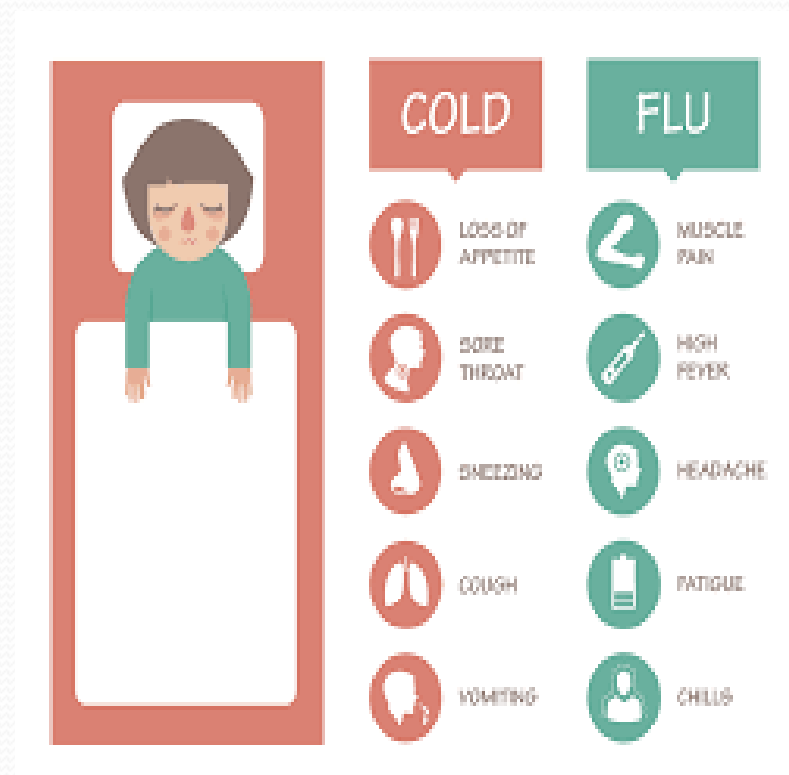


# INFLUENZA

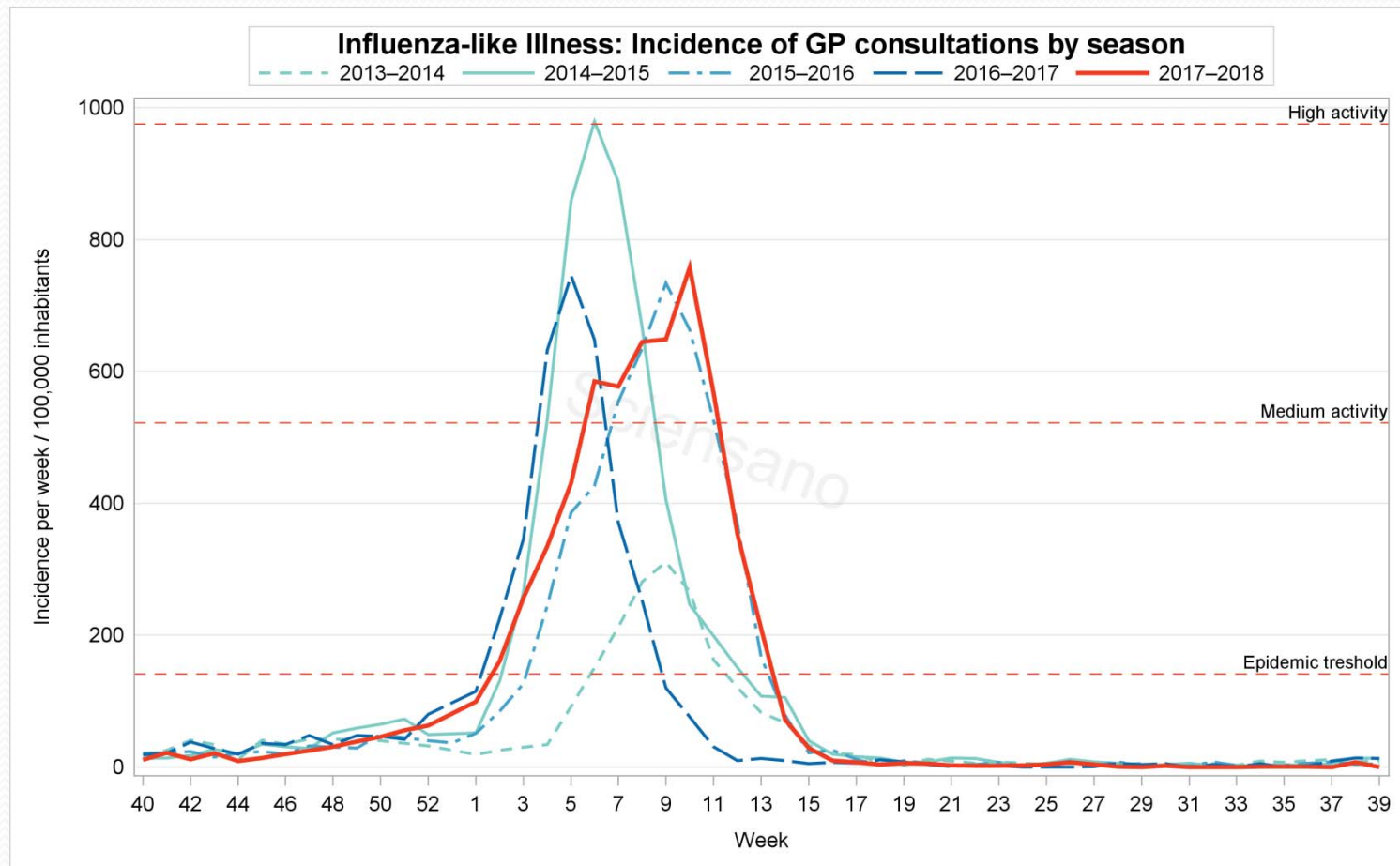
Filip Moerman

6 novembre 2018. CHR

# Flu ≠ Common cold



# Epidemiology. Belgium






# Overview of this presentation.

- Why do people have objections against the vaccine?  
How could we improve coverage?
- Short: Tamiflu® [Oseltamivir]. Indications.





« Evaluation des facteurs  
influançant la compliance du  
personnel soignant de CHU de  
Liège à la vaccination contre la  
grippe »

