

National COVID-19 Science Task Force (NCS-TF)



Type of document: Short response

In response to request from: Brigitte Meier, BAG,
Brigitte.Meier@bag.admin.ch

Date of request: 08/04/2020

Expert groups involved: Clinical care (Manuel Battegay),
Infection prevention and control (Sarah Tschudin-Sutter)

Date of response: 13/04/2020

Contact person: Martin Ackermann, Martin.Ackermann@env.ethz.ch

Comment on planned updates : -

On the usefulness of temperature screening in public and private buildings.

Summary of request/problem

Should thermal screening be performed in shops, schools etc?

Executive summary:

Thermal screening is not useful, as least not as a standalone-measure. This conclusion is based on insights into the course of the COVID-19 disease and on existing literature.

Main text

The original request is as follows:

“Einsatz von Temperaturmessungen: Wie in China könnten mit Hilfe von Temperaturmessgeräten Personen auf Fiebersymptome überprüft werden. Der tatsächliche Nutzen ist jedoch noch nicht vollständig geklärt. Der Einsatz könnte vor allem vor dem Eintritt in öffentliche und private Gebäude sinnvoll sein, in welchen sich der Abstand zu anderen Personen verringert und die Gefahr einer Ansteckung erhöht wird. Mögliche Einsatzorte sind Bildungs-, Gesundheits- und Pflegeeinrichtungen, aber auch Shopping-Zentren, private Arbeitgeber oder der Einsatz an den Grenzen und Flughäfen. Die Machbarkeit einer flächendeckenden Temperaturmessung ist zu prüfen.”

In our opinion, thermal screening is not useful, as least not as a standalone-measure.

Reason

Even patients who are hospitalized with pneumonia may miss fever in up to 20%. There is ample evidence that persons with mild symptoms with very high amounts of virus lack fever. Persons with mild disease/infection (80%) have usually no fever. If fever scanning is done it will detect only a very minor part of people transmitting Sars-Cov-2 (at most 20%, likely much less). This percentage may get even smaller when the scale of transmission by antibody testing has become clearer (denominator including patients with no symptoms). If temperature screening is made it should be combined with screening of symptoms such as dry cough, sore throat, shortness of breath, muscle pain, quite acute onset of loss of sense of smell and taste.

The risk is to have a false security with this single measure is very high.

Proposition

Highlight symptoms at shop entries and motivate for testing. Include clinical symptoms in App for awareness and motivate to seek medical assistance including testing.

Unresolved issues

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References

Editorial by Dennis Normile, Science 6.3.2020

<https://www.sciencemag.org/news/2020/03/why-airport-screening-wont-stop-spread-coronavirus>

...Two recent modeling studies call screening into question as well. Researchers at the European Centre for Disease Prevention and Control concluded that approximately 75% of passengers infected with COVID-19 and traveling from affected Chinese cities would not be detected by entry screening. A study by a group at the London School of Hygiene & Tropical Medicine concluded that exit and entry screening “is unlikely to prevent passage of infected travelers into new countries or regions where they may seed local transmission.”

For countries that nonetheless adopt screening, the World Health Organization emphasizes that it is not a matter of just holding up a thermometer gun. Exit screening should start with temperature and symptom checks and interviews of passengers for potential exposure to high-risk contacts. Symptomatic travelers should be given further medical examination and testing, and confirmed cases should be moved to isolation and treatment.

https://www.ecdc.europa.eu/sites/default/files/documents/novel-coronavirus-risk-assessment-china-31-january-2020_0.pdf

Page 6 Entry/exit screening of travellers WHO and the Emergency Committee under IHR emphasised to China the need to re-enforce exit screening from the affected areas. Entry screening for 2019-nCoV involves the use of thermal scanning and/or symptom screening. In general, evidence in peer-reviewed literature does not support entry screening as an efficient measure for detecting incoming travellers with infectious diseases, especially in this case where the symptoms of the disease are very common and the timeline coincides with the increased activity of seasonal influenza in Europe and China [36-40]. **However, some imported 2019-nCoV cases in Asian countries have been detected through entry screening procedures at destination airports. Modelling work by ECDC has assessed the effectiveness of entry screening in detecting travellers infected with nCoV to be low.** Approximately 75% of cases from affected Chinese cities would arrive at their destination in the incubation period and remain undetected, even if the efficacy of the screening test to detect symptomatic individuals were 80% for both exit and entry screening.

Appendices