



Measles epidemics in Europe: what needs to be done?

Prof Heidi Theeten, VAXINFECTIO

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

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Measles in Europe—there is room for improvement

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See [Articles](#) page 383

In *The Lancet* today, the EUVAC.NET group¹ 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

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11, 2009

Source: Photo Library

Kremer J, Muller P, *Lancet* 2009

Comment on Muscat et al, Measles in Europe: an epidemiologic assessment

Actions proposed (anno 2009)

- 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.

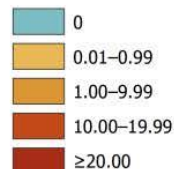
However, it is of concern that **4 countries* lost their measles-interruption or measles-eliminated** status due to continuous transmission of measles virus for over 12 months in 2017 and 2018.

*Albania, Czechia, Greece and the United Kingdom

Figure 2. Measles notification rate per million population by country, EU/EEA, 1 October 2018–30 September 2019



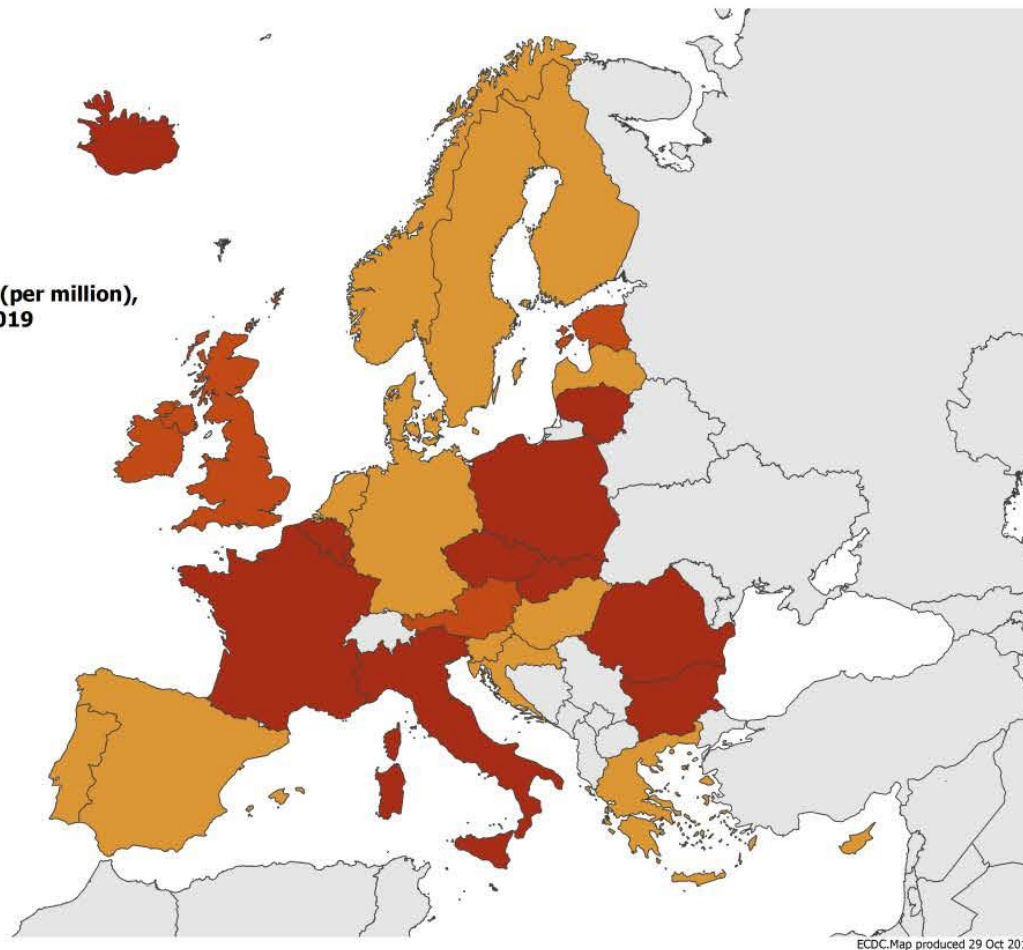
**Notification rate of measles (per million),
October 2018–September 2019**



Not included

Countries not visible
in the main map extent

Luxembourg
Malta



ECDC Map produced 29 Oct 2019

Eleven deaths attributable to measles were reported to TESSy during the 12-month period in Romania (5), France (3), Hungary (1), Italy (1) and the United Kingdom (1); (Figure 3).

