



CONSULTATIVE SIGNAL ASSESSMENT
PRIMARY RISK ASSESSMENT
EVIDENCE BASED RISK ASSESSMENT
PUBLIC HEALTH EVENT ASSESSMENT

NOVEL CORONAVIRUS, WUHAN, CHINA

Date of the signal	Date of the RRA	Signal provider	Experts consultation	Method
31/12/2019	21/01/2020	ECDC	Permanent experts: Dr Valeska Laisnez (AZG), Dr Romain Mahieu (COCOM-GGC), Dr Paul Pardon (FOD), Dr Carole Schirvel (AViQ), Dr Sophie Quoilin (Sciensano). Specific experts : Prof. Katrien Lagrou (KUL), Prof. Marc Van Ranst (KUL), Dr Michèle Gérard (St Pierre), Dr Nathalie Bossuyt (Sciensano)	E-mail consultation
Date of update	Closing date			
21/01/2020 12/02/2020				

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Update assessment: 12 February 2020 (DISEASE: COVID19, VIRUS: SARS-COV-2)

Start outbreak: declaration by China end December, probable start before.

Containment measures in China: public spaces and airport of Wuhan city closed on 23rd January 2020.

1. Risk and case definition

1.1. EVOLUTION OF THE INCIDENCE IN CHINA

The cumulative incidence is still increasing in all Chinese provinces meaning that new cases are still notified. The situation on 12/02:

Cumulative incidence in China : 31.5 cases /1.000.000 inhabitants

Cumulative incidence in Hubei: 545 cases /1.000.000 inhabitants

Cumulative incidence in the rest of China: 8.25 cases /1.000.000 inhabitants

Calculation of the threshold to decide from which incidence we can expect an epidemic in a province?

Hypothesis in the model developed on a worst case scenario base:

1. No cross immunity, whole population is susceptible
2. Each person has the same probability to meet any other person.
3. $R_0 = 2.5$
4. Incubation time: 7 days
5. Disease duration : 7 days
6. No containment measures taken

An incidence of 20 cases / 1.000.000 inhabitants will be enough to launch a sustained transmission.

Selected strategy: cases identified based on symptoms and coming back from a place where a sustained transmission is demonstrated with a 14 days period (if mild no test and at home, if severe at hospital).

If we assume that a sustained transmission will be reached with 20 cases /1.000.000 inhabitants

- It is the case in three provinces (Hubei, Chongqing, Zhejiang)
- Cumulative incidence in
 - Hubei : 573 cases/1.000.000 inhabitants
 - Chongqing : 20 cases/1.000.000 inhabitants
 - Zhejiang: 20 cases/1.000.000 inhabitants
- Among these three provinces, the number of new cases by day during the week 06-12/02 compared with the previous week is increasing in Hubei only. It is decreasing in Chongqing and Zhejiang.
- All the other provinces are below 20 cases by million. And among all the other provinces/territories of China (32), there are 6 with an increasing number of new cases/day during the week (06-12/02) compared with the previous week, 1 status quo, all the others are decreasing.

1.2. EVOLUTION OF THE SITUATION OUTSIDE CHINA

25 countries are reporting cases for a total of 455 cases.

Except Japan where the high number of cases is related to a cluster of cases in travelers on a cruise (n=135), the most affected country is Singapore with 47 cases (12/02) and a cumulative incidence of 8.25 cases/1.000.000 inhabitants.

Local transmission is described in Singapore (n=23, 49%), South Korea (n=12, 43%), Japan (n=4, 15%), Malaysia (n=3, 17%), Germany (n=12, 75%), UK (n=7, 87.5%), France (n=6, 55%), USA (n=2, 15%), Vietnam (n=6, 40%), Thailand (n=6, 18%), Spain (n=2, 100%), UAE (n=1, 12.5%), WHO – situation report (12/02).

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

Country	Number of cases 12/02/2020	Cumulative incidence/1.000.000 by country	Proportion of locally transmitted (%)	Date last new case
Taiwan	18	0,76	0	09/02
South Korea	28	0,55	42	11/02
Japan	26	0.21	15	?
Thailand	33	0,48	18	12/02
USA	13	0,04	15	11/02
Singapore	47*	8,25	49	12/02
Vietnam	15	0,16	40	11/02
France	11	0,16	55	08/02
Nepal	1	0,03	0	29/01
Malaysia	18	0,55	17	10/02
Australia	15	0,59	0	07/02
Canada	7	0,19	0	07/02
Cambodia	1	0,06	0	29/01
Sri Lanka	1	0,05	0	29/01
Germany	16	0,19	7	12/02
United Arab Emirates	8	0,81	5	11/02
The Philippines	3	0,03	0	06/02
India	3	0,00	0	04/02
Finland	1	0,18	0	30/01
Italy	3	0,05	0	07/02
UK	8	0,12	87.5	11/02
Russia	2	0,01	0	01/02
Spain	2	0,0	100	10/02
Sweden	1	0,10	0	01/02
Belgium	1	0,09	0	04/02
Cruise Ship (Japan)	135			

In red: countries having notified new cases in the last week (06-12/02/2020)

In blue the highest number of cases

No country is reaching a threshold of 10/1.000.000 but Singapore has the highest cumulative incidence outside China.

