Measles epidemics in Europe: what needs to be done?

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Acknowledging Laura Cornelissen, Sciensano
Comittee for Elimination of Measles and Rubella in Belgium
## Faculty Disclosure

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Measles in Europe—there is room for improvement

In *The Lancet* today, the EUVAC.NET group\(^1\) have compiled measles data for 2006–07 from 32 European countries, in the context of eliminating measles in the WHO-European Region (WHO-EURO) by 2010. It seems good news that only half as many (3909) measles cases occurred in 2007 as in 2006 (8223). However, preliminary data suggest that measles incidence was about three times higher during the first half of 2008 than in the same period in 2007.\(^{2,3}\) The *relatively low incidence* found by EUVAC.NET in 2007 might therefore mostly reflect the periodicity of measles outbreaks, rather than sudden progress in vaccination. It is encouraging that most of the cases from 2006–07 (77–87%) have occurred in unvaccinated individuals, confirming that the vaccine is highly effective even in the diverse socioeconomic settings of the participating countries and despite different vaccination schedules. Although this finding is not new, it is applicable when increasing populations are exposed to wild-type virus-induced disease.

The situation in the complex with varied two doses. But the coverage of the doses. But the coverage of the

Kremer J, Muller P, Lancet 2009
Comment on Muscat et all, Measles in Europe: an epidemiologic assessment
1) Implement and **maintain** high **vaccination coverage**

- Awareness and commitment by decision makers
- Countries must identify specific obstacles to elimination and design appropriate responses
  - E.g. unfounded reports of side-effects evoked suspension of MR vaccination in Ukraine
- “Hard to reach” populations need special attention
  - E.g. Netherlands’ Bible Belt
  - E.g. unvaccinated Roma started outbreak in Romania
- Catch-up missed/suboptimally vaccinated birth cohorts (adolescent-young adult)
Actions proposed (anno 2009)

2) Strengthen surveillance systems
   • Quick epidemiological and lab investigation of cases
   • Improve contact tracing for swift control measures
   • Virus genotyping to ascertain transmission chains

*Europe should not re-introduce measles to developing countries which are making progress in measles control*
What did WHO Europe do?

- all Member States reconfirmed their commitment to eliminating measles and rubella, and made this a central objective of the European Vaccine Action Plan 2015-2020 (EVAP, 2014).

- The European Regional Verification Commission for Measles and Rubella Elimination (since 2011) evaluates the status of elimination based on documentation submitted annually by each country.

**BUT:** Each country's commitment is influenced by competing health priorities, and in some cases lack of capacity and resources.
Conclusions of the 8th meeting of the European RVC for Measles and Rubella Elimination (June 2019)

In the majority of countries efforts to eliminate measles and rubella continue to result in the achievement or maintenance of interruption of endemic diseases transmission. However, it is of concern that 4 countries* lost their measles-interruption or measles-eliminated status due to continuous transmission of measles virus for over 12 months in 2017 and 2018.

*Albania, Czechia, Greece and the United Kingdom
Of the 12650 cases with known age, 3588 (28%) were children under five years of age, and 7000 (55%) were aged 15 years or older. The highest notification rates were observed in infants under one year and children aged 1–4 years.
WHO response

Emergency response to measles circulation in the Europe Region

The ongoing circulation of measles in the Region continues to be internally classified within WHO as a Grade 2 emergency.

This designation allows the Organization to mobilize the technical, financial and human resources needed to support the affected countries.
European Region loses ground in effort to eliminate measles

Press release

Copenhagen 29 August 2019

Following several years of steady progress toward elimination of measles in the WHO European Region, the number of countries having achieved or sustained elimination of the disease has declined. This was the conclusion of the European Regional Verification Commission for Measles and Rubella Elimination (RVC) based on an assessment of annual status updates for 2018 submitted by the 53 Member States of the Region.

The RVC determined that for the first time since the verification process began in the Region in 2012, 4 countries (Albania, Czechia, Greece and the United Kingdom) lost their measles elimination status.