*Sylvie Lemaire* (MSc Santé Publ)



# Why vaccinating people?

- For you proper protection (risk groups) and to avoid this serious disease.
- For the protection of others: in health care, care providers are source of transmission; the odds of transmission decrease significantly if the care provider is vaccinated\*.

\*Dini, et al. *Hum Vaccin Immunother*2018



# Influenzaviruses belong to the *Orthomyxoviridae*



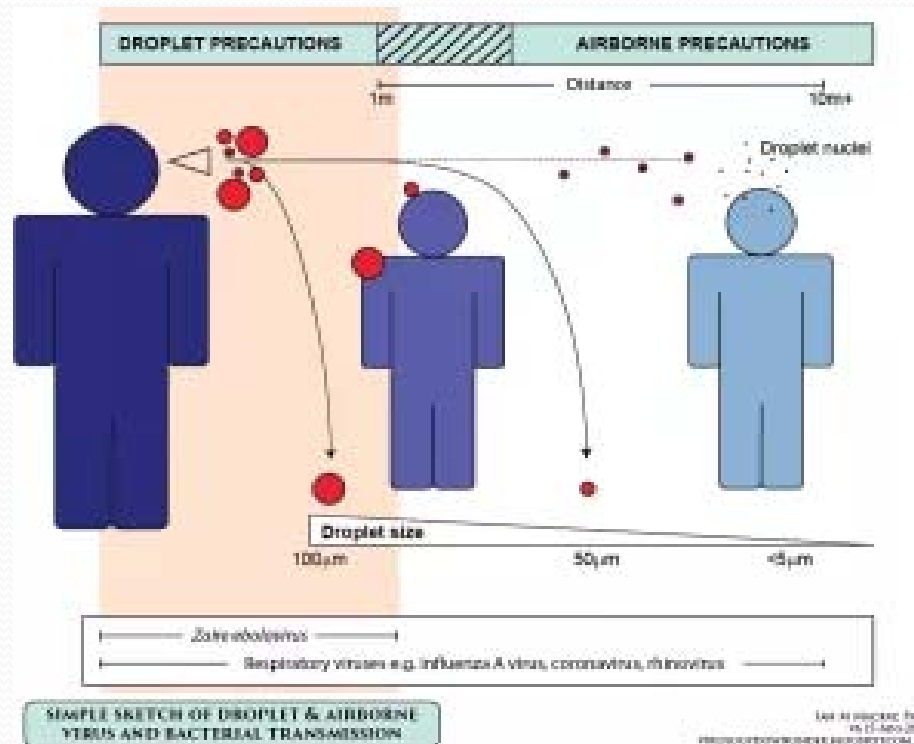
# The virus survives!

