

COVID-19 Testing strategy Update September 2022

RAG meeting 30/09/2022

Principles of the advice validated by the RMG on 06/10/2022 and by the IMC on 12/10/2022

CONTEXT AND QUESTION ADDRESSED

The current testing strategy is based on the characteristics of the circulating variants and on the management levels, as described in the advice from February 2022 and summarized in the table below. Since Belgium is currently in the management level 2 with a low ratio severe disease/case, all symptomatic people should be tested in order to isolate SARS-CoV-2 positive individuals (isolation 7 + 3 days). For children < 6 years old, testing is only recommended in case of severe symptoms or in case of mild symptoms after recent high risk contact.

The necessity of testing/isolating all symptomatic persons was questioned, especially children, as many are expected to have respiratory infections with mild symptoms (COVID-19 or other respiratory diseases), and might hence (again) accumulate days of absence of in-person schooling.

The testing strategy represented a very high cost in the past years, and the cost-efficacy of testing as a measure to limit virus circulation is also questioned.

Although this advice concerns the test strategy, a recommendation is added on mask wearing, since masks play an important role for people presenting respiratory symptoms, as good public health practice.

RECOMMENDATIONS

- Overall, (reimbursed) indications for testing should be reduced, and PCR should be replaced as much as possible by Rapid Antigen Tests (RAT) for persons with recent onset of symptoms, performed by a health professional or as self-test. For persons with symptoms > 5 days, the preferred tests remains PCR.
- After more than 2 years of pandemic, the focus should be on higher empowerment of individuals to self-manage their risk. This implies 1) booster vaccination, which remains one of the most important measures (but not the only one) to limit the impact of possible future waves of high virus circulation; and 2) self-isolation and self-testing in case of symptoms.
- In the current epidemiological context, with circulation of Omicron sub-types, testing (by health professionals) should be based on clinical grounds, for a medical indication, in the same way it is done for other respiratory pathogens. If the hospital capacity is overloaded during a wave, other measures should be taken to control the situation, instead of relying on testing.
- Exceptions where systematic testing of persons with symptoms by a health-care professional is still recommended are:
 - close contact (such as household contacts) with severely immunocompromised patients¹;

¹ Definition see Table page 2, <file:///C:/Users/TiLe226/Downloads/WHO-2019-nCoV-Vaccination-SAGE-recommendation-Immunocompromised-persons-2021.1-eng.pdf>

- health care workers.
 - In addition to testing symptomatic persons in certain situations, testing is still recommended for the following:
 - high-risk contacts: the current indications for testing of HRC remain valid, see [here](#);
 - screening:
 - 1) Non-COVID patients requiring hospitalization on wards where patients at high risk of serious complications reside (e.g., geriatrics, hematology, dialysis, oncology, intensive care, transplantation). The patients fulfilling the criteria for screening should be based on a local risk assessment by the Infection control department of the hospital, where age and immunosuppression remain the most important risk factors. Of note is that screening cannot replace other preventive measures, e.g. screening is less useful in a setting of day hospitalization, if mask wearing by the patient is possible.
 - 2) Systematic screening of new residents in residential collectivities with populations at risk of severe disease (such as WZC/MRS) is not recommended anymore. It can only be considered if there is still a policy of systematic mask wearing in place for the staff and visitors.
 - Persons with a positive (self-) test should remain in isolation for 7 days (+ 3 days of mask wearing for all external contacts), as is currently recommended.
 - A clear communication to the general public and health care sector is needed to guide this change in test strategy, especially in the current epidemiological situation, with an increase of new infections and hospitalizations. The message is not that COVID-19 is over, but that it becomes one of the respiratory viruses, with possible high burden for the health care sector the coming months. Therefore, people presenting (respiratory) symptoms (even mild) should stay at home as much as possible, and wear a face mask when leaving the home. Self-testing in the early phase of symptoms (< 5 days) remains recommended, especially for people in contact with people at risk of severe disease. A positive self-test should not be confirmed anymore, given the high positive predictive value. In case of a negative self-test, self-isolation in case of symptoms is still recommended, to avoid infecting other people.
 - The communication to the general public should also include recommendations on mask wearing if presenting with respiratory symptoms. It should be reminded that face masks only work when you wear them. As an example, you no longer protect the other when your mask comes off for e.g. lunch. Also, the moments mask comes off, are often the moments we talk a lot, and it is especially when we talk a lot that masks could be most useful.
 - Also for children with symptoms, mask wearing can be part of responsible public health practice, to a certain extend regardless of age. Children that are not yet going to elementary school (usually those 5 years and under) are in general not requested to wear a mask because in this age group they may not be able to properly wear it without help or supervision (1). Children below the age of 2 should never be given a mask (2). For children that go to secondary school (usually those 12 years and older), there should be a strong recommendation to follow the same guidance as adults
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in this regard. In the communication, it is important to explain that mask wearing should be as of courtesy, in certain settings (e.g. if respiratory symptoms and indoors) and for a short period of time.

