EPIDEMIOLOGICAL UPDATE COVID-19
AND ASSESSMENT OF THE NEEDS
For presentation to RMG 24/02/2020

Dr Sophie Quoilin
Sophie.Quoilin@sciensano.be
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 ½ cases related to one cluster)
4. Clusters in Italy: mainly 3 clusters
5. If epidemic in Italy, than 2 continents affected = pandemic

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

![Graph showing the cumulative number of cases and new reported cases in China from January 11 to February 24. The graph displays a sharp increase in cases during the middle of February, followed by a decline.]
Number of new cases, by day, in China
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

<table>
<thead>
<tr>
<th>Health care workers in China</th>
<th>Number of cases</th>
<th>Deaths</th>
<th>CFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1716</td>
<td>5 deaths</td>
<td>0.3%</td>
<td></td>
</tr>
</tbody>
</table>
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)
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

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 quarantaine of all contacts

Is it possible to limit death?
-> If early detection in at risk groups (comorbidty 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
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
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