



Ongoing measles outbreak in Wallonia, Belgium December 2016 - May 2017

Cellule de surveillance des maladies infectieuses
Nathalie Shodu



Wallonie

AViQ

Agence pour une Vie de Qualité



Familles



Santé



Handicap

Collaboration

📍 WIV-ISP:

Ms. Tine Grammens and Dr. Martine Sabbe

📍 AViQ – Cellule de surveillance des maladies infectieuses:

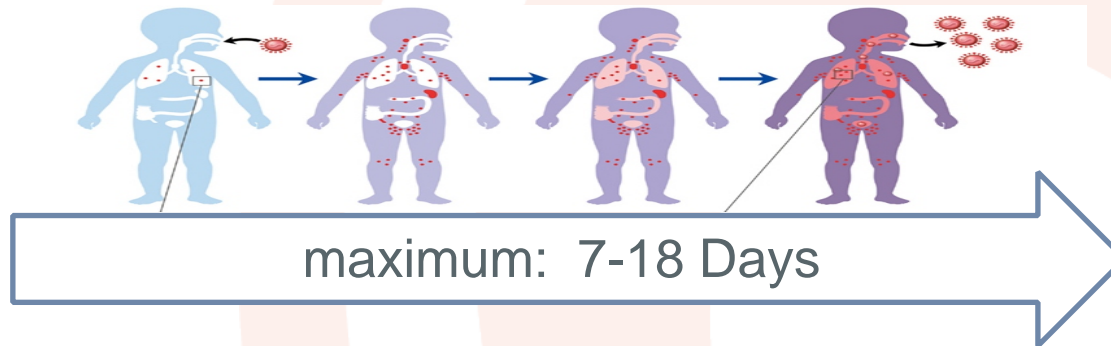
Ms. Sylvie Leenen and Dr. Carole Schirvel

Summary:

1. Presentation of the disease
2. Start of the Outbreak
3. Epidemiology data
4. Conclusion

1. Presentation of the disease

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Symptoms :

Cough
Rhinitis, conjunctivitis, Koplik spots
Maculopapular rash



Complications :

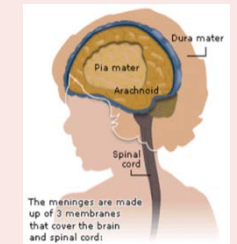
Otitis Media - bronchiolitis (5-10%)
Pneumonitis (2-7%)
Keratitis



Acute Encephalitis (1/1000)

Pregnancy:

- risk of miscarriage
- premature deliveries
- fetal mortality



Laboratory diagnosis:



Sample type	Analysis	Time sampling	Shipment	Conser- vation
Serum	IgM and IgG	7-28 days after start rash	As soon as possible	At 2-5° C until sending samples
Oral Fluid (OF)	IgM	7-28 days after start rash	As soon as possible (within 7 days in lab)	
	PCR (virusdetection)	Max. 7 days after start rash	As soon as possible (within 7 days in lab)	
	Genotyping	Max. 5 days after start rash	As soon as possible	
Naso	PCR (virusdetection)	Max. 7 days after start rash	As soon as possible	
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Hutse V et al. 2010, Int J Infect Dis

<https://nrchm.wiv-isp.be>

2. Start of the Outbreak



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📍 Time ?

Started on 20 December 2016

→ cluster of 3 cases [index case = Belgian citizen who travelled to Romania]

📍 Place ?

4/5 Wallonian provinces except province Luxembourg

📍 Person ?

- Mainly central and eastern European origin

→ unvaccinated/unknown vacc. Status/ transmission within families;

- Spread all over Wallonian citizen (native Belgian, Italians, Marocco ,etc...)

