



# European Centre for Disease Prevention and Control

## How to improve vaccination programme monitoring

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# Elements of vaccination programme monitoring and available tools

information sharing at EU level:  
**An added value?**

disease epidemiology

vaccine uptake

immunisation coverage

vaccine effectiveness

vaccine safety

behaviour monitoring

surveillance systems

event based surveillance

burden of disease tools

vaccine registries

vaccine coverage data collection

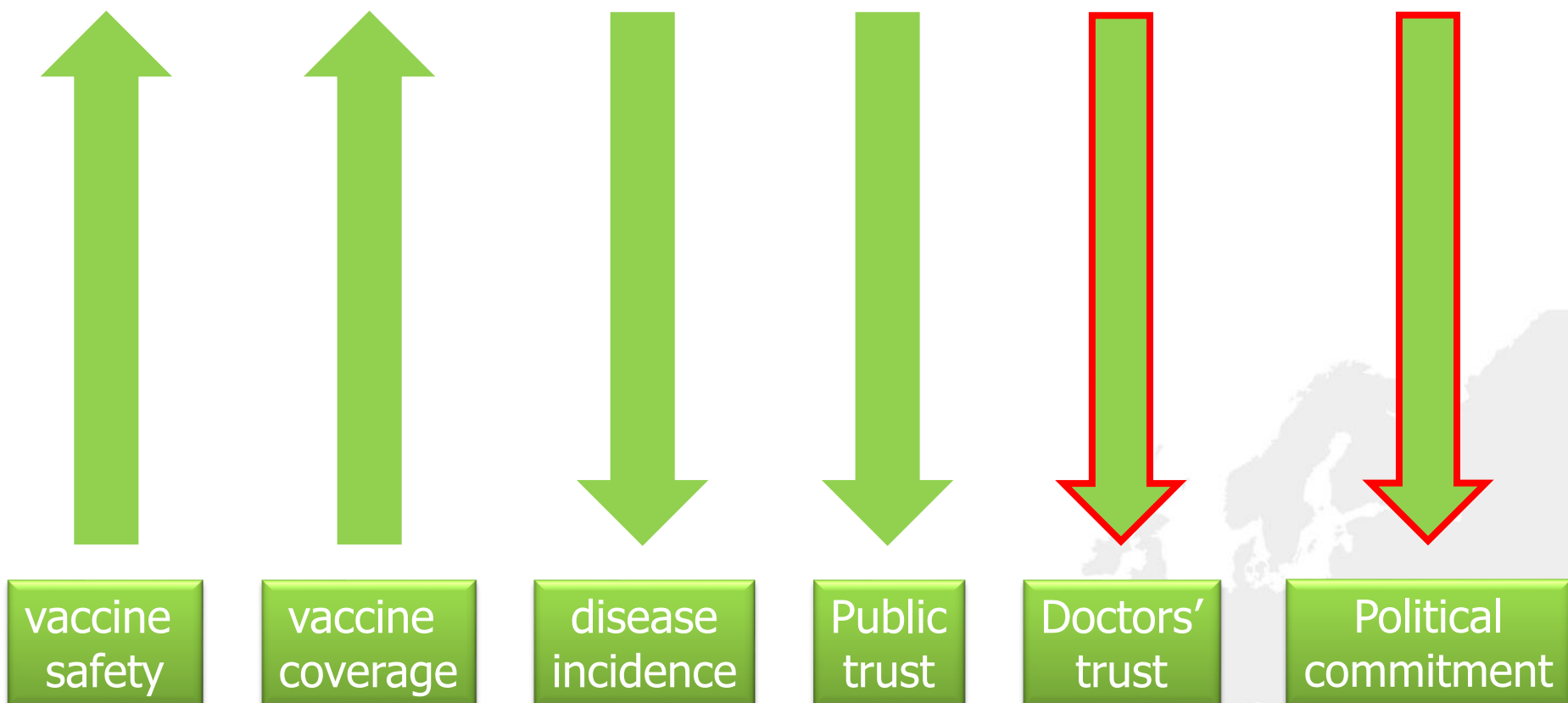
sero-surveys

ad-hoc studies

database linkage

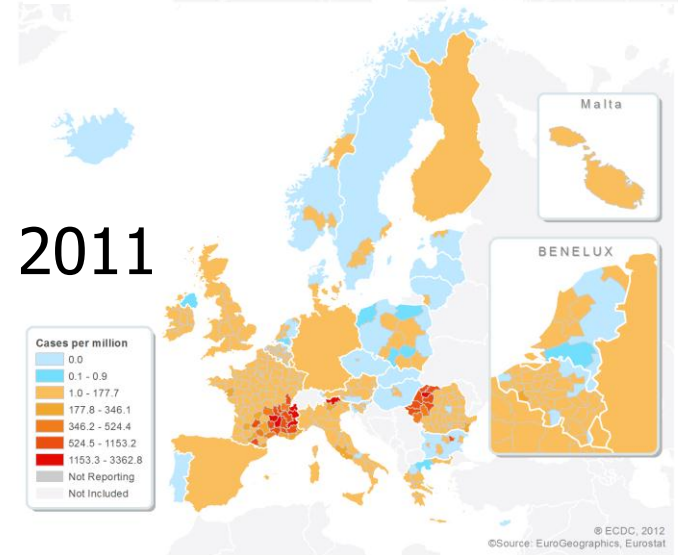
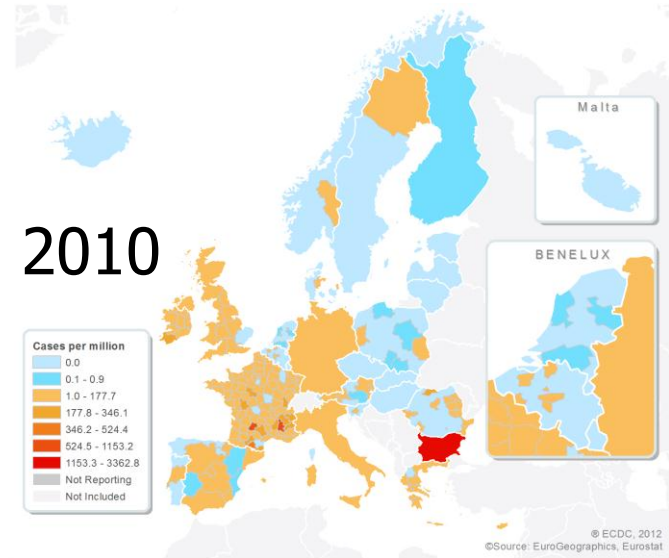
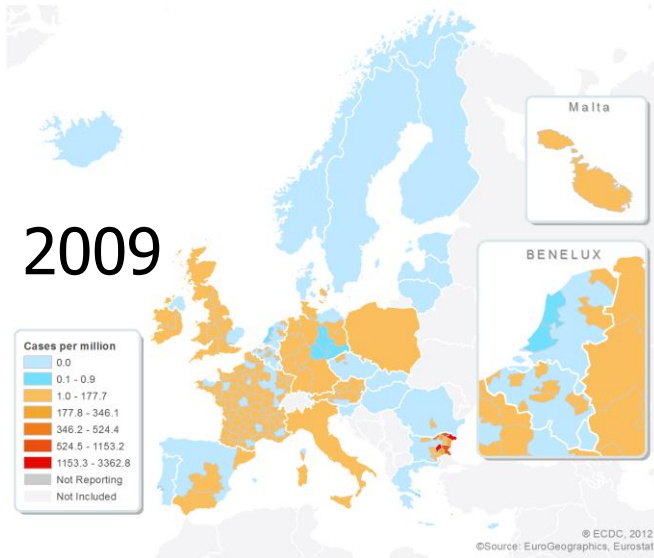
behavioural science studies

# The Vaccination Paradox



# Collecting data at sub-national level

## *notified measles cases 2009 – 2011*



- Identify low coverage areas
- Identify cross-border issues
- Better monitoring the elimination efforts

