Adviesaanvraag

Vraagsteller	OCC
Datum van adviesaanvraag	27/11/2020
Onderwerp	Beheerstrategie
Vraag	- Welke principes moeten gevolgd worden bij het versoepelen van de maatregelen? - Welke sequentie van versoepelingen zou best worden gevolgd wanneer de drempels om van de lockdownfase in de controlefase te gaan worden bereikt? - Welke economische overwegingen maakt de GEMS? - Hoe gaat het met de mentale gezondheid van de bevolking en welke concrete acties kunnen hieromtrent worden genomen?
Reden	-

Adviesverstrekking t.a.v. het Overlegcomité

Datum van adviesverstrekking	19/01/2020
Dit advies werd opgesteld en goedgekeurd door	De volgende leden van de expertgroep Beheerstrategie: Isabelle Aujoulat, Philippe Beutels, Steven Callens, Bénédicte Delaere, Mathias Dewatripont, Frédéric Frippiat, Lode Godderis, Niel Hens, Yves Kreins, Tinne Lernout, Romain Mahieu, Christelle Meuris, Geert Molenberghs, Karine Moykens, Céline Nieuwenhuys, Michel Thieren, Pierre Van Damme, Dimitri Van der Linden, Steven Van Gucht, Yves Van Laethem, Marc Van Ranst, Maarten Vansteenkiste, Erika Vlieghe, Dirk Wildemeersch

Executive summary

1. Epidemiology:
    a. Actual figures of cases, positivity rate and hospitalisations have somehow stabilised but are not yet near the 'safe and stable haven' of < 800 cases /3% positivity rate /<75 hospitalisations.
    b. Recent scaling up of genetic surveillance has revealed a steep increase in the presence of new variants i.e. the 'UK'-variant B 1.1.7 and the 'South African'-variant B. 1.351. Given the presumed higher infection rates, extra care needs to be taken to prevent large-scale spread of these variants in the country.

2. Mental health and motivation
    a. Adolescents and young adults are a group who are particularly hit hard by the effects of the current measures.
    b. Several possible interventions which could be discussed and worked out further within the framework of the actual level of measures (= before relaxations take place) to alleviate their highest social and mental health needs.
    c. In addition to the emphasis on youth, we would like to stress our earlier concrete recommendations for motivational communication.

3. Economic impact
    a. It is the fear of the virus, i.e. the risk perception, that kills the economy much more than the confinement measures themselves.
    b. It is important not to go for new relaxations before being confident this will not create a significant rise in virus circulation. Such a prospect would hurt businesses that are already open and thus workers that are currently working. This economic pain would be heightened if the situation were to subsequently require a new round of restrictive measures.
    c. It is preferable to keep subsidising non-medical contact professions rather than reopening them and thereby risking a flareup of the epidemic and a subsequent stop-and-go policy which will be costlier for the economy.

4. Management in two directions
    a. preparing for a worsening situation: plan A/B/C
        i. plan A:
            1. ensuring that all essential requirements are constantly being strengthened (testing, contact tracing, Q, cluster analysis, local outbreak management
            2. enforcing maximal telework, reducing at risk contacts of children < 12 y
            3. reducing travel-related imported covid-19-infections
    b. preparing for relaxations:
        i. dependent on epidemiological evolution (safe haven < 800 cases/< 3%/< 75 hosp/d)
        ii. suggested priority to contact professions, youth, social contacts, outdoor activities

1. Epidemiological update

For a full overview of the current epidemiologic situation we refer to the RAG-report

Points of attention:

- Actual figures of cases, positivity rate and hospitalisations have somehow stabilised but are not yet near the 'safe and stable haven' of < 800 cases /3% positivity rate /<75 hospitalisations
- Recent scaling up of genetic surveillance has revealed a steep increase in the presence of new variants i.e. the 'UK'-variant B 1.1.7 and the 'South African'-variant B. 1.351. Given the presumed higher infection rates, extra care needs to be taken to prevent large-scale spread of these variants in the country.
- Several outbreaks in hospitals (e.g. Geel, Lier, St-Truiden, UZ Leuven,...) have been noted, not necessarily associated with new variants but nevertheless causing numerous new cases, highlighting the risk of the 'usual' variant of SARS-CoV2 circulating in the country.
- New cases of B 1.1.7 in schools and a large outbreak of B 1.1.7 in a nursing home highlight the potential rapid spread of this new variant

2. Update on motivation and mental health

A full evidence based report can be found in Annex 1.

This report aims to compile available evidence on the level of mental health impact of the COVID-19 epidemic in Belgium. It was compiled by the GEMS, in close collaboration with the working group on mental health of the Superior Health Council and the WG 'Psychology and corona'. Note that the attached report is not yet finalised (this is a preliminary version and is aimed to be updated on a regular basis).

Based on the available evidence, it is clear that adolescents and young adults are a group who are particularly hit hard by the effects of the current measures. This should be taken into account when considering priorities for relaxations (next to epidemiological considerations).

In addition, we identified several possible interventions which could be discussed and worked out further within the framework of the actual level of measures (= before relaxations take place) to alleviate their highest social and mental health needs. These need to be further discussed with the relevant competent authorities and organisers of education:

1. **Acknowledge** explicitly that **young people** are experiencing very difficult times and make lots of efforts in the interest of society (not in their own interest). Encourage the media to put these positive examples more in the picture.
2. **Reach out** to this group to (1) **assess their psychosocial conditions and mental health**; (2) **provide support** for their specific needs that would emerge from the assessment.
3. **Involve schools, teachers, the school health services, and the health promotion sector** in the co-creation of **highly structured and age-adapted psychosocial and health education packages to engage young people** in group discussions, mental health concerns and their (lack of) motivation to adhere to the measures. **Financially support the creation of a solidarity platform** to exchange inspiring COVID-19 initiatives across schools.

4. **Facilitate the development and spread of online support-apps, psychoeducational programs with a low participation threshold** to prevent mental health problems and to improve mild problems. Use **different media** channels to reach out to specific **target populations**: TV, online, social media…
5. Provide **financial support** to institutions in higher education to (temporarily) hire additional **student psychologists and other professionals** (e.g. social workers) where needed. Beyond the problems with youth mental health, we recommend making use of and upscale existing capacities of mental health services in the short term by clarifying how the population could get access to the promised 1500 psychologists
6. Implement **temporary but substantial flexibility in the requirements for learning credits** during this academic year as a **sign of support for students not to give up**.
7. Provide **financial support for young people who depend on student jobs** (largely suspended now) and **for young adults struck by (temporary) unemployment** to support their current living situation.
8. **Consider keeping schools for children and adolescents with special needs open during the coming break** in February (and not to extend this break for this group) and to **support initiatives** that address parents' and young people's needs in this situation.

In addition to the emphasis on youth, we would like to stress our earlier concrete recommendations for motivational communication (which have been discussed at the Commissariat following the request of the OCC dd. 08/01/2021):

1. We suggest to organise communications on a **fixed weekly moment** to bring an update about the situation, thereby providing a broader picture of both medical (i.e., infections, hospitalisations; testing, quarantine, vaccination) and psychosocial (e.g., new initiatives being developed).
2. It is important to clarify the more **distant goal** we are striving for (i.e., control phase) and indicate which **intermediate goals** need to be achieved, which serve as critical virologic and psychological milestones. We suggest to provide a visual **timeline**, while highlighting the uncertainty around this time. Concretely, **visualise** this trajectory that leads to the top of the mountain.
3. Provide systematic, concrete and **positive feedback** on citizens' efforts, which explains why the curves have decreased, lives have been saved and has put us in a better position than our neighbouring countries. Concretely, we suggest to express more explicit gratitude for adhering to the measures during the Christmas break and empathically recognise the distressing times we all face.
4. Highlight the **effectiveness of measures** being taken to build trust in the population that the situation is under control (e.g. testing incoming travellers). Highlight the **critical role of people's behaviour**. Measures may be effective, but without adhering to them, no progress can be made. Concretely, refer to periods where we successfully adhered to measures (e.g. first month of the lockdown adherence was higher) and managed to get the situation more quickly under control to enhance confidence.
5. **Use if-then messages**, thereby explaining what the long-term consequences imply **explicitly** if people fail to adhere to the measures today (e.g. a 4-week delay in reaching the control phase). Present such information graphically in a neutral and informative way, without enhancing guilt or anxiety.

6. Highlight the importance of a collective effort of the population, thereby supporting each other. We are on a '**shared mission**' and need to collectively arrive at the finish. In the meantime we need to support each other. Frame adhering to the measures as **deed of solidarity**. Ask people to **personalise their motivation**, that is to think concretely of a person they have in mind for whom they stick to the measures.
7. Create **realistic expectations** regarding vaccination. Indicate that even after vaccination people will be required to adhere to the measures. So, vaccination will open the door to freedom, yet, it will be a **collective rather than personal freedom**.
8. Encourage people who are **vaccinated** to continue adhering to the measures for two **prosocial reasons**. Because it is unclear whether the virus can be transmitted after vaccination, one can avoid infecting others by adhering to the measures (refer to the situation of youngsters, who found themselves in a similar position throughout the crisis). Even if the virus would no longer be contagious after vaccination, by adhering to the measures one empathises with those who are eagerly waiting to be vaccinated.

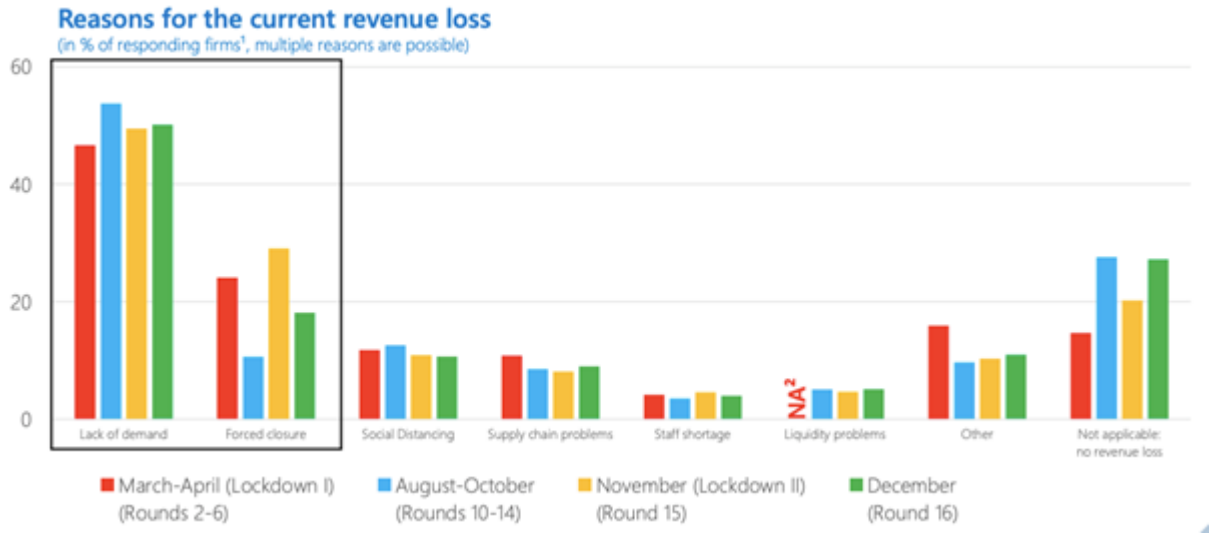
3. Update on the economic dimension of the COVID-19 pandemic and related measures in Belgium (including considerations on the contact professions)

A full, evidence based report can be found in Annex 2.

