

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



LSHTM Research Online

Robert, Alexis; Funk, Sebastian; Kucharski, Adam J; (2019) The measles crisis in Europe—the need for a joined-up approach. *The Lancet*, 393 (10185). p. 2033. ISSN 0140-6736 DOI: [https://doi.org/10.1016/s0140-6736\(19\)31039-6](https://doi.org/10.1016/s0140-6736(19)31039-6)

Downloaded from: <http://researchonline.lshtm.ac.uk/id/eprint/4653041/>

DOI: [https://doi.org/10.1016/s0140-6736\(19\)31039-6](https://doi.org/10.1016/s0140-6736(19)31039-6)

Usage Guidelines:

Please refer to usage guidelines at <https://researchonline.lshtm.ac.uk/policies.html> or alternatively contact researchonline@lshtm.ac.uk.

Available under license: <http://creativecommons.org/licenses/by-nc-nd/2.5/>

<https://researchonline.lshtm.ac.uk>

Correspondence: The measles crisis in Europe - highlighting the need for a joined-up approach

Measles elimination in Europe is in crisis. More than 80,000 confirmed cases were reported in 2018 in the 53 countries of the WHO European Region, the highest for 20 years. Fourteen countries in the region reported more than 500 confirmed cases, including four previously deemed to have eliminated measles (Greece, Albania, Israel and the United Kingdom), that is interrupted transmission for three years. New strategies are urgently needed to put measles elimination in Europe back on track.

In theory, controlling measles should be straightforward. Two doses of the MMR (measles-mumps-rubella) vaccine provide highly efficacious long-lasting protection. Yet in practice, achieving elimination has proven challenging. One of the most contagious diseases, measles can strike susceptible pockets even if national-level vaccination coverage is high. While asserting elimination status for individual nations may serve as a motivational tool, countries can experience large outbreaks even after several years of interrupted transmission. Countries such as Greece, Germany and Kyrgyzstan reported consistently high MMR uptake over the past decade but are still experiencing outbreaks. Moreover, outbreaks do not occur in isolation: they traverse country borders, sometimes lasting years and affecting different countries at different times¹.

In the light of these issues, there is a need to link efforts across the continent. The Pan-American Health Organisation interrupted measles transmission in the early 2000s through combined strategies including high routine immunisation, catch-up campaigns during periods of low transmission and follow-up campaigns ensuring high levels of immunity at the age of school entry, all applied uniformly across the Americas. Applying a similar joined-up approach in Europe would serve the dual purpose of increasing immunity in the general population while reducing the chance of imported cases reaching susceptible pockets.

Epidemiological investigation would also benefit from combined efforts. Linking genetic and case data to better understand chains of transmission has proven successful for other diseases and may reveal the interconnectivity of measles across Europe². Subnational seroprevalence studies could be used

to better identify pockets of susceptibles³. Improved vaccine supply, advocacy and communication to population groups found to be most at risk could help increase immunity to the levels required⁴. Such efforts would come at a fraction of the cost of responding to outbreaks⁵. The Americas have shown that elimination of measles is feasible through a combination of political willpower, targeted interventions and concerted effort. If Europe can sustain a similar approach, it may still follow suit.

1. Mankertz, A. *et al.* Spread of measles virus D4-Hamburg, Europe, 2008-2011. *Emerg. Infect. Dis.* **17**, 1396–1401 (2011).
2. Vasylyeva, T. I., Friedman, S. R., Paraskevis, D. & Magiorkinis, G. Integrating molecular epidemiology and social network analysis to study infectious diseases: Towards a socio-molecular era for public health. *Infect. Genet. Evol.* **46**, 248–255 (2016).
3. Metcalf, C. J. E. *et al.* Use of serological surveys to generate key insights into the changing global landscape of infectious disease. *Lancet* **388**, 728–730 (2016).
4. Carrillo-Santistevan, P. & Lopalco, P. L. Measles still spreads in Europe: who is responsible for the failure to vaccinate? *Clin. Microbiol. Infect.* **18 Suppl 5**, 50–56 (2012).
5. Ghebrehewet, S. *et al.* The economic cost of measles: Healthcare, public health and societal costs of the 2012-13 outbreak in Merseyside, UK. *Vaccine* **34**, 1823–1831 (2016).