# Coverage for one dose of MMR in EU 2000-2010

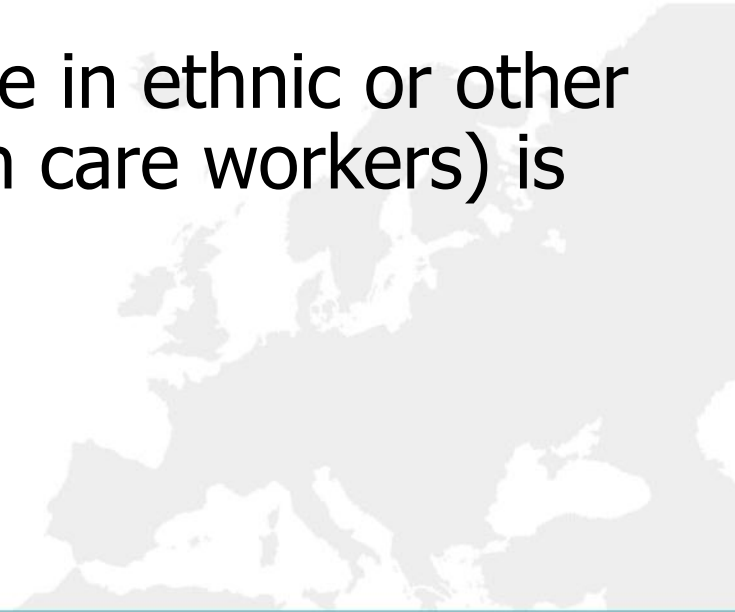
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	74.7	78.5	78.5	78.8	73.5	91	80	77	83	76	
Belgium	82.2	82.2	82.2	82.2	82.2	88	91.9	91.9		94	
Bulgaria	88.6	90.1	92.1	95.5	94.7	96.2	95.7	96	95.9		
Cyprus	85	85	85	86	86.3	86.3	87	87	87		
Czech Republic	98	98	99	99.1	96.9						
Denmark	100	94	102.4	96	96	95	100				
Estonia	93	94.7	95.2	95.2	95.5	95.9					
Finland	96	96	95.8	97	97						
France	84	85	85	86	86						
Germany	91.7	91	91	92							
Greece	88	88	88								
Hungary	100	100									99.9
Iceland	90										94
Ireland	78									90.4	90
Italy											
Latvia								97	96.6	95.7	90.1
Lithuania						85.4	96.6	96.9	97	96	96.1
Luxembourg						86.01	94	79	78	82	72.55
Malta					96.27	96.3		95.9	96.2	96.2	95.9
Netherlands			84	88	90	91	92	93	92	93	93
Poland			97.6	97.5	97.4	98.2	98.2	98.3		98.3	98.2
Portugal		86.8	91.9	96.3	94.8	92.6	96.69	95	96.6	95	96
Romania		97.8	98.2	97.2	97.1	96.7		97.1			95
Slovakia	98	98.6	98.6	98.6	98	98	98.4	98.8	99	99	98.5
Slovenia	95.2	94	93.5	86.7	94		96.1	95.56	96	95	95
Spain	94	96	96.6	97.15	97.3	96.8	96.9	97.1	97.8	97.5	95.1
Sweden	94.2	88.5	95	95	94.5	95.4	95.4	96.2	96.2	96.7	96.5
UK	99	98.76	83	80	81	82.1	84.9	86.2	85.5	86	93

4,900,000 not vaccinated in the birth cohorts 1998-2008

# Detailed vaccine coverage data needed?



- In all EU countries MMR coverage for the second dose is lower than the first dose
- 14 countries are able to provide coverage data at sub-national level and in 8 of those countries significant variations between regions were observed
- Information on vaccine coverage in ethnic or other specific groups (including health care workers) is not routinely collected

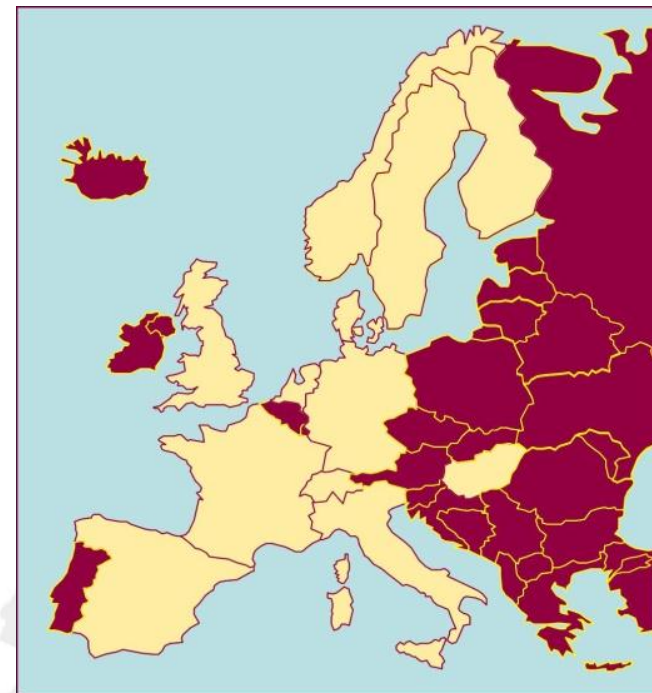


# Japanese strategy to immunize the susceptible age groups



# Vaccine safety – the VAESCO project

- Assessment of vaccine safety signals in specific studies
- VAESCO investigators from Public Health Institutes, National Regulatory Agencies and academic research groups in 14 EU/EEA MS.
- Available source population >40 million
- The network use data linkage of immunization registries and other health registries





# Measuring vaccination effectiveness

- **I-MOVE**: a well established network and methodology which provided seasonal and pandemic vaccine effectiveness estimates for four consecutive influenza seasons (started in 2007, 11 study sites funded by ECDC)
- The **EU-Pneumo** network, set up in 2012. This project will allow comparing the pneumococcal vaccine impact in different countries, measuring the effectiveness of different vaccination schedules, identifying risk factors for vaccine failure, and collecting evidence of serotype replacement since vaccine introduction. Currently there are 12 institutions from nine countries involved.

# Studying behaviours

homeopathy, naturopathy,  
alternative medicines



religious/philosophical beliefs



marginalised groups



followers of conspiracy  
theories

# Monitoring the process towards a goal

vaccine uptake

disease epidemiology

immunisation coverage

**95%**

vaccine effectiveness

vaccine safety

behaviour monitoring



**Thank you**

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