3.1. General considerations

It is by now well-established that it is the fear of the virus, i.e. the risk perception, that kills the economy much more than the confinement measures themselves. As detailed in the Annex, studies performed in the US (Chetty et al.[1]) and on the comparison between Denmark and Sweden (Sheridan et al.[2]) show that speeding up reopening does not help the economy if individuals fear the virus. The dominance of fear on economic activity (since it depresses general demand) is confirmed in an International Monetary Fund study on 128 countries (see IMF blog[3]).

This is also the case in Belgium, as indicated by the following Figure, taken from the latest report on the ERMG dashboard, where firms indicate the main reason for their revenue loss:



Source: ERMG dashboard report, 22 December 2020

This is consistent also with psychological surveys which currently indicate individuals are worried about the sanitary situation and approve of the current measures (see studies of Vansteenkiste et al.).

[1] « *How did covid-19 and stabilisation policies affect spending and employment ?* », *Working Paper* n°27431, National Bureau of Economic Research, June 2020, and revised November 2020: Raj Chetty, John N. Friedman, Nathaniel Hendren, Michael Stepner, and the Opportunity Insights Team «The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data".

[2] « Social distancing laws cause only small losses of economic activity during the COVID-19 pandemic in Scandinavia. » Proc Natl Acad Sci U S A. 2020 Aug 25;117(34):20468-20473. Sheridan A, Andersen AL, Hansen ET, Johannesen N. doi: 10.1073/pnas.2010068117.

[3] See « COVID's Impact in Real Time: Finding Balance Amid the Crisis », Francesco Grigoli and Damiano Sandri, IMF Blog, 8 October 2020);

It is therefore important not to go for new relaxations before one can be confident this will not create a significant rise in virus circulation. Such a prospect would hurt the businesses that are already open and thus workers that are currently working. This economic pain would of course be heightened if the situation were to subsequently require a new round of restrictive measures.

Note that fear can moreover rise if citizens realise reopenings take place at a time where preannounced targets (800/75/3%) are not reached, and this in a situation where the new variants of the virus (B. 1.1.7) create additional, very justified, worries. It will not be straightforward for the authorities to explain such policy reversal which risks hurting its credibility.

3.2. Contact professions

3.2.1. General epidemiological considerations

To understand the epidemiological risks associated with reopening contact professions, one should consider, both in theory and practice, the nature and circumstances of contacts associated with the profession:

1. The frequency, proximity and intensity of contacts
2. The diversity of contacts in terms of age, comorbidities and geographic spread
3. The opportunity to ventilate the venue of contact
4. The possibility to keep a distance and wear a mask uninterrupted

We note that these aspects differ between contact professions, but are likely to show also great diversity of practices within each contact profession. A key feature is that these professionals have a great diversity of contacts by day. Their clients tend to come from all walks of life, covering the entire age range. These professionals have therefore by definition very large and open contact bubbles and are not only themselves at increased risk of infection, but when they are infected, may act as a vector for transmission between the large and diverse groups of clients they serve. An average person currently has physical contacts with about 5 to 10 persons per day (with important age dependencies), with the majority of these contacts being the same contacts every week.[4] A contact professional is likely to see ***additionally*** about 5 to 30 clients per day, but, more importantly than the sheer number, this additional contact pool changes every day for many weeks on end, and for many of these professions each contact lasts longer than 15 minutes and occurs indoors. We know from earlier mathematical model simulations that the nature and frequency of such open contact bubbles are a key driver of transmission in society, and therefore should currently be avoided as much as possible.[5] Of course, the risk of transmission per contact can be decreased by adhering strictly to protocols and distancing rules. It is however, given the nature of these contacts, the commercial interests to maintain host-client relationships beyond the pandemic and the current cold temperatures, questionable that this will be possible for many venues and at all times.

[4] Coletti, P., Wambua, J., Gimma, A. et al. CoMix: comparing mixing patterns in the Belgian population during and after lockdown. Sci Rep 10, 21885 (2020). https://doi.org/10.1038/s41598-020-78540-7

[5] Willem L, Abrams S, Libin PJ et al. The impact of contact tracing and household bubbles on deconfinement strategies for COVID-19: an individual-based modelling study. medRxiv 2020.07.01.20144444; doi: https://doi.org/10.1101/2020.07.01.20144444

Therefore it may very well be that the relaxation of these epidemiologically influential professional activities may fuel the epidemic to the extent that other, less epidemiologically influential contacts currently allowed may have to be reduced again.

3.2.2. Topical contact professions and their impact

Considering the following main non-medical contact professions that are currently closed:

- Hair and beauty care
- Sauna's, solaria, baths and tattoo parlours
- Prostitution

Based on data from the NBB, these groups are estimated to account for 0,37% of GDP (broken down into 0,21%; 0,05% and 0,11%, respectively, for the three groups above). Adding less specific similar professions, such as personal trainers and fitness instructors, the total share of these professions in GDP is estimated at most at 0,5%. Together they represent 1,4% to 1,6% of the Belgian workforce.

Table 1: Estimated size of the professions (based on data received from cabinet Clarinval in December 2020).

Profession	**Total employment 2019 (ONSS-Q4)(APL-Q2)**
Hairdressers	~30,000
Beauty	~20,000

There are currently informal indications that there is an increased black market for these activities, and that these activities are undertaken by both professionals and non-professionals, in circumstances that are by definition beyond control.

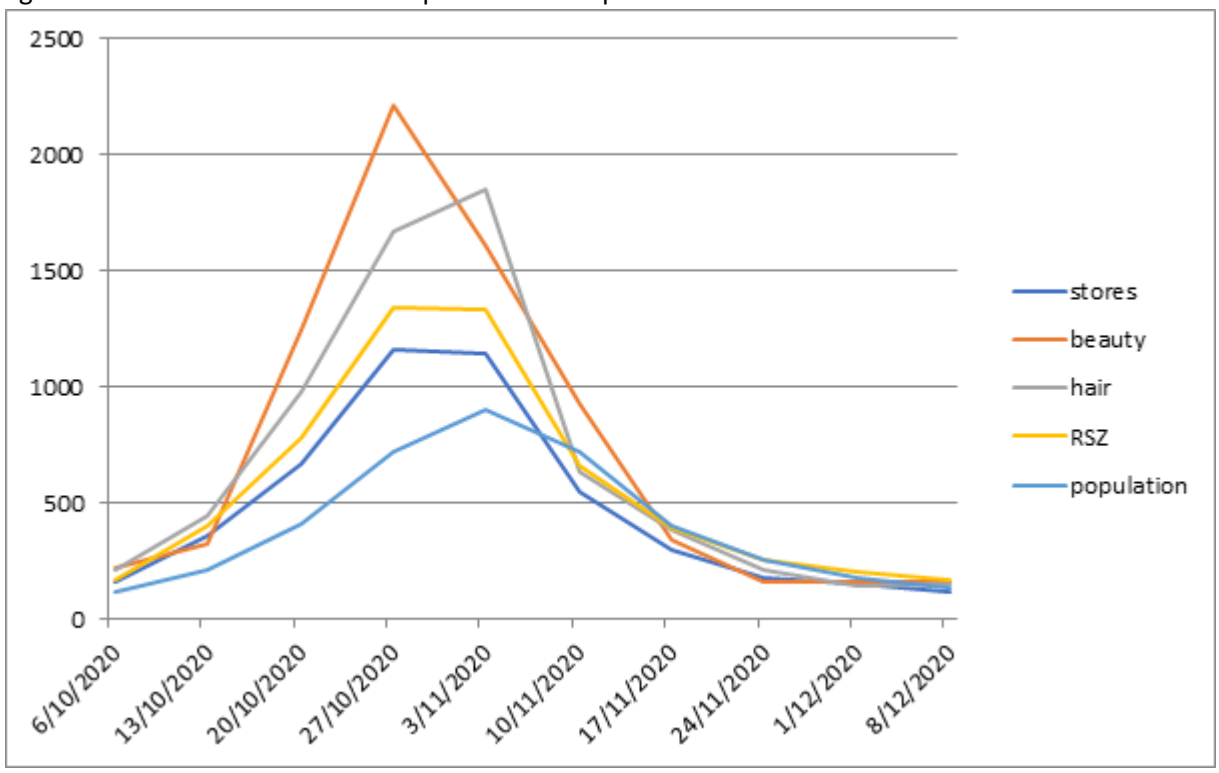
As outlined in the previous sections, the current support measures avoid bankruptcies in this sector, protecting both salaried personnel and (self-employed) independents. If these sectors are reopened the following considerations should be made:

1. The clients' risk perceptions outlined in the first section above, and the adherence to strict protocols will not allow generating revenue at prepandemic levels for some time.
2. A part of these professionals may not want to reopen based on their own risk perceptions.
3. The venues of part of these professionals may not allow reopening in strict accordance with protocols.
4. When these professions are being reopened, partial support may need to continue to avoid bankruptcies in these sectors in the short to medium term.
5. Policy makers will need to balance the risks of further economic damage on other sectors associated with the risk of a resurgence, and the desire to guarantee that contacts that have previously been prioritised in the contact budget (e.g. education, non-essential shopping) can be sustained.

In Figure 9, we present the 7-day incidences for the general Belgian population, for all employees recorded in the RSZ database, and for the employees in stores, the hairdresser sector, and the beauty sector. The 7-day incidences in the general population are approximated by half the 14-day incidences for the general population.

All sectors listed score higher than the general population over the peak period. Stores personnel scores below the general RSZ population, whereas the hair and especially the beauty sector rise well above the average RSZ population. When sectors are closed, their employees tend to score below the general population in terms of incidence.

Figure 9: Evolution of incidence of specific contact professionals



An admitted simple thought experiment may help understand the scale of the risks involved.

For simplicity, assume that:

1. We assume 50,000 professionals (see table 1).
2. The incidence among these professionals rises again to 1000 per week per 100,000 for at least three weeks.
3. These professionals work for two days while being infectious without symptoms.
4. These professionals saw per day ten different clients.

Then, multiplying the three steps, we get 50,000 x (1000/100,000 x 3) x 2 x 10 = 30,000 potentially infectious close contacts over three weeks.

If they infected all their clients during two days of infectivity, these professionals would have seeded over the entire age range of the population 30,000 new infections over a 3-week period, or just over 1400 per day. Of course, 100% infectivity is excessively pessimistic. But we are talking of close contacts for more

than 15 minutes and potentially with hair dryers. Therefore, assuming 20% infection is conservative, which means 6,000 new infections over three weeks, or 286 a day. And given the diversity of clientele it would be likely that most of these new infections would be seeded in different households over the entire Belgian population. Anyway, as the above assumptions scale linearly it's easy to see the effect of using other assumptions. For instance, if they serve an average of 20 clients and infect 50% of them, the newly seeded infections go from 6,000 to 30,000.

Anyway, at a time where one is unsure of the direction of epidemiological numbers, and where avoiding the spread of new and more aggressive variants of the virus is an important concern, the above numbers indicate that it is better to keep subsidising these professions rather than risking a flareup of the epidemic, which will moreover induce an economic cost on sectors that are currently open and then risk subsequent tightening.

Taking all these economic considerations into account, as well as our earlier extensive risk assessment dd. 15/01/2021, the GEMS does not recommend to allow a restart of the contact professions' activities at this moment. A more in depth modelling exercise on the estimated epidemiological impact of the restart of the contacts professions' activities is under construction. However, as it is felt highly important to allow this sector a certain perspective, we suggest to include them in the priority list for the first package of relaxations (i.e. once the safe haven has been stably reached), and to prepare the sector with strengthened working protocols, focusing on brief contacts in well-ventilated spaces and with maximal and correct use of good quality masks, hand hygiene, ventilation, training... The technical details of this protocol has been further worked out by the team of Piet Vanthemsche at the Commissariaat in collaboration with the sector and will be added to the compiled Commissariaat note.

