

# EPIDEMIOLOGICAL UPDATE COVID-19 AND ASSESSMENT OF THE NEEDS

For presentation to RMG 24/02/2020

*Risk description and proposed measures. Not a decision !!!*

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# Changes in the epidemiological situation

Since last week:

- 1, More countries are reporting cases: Israel, Lebanon, Iran, and Egypt: 32/193 (16,5%)
- 2, Proportion of world population affected by  $> 1/1,000,000$  inhabitants: 19%
- 3, Cumulative Incidence higher than  $9/1,000,000$  (Cumulative incidence China – Hubei)=
  - Singapore:  $15/1,000,000$ , among 89 cases (mainly related to three clusters)
  - South Korea:  $15/1,000,000$  among 764 cases (more than  $\frac{1}{2}$  cases related to one cluster)
- 4, Clusters in Italy: mainly 3 clusters
- 5, If epidemic in Italy, than 2 continents affected = pandemia

-> impact for Belgium: more probability that we will have cases

To have cases = expected

# First strategy: situation

Imported cases in Belgium are expected and the spread in the population not excluded because :

- Some patients have mild symptoms
- Asymptomatic contacts can be carriers
- The shedding of the virus is high at the beginning of the symptoms
- Population is susceptible

The Belgian authorities have therefore decided to focus on mitigating measures through two lines of action proportionate to the epidemiological situation and severity of the diseases:

1. Preventing spread within hospitals and among health care personnel
2. To protect the most vulnerable people (at-risk groups)

The objective is to delay the spread of the virus after the seasonal flu epidemic.

# First strategy: actions

To test patients who

- should require hospitalization (severe symptoms or risk factors )
- having had contacts with a confirmed case
- coming back from Hubei

To isolate at home the patients who are completing the criteria of the case definition and none of the three criteria's above.

Specific situation: patient in good conditions but with familial or social impossibilities to apply isolation and hygiene measures