“Re-establishment of measles transmission is concerning. If high immunization coverage is not achieved and sustained in every community, both children and adults will suffer unnecessarily and some will tragically die,” says Dr Günter Pfaff, Chair of the RVC.

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Measles Outbreak Plagues Europe’s Young Adults

European health authorities struggle to reach a large pool of teenagers and young adults who were never vaccinated
The UK has lost its World Health Organization ‘measles-free’ status

The Prime Minister Boris Johnson has called for health leaders to renew their efforts to ensure 95 per cent of the population have had two doses of the measles, mumps and rubella (MMR) vaccine. Current data suggests only 87.2 per cent of children receive the second dose of the vaccine, down from a high of 88.6 per cent during the 2014 to 2015 period.

"Measles is one of the most infectious diseases known to man – only one person travelling back to an area with lower vaccination rates can lead to an outbreak," says Mary Ramsay, of the government agency Public Health England. “Anyone who has not received two doses of MMR vaccine is always at risk.”

To improve vaccination rates, NHS England will write to all GPs urging them to promote “catch-up” vaccination programmes. The body will also look at strengthening the role of local immunisation coordinators, in a bid to improve uptake of the vaccine.

Misinformation on social media

There are also plans to update advice on the NHS website to specifically address misleading information about vaccines. Social media companies are expected to be called to a summit to discuss how they can promote accurate information about vaccination.

Later this year, the NHS is expected to be asked to find technological solutions to identify who may have missed a vaccination, and to make booking appointments easier, as part of a new strategy developed by the Department for Health and Social Care.
Number of measles cases in EU/EEA in September 2019 (ECDC)
Épidémie de rougeole en Europe: la France doit-elle s'inquiéter?

D'autres épidémies à venir?

Pour que tout le monde soit protégé, il faudrait que 95% des Français soient vaccinés, mais en 2018, seuls 79% des nourrissons étaient vaccinés, selon Santé Publique France. "On ne peut pas atteindre les 100% car..."
Challenges for Europe anno 2019

• Ensure that all population groups have **equitable access** to vaccination services and that these are convenient

• Identify **who has been missed** in the past and reach them with the vaccines they need

• Ensure that **health workers** are **vaccinated** to prevent transmission in health facilities, and that they have sufficient technical **knowledge** about vaccines and the immune system to feel confident in recommending vaccination to their patients

• Improve **outbreak detection and response**
Challenges anno 2019

• Secure access to a timely and affordable supply of vaccines
• Strengthen public trust in vaccines and health authorities
• Listen and respond to people’s concerns and respond to any health event that could be potentially related to vaccine safety.

www.who.int
Let’s talk about protection
Childhood Vaccination
Flipbook to support conversations with parents and caregivers
Challenges anno 2019

• Secure access to a timely and affordable supply of vaccines

• Strengthen public trust in vaccines and health authorities

• Listen and respond to people’s concerns and respond to any health event that could be potentially related to vaccine safety.

• High vaccination coverage of at least 95% with two doses of measles vaccines in all population groups and age cohorts at national level and in all districts
What did Belgium do?
Actieplan voor de eliminatie van mazelen en rubella in België voor de periode van 2016-2020

- Catch-up in adults, HCW, migrants
- Surveillance and surveys
- Confirmation of cases by NRC
- Inform HCW
- Coordinate responsible agencies
What did Belgium do?

Can Flanders resist the measles outbreak? Assessing vaccination coverage in different age groups among Flemish residents

T. Braeckman¹, H. Theeten¹, M. Roelants², S. Blaizot³, K. Hoppenbrouwers², K. Maertens¹, P. Van Damme¹ and C. Vandermeulen⁴

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Abstract
The Belgian strategic plan to eliminate measles contains several vaccination strategies including routine immunisation programmes and catch-up campaigns. A new expanded programme on immunisation-based survey (2016) assessed the uptake of the recommended measles–mumps–rubella (MMR) vaccine in three different cohorts: toddlers, adolescents and parents of toddlers. A two-stage cluster sampling technique was used to select 875 toddlers (age 18–24 months) and 1359 adolescents (born in 2002) from 107 municipalities in Flanders. After va...
Measles in Belgium, 2019
- until 30/09/2019 (situation 18/11/2019)