5. Bi-directional management of COVID-19

As outlined in our report dd. 05/01/2021, the GEMS attempts to give evidence-based advice on non-pharmaceutical interventions to be taken (i.e. societal and public health interventions beyond vaccination and treatment). This advice can always go in two directions:

- If the epidemiological parameters reach the predefined thresholds for a sufficiently long time, we can consider certain relaxations as planned.
- If the epidemiological situation is unstable and further worsens, it may be needed to install plan B and C to regain control over the situation and further decrease the number of contacts between persons (as outlined in our advice dd. 05/01/2021). **In order not to reach this undesired situation, we emphasise once again the need to further strengthen the current situation** (plan A).

5.1. Plan A

As listed and explained in extenso in our advice dd. 05/01/2021, it is extremely important to further strengthen, extend and monitor the following:

- The **essential requirements ('randvoorwaarden', 'dykes')**: testing, contact tracing, quarantine, cluster analysis, local outbreak management... Details and suggested KPIs for these activities will be discussed elsewhere in the Commissariaat nota.
- **Maximise telework**, including the introduction of **universal, compulsory use of masks at the workfloor** for all indoor work settings with at least > 1 person working together.
- Standardise and control norms for **ventilation** in offices, schools and public buildings.
- Reduce **extrascholar activities** for children < 12y to **outdoor** activities in **small groups (max 4-8 children)**, with a limitation to one type of extrascolar activity until sufficient virological control has been reached. Exceptions for the functioning of dedicated youth centres (for those > 12 y) may be foreseen. In addition, current protocols may need to be revised on safety and risk reduction.

As listed in our advice with regards to the new variants dd. 15/01/2021:

- **Minimise the net amount of persons traveling** into Belgium after a stay abroad (for details see our advice dd. 15/01/2021).
- **Maximise and control the testing and quarantine** of the persons entering Belgium.

5.2. Plan B

If the incidence would increase again, there should be a **swift reaction to avoid having to go into full lockdown**. The decision will have to be taken based on a quantitative and qualitative **review of the epidemiological data as suggested by the RAG** (listed in Annex 3), which includes the evolution (both absolute value and speed of change) of the R-value, incidences of cases and hospitalisations, outbreaks, emergence of the variant strains, etc…

It is important that the possibility of this 'plan B' is known, **prepared and communicated early enough**. This will help to **increase predictability** and allow all parties to get **properly organised**. In case of worrisome epidemiological evolution, the following measures should be implemented as soon as possible:

a. Implement an earlier and streamlined curfew throughout the country.

b. Consider to add a week of 100% distance learning to the planned carnival break. Similar considerations could be done for later periods. Exceptions can be made for schools for children with specific needs.

c. Adapt testing strategy for children if advised by RAG (altered definition of low and high risk contacts, screening class for possible outbreak from 1 positive case).

d. Reconsider mask wearing by children from ages > 10 y (RAG did not reach consensus).

e. More general use of FFP2-masks in specific settings may need to be reconsidered (e.g. healthcare, vulnerable groups...).

f. Closing of non-essential shops may need to be considered in crowded places with insufficient crowd control.

5.3. Plan C

If the measures suggested in plan A and B are not sufficient to control the epidemic (and keep the numbers down), the country may require a new full lockdown to avoid a collapse of the healthcare system. That a risk for this happening is real, is clearly demonstrated in the rapid and unfavourable evolution in the United Kingdom and Ireland. It needs to be noted that the foreseen capacity of 2000 ICU-beds in Belgium may not be fully used, given the observed additional mortality in 'extra-capacity beds' during the first wave, and the major impact on the non-COVID-19 critical care during the first and second waves[6].

As there is a general consensus that closing schools has a negative physical, mental, and educational impact on children, this should be added only as a last resort, i.e. in the case where even a full lockdown is not sufficient to bring the numbers down. School closure implies that teaching takes place at 100% on distance for this period.

The measures as suggested in plan A and, if needed, plan B, should be implemented meticulously and early enough, to avoid this final step at all cost. Epidemiological criteria to switch from plan A to plan B and plan C and as well as detailed suggested measures for plan C are under construction.

[6] TACCONE, F. S., VANGOETHEM, N., DEPAUW, R., WITTEBOLE, X., BLOT, K., VANOYEN, H., LERNOUT, T., MONTOURCY, M., MEYFROIDT, G., & VANBECKHOVEN, D. (2020). The role of organizational characteristics on the outcome of COVID-19 patients admitted to the ICU in Belgium. *The Lancet Regional Health - Europe*, 100019. https://doi.org/10.1016/j.lanepe.2020.100019

5.4. Proposed sequence of relaxations

The epidemiological situation is still very volatile, and probably a net result of recent traveling, cold winter season and social gatherings over the recent festive period. In addition, with the numerous outbreaks and needs for non-COVID-19 care, there is still very little resilience and 'buffer' left at many hospitals to absorb large amounts of new cases.

Given the current epidemiological evolution both in terms of numbers, ongoing outbreaks as in terms of novel variants, we advise not to proceed to any relaxations for now and wait until the 'safe haven' as defined in the management strategy has been reached for a sufficient long time (i.e. 3 weeks).

Re-opening more activities earlier (even with protocol and in careful circumstance) will inevitably lead to more at-risk contacts, which easily could ignite an increase in cases. In addition, premature opening of certain activities may give the false impression of reduced risk, which is actually not the case.

However, the GEMS does acknowledge the need for citizens, economic sectors and policy makers for a more clear outline and perspective on the mid-long term (i.e. weeks, months), both from a mental and organisational point of view.

Therefore, the GEMS has outlined a set of at least 3 phases of relaxations (see also our advice of 05/01/2021). Based on risk assessment and taking into account the broader health considerations, the following sequence of relaxations is proposed for the first phase (see very last page of this document, Annex 4).

5.4.1. Principles used to define the first sequence of relaxations

1. **Contact budget.** The potential impact of increasing social contacts through private, leisure or work-related activities remains significant in igniting a third (or fourth) wave, as can be seen from the 'long term predictions' as analysed for several scenarios by Niel Hens and Steven Abrams. A consequence is that possible relaxations will need to be gradual, without restarting too many activities altogether. Experiences in other countries with relaxations which were too fast or too drastic (e.g. Spain) have led to undesired 'jojo-effects', which have a particularly adverse effect on mental health but also the economy (as stated above). This means that the **'contact or epidemiological budget' that can be spent for one relaxation is limited** to allow for a proper assessment of the impact before implementing a new relaxation.

2. **Season**. An additional reason to start with a small package of relaxations at the time is the ongoing cold winter period and the emergence/spread of novel variants.

3. **Role of private life and leisure activities**.We have learned from contact tracing, cluster analysis and contact studies, that the private life and leisure activities are most at risk of generating at risk contacts between people. On the other hand, personal contacts are extremely important for people's mental health, certainly for adolescents and young adults. We therefore opted for a slight increase in these contacts, but with the **emphasis on outdoor activities**, and with the aim to maintain a longer-term stable situation.

4. **Priority to youth.** Currently, children under 12 years old are still allowed to have more contacts (both within and outside schools), since it has been considered they are not main drivers of the pandemic and are in a key development phase of their life. On the other hand, **older children (>12y) and adolescents** are subject to much more restrictions, which has a strong impact on their mental health, more than it does on adults' mental health. This is why the proposition is to **give in part priority** to this age group (i.e. allow y 3-4 of secondary schools more on site teaching). An alternative option could be to allow a small restart of outdoor youth and sports activities for > 12 y old, while not yet re-opening on site schooling for this age groups. However, we suggested to give priority to gradually re-opening the school system first.

5. With regards to economic sectors, we opted for the **contact professions**, provided they can work under safe circumstances, as the risks associated with their activities is considered higher than average (see above) but lower than e.g. horeca.

6. **Safety should remain one of the most important priorities**:

    a. Activities need to take place **outdoors** as much as possible (important to inspire people and business to find creative and safe solutions);

    b. A **small number of contacts** (especially indoors and close contacts) should be kept;

    c. **Distance** of at least 1.5 m needs to be maintained as much as possible (e.g. in protocols);

    d. **Masks** continue to play an important role in limiting transmission of SARS-CoV-2 and should remain the standard throughout relaxations;

    e. Proper **ventilation** must be ensured and checked;

    f. **Protocols** are key in reopening sectors and should be strictly followed;

    g. …

7. **Limited impact of vaccination in early stages of relaxation:**

    The rhythm and pace of these first relaxations will be defined by the epidemiological evolution, rather than the proceeding of the vaccination strategy. The only possible effect of vaccination on measures in the first trimester might be seen in nursing homes as they are a somewhat confined environment. This means that there is possibility to improve quality of life within these centres (e.g. residents would not have to take meals in their room anymore), although this does not mean that it is safe to increase interaction with the general population. However, if there is indeed a change of measures in nursing homes due to vaccination, there are still some unanswered questions about possible inequalities, e.g. between vaccinated and unvaccinated people within the nursing home. Care is needed in how one communicates about this regained freedom among vaccinated people to avoid creating false expectations to gain immediate personal freedom in the long run. These aspects will be jointly discussed with the task force on Vaccination.

Annex 1. The mental health of the Belgian population during corona: Current status (16/01/2021) and policy recommendations

Authors: GEMS-members (Maarten Vansteenkiste, Lode Godderis, Céline Nieuwenhuys, Isabelle Aujoulat, Philippe Beutels), members of expert group 'psychology & corona', who provided substantial inputs for the text (Inez Germeys: Inez.germeys@kuleuven.be, Omer Van den Bergh: omer.vandenbergh@kuleuven.be, Anne-Marie Etienne: am.etienne@uliege.be), members of superior health council, who provided substantial inputs for the text (Elke Van Hoof: Elke.Van.Hoof@vub.be, Frédérique Van Leuven: frederique.vanleuven@saintbernard.ofc.be).

A. Background

In this targeted report, interpretation and conclusions are drawn from the broader **research inventory** 'Mental health of Belgian Population' (update 16/01/2021, see annex 1). In the report, available studies and research findings are compiled according to different mental health indicators (psychological need satisfaction, well-being, use of medication, consumption of psychological and psychiatric care and data on sickness absence, unemployment…) and as a function of different socio-demographic characteristics. The research inventory will be updated on a regular basis.

Overall, a synthesis of all available data clearly indicates that the mental health of the Belgian population is impacted by the crisis and follows the pattern of the pandemic and respective measures. During periods of uncertainty (e.g. whether or not new stringent measures will be taken) mental health issues rise. This is also the case during periods of lock-down because of the lack of social interaction and the resulting frustration of people's psychological needs for relatedness and autonomy. Further, the Covid-19 crisis has reinforced social inequalities, which themselves have an impact on mental health.

Although there is considerable **heterogeneity** in the way how the population handles this crisis, it is also very clear that specific groups (e.g. adolescents, people with pre-existing conditions and lower socio-economic status) are **more vulnerable** for poor mental health than others. For this reason, in the present report, we focus on the group of adolescents and emerging adults, the future of our society who are in need of support. After summarising key findings illustrating the motivation and mental health problems they experience nowadays, we provide a **set of policy recommendations that are in need of discussion and refinement**. We conclude this document with some recommendations for the general population.

B. Current status adolescents and emerging adults

B.1. Importance of social interactions and relatedness

Although adolescents and emerging adults are not particularly vulnerable for the medical consequences of the COVID19 virus, they are **disproportionately vulnerable for the psychological side effects** of the current pandemic and the accompanying restrictions. Research at different Belgian universities shows that the **current situation of adolescents and emerging adults is very worrying**, both in terms of their school and social development as well as their overall mental health. For this reason, the GEMS, with supporting evidence and advice provided by the 'Psychology & Corona' expert group and the Superior Health Council, asks for specific attention and immediate action for this group. Scientific evidence shows that

1. sufficient and high-quality **social interaction has a protective effect** against psychological maladjustment and contributes to motivation, school performance, and academic success
2. a **focus on rewards, appreciation and empathic support instead of punishments and criticism** is far more motivating.

