



Education and mental health: good reasons to vaccinate children

Simon Cauchemez, Paolo Bosetti, Cécile Tran Kiem, Violette Mouro, Angèle Consoli, Arnaud Fontanet

► To cite this version:

Simon Cauchemez, Paolo Bosetti, Cécile Tran Kiem, Violette Mouro, Angèle Consoli, et al.. Education and mental health: good reasons to vaccinate children. *The Lancet*, Elsevier, 2021, 398 (10298), pp.387. 10.1016/S0140-6736(21)01453-7 . pasteur-03326001

HAL Id: pasteur-03326001

<https://hal-pasteur.archives-ouvertes.fr/pasteur-03326001>

Submitted on 27 Aug 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Vaccinate children and adolescents against SARS-CoV-2 to secure their access to education and protect their mental health

Simon Cauchemez PhD¹, Paolo Bosetti PhD¹, Cécile Tran Kiem MSc^{1,2}, Violette Mouro BSc MA³, Angèle Consoli MD PhD^{4,5}, Prof Arnaud Fontanet DrPH^{6,7}

1. Mathematical Modelling of Infectious Diseases Unit, Institut Pasteur, UMR2000, CNRS, Paris, France
2. Collège Doctoral, Sorbonne Université, Paris, France
3. French COVID-19 Vaccine Strategy Committee, Paris, France
4. Department of Child and Adolescent Psychiatry, Sorbonne Université, Hôpital Pitié-Salpêtrière, AP-HP, Paris, France
5. GRC 15 PSYDEV, Troubles psychiatriques et développement, Sorbonne Université, Paris, France
6. Emerging Diseases Epidemiology Unit, Institut Pasteur, Paris, France
7. PACRI Unit, Conservatoire National des Arts et Métiers, Paris, France

Corresponding author:

Simon Cauchemez

Mathematical Modelling of Infectious Diseases Unit, Institut Pasteur

28 rue du Dr Roux

75015 Paris, France

Given the elevated transmissibility of circulating SARS-CoV-2 variants, vaccination coverages as high as 90% in adults may be necessary to fully relax control measures in the fall.¹ Such targets may be hard to achieve given vaccine hesitancy. There is therefore a risk that COVID-19 might cause substantial stress on healthcare next winter. The vaccination of children and adolescents could help mitigate this risk by ensuring they do not act as a reservoir from which SARS-CoV-2 could disseminate.¹ However, since COVID-19 is mild in children,² such intervention might be ethically problematic if the population benefits come without individual benefits for children. Here, we argue that vaccinating children and adolescents is important to secure their continued access to education and protect their mental health.

In case of an important COVID-19 epidemic rebound in the fall, we anticipate that control strategies will evolve to preferably target unvaccinated individuals, accounting for the limited contribution of vaccinated individuals to disease spread. Having a child attending secondary education currently increases the risk of SARS-CoV-2 infection by 18-30%.³ This contribution to disease spread should dramatically increase once children are the only unvaccinated group, leading to a larger proportion of infections and clusters occurring in schools. While such clusters might be tolerated if hospitalisation levels remain low, there is a point beyond which class closures might be reinstated. This would be highly detrimental to the education and well-being of children and adolescents who are increasingly suffering from disruption to schooling.⁴ School closure can impact school learning, lead to anxiety and depressive symptoms, exacerbate tensions or even intra-family violence and deepen social inequalities.

Early data from clinical trials suggest that the BNT162b2 Covid-19 mRNA vaccine is safe and highly immunogenic in adolescents aged 12-15 years,⁵ and the Food and Drug Administration on 10 May 2021, followed by the European Medicines Agency on 28 May 2021, have extended the use of this vaccine to include adolescents aged 12-15 years. Side effects in vaccinated adolescents should be carefully monitored at population level to make sure that rare but severe side effects would not go unnoticed. As data from ongoing trials in

children less than 12 years of age will become available in the fall, vaccination in younger age groups may be considered.

At a time when we all wish for a return to normal life, we cannot ignore that children share the same aspirations. The vaccination of children against COVID-19 would be the best way to insulate them from the risk of class closures, secure their continued access to education and protect their mental health.

Acknowledgements: We acknowledge financial support from the Investissement d’Avenir program, the Laboratoire d’Excellence Integrative Biology of Emerging Infectious Diseases program (grant ANR-10-LABX-62-IBEID), the European Union’s Horizon 2020 research and innovation program under grants 101003589 (RECOVER) and 874735 (VEO). The authors declare no conflict of interest. The funders had no role in the correspondence. SC had final responsibility for the decision to submit for publication.

References

1. Tran Kiem C, Massonnaud C, Levy-Bruhl D, et al. Short and medium-term challenges for COVID-19 vaccination: from prioritisation to the relaxation of measures. 2021; published online April 6. <https://hal-pasteur.archives-ouvertes.fr/pasteur-03190243/document> (accessed May 27, 2021).
2. Hoang A, Chorath K, Moreira A, et al. COVID-19 in 7780 pediatric patients: A systematic review. *EClinicalMedicine* 2020;24:100433. doi: 10.1016/j.eclinm.2020.100433. eCollection 2020.
3. Galmiche S, Charmet T, Schaeffer L, et al. Exposures associated with SARS-CoV-2 infection in France: A nationwide online case-control study. *Lancet Regional Health Europe* 2021 (in press).

4. YoungMinds. Coronavirus: impact on young people with mental health needs. 2021. Survey 4: February 2021. <https://youngminds.org.uk/media/4350/coronavirus-report-winter.pdf> (accessed on 27 May 2021).
5. Frenck RW, Klein NP, Kitchin N et al. Safety, immunogenicity, and efficacy of the BNT162b2 Covid-19 vaccine in adolescents. *New Engl J Med* 2021. Published on May 27, 2021 DOI: 10.1056/NEJMoa2107456