→→→ Age of the cases : 0 month to 68 years old



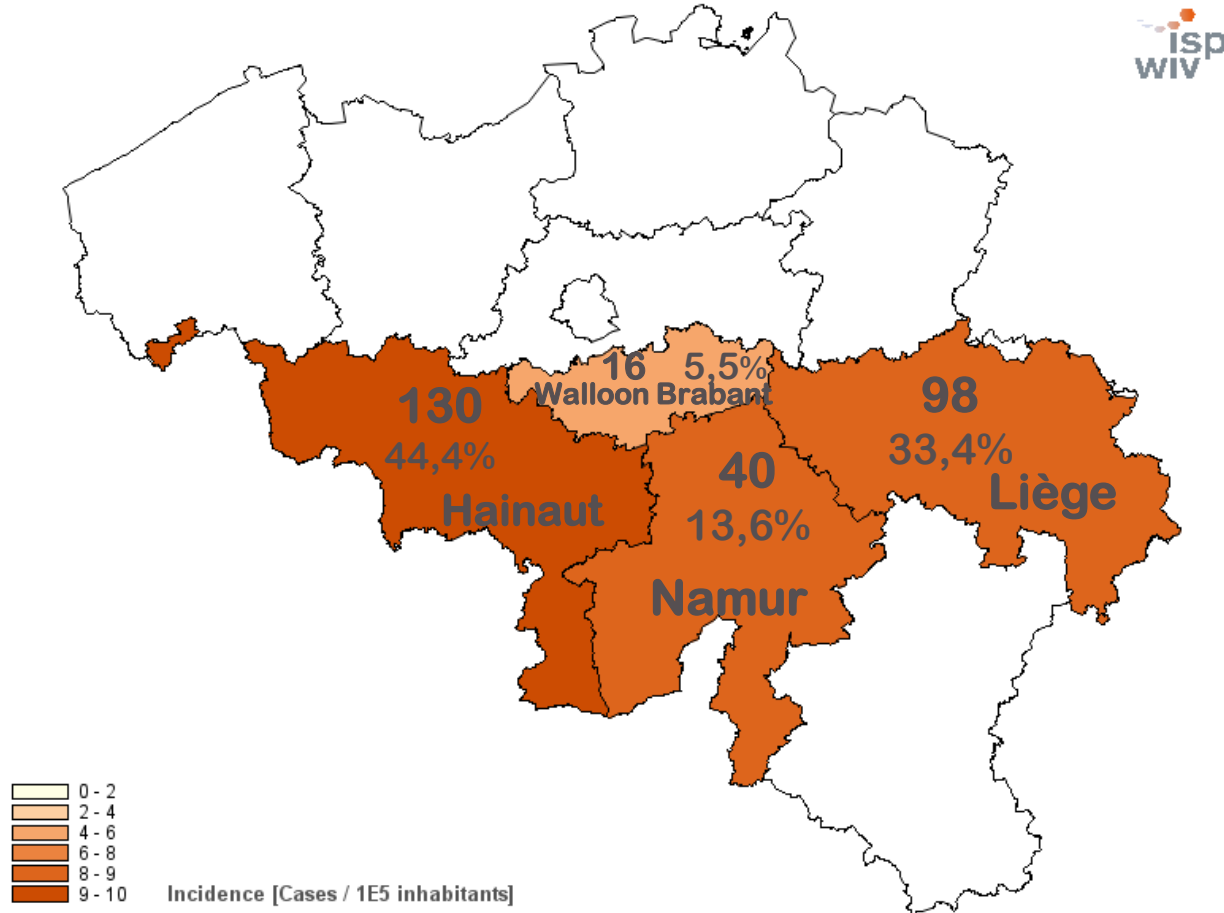
3. Epidemiology data

3.1. Characteristics of the cases

Where???

Measles outbreak Wallonia

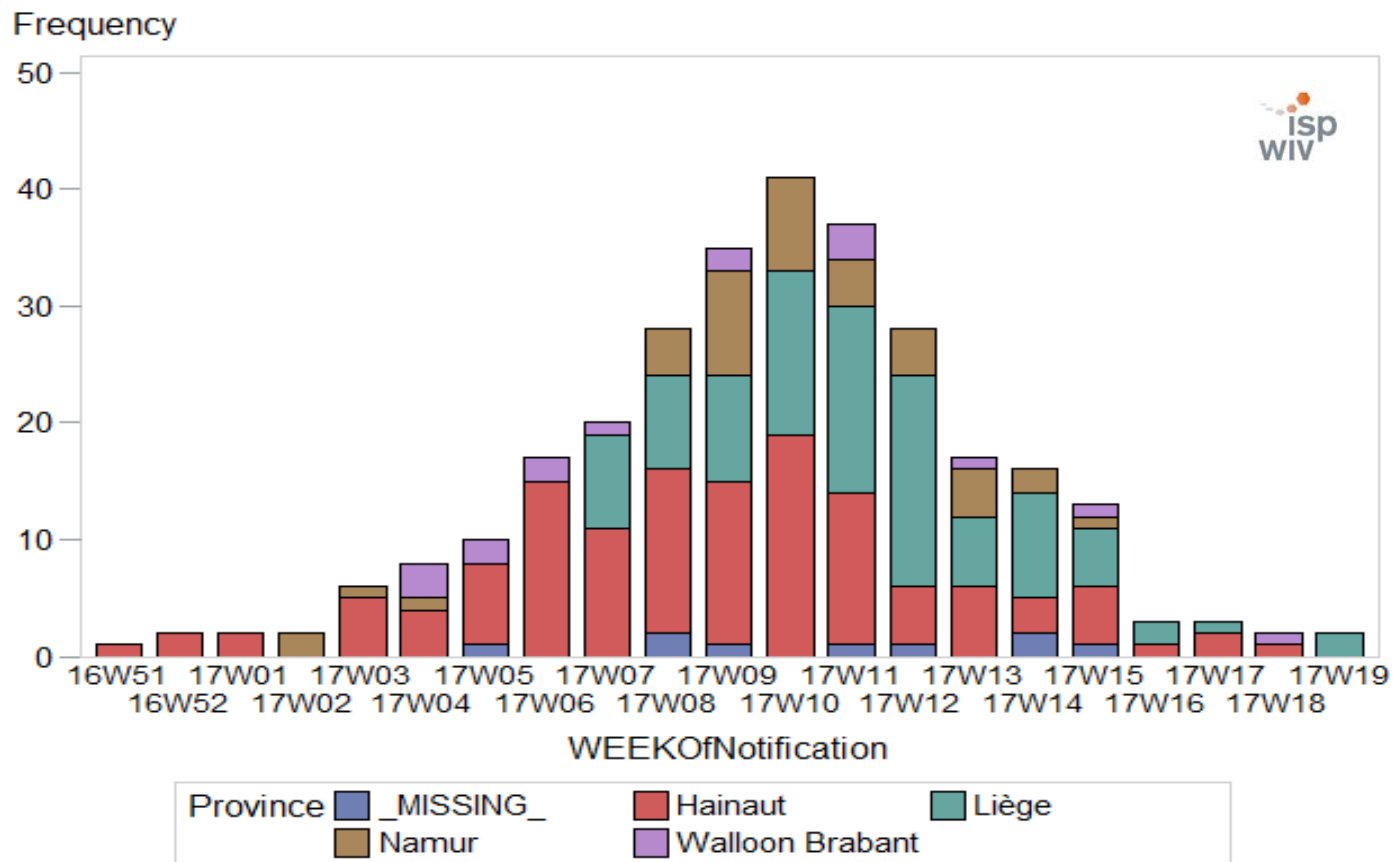
Measles cases per province (N=293)