# Exposition

Probable first cases in China: 08/12/2019

Closing province Hubei: 23/01/2020

Cumulative incidence 23/01/2020 in Hubei = 7,62/1,000,000

-> Flight between Wuhan and Paris, Roma, London= several times/day

-> Flight between China and Brussels= 3x/week

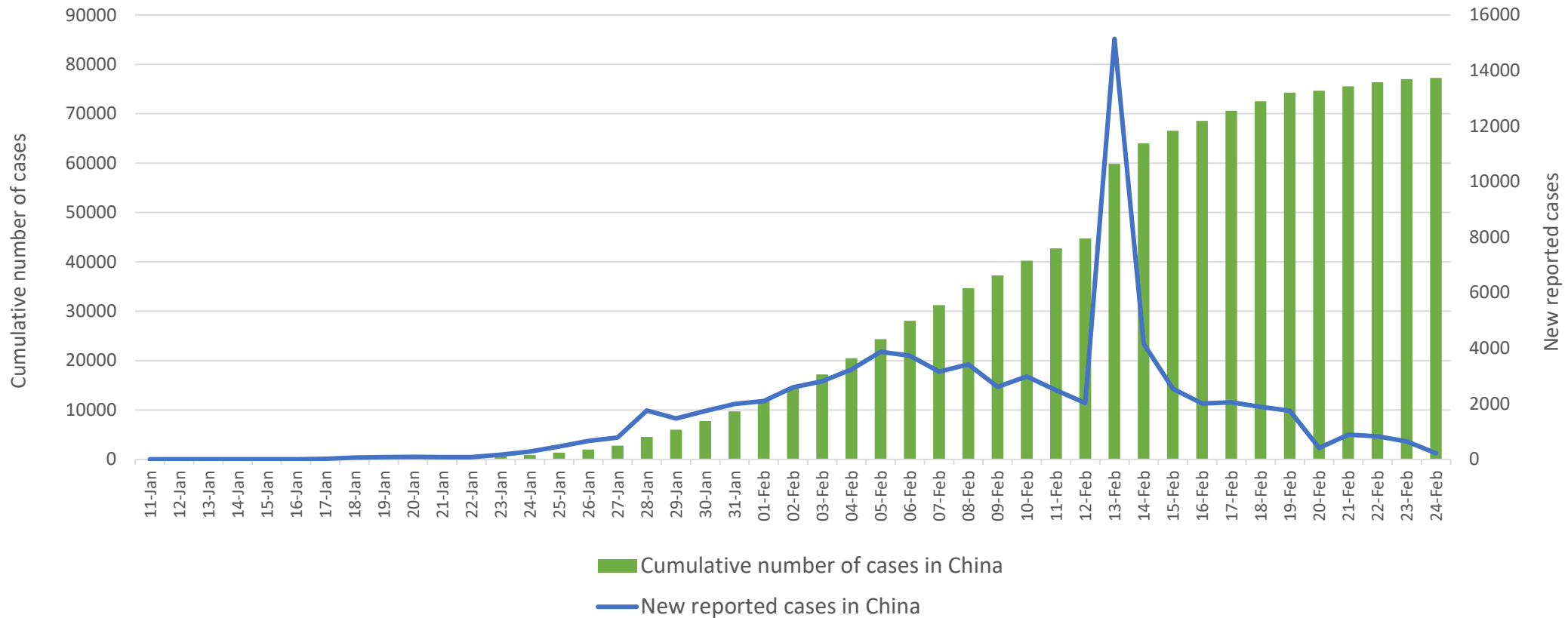
First case outside China: 21/01/2020

First case in EU: 25/01/2020 in France

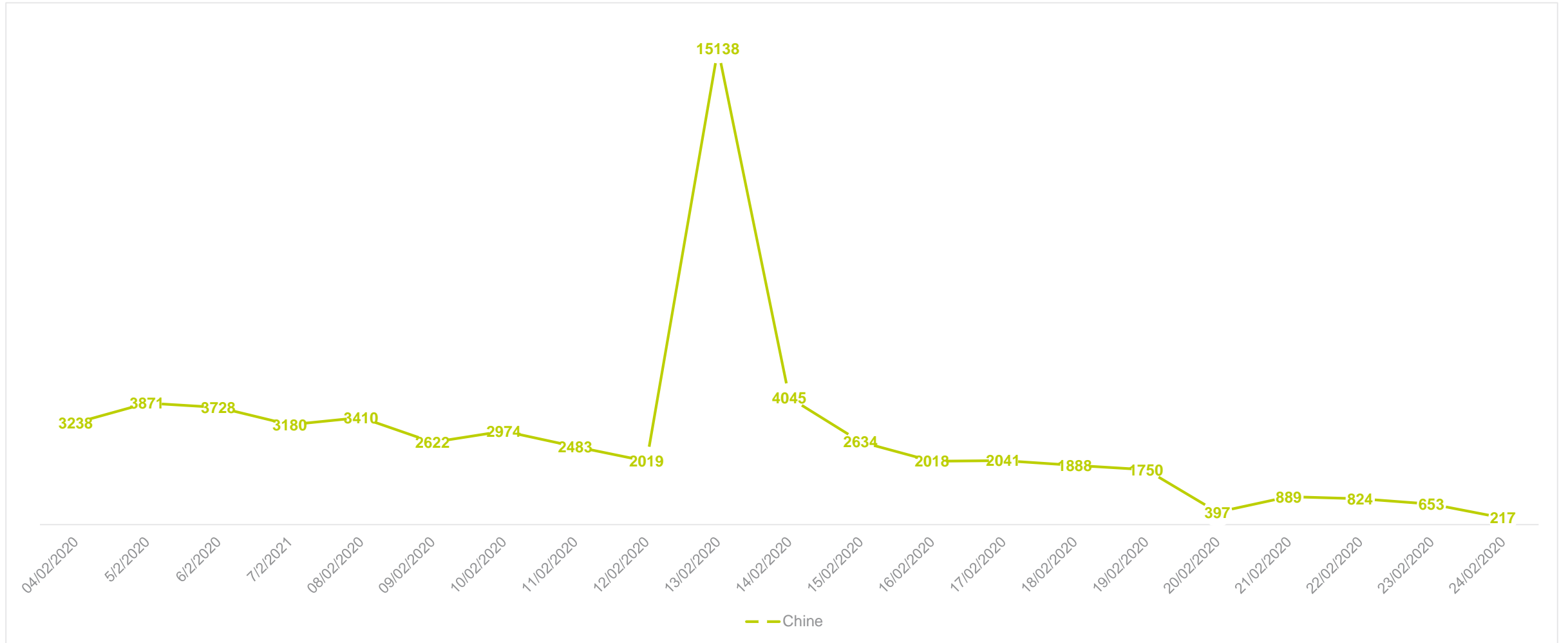
Main affected countries in EU:

- France: 5 imported cases, 7 locally acquired (cluster linked to 2 cases)
- Germany: 2 imported cases, 14 locally acquired (cluster related to 1 case)
- Italy

# Epidemiological evolution in China



# Number of new cases, by day, in China



# Severity

## Cohort 72,314 patients (ccdc weekly, vol 2):

- 62% confirmed
  - 80% mild cases (non pneumonia and mild pneumonia)
- > 14% severe  
-> 5% critical (49% case fatality rate)

Estimation for Belgium:

If 10/1,000,000 as cumulative incidence in rest of China= 110 cases, 15 severe, 5,5 critical

If 50/1,000,000 as cumulative incidence in China= 550 cases, 77 severe, 27 critical

If 1000/1,000,000 as cumulative incidence in Hubei= 11000 cases, 1540 severe, 550 critical

-> on a 5 weeks period

	Number of cases	Deaths	CFR
Health care workers in China	1716	5 deaths	0.3%



# Length of stay

## Italy

Two Chinese tourists: confirmed 30/01, still hospitalized on 23/02 (24 days)

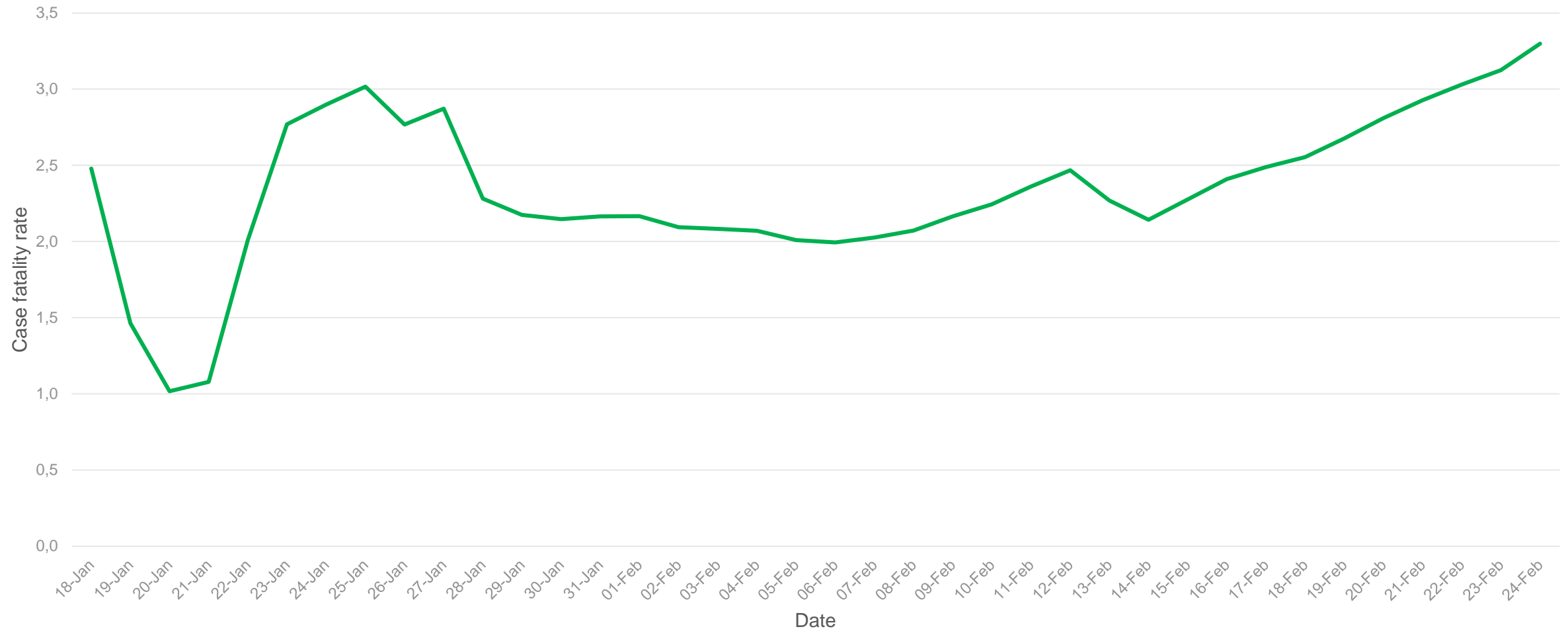
## France

The Chinese tourist who died in Paris: confirmed 25/01, died on 15/02 (22 days)

## China

Cohort 138 patients: 10 days (7-14)

# Severity: Case fatality rate among COVID-19 cases



# Severity: case fatality rate

	SARS	Mers-Corona	2019-nCoV
Présentation clinique	Infection respiratoire inférieure, pneumonie atypique	Infection respiratoire dont pneumonie atypique et symptômes gastroentérologiques	Infection respiratoire basse
Dynamique	Evolution épidémique sur quelques mois	Cas sporadiques sur des années	Evolution plutôt épidémique mais encore de nombreuses inconnues
Transmission interhumaine	Elevée	Faible	Avérée, semble élevée
Transmission nosocomiale	Très importante	Très importante	Décrite
Létalité	+/-10%	+/-35%	+/-3%

	Deaths	CFR (%)
Total death Covid-19 in China	2.595	3,4
Total death Covid-19 in Hubei	2.495	3,9
Total death Covid-19 in others provinces	100	0,8
Total death Covid-19 outside China	35	2,5
Total death in Italy	6	2,7
Total death in Diamond Princess	3	0,4

## Influenza

Based on GP sentinel surveillance:

+/- 700,000 cases/year

Case fatality rate: 100 to 600/year

+/- 1/2500 ILI cases

Case fatality rate in patients hospitalized for SARI due to Influenza: 6%

Case fatality rate in patients older than 85 y hospitalized for SARI due to Influenza: 13%

