

Coronavirus disease (COVID-19) – impact on vaccine preventable diseases

Daniel Hungerford¹, Nigel A Cunliffe¹

1. The Centre for Global Vaccine Research, Institute of Infection and Global Health, University of Liverpool, members of Liverpool Health Partners, Liverpool, United Kingdom.

Correspondence: Daniel Hungerford (d.hungerford@liverpool.ac.uk)

Citation style for this article:

Hungerford Daniel, Cunliffe Nigel A. Coronavirus disease (COVID-19) – impact on vaccine preventable diseases. *Euro Surveill.* 2020;25(18):pii=2000756. <https://doi.org/10.2807/1560-7917.ES.2020.25.18.2000756>

Article submitted on 27 Apr 2020 / accepted on 29 Apr 2020 / published on 07 May 2020

To the editor: We read with interest the short notice about the launch of the European Vaccination Information Portal in conjunction with the European Immunization Week 2020 [1]. We believe this launch comes at a critical time, as the response to coronavirus disease (COVID-19) consumes government, public health and clinical resources. But what does this mean for vaccine preventable diseases (VPDs)?

Many countries with confirmed COVID-19 cases initiated ‘lockdown’ as a response to the pandemic, with implementation of strict social distancing, isolation and quarantine. This will likely reduce community transmission of many VPDs. But lockdown will also present a huge challenge for general practitioners (GPs) and community healthcare to deliver immunisations to 2020 birth cohorts, initiate catch-up campaigns with older cohorts and deliver immunisations to at-risk groups. Household isolation and COVID-19 illness in families with new-born children, combined with disruption to vaccine supply, healthcare staffing shortages and enhanced infection prevention procedures, are likely to significantly reduce opportunities for timely delivery of routine immunisations.

Uptake of vaccines in Europe has continued to decline in recent years, including in the United Kingdom (UK) [2]. The fall in MMR vaccine coverage has been followed by large outbreaks of measles, with more than 500,000 confirmed cases globally in 2019, more than in any single year since 2006 [3,4]. While spring and summer 2020 are anticipated to be accompanied by a lower incidence of many VPDs, possible further declines in routine vaccine uptake in 2020 birth cohorts may surpass recent years, and thus generate a record number of susceptible children. If lockdown ends, social distancing relaxes and formal schooling returns before, or during the 2020/21 autumn and winter season, then outbreaks of diseases such as measles, pertussis, and rotavirus gastroenteritis appear inevitable.

While governments, healthcare professionals and researchers are rightly focusing on the immediate response to the COVID-19 pandemic, we must ensure that sufficient resource and consideration is given to delivery of routine vaccinations. This has been highlighted in the UK by National Health Service England and Public Health England, who have recommended GP practices continue with routine immunisation services without delays [5]. This is clearly the appropriate public health approach, but the practicalities of delivering immunisations under the strain of the COVID-19 outbreak will inevitably lead to unintended drops in vaccine coverage.

In order to rapidly identify hotspots of falling uptake, immunisation rates should be monitored by analysts at the macro- (administrative area) and micro- (GP or neighbourhood level) level. The latter is critical since we know that the most-deprived populations are disproportionately affected by both immunisation service disruption and by disease burden [6]. The UK Parliament’s Knowledge Exchange Unit has created a COVID-19 Outbreak Expert Database, which is intended to enable researcher access to facilitate a rapid response to COVID-19 and its impacts.

Planning for return to pre-pandemic functionality with more relaxed restrictions on social distancing must not only consider COVID-19 transmission but also the ability of the health service to cope with more endemic infection challenges. This decision should be informed by evidence from vaccine coverage surveillance, modelling and expert information from GPs and immunisation teams. This will help ensure coverage in infant cohorts has reached a threshold whereby the risk of VPD outbreaks are acceptably low. The world cannot afford a legacy of this pandemic to be increased disability and mortality from VPDs.

Acknowledgements

No associated funding. Daniel Hungerford is funded outside the scope of work by an NIHR Post-Doctoral Fellowship (PDF-2018-11-ST2-006).

Conflict of interest

Daniel Hungerford and Nigel A Cunliffe have previously received research grant support for rotavirus vaccine evaluations from GlaxoSmithKline Biologicals and Daniel Hungerford has received grant support on the topic of rotavirus vaccines from Sanofi Pasteur, and Merck and Co (Kenilworth, New Jersey, US). Nigel A Cunliffe has received honoraria for participation in rotavirus vaccine data safety monitoring committee meetings from GlaxoSmithKline Biologicals. The views expressed are those of the authors and not necessarily those of the NHS, the NIHR, the Department of Health or Public Health England.

Authors' contributions

Daniel Hungerford: Conceptualisation, writing, original draft. Nigel A Cunliffe: Supervision, interpretation, writing, reviewing and editing.

References

1. Eurosurveillance editorial team. European Immunization Week 2020: European Vaccination Information Portal launched. *Euro Surveill.* 2020;25(16):2004232. <https://doi.org/10.2807/1560-7917.ES.2020.25.16.2004232> PMID: 32347202
2. Screening & Immunisations Team (NHS Digital), COVER Team (Public Health England). Childhood vaccination coverage statistics – England, 2018-19. London: National Health Service, Public Health England; 2019. Available from: <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-immunisation-statistics/england-2018-19>
3. Robert A, Funk S, Kucharski AJ. The measles crisis in Europe-the need for a joined-up approach. *Lancet.* 2019;393(10185):2033. [https://doi.org/10.1016/S0140-6736\(19\)31039-6](https://doi.org/10.1016/S0140-6736(19)31039-6) PMID: 31106742
4. Centers for Disease Control and Prevention (CDC). Global measles outbreaks. Atlanta: CDC. [Accessed: 25 Mar 2020]. Available from: <https://www.cdc.gov/globalhealth/measles/globalmeaslesoutbreaks.htm>
5. National Health Service (NHS). Stansted Surgery - COVID-19. London: NHS. [Accessed 25 Mar 2020]. Available from: <http://www.thestanstedssurgery.nhs.uk/covid-19,67853.htm>
6. Hungerford D, Vivancos R, Read JM, Iturriza-Gómara M, French N, Cunliffe NA. Rotavirus vaccine impact and socioeconomic deprivation: an interrupted time-series analysis of gastrointestinal disease outcomes across primary and secondary care in the UK. *BMC Med.* 2018;16(1):10. <https://doi.org/10.1186/s12916-017-0989-z> PMID: 29375036

License, supplementary material and copyright

This is an open-access article distributed under the terms of the Creative Commons Attribution (CC BY 4.0) Licence. You may share and adapt the material, but must give appropriate credit to the source, provide a link to the licence and indicate if changes were made.

Any supplementary material referenced in the article can be found in the online version.

This article is copyright of the authors or their affiliated institutions, 2020.