- In this context of higher empowerment of individuals to self-manage their risk (through the use of self-tests and self-isolation), persons who cannot telework should have easy access to a medical certificate for absence of work (e.g. through a registration of a positive self-test on a website), to avoid administrative workload for GPs.
- The test strategy recommended above is not linked anymore to the level of virus circulation, as it is currently the case (different strategy according to three management levels, see Table page 8). However, a difference is still made by type of variant. In the situation of a new variant with different characteristics (higher proportion hospitalizations/ICU), testing of all symptomatic persons by PCR or RAT (including children > 6 years), isolation and contact tracing (with testing of HRC) are still recommended. Therefore, upscaling of the test capacity should remain possible. The alarm signal for a possible need for upscaling testing will come from the RAG epidemiology, based on the weekly assessments of the epidemiological situation, taking into account also international data and modelling.
- In the context of a possible need for upscaling testing again, a quantification of the theoretical maximum test capacity for the coming three to six months is needed, at the level of the laboratories and the test centers.
- Indications for reimbursement of multiplex PCRs are also urgently needed.

ELEMENTS OF DISCUSSION

- During the whole COVID-19 epidemic, the purpose of the test strategy has been to identify infected persons, in order to isolate them and stop further spread, limiting thus the total number of infections and (more importantly) the number of severe cases (with overload of the hospital capacity). However, controlling the burden for hospitals cannot only rely on testing, in a context of absence of general measures and mask wearing in the society.
- Although data on number of infections is useful for epidemiological surveillance, this has never been the goal of testing. Information on virus circulation is collected based on other indicators than number of positive results (which largely underestimates the true number of infections), such as positivity rate among persons with and without symptoms and virus concentration in waste water. Data collected through the citizen-based survey [Infectieradar](#) will also be useful for follow-up of the epidemiological situation (of COVID-19 and other respiratory diseases).
- Despite that surveillance will still be possible, an important decrease in number of tests might impact on some surveillance aspects. Some adaptations might be necessary to the modelling work, which is including data on number of infections. The number of samples available for genomic surveillance in the baseline surveillance could also be low. And the impact of a possible new more virulent variant might also be visible in a later stage, based on hospital data.
- Since children are part of the overall community, applying different measures for testing and isolation for children compared to adults doesn't make sense from an epidemiological point of view. Allowing free circulation of the virus in a subgroup of the population (children) will also impact on the number of infections in adults (and persons at risk of severe disease).
- COVID-19 should progressively be considered as one among other respiratory viruses. Also, because of less circulation of these other viruses (such as Influenza) the past 2 years, the burden

of these other infections on the health care system (1st line and 2nd line), due to the workload and/or absence of staff, could become more important than the COVID-19 burden.