Preliminary data from 20/12/2016 to 08/05/2017

Measles outbreak Wallonia

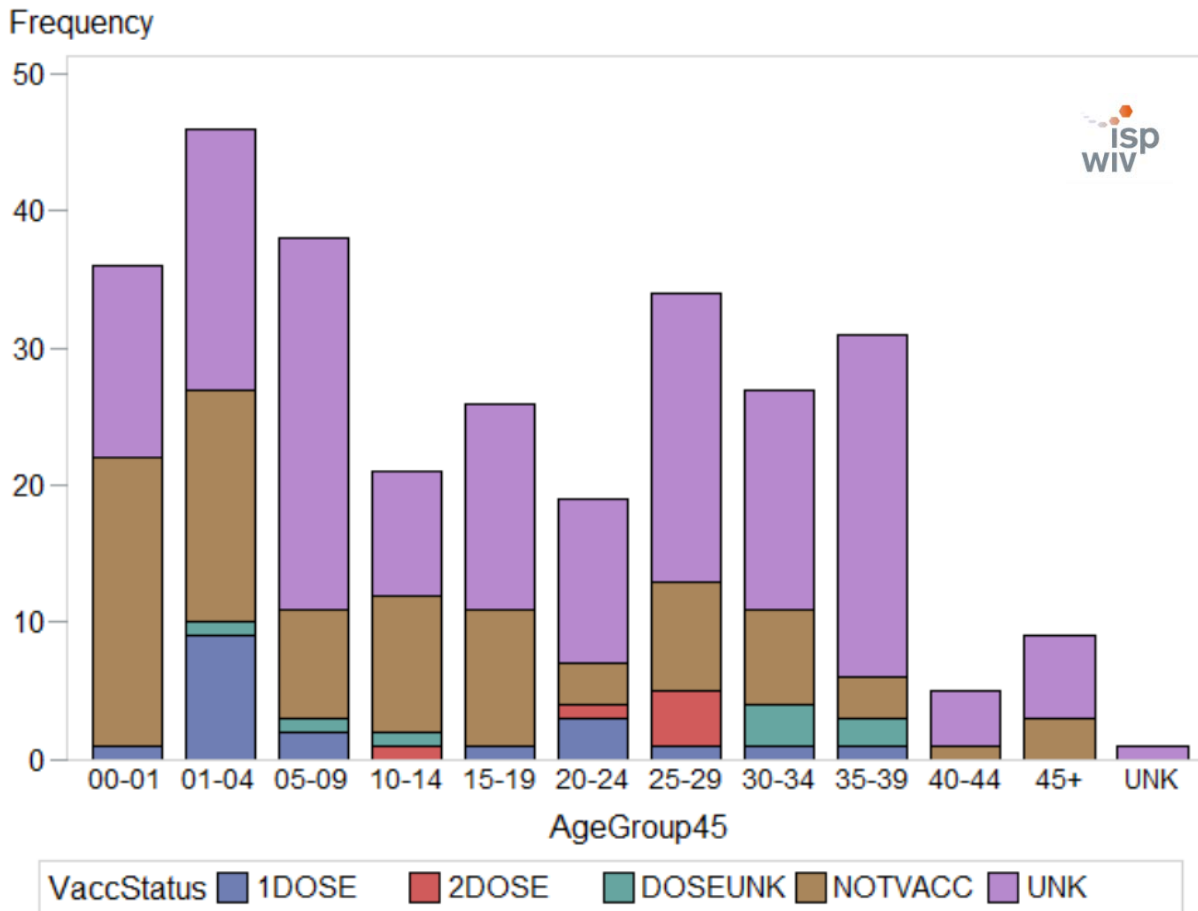
Measles cases per week of notification and per province (N=293)



