

Measles vaccination: no time to rest



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The 2018 assessment report of the Global Vaccine Action Plan (GVAP)¹ stressed the need to ensure continuity in vaccination programmes “to maintain its [the immunisation community’s] hard-won gains but also aim to do more and to do things better”. The report draws two main conclusions: (1) more than 100 million infants worldwide received the recommended three doses of diphtheria, tetanus toxoids, and pertussis (DTP) vaccine in 2017; and (2) almost 20 million children are estimated to have been undervaccinated in the same year. The report notes that measles elimination took a step back in 2017, when four of the six WHO regions showed an increase in their measles incidence. What are the determinants of this slowing down of the progress? Is it a failure of public governments to sustain local vaccination programmes? Or are these programmes inadequate for the country-specific epidemiological conditions?

Minal Patel and Walter Orenstein² aimed to answer those crucial questions in their retrospective review of global surveillance data in *The Lancet Global Health*, for which they used data submitted to WHO by member states in 2013–17. Following global recommendations,³ measles cases were categorised as programmatically preventable or non-preventable. Preventable cases include those in individuals who should have been vaccinated with the measles-containing vaccine (MCV) according to the national recommendation but did not receive the appropriate number of doses. Non-preventable cases were in patients who had been appropriately vaccinated as per their national schedule or for whom the vaccine was not recommended. Meaningful and relevant figures are presented by the authors and these call national and international immunisation communities into action, to help them get closer to the ambitious, but now unrealistic, targets set for 2020 by the GVAP to achieve measles and rubella elimination in at least five WHO regions.

The authors state that 634 139 measles cases were reported to WHO by 147 (76%) of 194 countries. Considering only those with known vaccination status (434 956 cases), 275 754 (63%) cases were in individuals who failed to receive the age-appropriate number of MCV doses and were thus categorised as programmatically preventable. Within this category, extremely high

proportions of cases (77–91%) occurred in patients aged 1–15 years, in four of the six WHO regions. Europe and the western Pacific region showed a different pattern, also having substantial proportions of cases in adults, suggesting the failure of past immunisation activities on top of suboptimal vaccination coverage in children.

Among the 156 384 (36%) programmatically non-preventable cases, the authors found that 86 352 (55%) were too young to receive their first or second dose, 31 355 (20%) were eligible for only one dose as per the national schedule, and 38 677 (25%) received at least the two recommended doses. Although we are reassured by the introduction of a second routine dose of MCV in the global WHO recommendations, regardless of the level of first-dose MCV coverage,⁴ we are also alarmed by the remaining 86 000 cases in patients who were too young to receive one or both of the doses. Are the schedules appropriate or is there a need to revise the vaccination age to take into consideration local epidemiological scenarios? Further analysis is needed to better understand and disentangle the contribution of the different factors to these overall figures. The measles epidemiological situation now is certainly the result of past vaccination schedules and demographic processes, which have characterised countries’ different fertility and mortality patterns.⁵ Data, like those considered by Patel and Orenstein,² are essential to understand whether country-specific policy is adequate or whether updates are needed. Case-based surveillance systems for measles surely need to be strengthened at national and global levels to closely monitor the epidemiological situation and identify outbreaks as quickly as possible. Ideally, serological studies should also be implemented on a more regular basis to provide age-specific immunity profiles and detect immunity gaps that require targeted policies to achieve and sustain elimination. These data would allow better parameterisation of epidemiological models that could provide extremely valuable support to the design of effective and cost-effective policies.^{5,6} However, serological surveys are extremely expensive and time consuming and present various logistical and statistical challenges that need to be carefully addressed before implementation,⁷ making case-based surveillance even more important.

The past decade has seen major achievements in infectious disease control and measles vaccination

programmes. However, elimination of measles is still a long way off. Local programmes are not reaching all targeted individuals for reasons related to access to vaccination services, vaccine supply, parental attitudes against vaccination, and disinformation.⁸ A better and more convincing implementation of immunisation policies is required at the country and global levels, with more adequate support from all political parties and strong economic commitment by national governments. Austerity measures on public health spending over the past decade have shown to be correlated with downward trends in vaccination coverage levels.⁹ The year 2020 is fast approaching and more efforts are needed to pursue GVAP goals and to shape future strategies to expand the benefits of immunisation to those who are missing out.

Alessia Melegaro

Dondeña Centre for Research on Social Dynamics and Public Policies, Bocconi University, Milan, Italy
alessia.melegaro@unibocconi.it

I declare no competing interests.

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