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.

For further information from the WHO Regional Office for Europe, contact:

Catharina de Kat

Communications officer
Vaccine-preventable Diseases and
Immunization programme
Tel.: +45 45 33 69 07
Email: reynendekatc@who.int

Liuba Negru

External Relations Officer
Tel.: +45 45 33 67 89
Email: negruL@who.int

WHO Europe - 2019

DJIA Futures **27099** -0.42% ▼

S&P 500 F **2994.75** -0.46% ▼

Stoxx 600 **389.40** -0.61% ▼

U.S. 10 Yr **29/32 Yield** 1.830% ▲

Crude Oil **59.54** 8.55% ▲

Euro **1.1053** -0.19% ▼

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EUROPE

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



HEALTH 19 August 20

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 co-ordinators, in a bid to improve uptake of the vaccine.

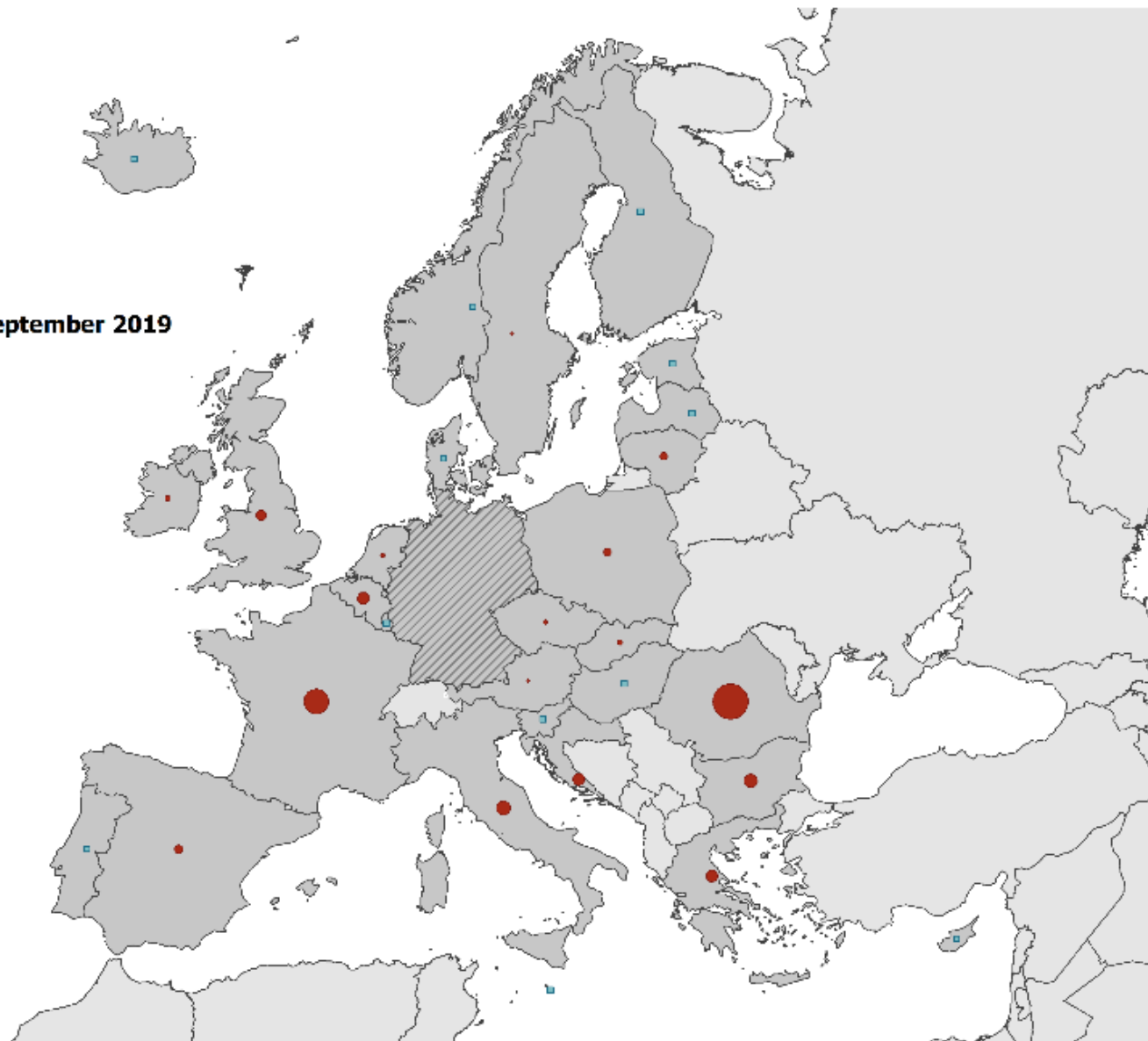
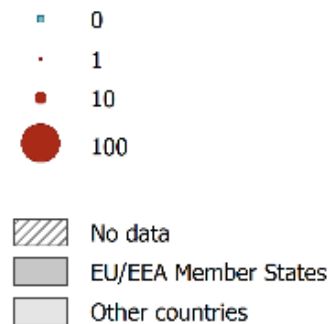
Misinformation on social media

