RAPID RISK ASSESSMENT

Increased transmission of COVID-19 in the EU/EEA and the UK – twelfth update

24 September 2020

Summary

Epidemiological developments

COVID-19 case notification rates have increased steadily across the EU/EEA and the UK since August 2020, but this is not having the same impact in all countries. In several countries the observed upsurge correlates with increased testing rates and intense transmission among individuals between 15 and 49 years of age. In such countries most detections concern mild or asymptomatic cases. However, in a number of other countries, the upsurge coincides with high or increasing notification rates in older individuals and, consequently, an increased proportion of hospitalised and severe cases. The observed increased transmission levels indicate that the non-pharmaceutical interventions in place have not achieved the intended effect, either because adherence to the measures is not optimal or because the measures are not sufficient to reduce or control exposure. In addition, the vulnerability of the population to infection remains high, as available data from seroprevalence studies suggest that the level of immunity in the population is <15% in most areas within the EU/EEA and the UK. The current epidemiological situation in many countries is concerning as it poses an increasing risk of infection for vulnerable individuals (individuals with risk factors for severe COVID-19 disease, such as the elderly) and healthcare workers, particularly in primary care, and calls for targeted public health action.

What is the risk being assessed in this update?

In this update, we analyse the risk posed to the general population, vulnerable individuals, and healthcare provision by the current increase in COVID-19 case notification rates observed in the EU/EEA and the UK.

In countries observing stable and low notification rates, and low test positivity, **the risk of COVID-19 for the general population and for healthcare provision is low**, based on a low probability of infection and low impact of the disease. Regarding vulnerable individuals, the overall risk is **moderate** based on a low probability of infection and very high impact of the disease.

In countries observing high or sustained increase in notification rates, or high test positivity, but with high testing rates and transmission occurring primarily in young individuals, **the risk of COVID-19 is moderate** for the general population and for healthcare provision, based on a very high probability of infection and low impact of the disease. However, **the risk of COVID-19 is very high** for vulnerable individuals, based on a very high probability of infection and very high impact of the disease.

In countries observing high or sustained increase in notification rates, or high test positivity, and an increasing proportion of older cases, and/or high or increasing COVID-19 mortality, **the risk of COVID-19 is high** for the general population, based on a very high probability of infection and moderate impact of the disease.

Suggested citation: European Centre for Disease Prevention and Control. Increased transmission of COVID-19 in the EU/EEA and the UK – 24 September 2020. ECDC: Stockholm; 2020.

However, **the risk of COVID-19 is very high** for vulnerable individuals, based on a very high probability of infection and very high impact of the disease.

Options for response

Preparing for a scenario of widespread transmission - Several countries appear to be now progressing from limited local community transmission towards sustained community transmission. This requires a strong response, focused on both containment and mitigation measures. Geographic areas that did not experience widespread transmission during the first wave may have a higher level of population susceptibility and be less prepared to address the increasing demand for healthcare. Therefore, public health efforts should focus on strengthening healthcare capacity to manage potentially high numbers of COVID-19 patients.

Key target populations **-** The current epidemiological situation calls for focused public health actions tailored at:

- controlling transmission among older children and adults younger than 50 years of age
- protecting medically vulnerable individuals
- protecting healthcare workers, particularly those involved in providing primary care.

Non-pharmaceutical interventions (NPI) - Until a safe and effective vaccine against COVID-19 is available, NPIs will continue to serve as the main public health tool to control and manage SARS-CoV-2 outbreaks. However, several NPIs can have a negative impact on the general well-being of people, the functioning of society, and the economy. Therefore, their use should be guided by the local epidemiological situation, with the overall goal of reducing transmission and protecting the most vulnerable individuals in society.

Testing strategies **–** Testing strategies have evolved over the course of the epidemic and should now focus on more widespread testing in the community, prevention of nosocomial transmission, rapid identification and containment of outbreaks and identification of infectious cases to prevent further transmission. Easy access to testing and timeliness of testing is critical for the effectiveness of measures such as contact tracing and isolation of cases.