As a result of the corona situation, adolescents and emerging adults are deprived of much needed social interactions. Developing social relationships with peers and experiencing connectedness is **a basic psychological need**, the satisfaction of which contributes to the mental health and social and academic integration of young people[7]. Strong ties with friends are not only important for their personal development, it also **prevents them from dropping out academically**. Such dropouts do not only jeopardise their personal future, but also that of the society as a whole.

During adolescence (10-18 years old) and emerging adulthood (18-25 years old), social interactions **with peers are crucial to meet normative developmental tasks**. Young people start to function independently of their family, develop their own identity, build intimate friendships, start romantic relationships, and grow into active, responsible citizens. For all these steps, social interaction and social relationships with peers are crucial[8]. Yet, findings among both adolescents and emerging adults point out worrisome trends, as discussed next.

At the same time, this basic need for relatedness has to be considered in conjunction with their desire for safety. Adolescents and young adults. Both the **need for security** and relatedness have been found to play a unique role in individuals' anxiety and well-being during COVID times. People temporarily accept stringent measures that preserve their safety, while threatening their relatedness. If the situation lasts longer it is critical to provide meaningful alternatives to get one's need for relatedness met and to invest in motivating communication such that individuals accept the stringent measures, without experiencing them as a threat to their autonomy.

Adolescence. Even in non-COVID times, one out of five adolescents (i.e., 20%) reports moderate to severe mental health problems and social support and good social skills are found to be associated with fewer mental health complaints[9]. Cross-sectional **results among Belgian adolescents and emerging adults (16-25) showed that 65% was mentally distressed** during the first wave of COVID-19, and this was again related to loneliness, lack of social support and social contact[10].

Students and young adults. For students in higher education, social relationships and interactions are not only crucial for their well-being, but **also for their study success**, thereby reducing the risk of drop-out. We get a lot of signals that students and young people in general, are not functioning well. These personal stories of students and those in their close network (e.g., parents, student psychologists) are also

[7] Vermote, B., Waterschoot. J., Morbée, S., Van der Kaap-Deeder, J., Schrooyen, C., Soenens, B., Ryan, R., & Vansteenkiste, M. (in revision). Do psychological needs play a role in times of uncertainty? Associations with well-being during the corona crisis. *Journal of Happiness Studies*

[8] See also opinion piece of Prof. Crone (Erasmus University Rotterdam) in NRC: https://www.nrc.nl/nieuws/2020/12/31/het-welzijn-van-jongeren-is-in-ieders-belang-a4025797

[9] SIGMA study KU Leuven, https://gbiomed.kuleuven.be/english/research/50000666/50000673/cpp/images/sigma-rapport-w1

[10] Rens E., Smith P, Nicaise P, Lorantz V, Van den Broeck K. Mental distress and its contributing factors among young people during the first wave of COVID-19: a Belgian survey study. Frontiers in Psychiatry (accepted), https://www.researchgate.net/publication/348382312_Mental_distress_and_its_contributing_factors_among_young_people_during_the_first_wave_of_COVID-19_a_Belgian_survey_study

confirmed in recent study findings. More than other age groups, students report lower overall mental health[11] (see figure 7 in research inventory), they suffer from **loneliness, a lack of motivation, and psychological complaints[12]** (see figure 5 in research inventory). Findings from the motivation barometer indicate that Flemish 18-25-year olds systematically report lower relatedness and autonomy need satisfaction (see figure 3 in research inventory). Such findings are to be expected because the current situation involves a stronger rupture of younger people's daily living style than is the case for older generations. Younger generations are more used to meeting each other in larger groups and are developmentally speaking faced with several relation-oriented tasks that are currently put on hold.

Conclusion: **It is crucial for the young people themselves as well as for the future of our society to maintain and/or restore as much as possible the social fabric of young people, while preserving a sense of safety.**

B.2. Focus on rewards and appreciation instead of punishments and criticism

The current communication about the corona measures is very focused on what is not going well and its potential consequences. For the many young people who are little at risk and follow the measures to the best of their abilities, this feels as if there is **little recognition and appreciation for their efforts**.

Findings from the motivation barometer indicate that younger generations report less voluntary motivation, a higher sense of pressure and more discouragement to adhere to the measures (see figure 4 in research inventory). Such findings can be accounted for by the fact that older individuals perceive higher risks of being infected, which has been found to predict greater acceptance of the measures and adherence to them[13]. Yet, when considered from the perspective of youth, it is **remarkable** that they maintain their efforts to adhere to the measures given the lack of self-interest in doing so. That is, they have objectively a lower chance of being infected such that any adherence to the measures can be seen as a **deed of solidarity**. Such observations need to be made more visible.

Indeed, learning theories have shown that rewarding individuals has a more motivating impact than (threats of) punishment and criticism. At the moment, communication from the government is experienced by young people as largely punitive rather than rewarding. This may also be an explanation for the observation that their motivation is declining and that many feel excluded from the social debate. Instead, youngsters want to be heard and giving them a voice is critical, even when there is little choice to reconsider the measures.

Conclusion**: To help youngsters and students to cope with the current challenges and to foster their motivation, it is crucial to place their efforts in a positive perspective.**

[11] Glowacz, F., & Schmits, E. (2020). Psychological distress during the COVID-19 lockdown: The young adults most at risk. *Psychiatry research, 293*, 113486. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7518205/

[12] https://docs.google.com/document/d/1B1SmBPwgMRu1Z_l91sKPkuQlLzM3F_rp3owJFQQeJwM/edit?usp=sharing

[13] Morbée, S., Vermote, B., Waterschoot, J., Dieleman, L., Soenens, B., Van den Bergh, O., Ryan, R. M., Vanhalst, J., De Muynck, G-J., & Vansteenkiste, M. (2020). Adherence to Covid-19 measures: The critical role of voluntary motivation on a short- and long-term basis. *Manuscript submitted for publication.*

C. Policy recommendations

C.1. Key principles

We put a number of key principles forward to justify and implement specific recommendations:

- Priority: Recognise the **critical importance of mental health** and well-being and offer a clear, comprehensive vision and perspectives. Approaches must therefore be stepped care (monitoring, sorting, guidance) and adapted to the different target groups. Continuity of care and the openness of services should always be guaranteed.
- Double role: Proposed measures should not only focus on remedying the situation, but also play a health promoting and **preventive role to support emotional and psychosocial resilience**, thus preserving a further deterioration in youngsters' mental health.
- Balance: It is critical to balance youngsters' needs for relatedness and autonomy with their need for safety.
- Equality: It is essential not to increase social inequalities and distress of vulnerable groups. We must promote an inclusive discourse to help reduce disparities.
- Voice: It is important to not only work for young people but also with them, **actively engaging** them in the public debate and in concrete discussions on measures relevant to them, using their creativity to find solutions that serve their needs in these difficult circumstances.
- Justification: It is critical to take measures that are **well justified** in light of their current situation and development and that are not perceived as privilege by the broader public, which indicates the critical role of how these measures are framed and communicated.

C.2. Recommendations for youth and teenagers

C.2.1. Immediate relevance

1. Alternative bubbles: The current measures are largely tailored to a typical family situation (i.e., parents + children) or to people living alone, but not to the typical situation of students or other people living in 'group' accommodation. For example, students living in dorms or student housing and teenagers in residential institutional care are considered living alone and are not allowed to form a 'bubble' with their housemates, depriving them from the necessary social contacts.

   → Recommendation 1: Because it is unclear whether alternative bubbles can be formed today, this grey zone needs to be clarified immediately.
   - We propose to give people (including students) the possibility to create alternative bubbles (e.g. dorm, study or institution bubbles) outside the current family bubbles.
   - Individuals are asked to commit themselves to (sign) a social contract, which specifies their way of conduct and the implications of forming an alternative bubble.

EDUCATION

2. Financial and academic support for students: The government provides support for many sectors and groups of the population. We believe that support measures are also important for the target group of young people. First, a flexible and supportive approach is needed towards delays in

academic progress. Second, working students are extra vulnerable because they typically combine different (psychosocial and financial) risk factors.

→ Recommendation 2a: We suggest temporary but substantial flexibility in the requirements for learning credits during this academic year as a sign of support for students not to give up.

→ Recommendation 2b: We recommend providing financial support for young people who depend on student jobs (largely suspended now) and for young adults struck by (temporary) unemployment to support their current living situation.

3. Schools for young people with special needs: Schools for young people with special needs serve an important function. Continuity in contact with professionals is important for the personal development of the children, but it is also important for parents. Taking care of a child with special needs requires a constant presence and psychological investment. Families are also often less supported by friends or extended family.

   → Recommendation 3: We recommend keeping schools for children and adolescents with special needs open during the coming break in February (and definitely not to extend this break for this group) and to support initiatives that address parents' and young people's needs in this situation.

4. Psychosocial workshops, led by teachers: It is critical that teachers, pedagogic principals, and educators actively reach out to youngsters to talk about their concerns and difficulties as to support them in coping with the situation and making meaning of the situation.

   → Recommendation 4a: First, involve schools, teachers, the school health services, and the health promotion sector in the co-creation of highly structured and age-adapted psychosocial and health education packages to engage young people in group discussions mental health concerns and their (lack of) motivation to adhere to the measures.

   → Recommendation 4b: Financially support the creation of a solidarity platform to exchange inspiring COVID-19 initiatives across schools.

PUBLIC DISCOURSE

5. Public recognition: Although it is stated that mental well-being of young people is high on the agenda, this is not experienced as such - not by young people themselves, nor by people who work with them on a daily basis (illustrated by more than 300 signatures on an open letter[14][8] calling for more support for youngsters, and by a recent study showing that the longest the waiting lists for mental health in Flanders were for youngsters[15]). Also, in the public opinion, standing up for young people appears to be very polarising.

   → Recommendation 5: Policy makers and politicians need to acknowledge explicitly that young people are experiencing very difficult times and make lots of efforts in the interest of society (not

[14] https://www.standaard.be/cnt/dmf20201217_94653152

[15] https://www.statengeneraalggz.be/wp-content/uploads/2021/01/Uitgebreid-rapport-wachttijden_Def2.pdf

in their own interest). They can encourage the media to put these positive examples more in the picture.

6. Positive and motivating communication*:* The communication from the government so far is mainly focused on sanitary measures and on the potential risks still ahead. Yet, a more rewarding and motivating approach should be put forward to give perspective and hope, build trust in the measures, and message(a) s that cause despair ("whatever we do, things just keep getting worse") should be avoided. This is particularly important for young people! Beyond general mass communication, motivating communication should include context-specific initiatives that reach out to people. Involvement of representatives of specific target groups in the elaboration of the content, channels, and format of messages enhance their accessibility.

   → Recommendation 6: It is important to give people (including young people)
   - A time frame with intermediate goals to the control phase, which serve as critical virological and psychological milestones
   - Provide systematic, concrete and positive feedback on citizens' efforts, which explains why the curves have decreased, lives have been saved and has put us in a better position than our neighbouring countries.
   - Use if-then messages, thereby explaining what the long-term consequences imply concretely if people fail to adhere to the measures today (e.g. a 4-week delay in reaching the control phase).
   - Indicate that their needs will be attended in priority when we enter the relaxation phase.

CLINICAL SUPPORT

7. Student psychologists: Because of the strongly increasing demands from students in need of intensive support and care, there is a shortage of student psychologists at several universities.

   → Recommendation 7a: We propose to provide financial support to institutions in higher education to (temporarily) hire additional student psychologists and other professionals (e.g. social workers) where needed.

   → Recommendation 7b: At a more general level, we recommend making use of and upscale existing capacities of mental health services in the short term by clarifying how the population could get access to the promised 1500 psychologists.