- Transmitted through talking, coughing, sneezing, ...  
« Droplet » (*'gouttelettes'*)
- Survives: 5 min on the skin, 3 hrs in dry secretions, 10 hrs in handkerchiefs/clothes, on door handles 2 days (!)
- The infected person is contagious 1-3 days BEFORE symptom onset, and during 5-10 days after; children even longer...\*

\*INPES (France) 2018



# Talking & breathing is enough



# Some misunderstandings

- Several meta-analyses confirm that vaccinating during pregnancy is safe (*Polyzos, et al. 2015*)
- Vaccinating does not cause Flu!! (*Burls, et al. 2006*)
- But....the vaccin does not protect against ‘non-influenza viral illnesses’....
- And – admitted – has not a 100% potential of risk reduction for Influenza (several people suffered from Influenza yet were vaccinated).



# When declining vaccination?

VACCINE INFORMATION STATEMENT	
<b>Influenza (Flu) Vaccine (Inactivated or Recombinant): What you need to know</b>	
<small>Many Vaccine Information Statements are available in Spanish and other languages. See <a href="http://www.hhs.gov/ovz">www.hhs.gov/ovz</a>. Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite <a href="http://www.hhs.gov/ovz">www.hhs.gov/ovz</a>.</small>	
<b>1 Why get vaccinated?</b>	<p>There is no live flu virus in flu shots. <b>They cannot cause the flu.</b></p> <p>There are many flu viruses, and they are always changing. Each year a new flu vaccine is made to protect against three or four viruses that are likely to cause disease in the upcoming flu season. But even when the vaccine doesn't exactly match these viruses, it may still provide some protection.</p> <p>Flu vaccine cannot prevent:</p> <ul style="list-style-type: none"><li>• flu that is caused by a virus not covered by the vaccine, or</li><li>• illnesses that look like flu but are not.</li></ul> <p>It takes about 2 weeks for protection to develop after vaccination, and protection lasts through the flu season.</p>
<p>Influenza ("flu") is a contagious disease that spreads around the United States every year, usually between October and May.</p> <p>Flu is caused by influenza viruses, and is spread mainly by coughing, sneezing, and close contact.</p> <p>Anyone can get flu. Flu strikes suddenly and can last several days. Symptoms vary by age, but can include:</p> <ul style="list-style-type: none"><li>• fever/chills</li><li>• sore throat</li><li>• muscle aches</li><li>• fatigue</li><li>• cough</li><li>• headache</li><li>• runny or stuffy nose</li></ul> <p>Flu can also lead to pneumonia and blood infections, and cause diarrhea and seizures in children. If you have a medical condition, such as heart or lung disease, flu can make it worse.</p> <p>Flu is more dangerous for some people. Infants and young children, people 65 years of age and older, pregnant women, and people with certain health conditions or a weakened immune system are at greatest risk.</p> <p>Each year <b>thousands of people in the United States die from flu</b>, and many more are hospitalized.</p> <p><b>Flu vaccine can:</b></p> <ul style="list-style-type: none"><li>• keep you from getting flu,</li><li>• make flu less severe if you do get it, and</li><li>• keep you from spreading flu to your family and other people.</li></ul>	<b>3 Some people should not get this vaccine</b>
<b>2 Inactivated and recombinant flu vaccines</b>	<p>Tell the person who is giving you the vaccine:</p> <ul style="list-style-type: none"><li>• <b>If you have any severe, life-threatening allergies.</b> If you ever had a life-threatening allergic reaction after a dose of flu vaccine, or have a severe allergy to any part of this vaccine, you may be advised not to get vaccinated. Most, but not all, types of flu vaccine contain a small amount of egg protein.</li><li>• <b>If you ever had Guillain-Barré Syndrome (also called GBS).</b> Some people with a history of GBS should not get this vaccine. This should be discussed with your doctor.</li><li>• <b>If you are not feeling well.</b> It is usually okay to get flu vaccine when you have a mild illness, but you might be asked to come back when you feel better.</li></ul>
<p>A dose of flu vaccine is recommended every flu season. Children 6 months through 8 years of age may need two doses during the same flu season. Everyone else needs only one dose each flu season.</p> <p>Some inactivated flu vaccines contain a very small amount of a mercury-based preservative called thimerosal. Studies have not shown thimerosal in vaccines to be harmful, but flu vaccines that do not contain thimerosal are available.</p>	



