

## Measles outbreaks: plea for a regular check of the vaccination booklet

**Koch Daniel**

Bundesamt für Gesundheit BAG, Bern, Switzerland

Worldwide, measles cases have increased fourfold during the first three months of 2019 compared with the same period in 2018. Many countries suffer from large-scale outbreaks, mainly due to too low vaccination coverage. In part, this concerns the entire population, but more often only specific subgroups who refuse vaccinations for religious or ideological reasons.

It is just the same in Switzerland: four times more cases were reported this year than in the entire previous year – a decade earlier, however, at the height of the epidemic, the number of cases was more than ten times higher than at this year's peak. This is due to both increasing vaccination coverage among children and adolescents and the interventions to contain outbreaks. As the latest data of the cantonal vaccination coverage monitoring show, 96.6% of 16-year-olds in Switzerland are vaccinated with one dose, and 94.1% with two doses (2016–2018). To reach herd immunity and sustainable interruption of transmission, a coverage of 95% with two doses is required. Switzerland is thus well on the way to achieving the World Health Organization's measles elimination target. To reach this, however, we need to close the vaccination gaps, particularly among young adults.

In fact, an analysis of the more than 200 cases notified in Switzerland since the beginning of 2019 reveals that more than half of documented measles cases occurred in adults. Even a major outbreak among children related to a private school attracting vaccine-critical parents cannot obscure the fact that in recent years the median age of cases has significantly increased [1]. With 61% of cases notified between January 2012 and July 2018 aged 15 or over, measles can no longer be considered a childhood disease. In this context, it is tragic and worrying that in the last three years, two young adults and an elderly person died while suffering from a measles infection. One of the two young adults was vaccinated, but – like the elderly patient – received immunosuppressive therapy for cancer. In both situations, the index cases could not be determined. The virus is so highly contagious that the source of infection is

often not traceable, and usual hygiene measures are not effective for prevention. Elimination and, ultimately, worldwide eradication of measles is the only way to prevent such cases in the future, as the number of immunocompromised people in post-industrialised societies will continue to increase.

Epidemiological information combined with the genotyping of measles viruses enabled the detection of 30 travel-related cases in Switzerland in 2019. A quarter of cases aged 20 and over with a known import status were imported. Obviously, many adults do not check their vaccination status regularly, not even before travelling to areas with known measles outbreaks. Moreover, substantial numbers of citizens cannot find their printed vaccination records. The electronic version could help here, but it is still too little known: it cannot be lost, compares vaccination status with current recommendations and sends automatic reminders for due vaccinations.

However, the digitalisation of the vaccination booklet alone will not be sufficient to close the existing vaccination gaps. More efforts are required from all players involved in vaccination. In order to optimise framework conditions, access and communication around the subject of vaccination, the Swiss Federal Council adopted a National Vaccination Strategy in 2018, including an action plan with detailed interventions. This year, the World Health Organization has launched a consultation for an "Immunization Agenda 2030". To sum up, the problem of measles can only be solved at an international level, and every single country is asked to contribute.

### Disclosure statement

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### Reference

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### Correspondence:

Daniel Koch, MD MPH,  
Head of Division, Federal  
Department of Home Affairs  
FDHA, Federal Office  
of Public Health FOPH,  
Division Communicable  
Diseases, Schwarzen-  
burgstrasse 157, CH-3003  
Bern,  
[daniel.koch\[at\]bag.ad-  
min.ch](mailto:daniel.koch[at]bag.admin.ch)