Adviesaanvraag

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1. **Epidemiological situation**

In globo, Belgium has reached its peak in cases and currently experiences a decline, even though case numbers are still high. Also the positivity rate is going down considerably, except in the 65+ where it is still increasing (0-9 yo: 51%)). The number of new hospitalisations is stabilising but the number of beds occupied is high (> 4300) and ICU occupation rate is increasing (445 beds) as well as the number of covid-19 deaths. The highest incidences are in the Walloon region (such as Luxemburg and Namur) while in Brussels and West-Flanders the numbers are decreasing.

We refer to the weekly RAG report for detailed information.

Infections at the work-setting

Important to note is the change in the testing en quarantine strategy in the beginning of 2022.
In version 25 of the 2-weekly report: Covid-19 infections per sector for the period: 18/01-31/01, we observe an increase of 60% in the working population compared to the first half of January (04/01-17/01: n=4229) . The incidence in the working population is 16% higher compared to the general population (n= 5802).
The contact tracing data of IDEWE seem to suggest that we have reached the peak of the number of infections, however, we have to take into account that both the testing and the contact tracing strategy have been thoroughly modified, which could lead to a possible underreporting.

The sectors with an incidence of 14 days on 31 January 2022 that is significantly higher than the average of the working population are the sectors working with children and also certain branches of (residential) care: Child day care, Education, Residential care centres, Hospitals and Fitness centres). The incidence has increased much more in primary and secondary education than in higher education.

When we look specifically at the non-medical contact professions, the average incidence in beauty salons is comparable to the average of the working population, while the average incidence in hairdressers is comparable to the average of the general population. We still see that the incidence among employees is higher than the incidence among the self-employed.

On the other hand, we observe as well that the sectors of 'accommodation and food supply', 'transport' and most production and wholesale sectors are doing well overall, despite the fact that they often do not have the possibility to telework.

The peak in the number of infections thus coincides with the testimonies of massive staff downtime due to illness and quarantine. To prevent the spread to colleagues, it remains advisable to strictly implement the recommendations of the generic guide in all companies.

2. **Long term management strategy (upcoming 12 months)**

Several (European) countries have interpreted the actual phase as 'the endgame of the pandemic' and the Covid rules (non-pharmaceutical) are being relaxed across the UK, Denmark, Ireland, Norway, etc. Also Hans Kluge (Director of WHO Europe) has expressed the hope that the pandemic situation in Europe could possibly enter another, quieter phase.
Expected seasonality effects (which plays a role but is not the only factor) and the presumed lower virulence of Omicron are arguments in favour of an optimistic forecast. However, the perceived low virulence of omicron needs to be interpreted against the immunity background in

the population, built up by vaccination and natural immunity through past infections[1]. The combination of large scale vaccination/booster campaigns and the ongoing omicron wave have led to solid immune responses to SARS-COV2 that are even further broadening over time, albeit with differences between protection against infection (lower) versus severe illness and death (higher). Much remains still to be learned about the respective impact and longevity of the different components of the immune response (i.e. the different B- and T-cell mediated responses)[2].
This means that several elements of uncertainty regarding the mid to long term pandemic evolution remain, including the potential for new VOCs with higher virulence or immune-evasions to circulate, the longevity of the already built up immunity through vaccination and past infection, the seasonal effect of next winter, the remaining pockets of non- or partially vaccinated persons,...

It is difficult to make accurate predictions of what is to come in the next months, given the above-mentioned uncertainties. Nevertheless, attempts are ongoing to describe different possible scenarios as well as their impact on the health care sector and on societal activities (see below, section a). For instance, the *Verdi* project is looking in particular at children and pregnant women and new variants (https://penta-id.org/verdi-project-launches/) b). The *Epipose* project will look at between country comparisons to understand the pandemic evolution and impact over the last few weeks better (e.g. in terms of cost effectiveness of the measures) and analyse what can be used during future scenarios.
In addition, it is anyhow essential to invest in proper defence lines and prevention along with continued vaccination efforts (see section b).

