



Folkhälsomyndigheten
PUBLIC HEALTH AGENCY OF SWEDEN

PANDEM WP 2


Surveillance for pandemic decision support,
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PANDEMIC RISK AND EMERGENCY MANAGEMENT



THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020



Pandemic response yesterday,



St. Louis Red Cross Motor Corps on duty during the influenza pandemic, 1918

today



...and tomorrow?

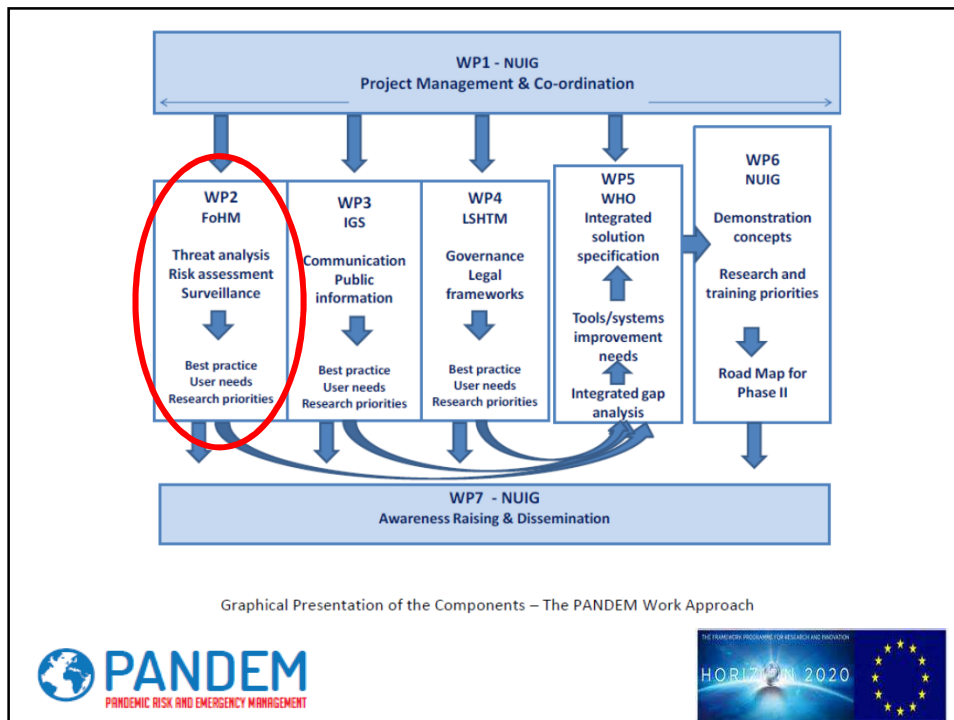


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WP 2

Objectives – epidemiological part

To assess current risk assessment and surveillance practices at global, EU and member state level

How?

- analyzing current and potential future threats through scenarios
- review of best practice for risk assessment and surveillance from different countries
- through interview and review process regarding surveillance:
→ identify *gaps* / *research priorities* / *user needs*

Scenarios developed

Pandemic influenza

city "X" flu with 0,8 – 2% case fatality rate
 costly societal consequences
 vaccines available after 6-7 months, fear of side effects

MERS-Coronavirus

spread through Hajj pilgrims
 person-to-person transmission, hospital outbreaks
 case fatality rate 40%