Preliminary data from 20/12/2016 to 08/05/2017

Measles outbreak Wallonia

Measles cases per age group and vaccination status (N=293)



Not vaccinated	31.1%
1 Dose	6.5%
2 Doses	2.0%
Unknown nb of Doses	2.7%
Unknown vacci status	57.7%

<5y: 28%
>=15y: 52%

+/- 12% of the cases are HCW

Preliminary data from 20/12/2016 to 08/05/2017

3.2. Clinical aspects

Measles outbreak Wallonia - Hospitalisations and complications

Complications in hospitalised patients **Period 20/12/2016 – 12/03/2016 (N=177) ***
Hospitalised: 76/177= 43%

< 5y	5-14y	>= 15y
Dehydration: 6 Febrile convulsions: 1 Pneumonia: 3	Dehydration: 4 Hepatic disorder: 1 Otitis media: 1	Dehydration: 6 Acute encephalitis: 1 Hepatic disorder: 9 Pneumonia: 5 Pancreatitis: 1

Update (08/05/2017): 39% hospitalised (115/293)

Complications:

- 2 acute encephalitis
- 5 pregnant women with hospitalisation (1 preterm delivery)

* Grammens T, Schirvel C, Leenen S, Shodu N, Hutse V, Mendes da Costa E, Sabbe M. Rapid Communication. Ongoing measles outbreak in Wallonia, Belgium, December 2016 to March 2017: characteristics and challenges. Eurosurveillance. 2017 Apr 27;22 (17).

Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=22787>

3.3. Laboratory confirmation

From December 2016 to May 2017:

- 📍 **169** cases were laboratory-confirmed * (58 %) (the majority by the NRC for measles, mumps and rubella at the WIV-ISP)
- 📍 **82** were probable cases (= with an epidemiological link to a confirmed measles case)
- 📍 **42** were possible cases (= based on clinical symptoms)

Genotyping:

- 📍 Performed by the NRC
- 📍 Classified as B3 :
 - same strain as the one identified in the index case
 - same strain circulating in Romania / Italy/ Austria at the end of 2016 [cfr. WHO MeaNS database]**

*Case definition ECDC 2012:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:262:0001:0057:EN:PDF>

**World Health Organization (WHO). Measles Nucleotide Surveillance (MeaNS) Database. Geneva: WHO. Available from:

http://www.hpa-bioinformatics.org.uk/Measles/Public/Web_Front/main.php

Preliminary data from 20/12/2016 to 08/05/2017

3.4. Control measures

📍 Guidelines:

- Contact tracing + source investigation /for each case
- Isolation
- Vaccination proposed to all susceptible contacts [verified based on the vaccination status + date of birth (born < 1970* = considered immunized against measles)]
- Information letters sent to hospitals/ asylum centres/GP's/Parents of the students attending school or nursery where measles cases had been reported / etc.

➔➔➔ Aim: to raise awareness/ to inform/ to prevent by vaccination

📍 Large scale communication methods: press release, public website, emails, newsflash, etc.

* *CSS : « Vaccination de rattrapage, révision 2013. » Chapitre 3.2. Schémas de vaccination de rattrapage chez l'adulte. Available from : https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/19087449/Vaccination%20de%20rattrapage%20%282013%29%20.pdf*



4. Conclusion

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- ④ **Measles is a highly contagious disease**
- ④ **Effectiveness of the vaccination as a preventive measure**
- ④ **Affecting all age groups [52% >15years & 28% < 5years old]**
- ④ **Specificity of this outbreak : +/- 12% of the cases are HCW**
- ④ **Leads to non-negligible complications and hospitalisation in 39% of the cases**
- ④ **Belgium= Endemic country**
- ④ **Status of vaccination of the cases : +/- 73% are unknown status or unvaccinated!!**



Special thanks for your cooperation and support during this outbreak to:

- 📍 Service Epidemiology of Infectious Diseases, WIV-ISP
- 📍 NRC for measles, mumps and rubella
- 📍 CoCom
- 📍 PROVAC - ONE
- 📍 Private and hospital laboratories
- 📍 Hospital doctors and nursing hygienists
- 📍 General practitioners and clinical physicians
- 📍 Etc...