[1] Bhattacharyya R and Hanage W. Challenges in Inferring Intrinsic Severity of the SARS-CoV-2 Omicron Variant. https://www.nejm.org/doi/full/10.1056/NEJMp2119682?query=featured_coronavirus

[2] https://www.nature.com/articles/d41586-022-00214-3?utm_source=Nature+Briefing&utm_campaign=00eba5fa44-briefing-dy-20220203&utm_medium=email&utm_term=0_c9dfd39373-00eba5fa44-43367917

a. Possible scenarios and models to be developed to estimate the impact of those scenarios

As possible scenarios, we could consider the different levels of impact on public health and the health care system (barometer levels 1 to 3), combined with particular characteristics of the circulating variant (i.e. capacity to evade the existing level of immunity in the population, and the ill-making capacity (virulence):

Barometer levels		1	2	3
Scenarios	Low immune-evasion, low virulence			
	Low immune-evasion, high virulence (Delta-like)			
	High immune-evasion, lower virulence (Omicron/alpha-like)			
	High immune-evasion, high virulence			

This model has the advantage to apply the barometer-classification which will be applicable for several sectors, but may be (too) complex due to a high number of scenario's.

An alternative, less complex model has been suggested by ZG Vlaanderen.

	14-day incidence of cases		
Clinical severity (e.g. IFR, CFR, ICU load)	Low (<200/100.000)	Moderate (200 - 499/100.000)	High (>= 500/100.000)
Low (~ flu; IFR 0,1%)			
Moderate (~Delta; IFR 0,1% - 5%)			
High (e.g. IFR > 5%)			

Although less complex, the inclusion of incidences has the drawback of accuracy as they depend on the testing policy, and the assessment/definition of severity is complex as well and subject to progressive insights.

Finally, it has been suggested to include for 'VOC' a new, separate scenario (as this will have also implications for international regulations and often the exact information on clinical impact and immune evasion is very limited in early phases (hence possibly leading to over-prudent decisions out of precautionary principle). Also, other unforeseen groups of the population may become vulnerable (e.g. infants).

The optimal choice of the different scenarios will be discussed further within the RAG working group.

b. Develop models to estimate the impact of the different scenarios

For each (or most) of these scenarios:

- estimates of the impact on the health care setting (in particular on first line and mental health care services) and on societal activities (e.g. educational system, absenteism at work,...), need to be made
- the added value of certain measures (testing, contact tracing, use of PLF, CST, mask wearing, restrictions for events and mass-activities, optimal use of vaccines and therapeutics,...) in epidemic control needs to be assessed (this may include as well an in depth analysis of the estimated impact during recent waves)
- and then to be translated into logistic planning on upscaling or downsizing of the above mentioned measures

Within this context, the RAG and RMG will convene on the evolution of the testing and contact tracing needs and capacities in the different scenarios.
For instance, it is conceivable that, in the present scenario of a virus with low virulence, mass-testing and contact tracing could be scaled down to essential surveillance activities in first line providers (i.e. sentinel screening at GP's, syndromic surveillance in emergency departments,...), high risk settings (e.g. nursing homes, hospitals, vulnerable patients, schools, returning travellers,...) as well as syndromic surveillance and early warning systems (e.g. sewage water, 'infectieradar' etc…). Obviously the necessary support (logistic, staffing, financial) needs to be foreseen. Conducting population-based serological surveys to assess the evolution of antibody-related immunity at population level is an essential asset for modelling and policy advice, too.

However, friction remains between the needs for continued genomic surveillance and timely detection of local outbreaks (as an important component of pandemic preparedness, see section c) versus the realities of a scaled-down surveillance system. The exhaustion of the testing and contact tracing system, and the gradually declining disease burden as population immunity continues to improve, requires a shift from the objective of avoiding disruption of the health care system and the economy to an objective of providing the most cost-effective health care interventions to mitigate the residual burden of disease within the confines of a routinely operational health care system.
This means not abandoning the actual defence lines, but rather seeking an orderly manner to apply them in the most cost-effective way. When there is no longer a high risk of disrupting the healthcare system, more classical health-economical assessments can be applied to help prioritise policy options[3].