# Italy

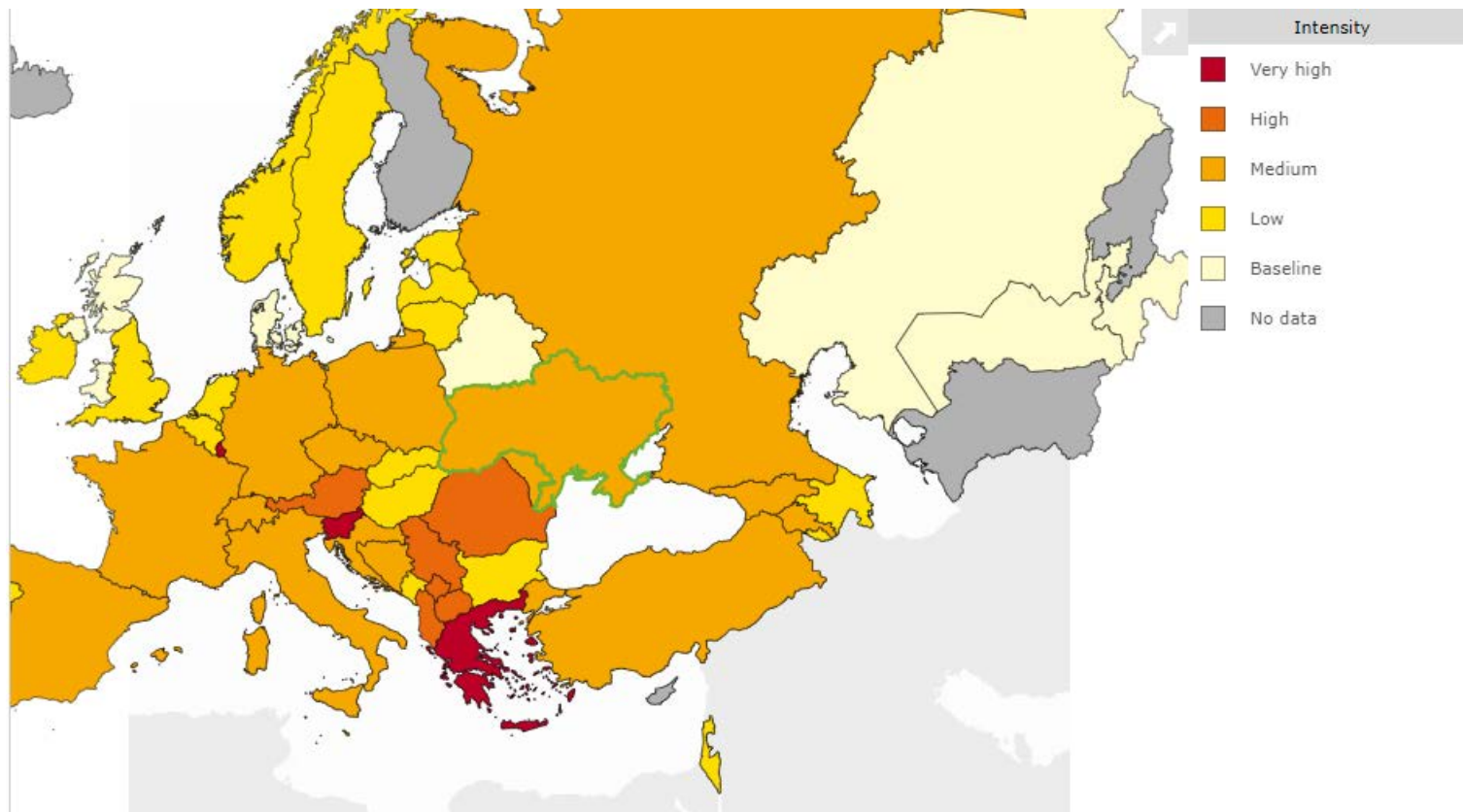
Italy

3 clusters

Deaths: mainly > 80 y old

# ILI after EU travel

Seasonal flu epidemic in EU:



# Epidemiological situation

## Scenario 1: Imported cases only and contacts

- Patients having contact with China
- Repatriated

## Scenario 2: Clustering effect

- Spread in 'semi'-closed community

## Scenario 3: Local transmission

- Limited number of cases having no travel history

## Scenario 4: Sustained circulation in the population low intensity

- Epidemic low intensity

## Scenario 5: Sustained circulation in the population high intensity

- Epidemic high intensity



Risk occurrence of clusters similar to Italy = probable



Not excluded

# Assessment

**Is it possible to prevent cases?**

-> No

**Is it possible to prevent death?**

-> No

**Is it possible to limit impact on healthcare system capacity and health of HCW?**

-> Is it still a priority?

**Is it possible to limit cases?**

-> Large case definition for suspect cases

-> Test of all suspected cases

-> Trace all contacts in a 14 days delay

-> Strict quarantine of all contacts

**Is it possible to limit death?**

-> If early detection in at risk groups (comorbidity and elderly)

-> if non medical countermeasures (e.g.: ppe)

**Is it possible to limit impact on healthcare system capacity and health of HCW?**

-> Limit referral to emergency ward: need first line

-> Hospitalisation of severe cases only, planning

-> Strict protection of HCW /PPE

# Scenario: what is it reasonable to avoid?

## Scenario 1: Imported cases only and contacts

- Patients having contact with China
- Repatriated

## Scenario 2: Clustering effect

- Spread in 'semi'-closed community

## Scenario 3: Local transmission

- Limited number of cases having no travel history

## What kind of measures to avoid

## Scenario 4: Sustained circulation in the population high intensity

- Epidemic high intensity with overloaded hospital capacity



# Risks

- 1, Ensure continuity of care
- 2, First line for mild cases and testing
- 3, Hospital capacity for severe cases

Main risks for Belgium:

- Overloaded hospital capacity
- Hospital outbreak
- Absenteism
- Shortages material

# Reinforcement surveillance

Changes in case definition

Reinforcement surveillance:

Cost for analyzing SARS-CoV-2 in seasonal samples

Sciensano: plan

# Actions

To be organized in crisis : with representatives of DGSS, FAGG, ...

To activate crisis center for support in non medical countermeasures

To have a surveillance plan