children under and over 2 years of age. A main obstacle reported by the European pediatricians in the implementation of vaccination programs, was the fear of families to leave home during lockdown and the hesitation to vaccinate their children at all during corona times<sup>22,23</sup>.

### **Negative impact of COVID 19 lockdown on children's social interactions and well-being**

Social distancing during COVID-19 has caused a drastic upheaval to the way people work and socialize. Many children have been uprooted from their places of education and care, and it may be difficult for them to understand why their routine has been disrupted. Not much is known about the long-term mental health effects of large-scale disease outbreaks on children and adolescents<sup>24</sup>. However, monitoring young people's mental health status over the long term, and studying how prolonged school closures, strict social distancing

measures, and the changes in life-styles caused by the pandemic affect the wellbeing of children and adolescents would be greatly useful<sup>24</sup>. Although during school closure parents had the chance to dedicate more valuable time to their children, in many cases COVID-19 has contributed to increased external stressors and lowered the quality of social relationships and family cohesion<sup>25</sup>. In families that spend longer periods of time together, COVID-19 may exacerbate pre-existing vulnerabilities including depression and anxiety, which can harm the stability of relationships and increase the risks of abuse and violence<sup>25,26</sup>. The European societies of primary care pediatrics have advised the EU public health authorities about these risks and stressed the importance of a coordinated approach by pediatricians and mental health service providers to properly manage the whole range of conditions affecting the mental wellbeing of children caused by the pandemic<sup>9</sup>.

The lockdown due to COVID 19 has also caused socio-economic inequalities to raise, including worsened educational performances of children from poor socio-economic backgrounds, who could not be adequately supported by their parents during home schooling (Figure; available at [www.jpeds.com](http://www.jpeds.com)). In Europe, 76% of ECPCP members interviewed endorsed the statement that children should go back to school to further their social development, as the benefits may outweigh the risks, if all official public health requirements are observed and under the condition that adequate personal protection for the school staff could be guaranteed.

## Conclusions

Coordinated efforts among healthcare professionals<sup>27</sup> will allow maintaining the best provision of child health care both for sick and healthy children during the future course of the pandemic. To maintain a high quality level of pediatric primary care practice in Europe, legislators, health authorities and professional pediatric societies should collaborate closely<sup>28</sup>. In view of the challenges posed by the pandemic, the data provided by ECPCP suggest that it will be essential to implement a strategy aiming at preserving the continuity of preventive services and vaccination programs and focusing on the free fearless access of all children to health services.

**Abréviations :**

European Confederation of Primary Care Pediatricians: ECPCP

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Figure.1