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, September 2019



ECDC, Map produced 29 Oct 2019

Number of measles cases in EU/EEA in September 2019 (ECDC)

Epidémie de rougeole en Europe: la France doit-elle s'inquiéter?

© 29/08/2019 à 16h57



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

Depuis le 1er janvier 2018, la vaccination contre la rougeole est devenue obligatoire chez le nourrisson. "On espère que ça va enrayer la propagation de la rougeole, notamment grâce à ce vaccin obligatoire, et que d'ici une dizaine d'années, l'épidémie prenne fin", explique la virologue. En attendant, il est possible que de nouvelles épidémies traversent la France.

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

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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?



[Home](#) / [Documenten](#) / Actieplan voor de eliminatie van mazelen en rubella in België voor de periode van 2016-2020

Actieplan voor de eliminatie van mazelen en rubella in België voor de periode van 2016-2020

Informatie

Raadpleeg de [Gemeenschappelijke verklaring - eliminatie
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?

Epidemiology and Infection

cambridge.org/hyg

Short Paper

Cite this article: Braeckman T, Theeten H, Roelants M, Blaizot S, Hoppenbrouwers K, Maertens K, Van Damme P, Vandermeulen C (2018). Can Flanders resist the measles outbreak? Assessing vaccination coverage in different age groups among Flemish residents. *Epidemiology and Infection* **146**, 1043–1047. <https://doi.org/10.1017/S0950268818000985>

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MMR vaccination; vaccines; vaccination (immunisation)