[3] https://onlinelibrary.wiley.com/doi/abs/10.1002/hec.1339

Likewise, societal restrictions and the use of masks may be downscaled more easily in a context of low virulence variant, according to the barometer's alarm levels (i.e. viral circulation and health care burden allowing). On the other hand, much stricter societal restrictions may be needed to control a potential new wave provoked by a virus variant that combines immune evasion with high virulence.

Finally, certain interventions are not to be scaled down but to remain and even to be reinforced and consolidated, as they have a broader positive preventive effect, such as general hygiene standards and ventilation capacity in public places where large numbers of people meet.

Note: a similar exercise is being made in several European countries now; input will be sought for benchmarking, once reports are available.

c. Epidemic control and pandemic preparedness

Improving all components of the general crisis preparedness is essential, as prevention proves to be the most cost effective way of tackling disease outbreaks. A constant investment at all affected levels is necessary, given numerous (historical and actual) examples of other infectious diseases which became a global threat due to climate change (Zika, Chikungunya), disinvestment in control measures (Dengue) and globalisation (e.g. MDR TB, antimicrobial resistance,...), while others that received specific attention have declined or stagnated (HIV, TB and malaria). In this respect, pandemic preparedness can be seen as a clear investment for the prevention of severe future outbreaks but should also include reflections on the deleterious impact which is maximally to be avoided in the future (i.e. on mental health, economics, etc.).

Nevertheless, as we are still in the transient phase of 'epidemic control' of the currently ongoing pandemic, emphasis will remain for some time on concrete defence lines and preparedness for new covid-waves.

Essential components of further epidemic control and later pandemic preparedness include:

- Vaccination:
    - Focusing on further improving the vaccination coverage remains essential to further solidify and broaden the population immunity and reduce the impact of subsequent waves.
    - We would like to repeat our advice dd. 21/12/2021 with regards to clear, repeated (through multichannel) and dedicated communication on the importance of being fully vaccinated for all eligible persons (including booster shot)
    - Special efforts should be taken to reach and connect with the groups of people which are not yet (fully) vaccinated through the community of first line providers (including pharmacists, GP's, occupational physicians, home nurses, physiotherapists,..). Especially among lower socio-economic strata with lower health literacy, efforts must be made at local level to reach out to properly inform on vaccination and boosters (i.e. intensifying health promotion, opt-in and opt-out strategy, combine vaccination and health check-ups) while creating spaces where citizens mays discuss their fears and information needs with

trusted intermediaries in non-persuasive but autonomy supportive ways (e.g. train 'lay trainers' on covid risks and the importance of vaccination).

- Planning ahead will imply as well to gradually make use of the decentralised and prior existing structures from where a fast scaling up is possible (i.e. first line health care (including Eerste Lijns Zones), school medicine, "kind en gezin" in Flanders and "ONE" in French speaking Belgium), the workplace (occupational medicine and services for prevention and protection at work), etc…).
- Recent insights from the "Motivation barometer" (see report 40) examined respondents' reaction to 4 different policy choices (i.e., CST, 1G, mandatory vaccination and abolishment of the CST). The level of support for and the expected psychological benefits and costs associated with each of these options was assessed and was found to vary as a function of individuals' vaccination status and the perceived risk for severe illness. Three findings stand out:
    - First, unvaccinated and partially vaccinated (i.e., 2 doses) respondents are in favour of abolishing the CST as they rate the expected psychological benefits (e.g., well-being, autonomy, relatedness) to be higher when the CST gets abolished. The preference of the different policy options among unvaccinated and partially vaccinated individuals does not vary as a function of unvaccinated and partially vaccinated individuals' perceived risk for severe illness, suggesting that these groups have become less risk-responsive.
    - Second, fully vaccinated individuals who perceive a high risk for severe illness prefer stricter options (i.e., maintenance of CST, introduction of 1G or mandatory vaccination) as they rate psychological benefits to be higher (e.g., lower concerns, more autonomy).
    - Third, when comparing the expected effects of 1G vs. mandatory vaccination, all respondents rate the latter as being clearer. Vaccinated people with high risk perception expect that mandatory vaccination will come with other benefits, including social cohesion and less health concerns. The findings highlight, first, the importance of providing a timeline (i.e perspective) when the CST can be removed in reference to the barometer and, second, to invest in further communication why a booster vaccine is of added value.