More attention to Singapore because a British case has been detected after a stay in an international hotel in Singapore. The cases in Singapore are related to three clusters (21) and to China (20), the others are still under investigations:

1. Cluster 1 – church : 5 cases - after contact with a couple coming back from Wuhan
2. Cluster 2 – tourists : 9 cases - after a visit in a shop with Chinese tourists confirmed ill afterwards
3. Cluster 3 – hotel : 7 cases – conference in an international hotel and among them 4 from South Korea (2), Malaysia (1) and UK (1) after a conference held on 20-22/01/2020 organized by a British gas company (incubation period of 14 days is over).
4. 20 cases imported and among them 5 persons repatriated from Wuhan
5. No links identified yet for 9 confirmed cases

<https://www.channelnewsasia.com/news/singapore/wuhan-virus-singapore-confirmed-cases-coronavirus-12324270>

In the EU, up to now, 43 cases have been laboratory-confirmed. Among them 27 are linked to two countries France (11 cases mainly in two clusters) and Germany (16 cases and 12 linked to the same cluster), and 8 to the UK (linked to the same cluster). In France and Germany, the index case of the cluster had a contact with China and the other cases are contacts who were tested. We do not know if these persons were symptomatic or asymptomatic contacts. In UK, the index case was back from an international hotel in Singapore, the presence of a Chinese citizen in the hotel is not excluded.

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

1.3. SEVERITY

The case fatality rate among laboratory confirmed cases is remaining quite stable with about 2.4% even if increasing since three days, probably due a decreasing number of new cases taking into account that a lot of patients are still hospitalized in China and that the hospital capacity in Hubei is exceeded.

If we calculated this rate for Hubei versus the rest of China and the world:

	Number of deaths	Number of laboratory confirmed cases	Case fatality rate
Hubei province	1068	33.366	3.2%
Rest of China	46	11.299	0.4%
Rest of the world	2	523	0.4%
EU+UK	0	43	0%

Several articles have been published with a number of death varying from 1.4 up to 15% of the patients. We have to take into account that these proportions are calculated on different denominators (e.g. types of patients- hospitalised, ICU, ...-, in different places-Hubei, China, ...-, on different numbers – 44, 1099, ...). Forecasting has also been done with an estimated CFR of 18% (95%CI 11-81%). The 95%CI being very large, this illustrates that it is for the moment quite impossible to make such an exercise.

According to the WHO situation report, the proportion of severe presentations is about 17%.

1.4. CONCLUSION

The epidemiological situation is evolving with an increasing number of cases reported, but with a slowdown in the increase in most Chinese provinces except in Hubei. Hubei province remains the epicenter of the epidemic with an incidence really higher than elsewhere.

The number of cases in the EU remains low 9 weeks after the start of the epidemic in China.

ECDC modified the case definition to cover mild cases but did not modify the area of sustained transmission.

Singaporean authorities do not confirm sustained local transmission yet as most of the cases are related to China.

Proposition:

1. We continue to closely follow the epidemiological situation and continue to evaluate the possibility to add other places next week.
2. We do not modify our case definition yet but we collect data on patient isolated at home. Too many changes will not help medical doctors and a patient with severe conditions has to be tested and hospitalized. Patients with mild symptoms can be isolated at home.

2. Seven days delay

In case of mild symptoms in a patient coming back within a 14 days period from a country where a sustained transmission is described, a medical certificate for 7 days was proposed :

Few information in the literature about the disease duration when mild symptoms (2 cases reported with both 3 days of diseases duration)

- Some articles are describing the median time for dyspnea:
 - o a case report is reporting 10 days in a hospitalized patient with pneumonia (USA)
 - o 4 days (2-7) in a cohort of 1099 hospitalized patients (China)
- Usual disease duration for an infection with influenza

Appearance of dyspnea in a week delay after the beginning of the symptoms in the context of a viral pneumonia is not unusual, in such a case the patient should require more medical attention.

Following our recommendations such a patient will be not tested. Even the shedding of virus could be longer than 1 week, it will be not cost-effective to test all patients before to allow them to go back to work:

1/ not coherent with no testing at start of the symptoms, 2/ no information about the significance of

presence of virus if no symptoms any more, 3/ no information about the duration of the shedding, not feasible to deal with cured patient having virus carriage.

Proposition: We confirm the delay of 7 days of work interruption for patient with mild symptoms with of course a medical reevaluation if the symptoms worsen or persist.

3. Recommendations of measures for Belgium

3.1. WAY TO WORK

We are adapting the international recommendations based on our national capacity taking into account the epidemiological situation and severity of the illness.

There are uncertainties regarding transmissibility and under-detection, particularly among mild, asymptomatic cases but we don't have major arguments up to now to modify the proposed strategy:

- To protect the most vulnerable
- To limit overload of hospital capacity
- To avoid nosocomial transmission

We continue to closely follow the scientific publications on the disease and the epidemiological situation in order to be ready to adapt our strategy.

We continue to improve our preparedness.

3.2. RECOMMENDATIONS FOR PREPAREDNESS: POINTS FOR ACTION

3.2.1. Shortage in some essential medical material: maskers and swabs

Risk not only for the coronavirus but also for the usual medical activity (e.g.: MDR TB, surgery, ...).

- EU perspective?

3.2.2. Hospital capacity in case of increasing number of cases during seasonal flu epidemic

SARI surveillance highlights an abnormal high number of ARDS with confirmed influenza diagnose for a start of season. Mainly H1N1 and H3N2.

- Hospital contingency planning
- Need someone DG healthcare at the RMG meeting

3.2.3. Medications

No treatment but some articles on efficacy for some molecules.

- Which protocol should be recommended in Belgium?
- How to get these treatments?
- Need someone FAGG at the RMG meeting

3.2.4. Travel recommendations

To indicate that we STRONGLY recommend not to travel to China or delay the travel as long as the new number of cases is still globally increasing. It could decrease the number of exposed people in Belgium.

3.2.5. Budget

An estimation of the needs should be done.

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