Smallpox

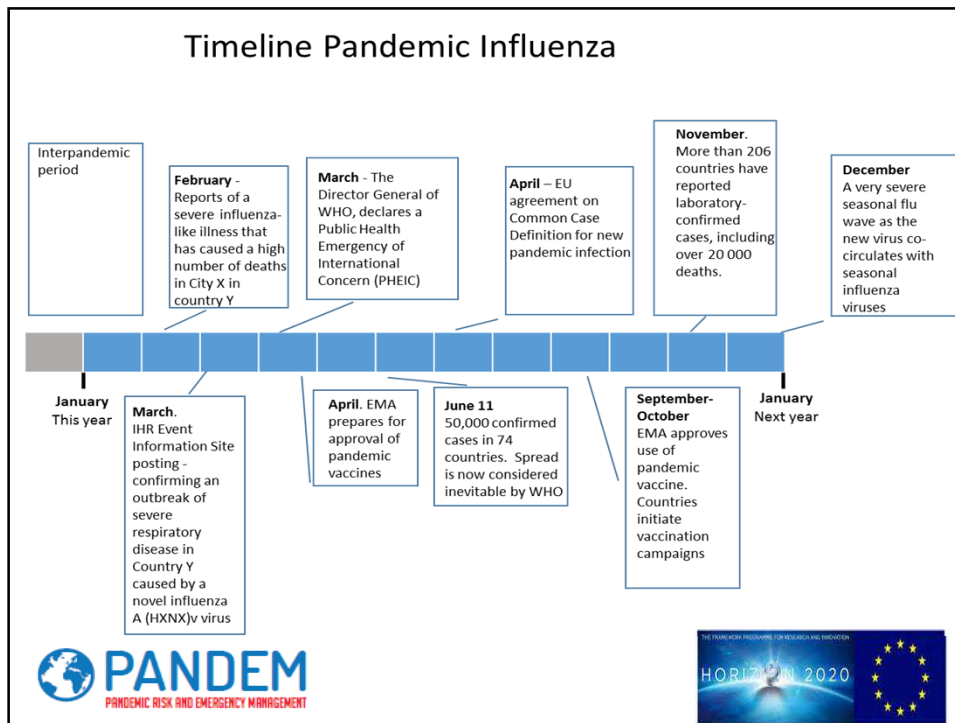
modified from John Hopkins School PH "Michigan outbreak scenario"
 bioterrorism
 heavy burden on health care / ICU:s



Real life scenarios

- H1N1 vs pandemic scenario
- Ebola vs smallpox and mers
- Zika vs the unknown





Real problems

Uncertain or changing risk-assessment

Lack of or insufficient sharing of essential data

Result

Measures are implemented in different ways



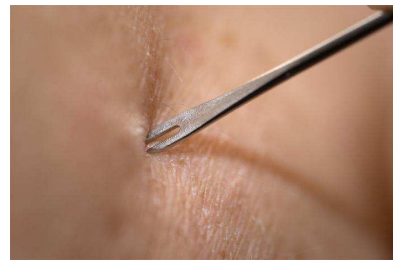
Coronavirus (SARS)



A masked passenger sleeps on an nearly empty flight from Hong Kong to Beijing 2003 / CNN



Smallpox



Ebola deaths
Figures up to 1 November 2015

11,314

Deaths - probable, confirmed and suspected
(Includes one in the US and six in Mali)

4,808 Liberia

3,955 Sierra Leone

2,536 Guinea

8 Nigeria

Source: WHO



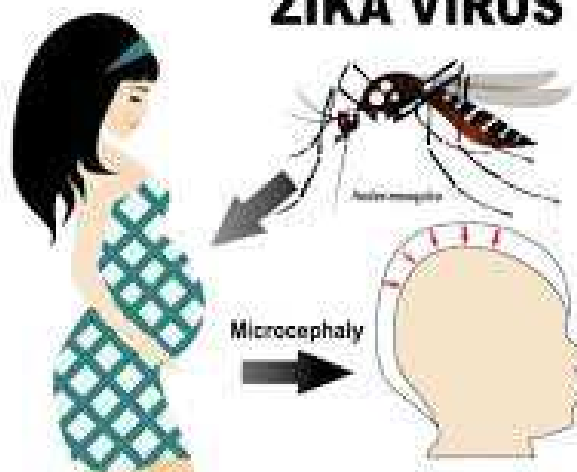
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ZIKA VIRUS