- Solid sentinel surveillance (i.e. through first line health care, but also through e.g. a syndromic surveillance system for early and generic detection of new threats presenting in emergency wards) and environmental screening e.g. waste water) associated with an early warning system (as described above)

- Solid first line health care system, with increased efforts to link every citizen to a first line health care provider (with a particular focus on socially and medically vulnerable persons).

- Investing in training and expanding the public health workforce and attached Government services

- Strategic stocks of PPE, access to specifically developed (COVID, influenza) and broad antiviral and supportive (anti-inflammatory) therapy.

- Schools:
    - Needs include: outbreak plans, support/reinforce CLB and PSE (including for mental health), phased planning for mask wearing according to scenarios (see below), ventilation (improve healthy learning environment), investments in hybrid learning capacity accessible to all, develop extra-academic psychosocial health promotion curricula to support young people make sense of their experiences and develop psychosocial resilience skills.
    - With regards to the school medicine providers: it is essential to avoid those services to be completely overwhelmed and not being able to pursue their essential preventive tasks
    - With regards to masks, we have the following considerations:
        - Although all case-related numbers are declining in all age ranges, the incidences and positivity rates among children and adolescents are still high. The education sector has the highest incidence at NACEBEL1 level, on 9 February 2022. Applying sufficient measures to reduce transmission in the school environment is essential to further bring down the overall societal transmission, to reduce the number of outbreaks in schools[4] and even childcare centres[5] and to limit absenteeism and illness among teaching staff with the final goal to keep in-school education ongoing in a safe environment for staff and students. In addition, the application of NPI's including mask wearing has been found to prevent other infectious diseases (e.g. influenza, RSV,...) as was observed in China[6] but also during the former and actual influenza season in Belgium[7].
        - The use of masks in classrooms has helped also to reduce the number of high risk contacts, allowing the recent change in the policies on testing and quarantine. Removing the use of masks would definitely have an impact on the number of high risk contacts and infections, yet another change of testing and quarantine rules would probably go against the desired stability of regulations. On the other hand, over the past 7-8 weeks, a very high number of citizens (including children and

[4] Sombetzki M, Lücker P, Ehmke M, Bock S, Littmann M, Reisinger EC, Hoffmann W, Kästner A. Impact of Changes in Infection Control Measures on the Dynamics of COVID-19 Infections in Schools and Pre-schools. Front Public Health. 2021 Dec 20;9:780039. doi: 10.3389/fpubh.2021.780039. eCollection 2021.

[5] Murray TS, Malik AA, Shafiq M, Lee A, Harris C, Klotz M, Humphries JE, Patel KM, Wilkinson D, Yildirim I, Elharake JA, Diaz R, Reyes C, Omer SB, Gilliam WS. Association of Child Masking With COVID-19-Related Closures in US Childcare Programs. JAMA Netw Open. 2022 Jan 4;5(1):e2141227. doi: 10.1001/jamanetworkopen.2021.41227.

[6] Xiao J, Dai J, Hu J, Liu T, Gong D, Li X, Kang M, Zhou Y, Li Y, Quan Y, He G, Zhong R, Zhu Z, Huang Q, Zhang Y, Huang J, Du Q, Li Y, Song T, Hu W, Zhong H, Ma W. Co-benefits of nonpharmaceutical intervention against COVID-19 on infectious diseases in China: A large population-based observational study. Lancet Reg Health West Pac. 2021 Dec;17:100282. doi: 10.1016/j.lanwpc.2021.100282. Epub 2021 Oct 1. PMID: 34611630; PMCID: PMC8484818.