Contact tracing **-** Rapid identification, testing regardless of symptoms, and quarantine of high-risk contacts remains one of the most effective measures to reduce transmission. ECDC also recommends the testing of low-risk exposure contacts regardless of symptoms in high-risk settings (e.g. nursing homes), to enable early identification of secondary cases and initiate further contact tracing.

Quarantine - Fourteen day quarantine is recommended for persons who have had contact with confirmed SARS-CoV-2 cases. This can be shortened to 10 days after exposure, if a PCR test at day 10 is negative.

Maintaining strong messaging to promote compliance with key protective behaviours **-** Risk communication messages should emphasise that the pandemic is far from over, and that the SARS-CoV-2 virus continues to circulate within the community. The overarching messages proposed by ECDC earlier in the pandemic remain valid: 'This is a marathon, not a sprint'; and 'We must not drop our guard'. People's behaviour continues to be the key to controlling the pandemic.

Risk communication for younger people **-** Reduced compliance by younger people to protective measures is of increasing concern. Communication campaigns specifically targeting young people should ideally be based on insights gained through behavioural research in order to ensure that the messages resonate with and are acceptable to the target population. It is essential that young people see themselves as part of the solution, and that they are actively engaged in strategies to control the pandemic as well as in the recovery effort.

Protecting mental health - While the fall in COVID-19 cases over the summer months and the accompanying lifting of some restrictive measures may have provided respite, the ongoing return to high incidence rates and the consequent potential for a re-imposition of restrictive measures in some countries is likely to lead to renewed stresses. The mental health of people who have had COVID-19 is another issue of concern, with evidence indicating high rates of psychological ill health after physical symptoms have cleared.

Event background

The timeline of the major events can be found on the ECDC website: https://www.ecdc.europa.eu/en/novel-coronavirus/event-background-2019.

The latest available data on the number of cases and number of deaths globally is published daily on the ECDC website: https://www.ecdc.europa.eu/en/covid-19/situation-updates.

Epidemiological situation

Between 1 March and 13 September 2020, EU/EEA countries and the UK have reported 2 576 750 cases and 184 029 deaths (representing 9% of all cases and 20% of all deaths reported worldwide during this period) due to COVID-19. Since the previous ECDC RRA published on 10 August, 763 572 new cases and 5 683 new deaths have been reported in the EU/EEA and the UK (Figure 1 and Annex 1).

On 13 September 2020, the 14-day case notification rate for the EU/EEA and the UK was 76 per 100 000 population. The overall case notification rate has been increasing over the last two months. Although there is substantial variation between national incidence levels, the increasing trend is common to most countries in the EU/EEA and the UK. In week 37 (7-13 September 2020), sustained increases (>10%) in the 14-day COVID-19 case notification rates were observed in 13 countries: Czechia, Denmark, Estonia, France, Hungary, Ireland, Netherlands, Norway, Portugal, Slovakia, Slovenia, Spain and the United Kingdom [1].

Figure 1. Panel A: EU/EEA and the UK, 14-day COVID-19 case notification rate and 14-day COVID-19 death notification rates, from 1 March to 13 September 2020. Panel B: EU/EEA and the UK, testing rate and test positivity (%), from 1 March to 13 September 2020