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

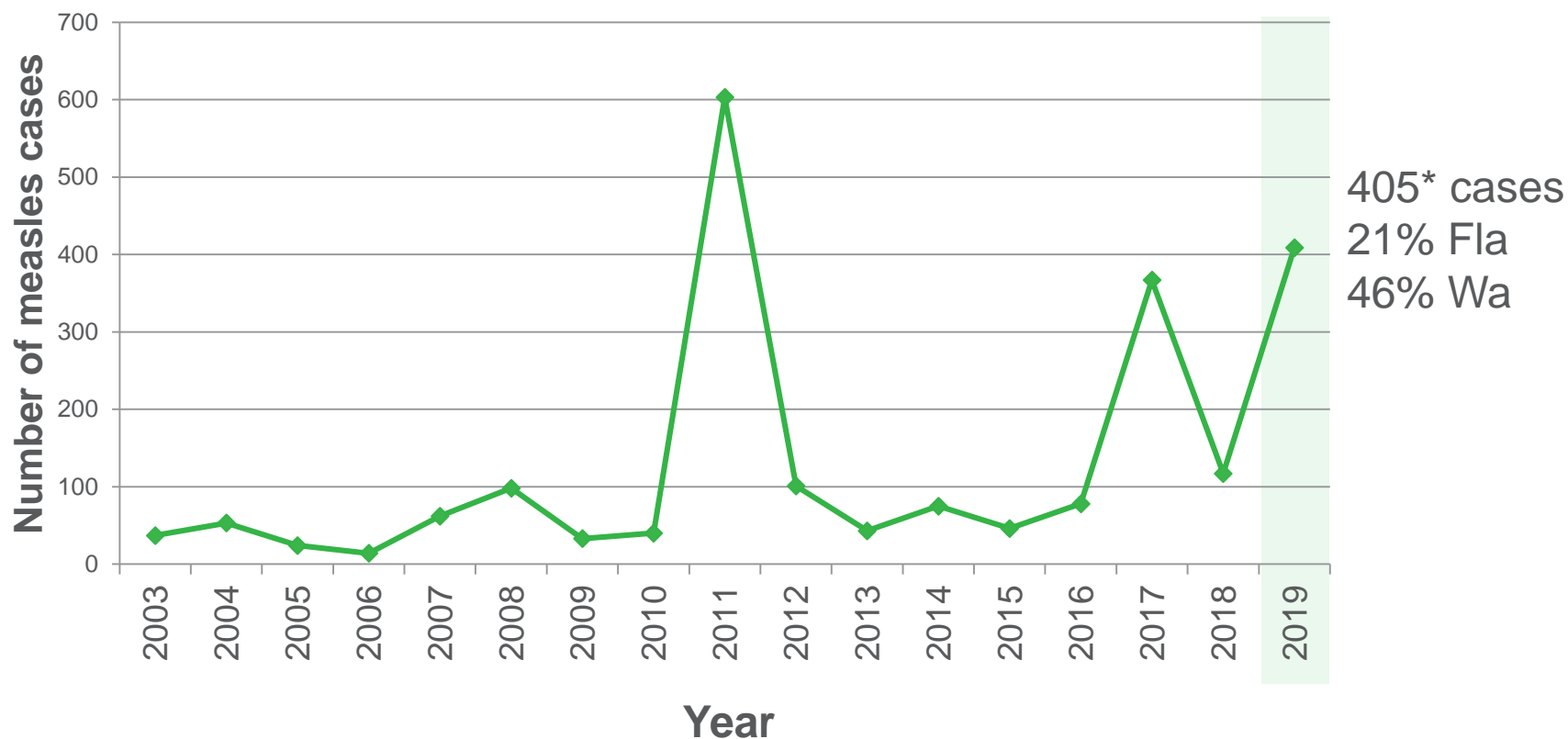
¹Centre for the Evaluation of Vaccination, VAXINFECTIO, University of Antwerp, Universiteitsplein 1, Wilrijk 2610, Belgium; ²Environment and Health, KU Leuven, Kapucijnenvoer 35 blok d, 3000 Leuven, Belgium; ³Centre for Health Economics Research and Modelling Infectious Diseases, VAXINFECTIO, University of Antwerp, Universiteitsplein 1, Wilrijk 2610, Belgium and ⁴Leuven University Vaccinology Center, KU Leuven, Campus Gasthuisberg, Herestraat 49, Leuven 3000, Belgium