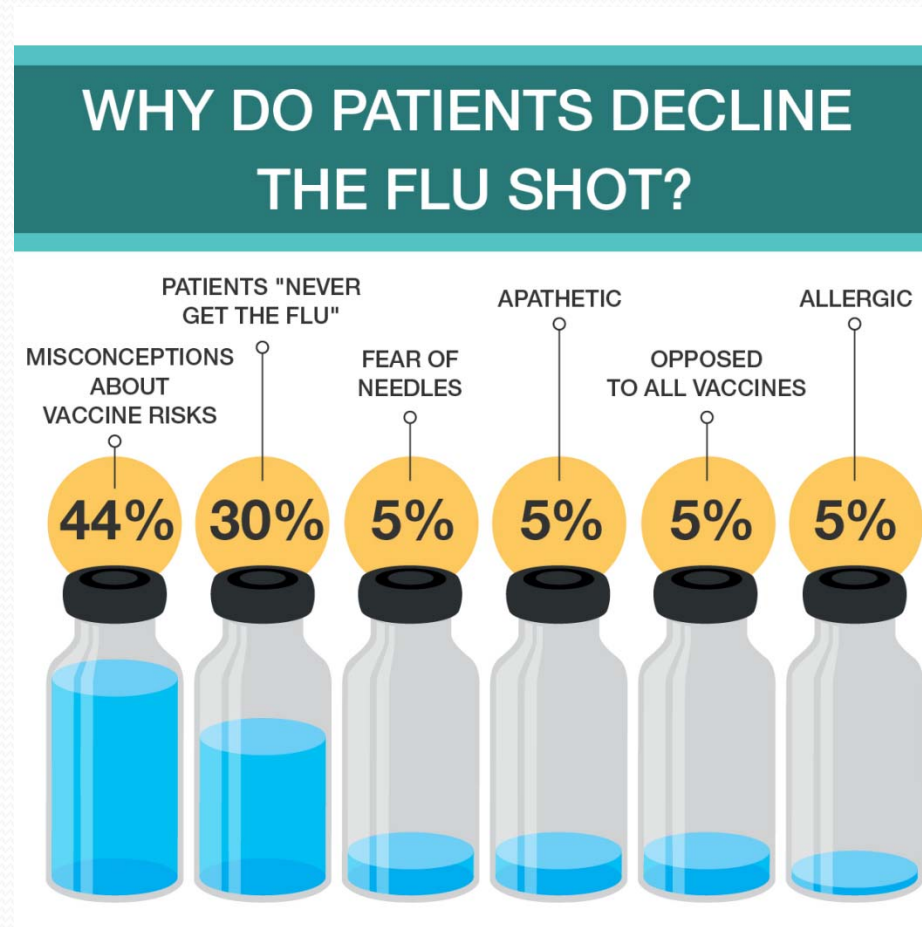
U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention



# L'étude au CHU

- Couverture vaccinal: 43% (Admin 32%, Dr 58%, Infirm 48%, Pharm 36%, Paramed 29%)
- Motifs de vaccination: 79% pour éviter d'être malade et 65% pour protéger les patients.
- PQ Pas? 42% crainte eff second, 38% 'inefficace', 30% s'estime pas à risque, 25% manque de temps / pas pratique, 16% contre vaccins, 13% provoque la grippe

