

Covid-19: screen more, screen better

Press release from the French National Academy of Medicine

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The "to test, to trace, to isolate" strategy put in place from 11 May 2020 as part of the move out of containment was a targeted strategy. It included performing RT-PCR testing for suspect patients and for contacts of confirmed cases in order to rapidly identify and isolate individuals infected with SARS-Cov-2, whether symptomatic or not. The implementation of this programme required an increase in sampling and analysis capacity and a new organisation involving general practitioners, health insurance platforms, medical biology laboratories, hospital laboratories and veterinary laboratories [1], with the support of the regional health agencies, particularly for conducting traceback investigations. The maximum capacity then available was 700,000 tests per week. Ten weeks later, the cap of 500,000 tests per week was barely reached despite a 50% increase in the screening rate during the month of July (682 patients tested per 100,000 inhabitants in week 30).

The persons initially targeted for screening were patients presenting symptoms suggestive of Covid-19 and with a medical prescription, contact subjects identified by the Health Insurance services and certain high-risk populations (hospital environment, home and social medical centres, care homes for the elderly).

In response to the resurgence of the epidemic observed since week 27, the decree of July 24 extends Covid-19 screening by making the RT-PCR test available to all, without a prescription, with a full coverage by the health insurance [2], and makes it mandatory for travelers from 16 "high-risk" countries. These new provisions have led to a considerable influx of people wishing to be tested in order to reassure themselves.

The main obstacle to the effectiveness of this extension is the length of time needed, both for the sample to be taken and for the test to be carried out and the result to be reported. In some sites, patients with or without suggestive clinical signs have to wait 4 days for a collection appointment and an equivalent length of time for their results. That excessively long wait may delay the isolation measures that should be taken at the onset of symptoms pending the test results.

Several reasons have been suggested to explain the difficulties in rapidly screening individuals for CoV2-SARS:

- In terms of sampling: overcrowding in public and private medical biology laboratories with limited opening hours (only a few hours during the day and not during weekends in some cases), shortage of equipment for nasopharyngeal samples (lab coats, FFP2 masks, glasses, charlottes, flocked nylon or polyester swabs), lack of people authorised to take samples (doctors or nurses), compliance with precautions for the

protection of the sampler, duration of the procedure and recording, time required for transport to the reference laboratory

- In terms of carrying out RT-PCR tests: limited number of medical analysis laboratories with experience in molecular biology and equipped with high throughput automatons, lack of equipment (consumables, reagents), lack of trained and experienced technicians.

Since the epidemiological indicators of Covid-19 suggest that active circulation of SARS-CoV-2 in the population will persist during the summer and that a second pandemic wave could occur in the autumn, **the National Academy of Medicine recommends that a coordinated and reactive screening policy be implemented:**

- by setting up a rapid diagnosis circuit (less than 24 hours between sampling and the delivery of results) involving a network of dedicated laboratories covering the entire national territory, reserved in priority for suspect patients, contact persons and travellers arriving in France subject to mandatory screening;
- by creating mobile screening teams, equipped with sampling means and transportable automatons for the rapid automated detection of viral RNA (GeneXpert system), capable of intervening rapidly in outbreaks that deemed critical;
- by promoting the accessibility of laboratories experienced in molecular biology to perform SARS-CoV-2 screening by RT-PCR in order to best satisfy spontaneous requests, or those motivated by travel, childbirth or surgery, and to reinforce the response capacities that would be necessary as early as next autumn in the event of a second wave.

On the other hand, **the National Academy of Medicine does not recommend:**

- the practice of "pooled tests", consisting of pooling several samples before performing RT-PCR in order to save time and reagents, which exposes to a loss of sensitivity;
- the integration of salivary specimens into screening protocols until their use with currently available reagents and automatons has shown equivalent performance to nasopharyngeal specimens.

This policy of reinforced screening will only be effective if the barrier measures are maintained in a parallel, strict and tenacious manner.

[1] Position paper of the French National Academy of Medicine" : For a veterinary help to the Covid-19 diagnosis ", March 30, 2020.

[2] Order of July 24, 2020 amending the Order of July 10, 2020 prescribing the general measures necessary to deal with the Covid-19 epidemic in the territories that have emerged

from the state of health emergency and in those where it has been extended. JORF n°0181 of July 25; 2020.