Number of measles cases

Year


405* cases
21% Fla
46% Wa

*includes 29 possible
Number of measles cases per age group and vaccination status (31/08/2019)

Age groups
- < 1y
- 01-4y
- 5-9y
- 10-14y
- 15-19y
- 20-24y
- 25-29y
- 30-34y
- 35-39y
- 40+

- Not vaccinated
- Vacc status unknown
- 1 dose
- Number of doses unknown
- Incidence

https://epidemio.wiv-isp.be/ID/Pages/Publications.aspx
### Table 2: Summary of Member States of the WHO European Region by measles and rubella elimination status for 2018

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<thead>
<tr>
<th>Country status in 2018</th>
<th>Measles</th>
<th>Rubella</th>
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<tbody>
<tr>
<td>Eliminated</td>
<td>35 (66%)</td>
<td>39 (73%)</td>
</tr>
<tr>
<td>Interrupted ≥24 months</td>
<td>1 (2%)</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>Interrupted ≥12 months</td>
<td><strong>1 (2%)</strong></td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Endemic</td>
<td>12 (22%)</td>
<td><strong>11 (21%)</strong></td>
</tr>
<tr>
<td>Re-established</td>
<td>4 (8%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>53</strong></td>
<td><strong>53</strong></td>
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What did Belgium change to improve control?

- Recommend adult MMR catch-up (including for travel) up to birth cohort 1970
- Recommend HCW vaccination
- Free of charge MMR for adults (Flanders)
- Travel advice for children <12M (Free of charge)
- Accelerate 2dose: from 10-13y to 8-10 years
- Vaccinate migrants at entry
- Mobile vaccination team (Flanders)
- Age-appropriate vaccination required in daycare (Wallonia)
- 95% coverage of MMR1 all over the country
What more needs to be done?

Ongoing measles outbreak in Wallonia, Belgium, December 2016 to March 2017: characteristics and challenges.

Grammens T¹, Schirvel C², Leenen S², Shodu N², Hutse V³, Mendes da Costa E¹, Sabbe M¹.

Author information
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2 Infectious Disease Surveillance Unit, Agence pour une Vie de Qualité (AViQ), Walloon region, Charleroi, Belgium.
3 National Reference Centre for measles, mumps and rubella, Service of Viral Diseases, Scientific Institute of Public Health, Brussels, Belgium.

Abstract
We describe characteristics of an ongoing measles outbreak in Wallonia, Belgium, and difficulties in control measures implementation. As at 12 March 2017, 177 measles cases were notified, of which 50% were 15 years and older, 49% female. Atypical clinical presentation and severe complications, mainly among adults, in combination with late notification, low or unknown vaccination coverage of contacts, infected healthcare workers and increased workload due to contact tracing, are the main concerns for outbreak management.

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What more needs to be done?

• Continue all efforts
• Extend responsibility of School Health Services
• Educate and Promote HCW vaccination
  • Nurses: Hospital Q target?
  • Including “hard-to-reach”: self-employed etc
  • Including professionals working with infants
• Extend free of charge vaccination of HCW/adults
• Promote catch-up in adults
• Improve communication on supplies
• Increase awareness of the disease
Measles, think of it!

Or only the complication (late presentation):
- Diarrhea, otitis
- Pneumonia
- Bacterial surinfection
- Rhabdomyolysis
- Encephalitis
- Hepatic cytolysis
- Hemorrhage with seizures, delirium and respiratory distress

CDC image
- Fever
- Coryza, cough, conjunctivitis
- Top-down maculopapular rash

Web MD
Suspected Measles, report it!

Lab confirmation or epidemiological linking

Outbreak control: vaccination within 72 hours works!
Vaccinate the unvaccinated!

Find them
Alert them
Convince them