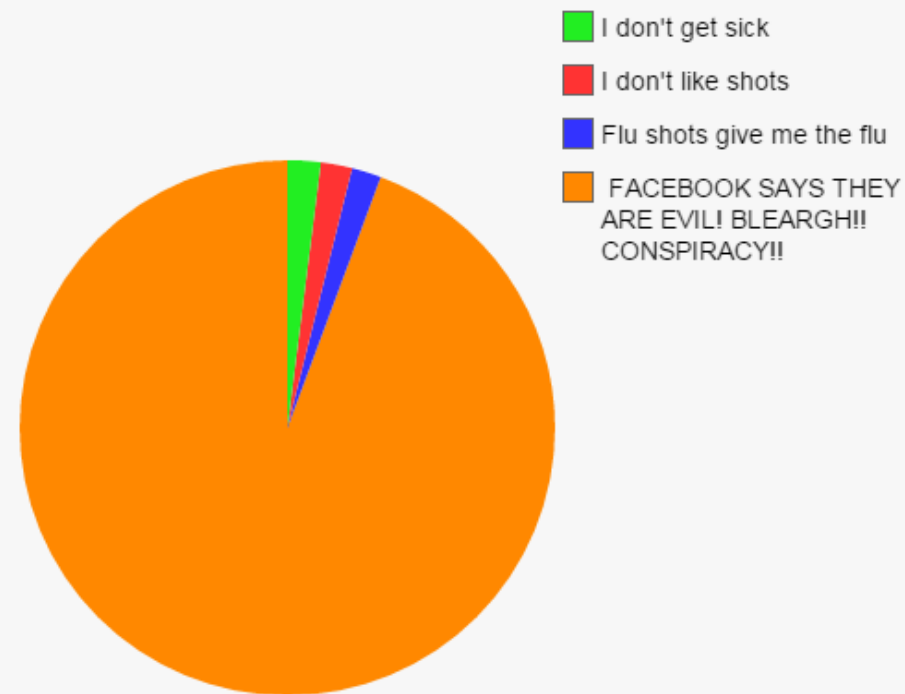
# What does the literature tell us?



# ...and because facebook tells us!

*Small survey amongst 25-34 yr old in the USA and Australia 2017*

## Reasons why my patients refuse flu shots







# So...what to do...?

In order to improve vaccination coverage, we propose two 'actions':

1. INFORMATION (side-effects, efficacy, ...)
2. GOING active to the vaccination site (cfr team of hospital hygiene)

# Antiviraux

- PERAMIVIR (2014) - Rapivab<sup>TM</sup> (neuraminidase-inhibitor). Only IV in high-risk patients (Int Care), single dose. Efficac. in one RCT (children, Japan)
- OSELTAMIVIR - Tamiflu<sup>TM</sup>
  - 30 à 50% drug resistance
  - Dose-adaptation if GFR < 30 ml/min
  - Neurologic side-effects (Hallucinations!)
  - Liver function disturbances



## Jefferson, et al. BMJ 2014

In **prophylactic** studies oseltamivir reduces the proportion of symptomatic influenza. In **treatment** studies it also modestly reduces the time to first alleviation of symptoms, **but** it causes nausea and vomiting and increases the risk of headaches and renal and psychiatric syndromes. The **evidence** of clinically significant effects on complications and viral transmission is **limited** because of rarity of such events and problems with study design. The trade-off between benefits and harms should be borne in mind when making decisions to use oseltamivir for treatment, prophylaxis, or stockpiling.

To give when VERY early in onset..?







# FDA Approves Baloxavir 24/10/2018

- Xofluza© (Baloxavir) approved as a new drug to treat Influenza.
- Ind: > 12 yrs old AND ***no more than 48hrs symptomatic***
- Novel mechanism of action
- CDC continues to recommend vaccination!
- The '48hrs-delay' in fact counts for all 'acute' antivirals
- 2 RCTs on Baloxavir (Placebo-controlled): shorter alleviation of symptoms without major side-effects