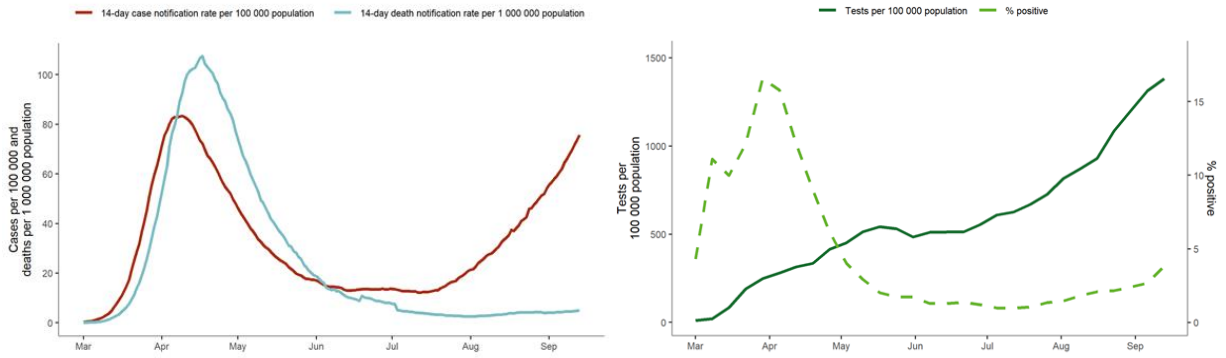
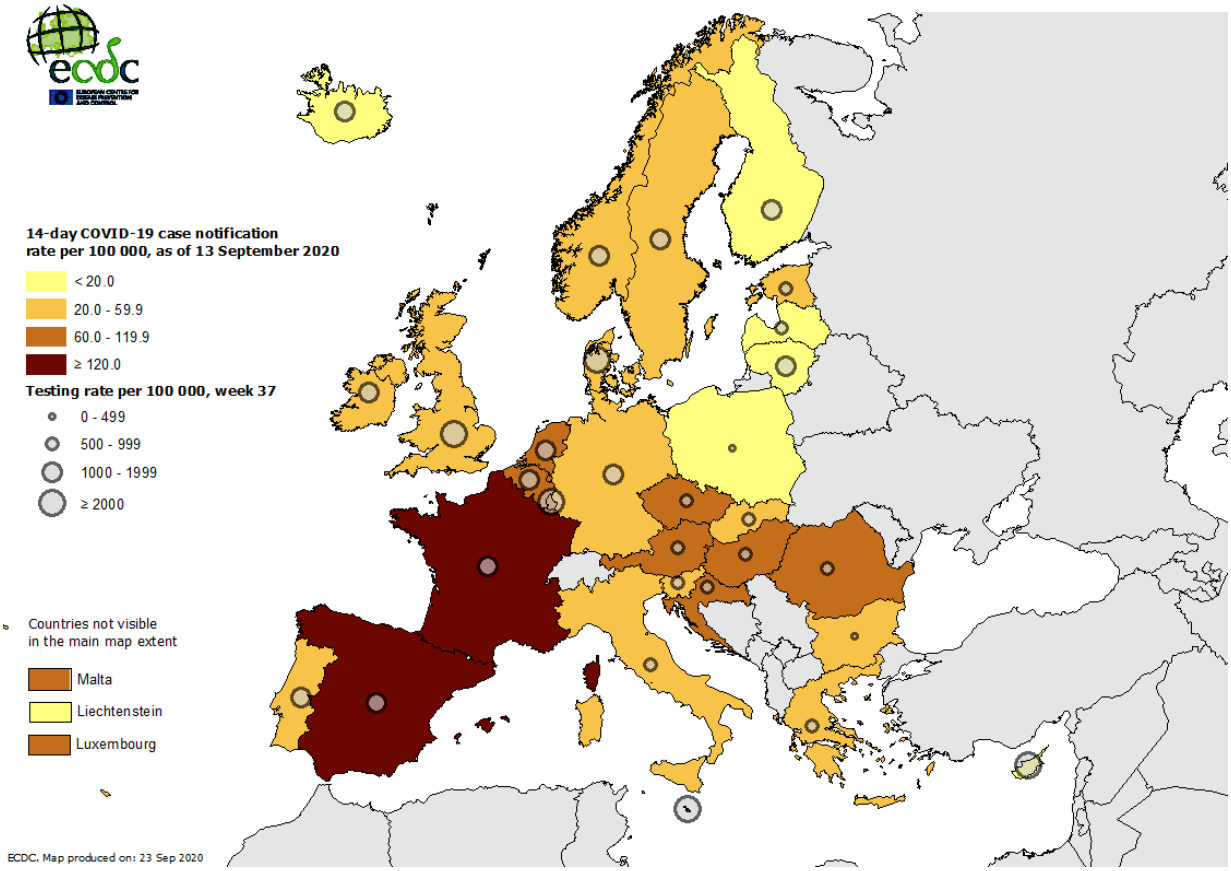