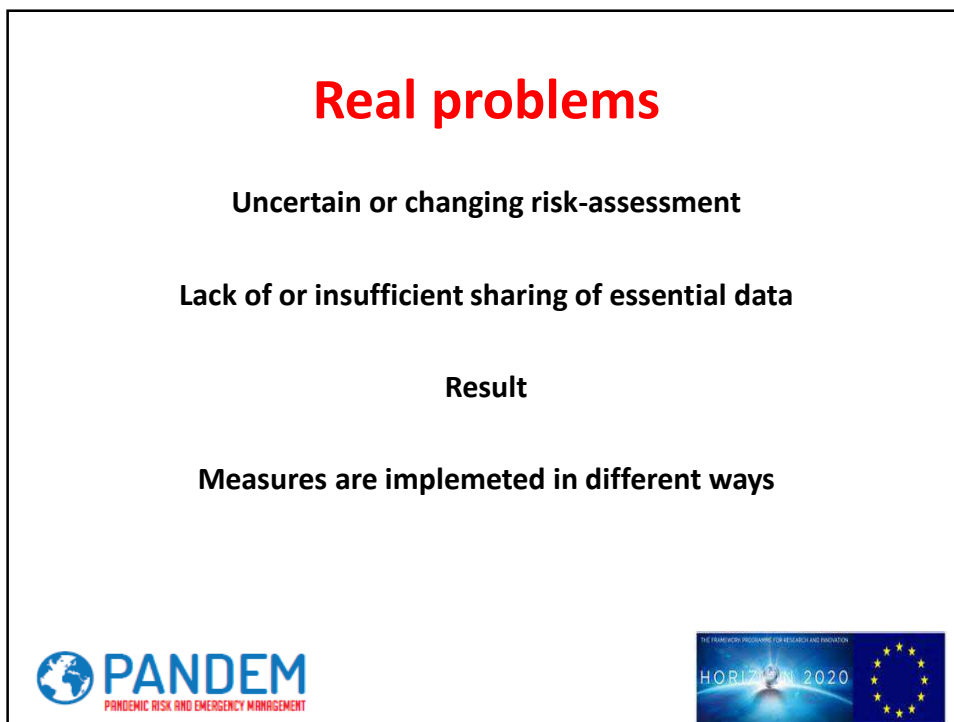
Microcephaly

Symptoms include below-average head size

Often caused by failure of brain to grow at normal rate

Head circumference measuring less than 31-32cm





Activities in WP2 (FoHM and FOI)

1. **Introduction to risk assessment and assessment of current threats**
 - literature review (FOI)
2. **Development of four scenarios**
 - Chronological description of four pandemic scenarios, narratives, ~10 pages each: Influenza, Mers/CoV, Smallpox, VEE. Used in all forthcoming WP and during WSs and interviews.
3. **Information gathering on good practice/gaps/innovations needed**
 - Session at WS September 2015 in Brussels
 - Identify issues from experts and informants concerning surveillance at different phases of pandemic (from detection to evaluation, from local to eu-level...)
 - Case studies (England, Ireland, Sweden and USA)
 - Compilation of information on the countries national surveillance systems
 - In-depth interviews (~2 hrs each) with 6 national experts, structured around the scenarios
4. **Prioritization of issues identified during WS and interviews**
 - During WS February 2016 in Brussels
 - Issues identified during WS and Interviews were discussed, structured around the scenarios
 - Most important innovation needs/gaps were decided upon

Report I (45 p)
Threat analysis and scenarios

Report II (66 p)
Analysis of risk assessment and surveillance: current systems, practises, technologies and research needs



Surveillance problems

- Surveillance will always be the backbone of data-gathering during a pandemic, but additional data will be needed to give policy-makers a relevant mapping of the problem.
- Present systems fail to give a much needed overview, difficult to provide a mapping at EU-level that gives an added value to decision-makers.



Good practices

- importance of ICU-surveillance
- non-clinical surveillance ie calls to health advice hotlines
- good collaboration with veterinary specialists and public health
- first few 100 cases (FF100) – UK



GAPS identified and prioritised

Insufficient surveillance data

Tools that provide a surveillance summary view

- at different EU-levels

Data analysis that increases the quality of

- Risk assessment
- Prognostic tools
- Resource estimations
- Decision support for, and evaluation of, countermeasures





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Thank You!



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