- Previously, the RAG made recommendations regarding the use of multiplex testing for respiratory viruses (see advice [19/08/2020](#) and [14/12/2020](#)): multiplex PCR tests, which simultaneously detect multiple respiratory pathogens, are useful during the influenza epidemic in patients with severe respiratory symptoms. The tests are recommended only in a hospital setting (emergency department patients and hospitalized patients) and if surveillance data effectively demonstrate a flu epidemic. In patients with very severe symptoms, it is recommended to use a maxi panel if possible (detection of a wide range of pathogens), in patients with less severe symptoms a mini panel is sufficient (only SARS-CoV2/ Influenza A/B, or only SARS-CoV2/ Influenza A/B and RSV). These recommendations remain valid, and clear guidance and indications for reimbursement are urgently needed.
- In the current epidemiological situation, with successive circulation of sub-variants of Omicron, symptoms of COVID-19 are mostly mild, with a small proportion of people needing hospitalization (and even less admission in an intensive care unit and death). In this context and because of the impact of a positive test result (7 days isolation + 3 days mask wearing), the willingness of people to get tested seems to have progressively decreased, and in practice, an important part of the population (including physicians and hospitals) doesn't follow the recommendations for testing anymore. The gap between the scientific recommendations and reality is now too wide.
- However, in a context of a high level of virus circulation (as is expected for the coming weeks), a small proportion of hospitalized persons on a very high number of infections can still represent an important burden on the hospitals. In addition, although less likely, the circulation of a completely new variant with immune escape and possible higher severity cannot be excluded. Therefore, scaling up testing again should still be possible. Laboratories should be informed about this. It should be noted however that it will probably be difficult to convince the public of the need for testing if scaled-up again (if testing of all symptomatic people is again necessary).
- Most neighboring countries officially still test all symptomatic people, including children. One exception is the UK, where testing of children < 18 years old is not recommended, unless directed by a healthcare professional. In other countries, discussions on changing the test strategy are also ongoing.

BACKGROUND INFORMATION

Testing strategy

The current testing strategy is based on the characteristics of the circulating variants and on the management levels, as described in a [note](#) from the RMG from March 2022 and e.g. summarized below for symptomatic cases.

Epidemiologische analyse	Kenmerken circulerende variant	
	Lage ratio ziekte ernst / aantal gevallen (vb. hoge circulatie vb. huidige omicron)	Hoge of ongekennde ratio ziekte ernst / aantal gevallen (vb. nieuwe VOC met immune escape)
Niveau 1	<ul style="list-style-type: none"> - Aanmoedigen thuis blijven indien symptomatisch - Ten minste zelftest wanneer huishoudcontact met persoon die risico heeft op ernstig ziekteverloop - Enkel RAT of PCR test voor klinische reden of persoon met risico op ernstig ziekteverloop. Test door gezondheidsmedewerker tijdens consultatie. 	<ul style="list-style-type: none"> ! (zeer) lage virus circulatie – containment - Test en isoleer iedereen met compatibele symptomen met PCR of RAT
Niveau 2	<ul style="list-style-type: none"> - Test en isoleer iedereen met compatibele symptomen met PCR of RAT * In geval van nood aan prioriteren testindicaties; zelftest is toegestaan (geen confirmatie nodig) 	<ul style="list-style-type: none"> - Test en isoleer iedereen met compatibele symptomen met PCR of RAT
Niveau 3	<ul style="list-style-type: none"> - Test en isoleer iedereen met compatibele symptomen met PCR of RAT * In geval van nood aan prioriteren testindicaties; zelftest is toegestaan (geen confirmatie nodig) 	<ul style="list-style-type: none"> - Test en isoleer iedereen met compatibele symptomen met PCR of RAT * In geval van nood aan prioriteren testindicaties; zelftest is toegestaan (geen confirmatie nodig)

Belgium is currently at the management level 2 with a low ratio severe disease/case. The current testing strategy is therefore as follows:

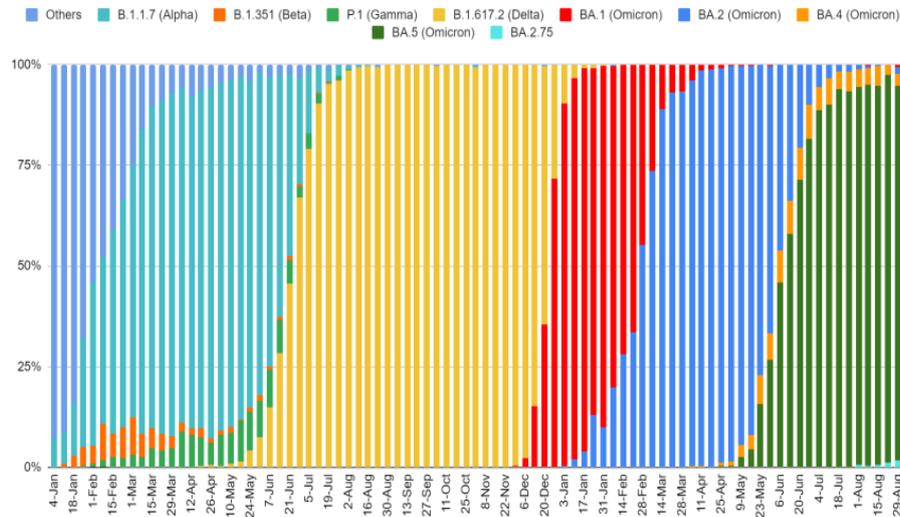
- All symptomatic people should be tested in order to isolate SARS-CoV-2 positive individuals (isolation 7 + 3 days). **For children < 6 years old, testing is only recommended in case of severe symptoms or in case of mild symptoms after recent high risk contact.**
- If no (contact with) vulnerable groups, the test performed can be a PCR, RAT at pharmacies or a self-test. If (contact with) vulnerable groups, PCR test is preferred.
- Screening is done for admissions in healthcare settings with clinically vulnerable patients (not all hospital admissions), including LTCFs.
- Incoming travelers should be tested only if coming from VOC-countries.