8. Disseminate psycho-educational E-health programs: Facilitate the development and spreading of online psychoeducational programs with a low participation threshold to prevent mental health problems, to improve mild problems and more generally to support general emotional and psychosocial well-being.

   → Recommendation 8: Facilitate the development and spreading of online support-apps, psychoeducational programs with a low participation threshold to prevent mental health problems and to improve mild problems. Use different media channels to reach out to specific target populations: TV, online, social media...

9. Emerging adults (+18-year olds) outside education: We are particularly worried about young people (± 18-25-year olds) outside the well-structured contexts of higher education. Often, they work in little solid vocational contexts (small businesses, horeca, etc.) that may be struck by temporary unemployment and/or high job insecurity while living alone with little financial resources. Few may be members of youth organisations and many of them are likely to fully depend on friends for their social life. Because we have little or no information on them, they run the risk of being a forgotten group.

   → Recommendation 9: We suggest that policy makers reach out to this group to 1. assess their psychosocial conditions and mental health; 2. provide support for their specific needs that would emerge from the assessment.

C.2.2. Relevant during relaxation phase

10. Priority to secondary and higher education: Education is one of the most important ways to develop and get in touch with. In contrast to primary and secondary education, higher education is now almost entirely online, with obvious negative social consequences for students. Online education and online contacts are not a full replacement for on-campus education and real informal contacts. It is incomprehensible for +18 years why students in secondary schools are allowed to go (part-time) to school while this is very restricted for students in higher education.

    → Recommendation 10: We strongly recommend allowing on-campus contact moments in smaller groups for all students (which is now very much the exception) – e.g. one contact moment per student per week.
    - This can be in the form of practica or seminars in small groups (e.g. 4 to 8 persons, consistent with general measures), but could also be in the form of a study group of 4-8 students that study together once a week on campus.
    - These contact moments among students can be organised safely and according to regulations, while giving students some structure and the highly needed social contact and connectedness.

11. Increasing possibilities for social contacts outside school context: It is important to also investigate how social contact outside a school context can be allowed. Informal social contacts are highly important for the development of young people, but it would also impact young people that are no longer attending school. Sports and physical activity also contribute to the youngsters' well-being. Such activities need to be organised in a safe and regulated environment.

    → Recommendation 11: In the sequence of relaxations, we recommend giving priority to opening up youth sport and youth movements for +12. In a next step of easing restrictions, student organisations could be included as well. These are structured activities where clear agreements can be made on what is safe and acceptable, given the current virus situation.

C.3. Recommendations for the general population

12. Develop a stepped care approach: There is a need for a proactive stepped care approach to mental health, which includes monitoring, triage and referral where/whenever it is needed. The basis of

this approach needs to focus on effectively stimulating the natural resilience and resources of people (ex. qualitative self-help programs, campaigns, etc.).

→ Recommendation 12: Identify, map and bring the different actors (both in prevention as in curative setting) together so that they can optimise and align their way of working. Automate the referral and administrative process and give access to e-health/e-box for accredited psychologists to facilitate the communication between general practitioners, school physicians and occupational health physicians.

13. Social security: We know that financial insecurity has a strong impact on mental health. In this sense, quick and efficient access to services and financial support is crucial. With telework, support services (social services, OCMW, unemployment services, mutual, etc.) are much less accessible.

    → Recommendation 13: Encourage automatic rights allowance to social security tools and social protection mechanisms (consider temporarily suspending condition fulfilment enquiry and benefit delivery subject to declaration on honour for access to RIS/leefloon, AMU, etc. to allow the system to function.)

14. Vulnerable groups: The saturation of existing mental health services is very problematic, especially for the most vulnerable. The time to obtain a first appointment is currently, depending on the area, from a few weeks to several months. This is already problematic because we are missing the windows of opportunity that people opened at the time and which are now closing. This applies, for example, to health care professionals or single-parent families who cannot be released at any time and who call on the services at some point. The inability to respond leads to a sense of isolation that exacerbates the mental health problem.

    → Recommendation 14: Dedicate and reinforce attention towards existing and newly developing vulnerable groups. Strengthening of the first line of response, its actors and its organisation (within the social/health/mental health sector, including CPAS/OCMWs); be it private or public.

15. Role of work: Because work provides meaning, social connection and financial stability, it is a critical resource and readily available leverage to mental wellbeing in this pandemic[16,17]. Within the work context, the prevention services, already active and operational within the work domain, can play a vital role in preventing and detecting mental health problems in the workplace.

    → Recommendation 15: Recognise, involve and reinforce the role of prevention services as first line actors at work for both individual screening (work pressure, isolation,…) and follow-up (return to work,…) as to work out corona policies and collective measures (training of supervisor on how to manage teleworkers,…) at the workplace. Invest in social protection, support programmes and sufficient employment opportunities to mitigate mental health consequences. Address these

[16] Godderis, Lode. (2020). "Good Jobs to Minimize the Impact of Covid-19 on Health Inequity." International Labour Organisation. https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_742059.pdf

[17] Expertengroep Psychology and Corona | VVKP

underlying inequalities and social determinants. Invest in work, training and education, create or maintain safe jobs to minimise the impact on health of the workers.

D. Figures

Figure 1: Results of a survey at the Faculty of Psychology and Educational Sciences of KU Leuven, conducted in November 2020.

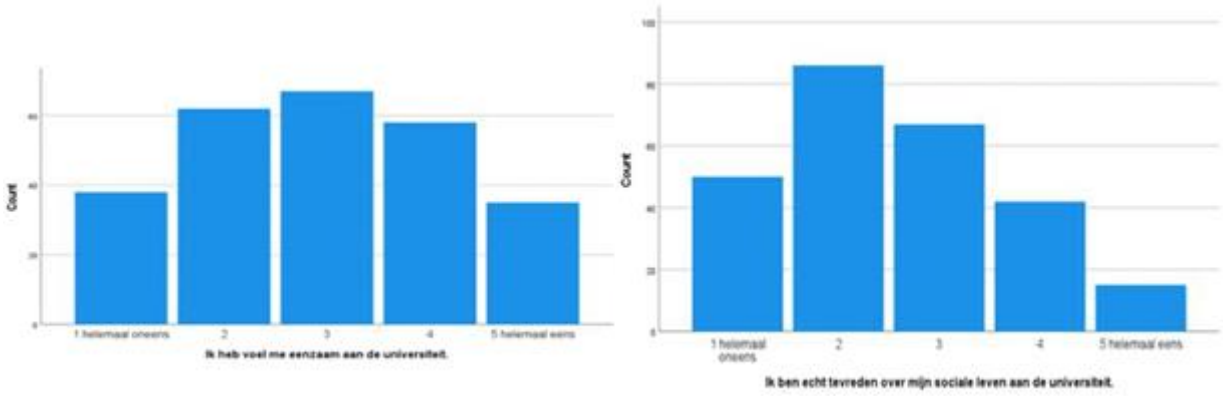


Figure 2: Evolution of basic psychological need satisfactions throughout the crisis as a function of age

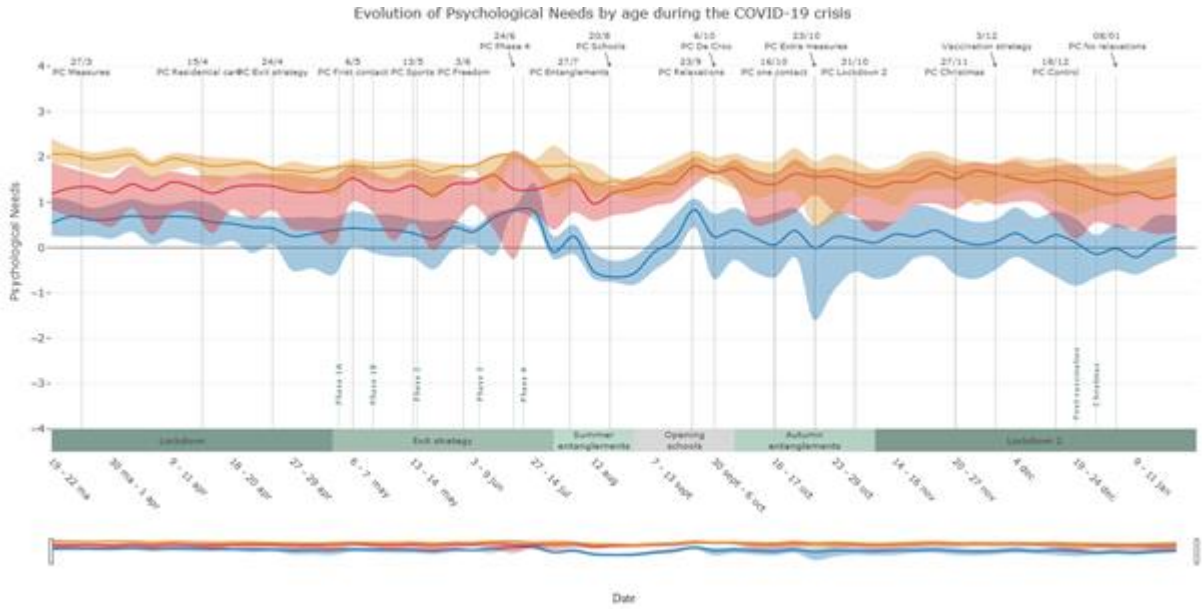
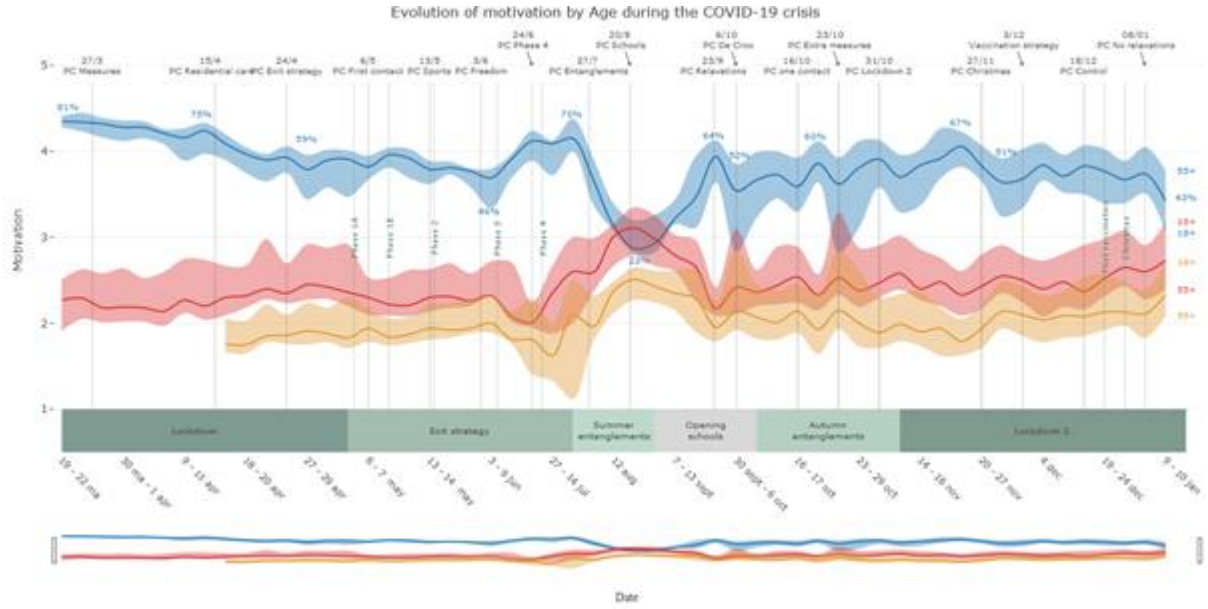


Figure 3: Evolution of motivational differences throughout the crisis as a function of age differences