Abstract

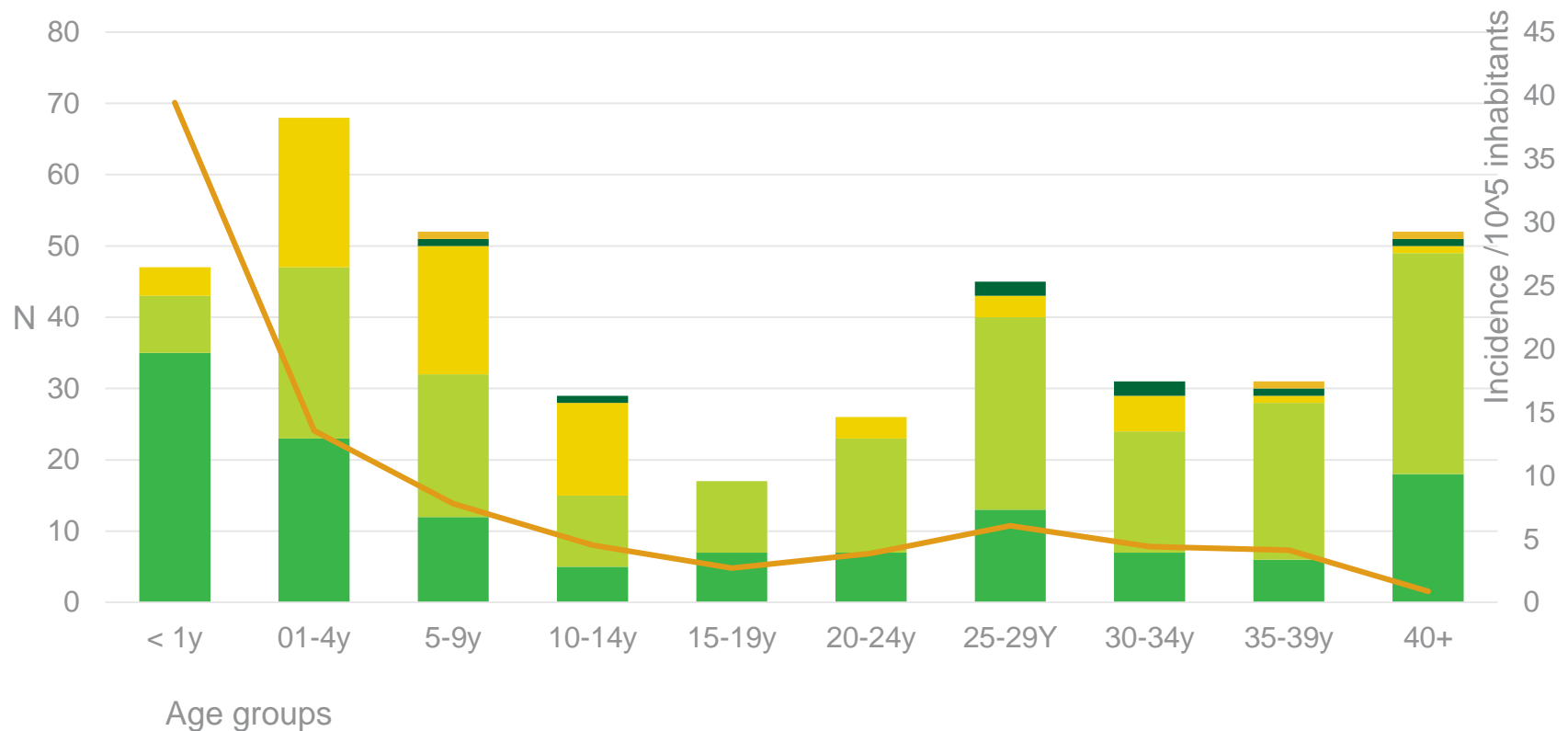
The Belgian strategic plan to eliminate measles contains several vaccination strategies including routine immunisation programmes and catch-up campaigns. A new expanded programme on immunisation-based survey (2016) assessed the uptake of the recommended measles–mumps–rubella (MMR) vaccine in three different cohorts: toddlers, adolescents and parents of toddlers. A two-stage cluster sampling technique was used to select 875 toddlers (age 18–24 months) and 1250 adolescents (born in 2000) from 107 municipalities in Flanders. A survey