[7] Sciensano weekly influenza bulletin.
https://www.sciensano.be/en/biblio/griep-bulletin-week-05-2022-bulletin-grippe-semaine-05-2022-weekly-flu-bulletin-week-05-2022

adolescents) have been infected with omicron - estimated at least ⅓ of the entire population, leading to a reduction of the pool of susceptibles.

- The use of masks is one preventive intervention among many to keep indoor transmission under control. When mask use would be abolished, the importance of excellent ventilation/air purification considerably increases. The question remains whether the actual class infrastructure has evolved effectively in the meantime. Likewise, vaccination of children and adolescents are important tools for a sustainable control of infections in these age ranges and subsequently continuity of in-class education. Abolishing one measure would imply more investments in these other measures[8].
- On the other hand, mask wearing is unpleasant and may disturb the learning process (especially for very young children, or for those with severe (learning) disabilities), even though this remains subject of debate [9] [10] [11] and no evidence on long term harm has been identified until date.
- As a consequence, the advantages of certain measures (i.e. keeping students and staff healthy, safeguarding in-school education) should always be weighed against the presumed disadvantages, awaiting additional evidence[12]. From that point of view, relaxing the use of masks for children could be considered in a stepwise manner according to their age, provided the epidemiological situation in the country and in the schools has improved in such a manner that other, large-scale relaxations can be allowed as well. We therefore propose to consider relaxing the use of masks in children of primary school classes 1 to 4 from the school week after the carnival break onwards. Under the condition of a beneficial epidemiological evolution (i.e. code yellow/barometer alarm level 1), further mask relaxations for older ages could be considered. Nevertheless, when in contact with vulnerable persons and while in very crowded environments, mask wearing by children should remain strongly recommended. This includes crowded public transport settings.

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[8] Gupta S, Smith L, Diakiw A. Avoidance of COVID-19 for Children and Adolescents and Isolation Precautions. Pediatr Clin North Am. 2021 Oct;68(5):1103-1118. doi: 10.1016/j.pcl.2021.05.011. Epub 2021 May 21.

[9] Schlegtendal A, Eitner L, Falkenstein M, Hoffmann A, Lücke T, Sinningen K, Brinkmann F. To Mask or Not to Mask-Evaluation of Cognitive Performance in Children Wearing Face Masks during School Lessons (MasKids). Children (Basel). 2022 Jan 11;9(1):95. doi: 10.3390/children9010095.

[10] Freiberg A, Horvath K, Hahne TM, Drössler S, Kämpf D, Spura A, Buhs B, Reibling N, De Bock F, Apfelbacher C, Seidler A. [Impact of wearing face masks in public to prevent infectious diseases on the psychosocial development in children and adolescents: a systematic review]. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2021 Dec;64(12):1592-1602. doi: 10.1007/s00103-021-03443-5. Epub 2021 Oct 25.

[11] Fine AL, Wong-Kisiel LC, Nickels KC, Wirrell EC. **Masking** for **School**-Age **Children** With Epilepsy: We Do Have Consensus! J Child Neurol. 2022 Feb;37(2):127-132. doi: 10.1177/08830738211063684. Epub 2022 Jan 5. PMID: 34986033

[12] Krishnaratne S, Littlecott H, Sell K, Burns J, Rabe JE, Stratil JM, Litwin T, Kreutz C, Coenen M, Geffert K, Boger AH, Movsisyan A, Kratzer S, Klinger C, Wabnitz K, Strahwald B, Verboom B, Rehfuess E, Biallas RL, Jung-Sievers C, Voss S, Pfadenhauer LM. Measures implemented in the **school** setting to contain the **COVID-19** pandemic. Cochrane Database Syst Rev. 2022 Jan 17;1(1):CD015029. doi: 10.1002/14651858.CD015029. PMID: 35037252 Review.