Annex 2. Remarks on the interaction between health and the economy

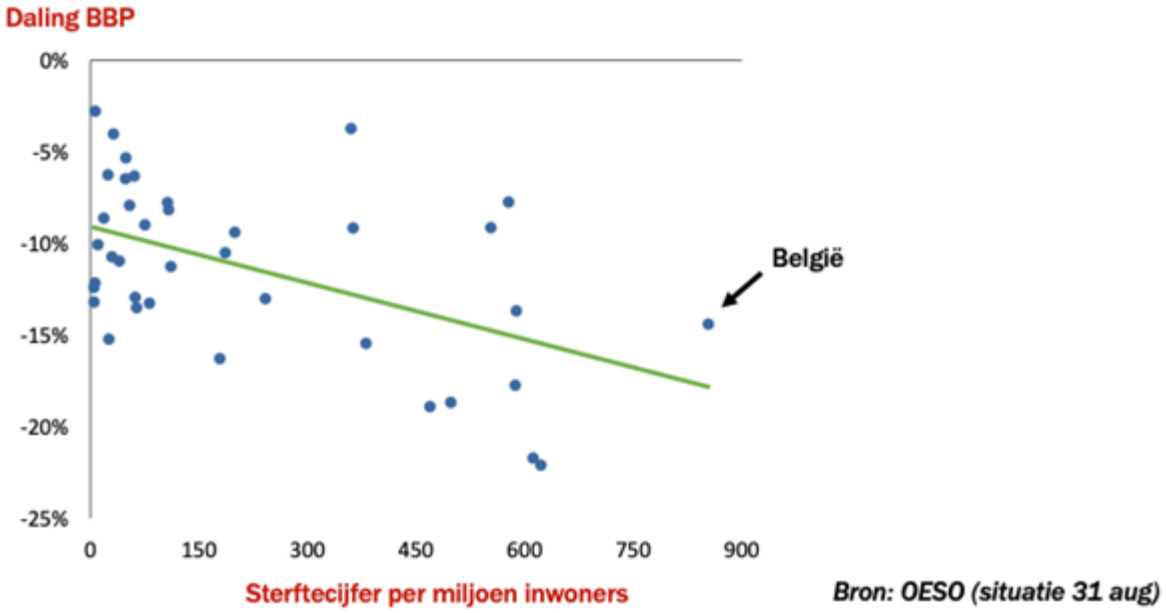
Authors: GEMS members (Mathias Dewatripont, Philippe Beutels, Geert Molenberghs)

A. General discussion

It is by now well-established that it is the fear of the virus, i.e. the risk perception, that kills the economy much more than the confinement measures themselves, as indicated by the following two pieces of evidence.

First, the correlation between economic losses and deaths from the virus is positive (the higher the mortality the higher the economic losses), as Figure 1 based on OECD country data (presented by Gert Peersman (UGent) in the national debate organised by De Standaard and Le Soir on December 15) shows for the first wave.

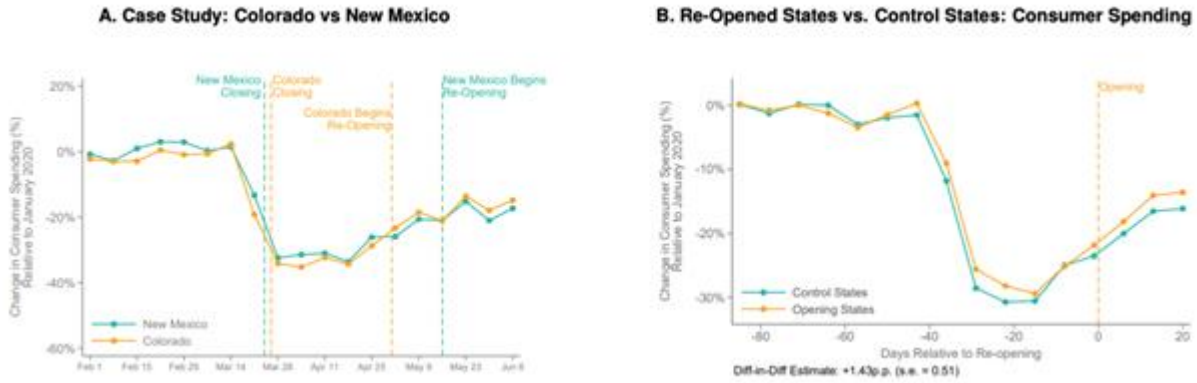
Figure 1: Association between Covid-19 mortality and decrease in GDP.



Second, when looking at more detailed evidence, the study by Chetty et al.[18], which compares US states that have chosen different timings of lockdown and exit, demonstrates that: (i) the key driver of reduction in spending is the fear of the virus itself, not the restrictions imposed by governments: consumption falls before the time at which measures are taken, and (ii) there is limited capacity for governments to restore spending through re-openings, unless the public interprets them as a credible signal of reduced health concerns. This is shown in Figure 2.

[18] See « *How did covid-19 and stabilization policies affect spending and employment ? », Working Paper* n°27431, National Bureau of Economic Research, June 2020, and revised November 2020: Raj Chetty, John N. Friedman, Nathaniel Hendren, Michael Stepner, and the Opportunity Insights Team «The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data".

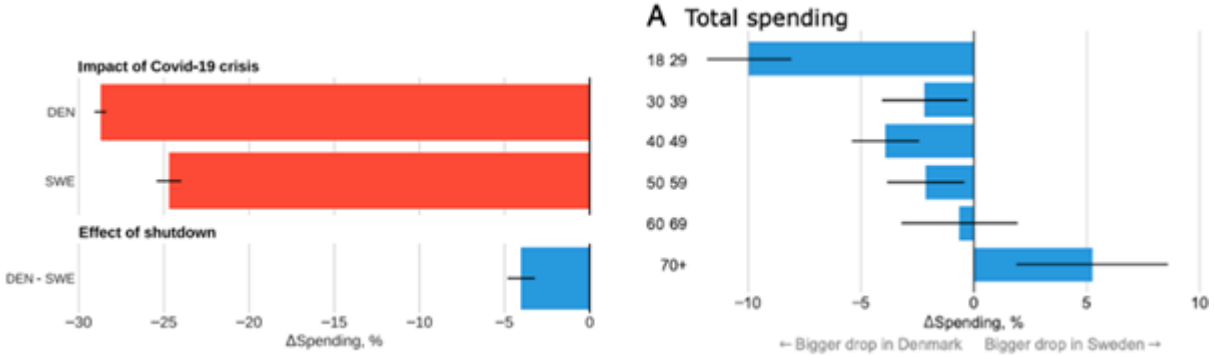
Figure 2: Comparing US states consumer spending (open vs closed states).



Source: Chetty et al, 2020

Similar conclusions can be drawn from a comparison made by Sheridan et al[19] between Denmark and Sweden. Taking account of population structure differences, the lockdown in Denmark led to a 4% difference in consumption losses relative to Sweden, which took less restrictive measures. In the period up to 5 April 2020 the majority of consumption losses in both countries would have been due to risk perceptions. Figure 3 shows that risk perceptions played a role in both countries, emphasising the importance of behavioural change, imposed or not, on economic outcomes. Indeed, there is a clear gradient in the difference in consumption between both countries, with most of the decrease in in-person services (as also reported by Chetty et al), and in older age groups. Striking is also that in the more permissive society, Sweden, older people appear to have perceived their risks greater than in locked down Denmark, and subsequently elderly Swedes consumed less than elderly Danes.

Figure 3: Consumer spending differences between Denmark and Sweden (total (left) and by age (right)), based on individual-level bank account data between 1 January 2018 and 5 April 2020.



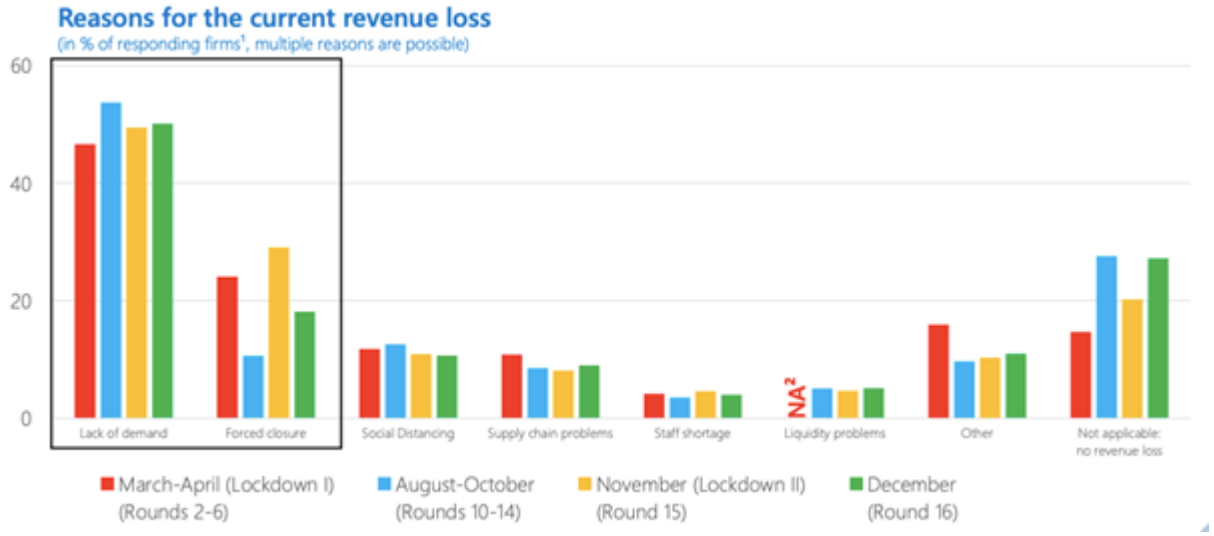
Source: Sheridan et al, 2020

The evidence thus indicates that there is no real aggregate short-term trade-off between health and the overall economy. This is because the positive effects on those which benefit from the reopening is compensated by the fall in demand on those which were already open. An analysis of the International

[19] Sheridan A, Andersen AL, Hansen ET, Johannesen N. Social distancing laws cause only small losses of economic activity during the COVID-19 pandemic in Scandinavia. Proc Natl Acad Sci U S A. 2020 Aug 25;117(34):20468-20473. doi: 10.1073/pnas.2010068117.

Monetary Fund based on 128 countries is consistent with these results[20], and academic economists like Paul De Grauwe, Gert Peersman, Koen Schoors and Erik Schokkaert have stressed this general message in the Belgian media. And this is also consistent with the idea that lack of demand is the biggest concern of businesses, significantly more than the measures themselves, as indicated by Figure 4, taken from the latest report on the ERMG dashboard:

Figure 4: Lack of demand remains the key issue of the revenue loss, while the forced closure of the activities is cited less but remains important.