Measles in Belgium, 2019

- until 30/09/2019 (situation 18/11/2019)



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



WHO Europe RVC conclusion on ASRU 2018

Table 2: Summary of Member States of the WHO European Region by measles and rubella elimination status for 2018

Country status in 2018	Measles	Rubella
Eliminated	35 (66%)	39 (73%)
Interrupted ≥ 24 months	1 (2%)	3 (6%)
Interrupted ≥ 12 months	1 (2%)	0 (0%)
Endemic	12 (22%)	11 (21%)
Re-established	4 (8%)	0 (0%)
Total	53	53

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?

Euro Surveill. 2017 Apr 27;22(17). pii: 30524. doi: 10.2807/1560-7917.ES.2017.22.17.30524.

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

- 1 Service of Epidemiology of Infectious Diseases, Department of Public Health and Surveillance, Scientific Institute of Public Health, Brussels, Belgium.
- 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

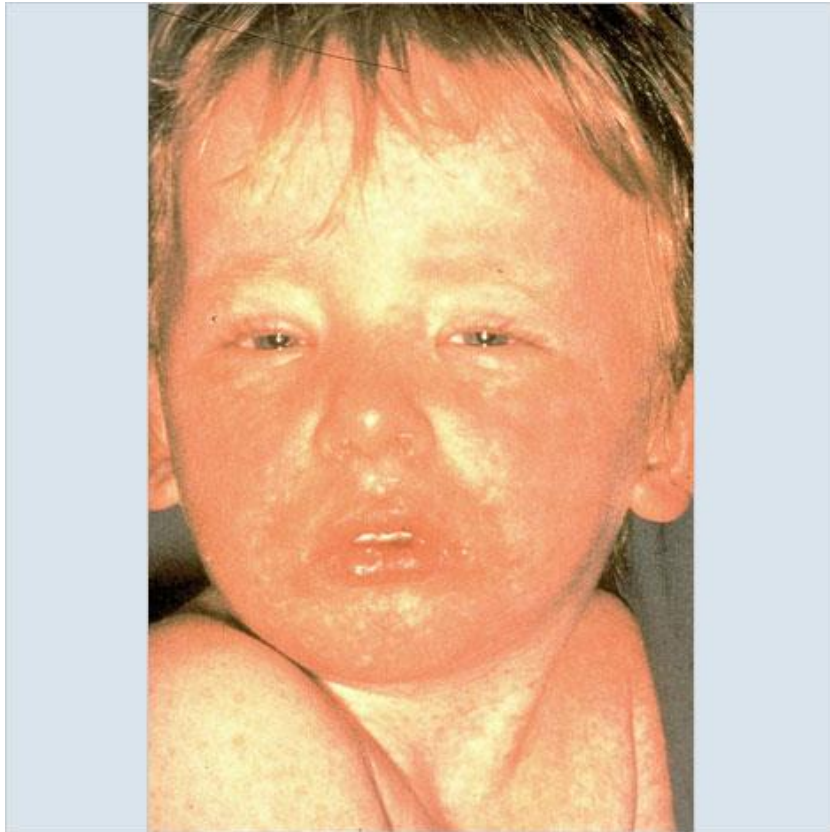
We describe characteristics of an ongoing measles outbreak in Wallonia, Belgium, and difficulties in control measures implementation. As at 12 March 2017, 177 measles cases were notified, of which 50% were 15 years and older, 49% female. **Atypical clinical presentation and severe complications, mainly 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!



CDC image

Fever
Coryza, cough, conjunctivitis
Top-down maculopapular rash



Web MD

Or only the complication (late presentation):

Diarrhea, otitis
Pneumonia
Bacterial surinfection
Rhabdomyolysis
Encephalitis
Hepatic cytolysis
Hemorrhage with seizures, delirium and
respiratory distress

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