Current epidemiological situation in Belgium

- The epidemiological situation is evaluated every week by the RAG (see reports [NL](#) and [FR](#)). The management level has remained at 2 since the end of February 2022 (end of the 5th wave). Management level 1, which implies changes in the testing strategy (i.e. test only for clinical reasons), was considered early June 2022 but was not confirmed given the increase linked to the variant Omicron BA.5 (7th wave of infection/hospitalization, see RAG epidemiology advice 15/06/2022 [NL](#) and [FR](#)).

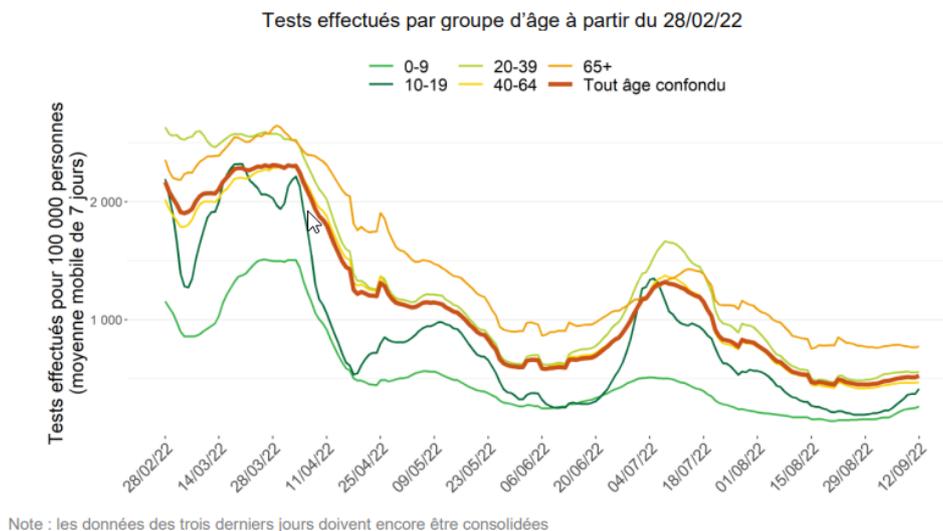
- The dominant variant has been Omicron since the end of December 2021, with sub-lineages BA.1, BA.2, BA.4 and BA.5 replacing each other or co-circulating but with no major variation in disease severity or transmissibility.

Figure 1: Proportion of variants overtime in the baseline genomic surveillance (source: NRC)



- The overall number of tests performed (PCR and RAT) has decreased since last winter in accordance with changes in the testing strategy (no test of asymptomatic high risk contacts or travelers).

Figure 2: number of tests performed over time by age groups (source: eForms/CTPC)



- The vaccination campaign for the second booster has officially started in September 2022. On 13/09/2022 the vaccination coverage for the second booster was 48,7% for the 85+ and 15,7% for the 65-84 years old. The vaccination coverage in the whole population was 78,5% for the primary vaccination and 62,1% for the first booster dose. Of note, the vaccination coverage for children 5-11 years old (primary vaccination schedule) is currently of 24,7% (7 % in Brussels, 36,7 % in Flanders and 9,8 % in Wallonia).

- Scenarios analyses performed at the Universities of Hasselt and Antwerp show that a new wave of infections can be expected in October-November as a result of resuming societal activities and seasonality. In addition, the analyses show that a booster vaccination campaign with an Omicron dedicated vaccine and a coverage of at least 50% of the oldest population (65 years and older) could result in a wave moderate in size, near the level of the latest Omicron wave in June.