- Workplace:
    - The crisis has learned that by taking appropriate measures in the workplace (telework, ventilation, social distances…), you can contain the spread of the virus at the workplace. The employers, committees and services for prevention and protection at work play a crucial role here, in order to work out and implement the necessary safety and organisational measures at company level. This does require the implementation and re-enforcement of the existing OSH legislation (Codex well-being at work).
    - In order to avoid harsh lockdown measures closing sectors, it is important that sectors take all initiatives to motivate their member to follow the rules and at the same time the government should re-enforce these measures by targeted inspections followed by sanctions if measures are not properly implemented.
    - Consequently, government should make full use of those existing structures and empower companies to implement them together with the committees and services for prevention and protection at work. This way you involve the working population and give them the opportunity to help bring the pandemic under control. This requires public health and occupational health and safety authorities to work together at both the local and national level to prevent the spread of COVID-19 in the workplace and in the general population.
    - Some sector showed a clear learning curve, e.g. hairdressers, but also other sectors. This clearly indicates that the implementation of clear and well communicated, trained and followed-up protocols are effective. Illustrative in this context are the dentists: a medical contact profession, which are used to follow strict protocols, showed low infection incidences throughout the pandemic
    - In concreto, a revision of generic guide with regards to the application of telework, testing & contact tracing, use of masks, and other temporary measures in function of the above mentioned scenarios is needed
    - With further improvement of the epidemiological situation, it is conceivable to decrease gradually the proportion of telework (e.g. to 3 days/week, or to release the obligation provided sufficient measures are in place to mitigate transmission risks at the workplace. This would require very strict implementation of the generic guide and risk-assesment at each workplace. Additional, voluntary measures e.g. application of self-test or voluntary quarantine or telework after HRC could have added value.
    - Investments for mid long term structural adaptions (e.g. ventilation, improved potential for flexible and qualitative telework - See RZS report 25) are essential to minimize risks of occupational health hazards as well as the necessary enforcement (as mentioned above).

- Preventive medicine and healthy living:
    - Given the broad health impact of this pandemic on our society's public health in all aspects, it is essential to invest more in a healthy society with lower incidences of non-communicable diseases (e.g. Type 2-diabetes, hypertension, obesity) as well as mental health, by promoting and creating mental wellbeing and health, creating environments supportive of healthy lifestyles, generating opportunities to increase a sense of connectedness and social support, addressing the social and structural determinants of health

- In this respect, it is even more important to reach socially vulnerable people through dialogue, address social inequalities and differences in exposure and risk (not only behavioural but also structural determinants, such as housing, etc.). Health literacy and appropriate communication strategies have proven to be a determining factor in the efficacy of preventive measures. Preventive communication and informing the general public (including vulnerable people will also improve the general defence line of the population against future outbreaks).
- Strengthening the first line health care system and linking socially vulnerable persons to the existing first line health care is also essential in screening for and management of non-communicable disease which actually often remain unnoticed - a considerable proportion of the medically vulnerable suffer from non-diagnosed hypertension, diabetes,... and might present only in complicated stages.

- Further investments into incentives for proper ventilation and air cleaning can be made to increase pandemic preparedness and provide for an overall healthier society. Further investments are needed in the following sectors:
  - Horeca
  - Culture
  - Schools
  - Public transport
  - Sport accommodations
  - Professional settings (i.e. implementing existing OSH regulations on ventilation[13] and infectiepreventie[14])
  - Healthcare settings
  - Etc.

- Preparedness in research:
  - For long term surveillance activities, there is a need for sustained support for harmonized datacollection at national level
  - National and international projects are being started to examine more in depth characteristics of viral spread in order to be able to construct more robust predictive models and analysis methods for future use. Efforts could be taken to invest in these research projects and provide national and international cooperation between public and private researchers, as Premier De Croo already agreed on in his beleidsverklaring. We refer also to the above mentioned Verdi and Epipose projects.

[13] https://werk.belgie.be/nl/nieuws/aanbevelingen-voor-de-praktische-implementatie-en-bewaking-van-ventilatie-en

[14] https://werk.belgie.be/nl/themas/welzijn-op-het-werk/biologische-agentia