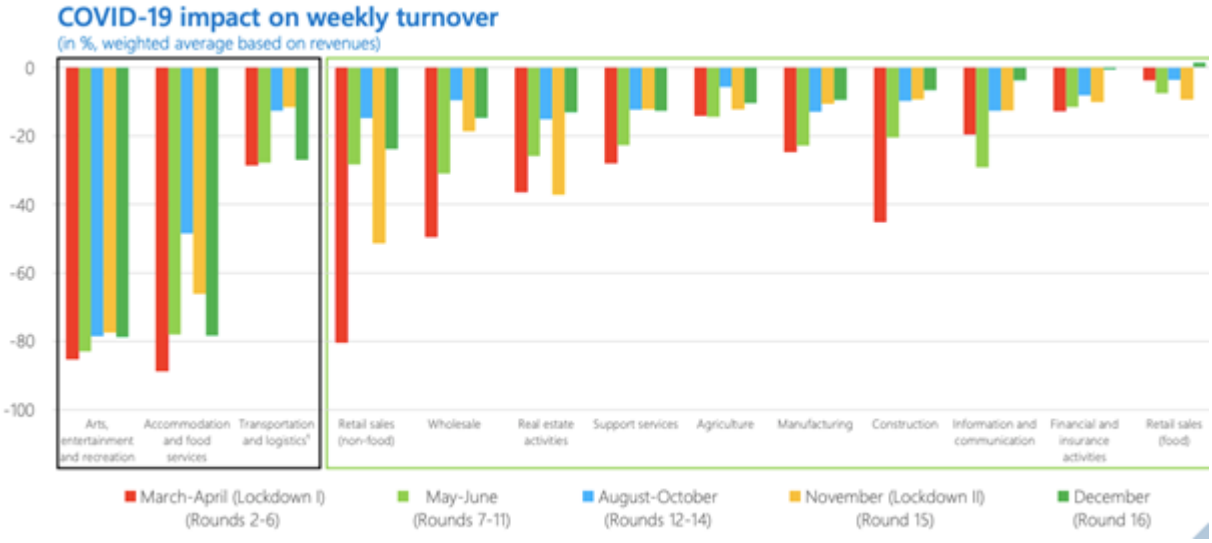
Source: ERMG dashboard report, 22 December 2020

Moreover, in the medium term, the only way to get the economy to restart is to strongly reduce virus circulation, as shown by the cases of China and South Korea, the economies of which are already growing again. 'Smart lockdowns' are therefore an investment, not simply a cost.

This being said, even if smart lockdowns are an investment, some actors are hurt in the process. In this respect, the next slide, again taken from the ERMG surveys, documents two important facts: (i) the current smart lockdown implies a much lower reduction of activity overall than what happened in March and April ; (ii) however, some sectors are severely impacted, by the lower demand but definitely also by the measures (see Figure 5, December revenue variations for arts, entertainment & recreation, and food services ; demand must instead be the dominant reason for the fall in revenue for accommodation, transportation & logistics, and non-food retail):

[20] See *« COVID's Impact in Real Time: Finding Balance Amid the Crisis »*, Francesco Grigoli and Damiano Sandri, IMF Blog, 8 October 2020).

Figure 5: Revenues have improved in most industries (especially in non-food retail and real estate activities), but not in the worst-hit industries.

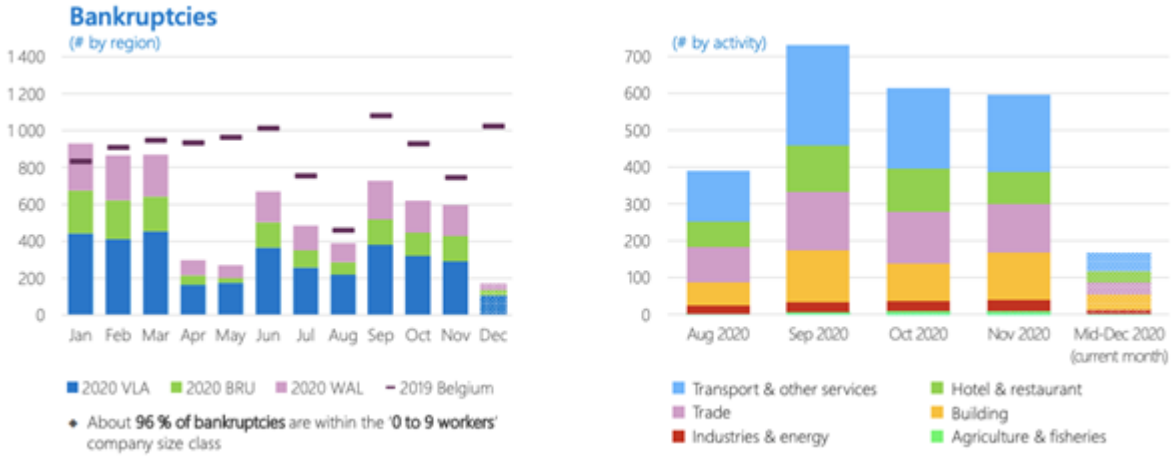


Source: ERMG dashboard report, 22 December 2020

It is therefore only normal that actors that suffer economically from sanitary measures do complain. The proper way to address such suffering is through financial support, targeted as well as possible to address the amount of suffering (temporary unemployment is part of the solution, but non-labour fixed costs, e.g. rent, are a problem too), rather than through an excessively fast reopening: relaxation of measures should be done without undue delay but only when it is 'safe' to do it, from a sanitary point of view. Moreover, one should not end up in a 'prisoner's dilemma situation' (as stressed by Gert Peersman[21]), i.e. a situation where an individual reopening brings this individual actor an economic benefit which is lower than the aggregate economic loss imposed on the other actors. And this at a time where many businesses are fragile, and not only in the sectors that are closed now. Although support mechanisms have kept bankruptcies below the average in 2020 in comparison with previous years (figure 6), mainly affecting small businesses, fear for future bankruptcies remains high in certain sectors, as support will likely be lifted (figure 7).

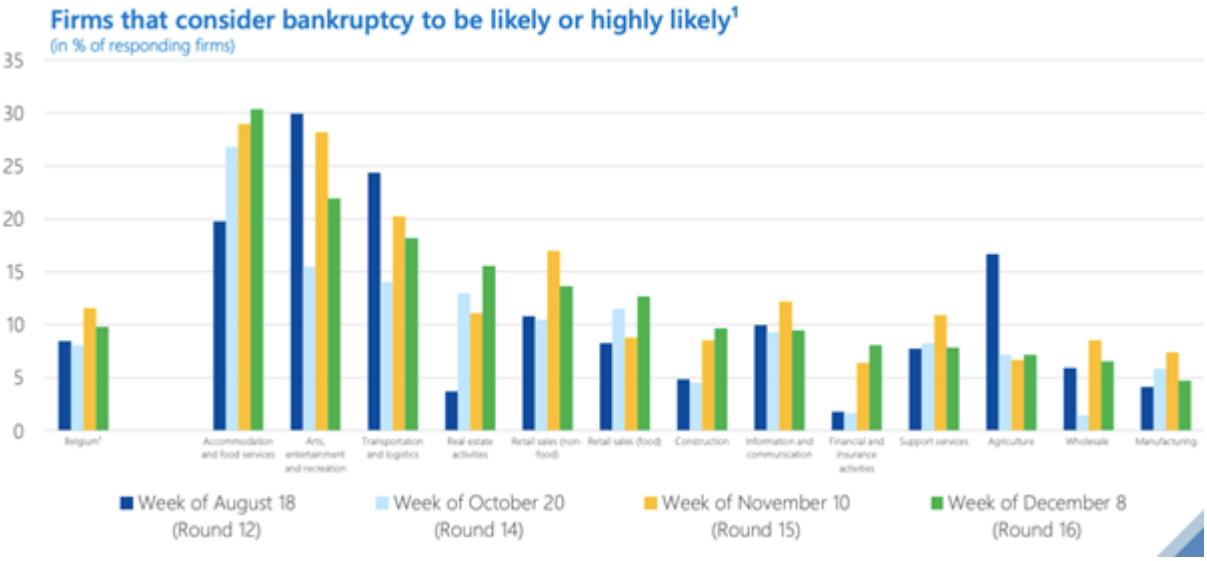
[21] *« Kies de korte pijn, maar ga tot het gaatje », De Standaard*, 27 oktober 2020.

Figure 6: The number of bankruptcies stabilises, and remains below the 2019 level, with several support provisions still in place.



Source: [ERMG dashboard report, 22 December 2020]

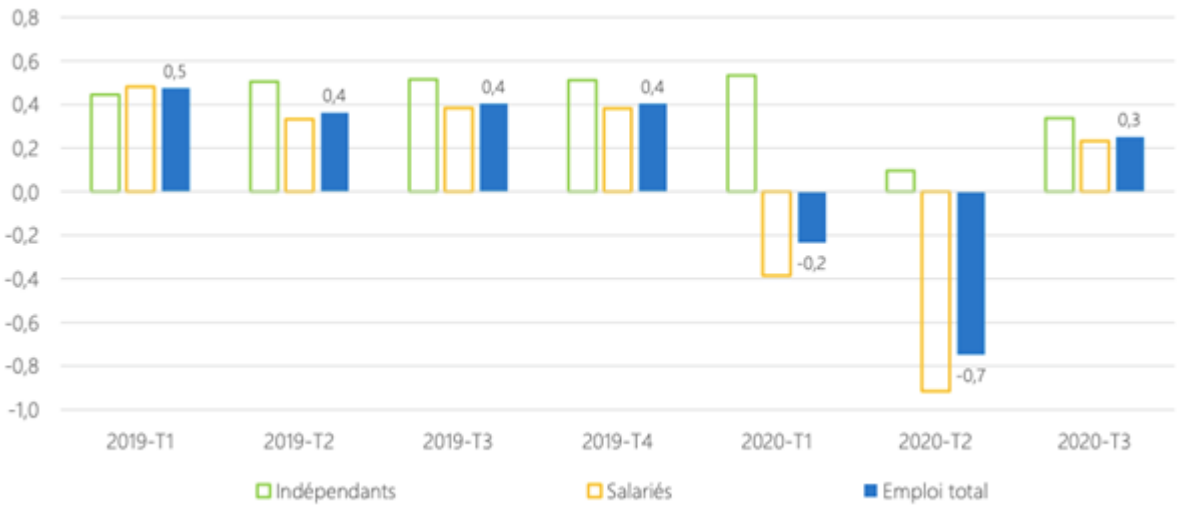
Figure 7: Bankruptcy risk has decreased again in December but remains elevated.



Source: [ERMG dashboard report, 22 December 2020]

Employment has been hurt because of the fear of the virus across sectors too, striking until now salaried more than self-employed workers, and relatively more the medium to highly educated, and men. All this despite the fact that there has been an historically unprecedented use of financial support for self-employed workers, which significantly decreased in the period between the two lockdowns in Belgium.

Figure 8: Quarterly variation (%) in employment: salaried employees have been more affected than self-employed (indépendants).



Source: [ERMG dashboard report, 22 December 2020]

The outlook for 2021 is much worse. The ERMG survey shows an expected decline in private sector employment of 5% by the end of 2021, which corresponds to about 110,000 employees. The NBB expects a recovery in 2022.

One can therefore conclude the general analysis by stressing that it is important not to go for new relaxations before one can be confident this will not create a significant rise in virus circulation. Such a prospect could in fact hurt the business sector and workers at the level of the whole economy by raising fear and depressing demand. This economic pain would of course be heightened if the situation were to subsequently require a new round of restrictive measures. Beyond the additional harm this would create for businesses and workers, let us stress that this would be especially damaging if on-site education had to be suspended as a consequence: while it is possible to financially compensate businesses and workers for lost revenue, the same is not true as far as education is concerned. Next to the psychological cost, this would also involve an economic cost, since it is very well-documented that the level and quality of education is a key determinant of one's 'human capital' and therefore one's future job opportunities, in particular for fragile youngsters.