Literature update – self-tests

In a prospective cross-sectional study, Schuit et al. analysed the performance of rapid antigen tests with unsupervised sampling during the Omicron period (3). Overall nasal sampling yielded sensitivities between 69,9% and 79,9% and specificities greater than 92 %, which is consistent with a previous meta-analysis (4). Sensitivities increased slightly when oropharyngeal sampling was added to nasal sampling (to 77,3% and 83,0%). In a comment to this study, Feeney and Poole, although recognizing the value of self-testing, warn against simple or confusing guidance. The interpretation of a self-test result should always be considered in a broader context (reason of the test, high risk contact, COVID-19 symptoms, time between first symptoms and test, ...) (5).

International recommendations regarding testing

Overall, international organizations and/or experts still recommend a “Vaccination+” strategy for the upcoming autumn/winter.

In a technical document with strategy considerations from WHO Europe, it is stated that case detection through expanded testing, case isolation and targeted contact tracing continue to be key to controlling the spread of COVID-19. In case of high testing demand, and particularly in settings where Nucleic Acid Amplification testing is limited, Antigen Rapid Diagnostic Tests should be prioritized. Also, there is need to ensure comprehension that SARS-CoV-2 pandemic is not over and to motivate people to adhere public health and social measures to reduce transmission, with a particular focus on vulnerable groups.

In a review of the Lancet COVID-19 Commission on lessons for the future from the COVID-19 pandemic, published on September 14, 2022, it is recommended to maintain a “vaccination-plus strategy”, that combines mass vaccination, availability and affordability of testing, treatment for new infections and long COVID, complementary public health and social measures (including the wearing of face masks in some contexts), promotion of safe workplaces, and economic and social support for self-isolation. A vaccination-plus strategy with the goal of protecting populations should be implemented on a sustainable basis, rather than as a reactive policy that is abruptly turned on and off (6).

The current strategy for testing and isolation in some other countries is presented in the Table below.

Country	Testing strategy	Isolation
<u>France</u>	<p>All symptomatic persons (<u>children included</u>) will be invited to get a test as soon as the symptoms start.</p> <p><u>Type of test:</u> PCR, RAT, self-tests (positive self-tests always need confirmation with PCR)</p> <p>→ “Tracer- tester – protéger” strategy</p>	<p>- For children < 12yo (all vaccination status) and people > 12yo with completed vaccination status: 7 days (possibility to reduce to 5 days if the Ag/PCR test is negative and no symptoms in the last 48h)</p> <p>- For people > 12yo (with incomplete or none vaccination status): 10 days (possibility to reduce to 7 days if the Ag/PCR test is negative).</p>
<u>Netherlands</u>	<p>All symptomatic persons should be tested. If a <u>child</u> has symptoms, he should stay home and use a self-test.</p> <p><u>Type of test:</u> self-test if mild symptoms; PCR, LAMP, RAT test for severe symptoms</p>	<p>minimum of 5 days and maximum of 10 days (after 5 days, self-isolation can be ended if free of symptoms for 24 hours).</p>
<u>United Kingdom</u>	<p>Most people can no longer access free testing for COVID-19. Testing is only recommended for clinical reasons and in specific settings (care services)</p> <p>It is not recommended that <u>children</u> and young people are tested for COVID-19 unless it is directed by a health professional.</p> <p><u>Type of tests:</u> PCR, RAT, self-test</p>	<p>- People (including children) with mild symptoms (runny nose, sore throat, or slight cough), who are otherwise well, can continue to attend their work or education setting.</p> <p>- People (including children) who are unwell and have a high temperature should stay at home and avoid contact with other people. They can resume normal activities when they no longer have a high temperature and they are well enough to attend.</p> <p>- If COVID-19 positive test: 5 days</p>
<u>United States and CDC guidelines</u>	<p>People (including <u>children</u>) should stay home when sick with new symptoms and isolate. People who are symptomatic or at high risk should be tested, following CDC guidelines.</p> <p><u>Type of tests:</u> PCR, RAT, self-tests</p>	<p>minimum of 5 days (possibility to end the isolation period if the person is fever-free for the last 24h). Isolation should be continued until the symptoms are improving and that no fever has been declared for the last 24h.</p>

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