# An action plan for pan-European defence against new SARS-CoV-2 variants

COVID-19 cases are very high across Europe. Current measures are not reducing virus spread sufficiently, and new severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variants are emerging. The B.1.1.7 and B1.351 variants, first identified in the UK and South Africa, respectively, have spread to many European countries.[1–5] Although the biological properties of these variants are yet to be characterised, epidemiological data suggest they have a higher transmissibility than the original variant.[6,7] These viral properties could increase the effective reproduction number R in the population. In the case of B.1.1.7, estimates suggest R could increase from 1 to about 1.4 with no change in population behaviour.[3,4] If true, many countries that have succeeded in reducing R to 1 or less will be confronted with a novel wave of viral spread despite the current measures.[8,9] Once a more contagious variant has established itself, stabilising the number of new infections will become increasingly difficult.

Despite the availability of effective vaccines, production to meet demand and roll-out of vaccination programmes will take months. Countries will have to manage high case numbers and their adverse impact for several months to come. With slowly increasing population immunity and evolutionary selection pressure on the virus, the emergence of new SARS-CoV-2 variants will continue, potentially leading to more contagious variants, and perhaps even variants for which existing vaccines are less effective. Such variants could quickly exacerbate the crisis, long before enough people are vaccinated. While awaiting experimental data to understand the new variants, pan-European decisions have to be made, and actions have to be taken immediately to contain the spread of new variants.

If measures are not taken to prevent the spread of novel variants with selective advantages, case numbers and hospital admissions will increase. A surge in cases could lead to the breakdown of health-care systems. In many countries, hospitals can no longer deliver care of the usual quality to all patients. Many intensive care units are already beyond capacity, and non-urgent procedures have been postponed for weeks or months.

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***Panel:*** **Core measures to prevent the spread of SARS-CoV-2 in Europe**

**Achieve and maintain low case numbers with a clear prevention strategy**

- Define clear targets and rekindle motivation: clearly define the targets that need to be met for measures to be lifted and explain the rationale behind them; convincingly convey that the fight against the pandemic needs a collective effort that is in the interest of every citizen; and ensure adequate social and economic support for those in need.
- Act early: implement mitigation measures before case numbers spike.
- Reduce the number of physical contacts: meet as few different people as possible; implement and improve home-office and online schooling; small, stable social bubbles, and stable groups at home and at work should be preferred over alternating contacts.
- Prevent contagion by individual measures such as physical distancing, hygiene, face masks, ventilation, and use of filters, avoiding closed and crowded spaces and staying at home when experiencing symptoms; provide FFP2 masks to those in need and to all who cannot work from home.

**Monitor the spreading of the virus and of individual variants**

- Test, trace, isolate, support: enforce mandatory isolation of people with confirmed infections and encourage preventive quarantine of suspected cases; support affected individuals and families.
- Screen and test preventively: offer tests at schools and workplaces at no cost to detect outbreaks early and protect people; increase testing capacity to meet demand; use waste-water surveillance to detect local surges.
- Increase genetic sequencing and PCR-based detection of the B.1.1.7 variant, as well as other variants of SARS-CoV-2.

**Stop the virus at borders and protect the vulnerable**

- Reduce travel within and across national borders, and require tests and quarantine for cross-border travellers; tests should be required 24 h before travel and 7–10 days after travel; quarantine anyone arriving from countries with high local COVID-19 transmission or suspicious variants.
- Improve the protection of, and support for, the old and vulnerable groups; foster European exchange about successful strategies and measures to speed up the progress.

**Increase the efficacy and pace of vaccination**

- Speed up vaccination: improve vaccine supply, delivery, and allocation by mutual learning and international cooperation; coordinate efforts to scale up the production of vaccines.
- Monitor infections among vaccinated people to detect potential reinfection with new variants or deficient vaccination management as soon as possible.
- Answer urgent questions through international cooperation; research ways to improve vaccination regimes to optimise logistics, or increase willingness to be vaccinated using data from multiple countries.

SARS-CoV-2=severe acute respiratory syndrome coronavirus 2. Further details are available in the appendix.

See Online for appendix

Delayed diagnosis and compromised care delivery for people with other diseases poses additional health risks, not just to patients with COVID-19, but for the whole population.

Health-care professionals and other frontline workers have already been working under extreme conditions for most of the past year, and this has had a severe impact on their physical and mental health. If variants like B.1.1.7 lead to a new surge in cases, this could overwhelm health-care professionals and bring health-care systems to the breaking point. Ensuring that the burden on health-care professionals is alleviated while safeguarding system sustainability is of critical importance. Adequate support for these crucial forces might require additional funds.

Containment and mitigation become more challenging with the rise of a more infectious variant. Assuming that the B.1.1.7 variant does increase R from 1 to 1.4, then allowing it to spread without a change in population behaviour will mean case numbers double every week. Major efforts will be necessary to bring R back down to 1 or less and to regain control. Acting before B.1.1.7 has spread widely means that those same major efforts could strongly reduce the number of new cases and slow down the establishment of B.1.1.7.

Europe needs to act now to delay and prevent any further spread of SARS-CoV-2,[8,9] particularly B.1.1.7, even in the absence of final experimental data. A clear plan for immediate pan-European action and rapid establishment of public health measures needs to be formulated since new variants with increased infectivity are likely to continue to arise. We suggest possible core measures in the panel. The guiding principle is to reduce case numbers as quickly as possible as this has strong advantages for health, society and economy. The joint action of all European countries will make each national and local effort more effective and impactful and safeguard public health across Europe.[8]

The longer restrictions last, and the less effective they become, the more depleted people's psychological, social, and economic resources become. Where novel variants require even stricter and longer measures than existing measures, it is of utmost importance to ensure that people with particularly heavy burdens receive financial and social support, that social burdens are justly distributed, and that mental health services meet the increasing demand to cope with bereavement, isolation, loss of income, fear, alcohol and drug misuse, insomnia, and anxiety as a result of the pandemic and lockdown strategies. Contextual factors, and factors affecting risk behaviour such as risk perception, must also be considered.

The core principles of action are to avoid importing new variants, to prevent their spread, and to improve molecular surveillance. The earlier and more effectively countries act, the earlier the restrictions can be relaxed. All types of measures ought to be coordinated and synchronised across Europe. Every additional reduction of contagion (ie, of R) counts, as it reduces the necessary duration of strict measures more than proportionally.

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For **translations** see http://www.containcovid-pan.eu/

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