B. Contact professions

B.1. General epidemiological considerations

To understand the epidemiological risks associated with reopening contact professions, one should consider, both in theory and practice, the nature and circumstances of contacts associated with the profession:

5. The frequency, proximity and intensity of contacts
6. The diversity of contacts in terms of age, comorbidities and geographic spread
7. The opportunity to ventilate the venue of contact
8. The possibility to keep a distance and wear a mask uninterrupted

We note that these aspects differ between contact professions, but are likely to show also great diversity of practices within each contact profession. A key feature is that these professionals have a great diversity of contacts by day. Their clients tend to come from all walks of life, covering the entire age range. These professionals have therefore by definition very large and open contact bubbles and are not only themselves at increased risk of infection, but when they are infected, may act as a vector for transmission between the large and diverse groups of clients they serve. An average person currently has physical contacts with about 5 to 10 persons per day (with important age dependencies), with the majority of these contacts being the same contacts every week.[22] A contact professional is likely to see ***additionally*** about 5 to 30 clients per day, but, more importantly than the sheer number, this additional contact pool changes every day for many weeks on end, and for many of these professions each contact lasts longer than 15 minutes and occurs indoors. We know from earlier mathematical model simulations that the nature and frequency of such open contact bubbles are a key driver of transmission in society, and therefore should currently be avoided as much as possible.[23] Of course, the risk of transmission per contact can be decreased by adhering strictly to protocols and distancing rules. It is however, given the nature of these contacts, the commercial interests to maintain host-client relationships beyond the pandemic and the current cold temperatures, questionable that this will be possible for many venues and at all times.

Therefore it may very well be that the relaxation of these epidemiologically influential professional activities may fuel the epidemic to the extent that other, less epidemiologically influential contacts currently allowed may have to be reduced again.

B.2. Topical contact professions and their impact

Considering the following main non-medical contact professions that are currently closed:

- Hair and beauty care
- Sauna's, solaria, baths and tattoo parlours
- Prostitution

Based on data from the NBB, these groups are estimated to account for 0,37% of GDP (broken down into 0,21%; 0,05% and 0,11%, respectively, for the three groups above). Adding less specific similar professions, such as personal trainers and fitness instructors, the total share of these professions in GDP is estimated at most at 0,5%. Together they represent 1,4% to 1,6% of the Belgian workforce.

[22] Coletti, P., Wambua, J., Gimma, A. et al. CoMix: comparing mixing patterns in the Belgian population during and after lockdown. Sci Rep 10, 21885 (2020). https://doi.org/10.1038/s41598-020-78540-7

[23] Willem L, Abrams S, Libin PJ et al. The impact of contact tracing and household bubbles on deconfinement strategies for COVID-19: an individual-based modelling study. medRxiv 2020.07.01.20144444; doi: https://doi.org/10.1101/2020.07.01.20144444

Table 1: Estimated size of the professions (based on data received from cabinet Clarinval in December 2020).

Profession	**Total employment 2019 (ONSS-Q4)(APL-Q2)**
Hairdressers	~30,000
Beauty	~20,000

There are currently informal indications that there is an increased black market for these activities, and that these activities are undertaken by both professionals and non-professionals, in circumstances that are by definition beyond control.

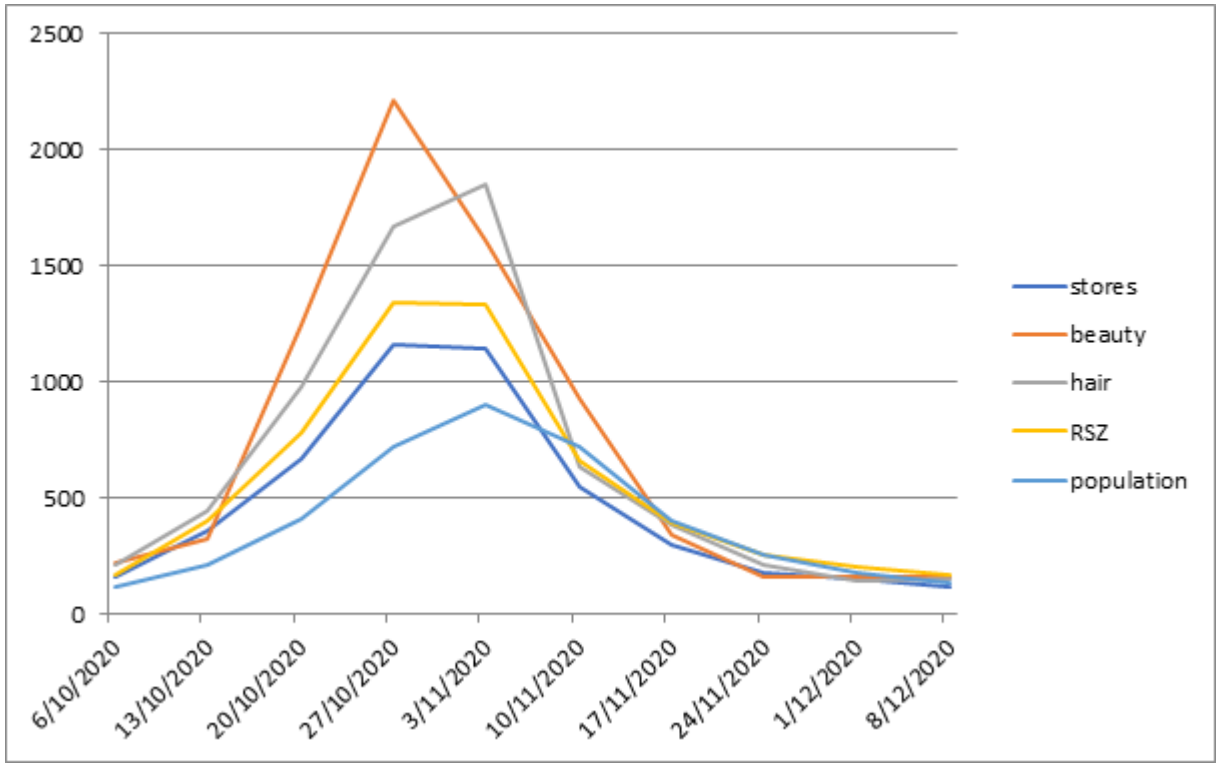
As outlined in the previous sections, the current support measures avoid bankruptcies in this sector, protecting both salaried personnel and (self-employed) independents. If these sectors are reopened the following considerations should be made:

6. The clients' risk perceptions outlined in the first section above, and the adherence to strict protocols will not allow generating revenue at prepandemic levels for some time.
7. A part of these professionals may not want to reopen based on their own risk perceptions.
8. The venues of part of these professionals may not allow reopening in strict accordance with protocols.
9. When these professions are being reopened, partial support may need to continue to avoid bankruptcies in these sectors in the short to medium term.
10. Policy makers will need to balance the risks of further economic damage on other sectors associated with the risk of a resurgence, and the desire to guarantee that contacts that have previously been prioritised in the contact budget (e.g. education, non-essential shopping) can be sustained.

In Figure 9, we present the 7-day incidences for the general Belgian population, for all employees recorded in the RSZ database, and for the employees in stores, the hairdresser sector, and the beauty sector. The 7-day incidences in the general population are approximated by half the 14-day incidences for the general population.

All sectors listed score higher than the general population over the peak period. Stores personnel scores below the general RSZ population, whereas the hair and especially the beauty sector rise well above the average RSZ population. When sectors are closed, their employees tend to score below the general population in terms of incidence.

Figure 9: Evolution of incidence of specific contact professionals



An admitted simple thought experiment may help understand the scale of the risks involved.

For simplicity, assume that:

5. We assume 50,000 professionals (see table 1).
6. The incidence among these professionals rises again to 1000 per week per 100,000 for at least three weeks.
7. These professionals work for two days while being infectious without symptoms.
8. These professionals saw per day ten different clients.

Then, multiplying the three steps, we get 50,000 x (1000/100,000 x 3) x 2 x 10 = 30,000 potentially infectious close contacts over three weeks.

If they infected all their clients during two days of infectivity, these professionals would have seeded over the entire age range of the population 30,000 new infections over a 3-week period, or just over 1400 per day. Of course, 100% infectivity is excessively pessimistic. But we are talking of close contacts for more than 15 minutes and potentially with hair dryers. Therefore, assuming 20% infection is conservative, which means 6,000 new infections over three weeks, or 286 a day. And given the diversity of clientele it would be likely that most of these new infections would be seeded in different households over the entire Belgian population. Anyway, as the above assumptions scale linearly it's easy to see the effect of using other assumptions. For instance, if they serve an average of 20 clients and infect 50% of them, the newly seeded infections go from 6,000 to 30,000.

Anyway, at a time where one is unsure of the direction of epidemiological numbers, and where avoiding the spread of new and more aggressive variants of the virus is an important concern, the above numbers

indicate that it is better to keep subsidising these professions rather than risking a flareup of the epidemic, which will moreover induce an economic cost on sectors that are currently open and then risk subsequent tightening.

Annex 3. Suggested thresholds for the evolution of plan A into plan B (extract from RAG document dd. 13/01/2021

	Phase de confinement		
	Scénario A	**Scénario B**	**Scénario C *(à éclaircir encore)***
Incidence infections **Taux de positivité**	Incidence 14 j > 100/100 000 Soit > 800 nc/j ET PR> 3%	Incidence 14 j > 300/100 000 Soit > 2 400 nouveaux cas/j ET PR en augmentation en même temps que l'incidence, sans modification de la stratégie de testing	Dépassement capacité : - activité médecins généralistes et centres de test OU - hospitalière
Incidence nouvelles hospitalisations	OU Incidence 7j > 4.5/100 000 Soit > 75/jour	OU Incidence 7j > 4.5/100 000 Soit > 75/jour ET une croissance > 2,5% pendant au moins 3 jours consécutifs	
Autres critères		*Preuve épidémiologique de circulation croissante d'une nouvelle souche plus transmissible*	
Caractérisation risque épidémiologique*	*Risque épidémiologique Alarme niveau 2*	*Risque épidémiologique Alarme niveau 3*	*Situation d'urgence sanitaire*

***** Terminologie définie au mois de juillet et utilisée dans les avis RAG épidémiologique jusque fin novembre.
** Exprimé par une valeur par rapport à 1 (=situation stable). Une croissance de 2,5% correspond à une valeur 1.025 (Figure 1). Il faut à tout prix éviter de retourner dans la zone orange.

Annex 4. Overview of lockdown light (current situation), relaxations and plan B

		PLAN B	LOCKDOWN LIGHT	RELAXATION 1
Private life	Contacts outdoors	4 people	4 people	8 people
	Contacts indoors	1 close contact (same for 14 d)	1 close contacts (same for 14 d)	2 close contacts (same for 14 d)
	Residential care	1 close contact + 1 contact	1 close contact + 1 contact	2 close contacts (same for 14 d)
	Ceremonies	15 people	15 people	30 people
	Curfew	Streamlined curfew	FL 0h-5h / WL&BR 22h-6h	Streamlined curfew
Workplace		Telework mandatory	Telework mandatory	Telework mandatory
Contact professions	Non-medical			Open under strict conditions
Shops	Non-essential		Open under conditions	Open under conditions
Youth activities	Without overnight stay	Reduce activities <12 y	<12 y	<12
	With overnight stay			
Education	Primary	Code orange/red *(– masks >10 y ?)*	Code orange/red	Code orange/red
	Secondary	Code orange/red – 50/50 for y3-y6	Code orange/red – 50/50 for y3-y6	Day trips + 100% for y1-y4
	Higher	Code red – 90% online	Code red – 90% online	Code red – 90% online
	Adult	Code red – 90% online	Code red – 90% online	Code red – 90% online
	Part-time art	Code red – reduce	Code red	Code red
Horeca	Hotel	Open, no restaurant	Open, no restaurant	Open, no restaurant
	Restaurant	Only takeaway	Only takeaway	Only takeaway
	Café	Only takeaway	Only takeaway	Only takeaway
	Casino			
	Club			
Sports	Professional outdoor			
	Professional indoor			
	Amateur outdoor	Reduce activities <12 y	<12 y	<12 y
	Amateur indoor	Reduce activities <12 y	Swimming pools + <12 y	Swimming pools + <12 y
Culture	Professional outdoor			Zoos (code red)
	Professional indoor		Museums (code red)	Museums (code red)
	Amateur outdoor			
	Amateur indoor			
Events				
International travel		Strengthen all measures	T+Q upon arrival from red zone	T+Q upon arrival from red zone
Holiday parks