Figure 2. EU/EEA and the UK: 14-day COVID-19 case notification rate with testing rate, as of 13 September 2020



At the sub-national level, there is substantial variation within and across countries, with some regions reporting no cases in the last 14 days and others reporting an incidence higher than 120 per 100 000 population (Figure 3). Ten EU/EEA countries have at least one region with 14-day COVID-19 case notification rates over 120 per 100 000 population. For the period analysed, which compared weeks 35/36 with weeks 36/37, an increasing trend in the 14-day COVID-19 case notification rate was seen in most countries (Figure 4).

Figure 3. EU/EEA and the UK: 14-day COVID-19 case notification rate at subnational level, weeks 36-37 2020

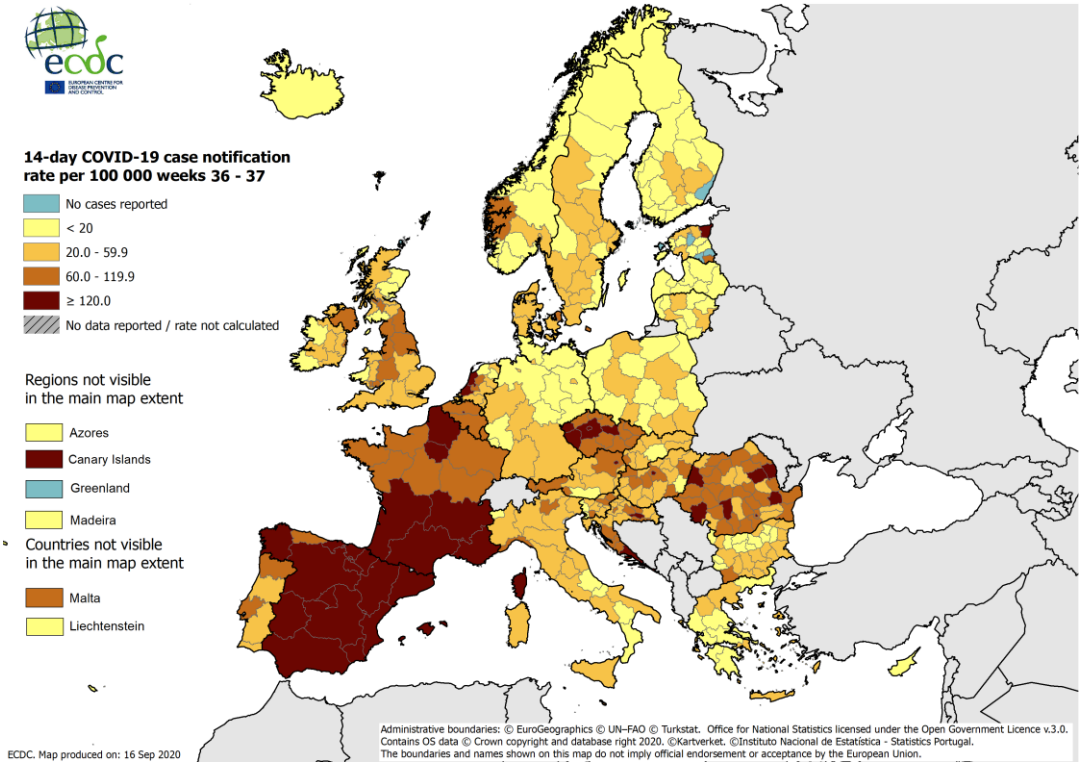
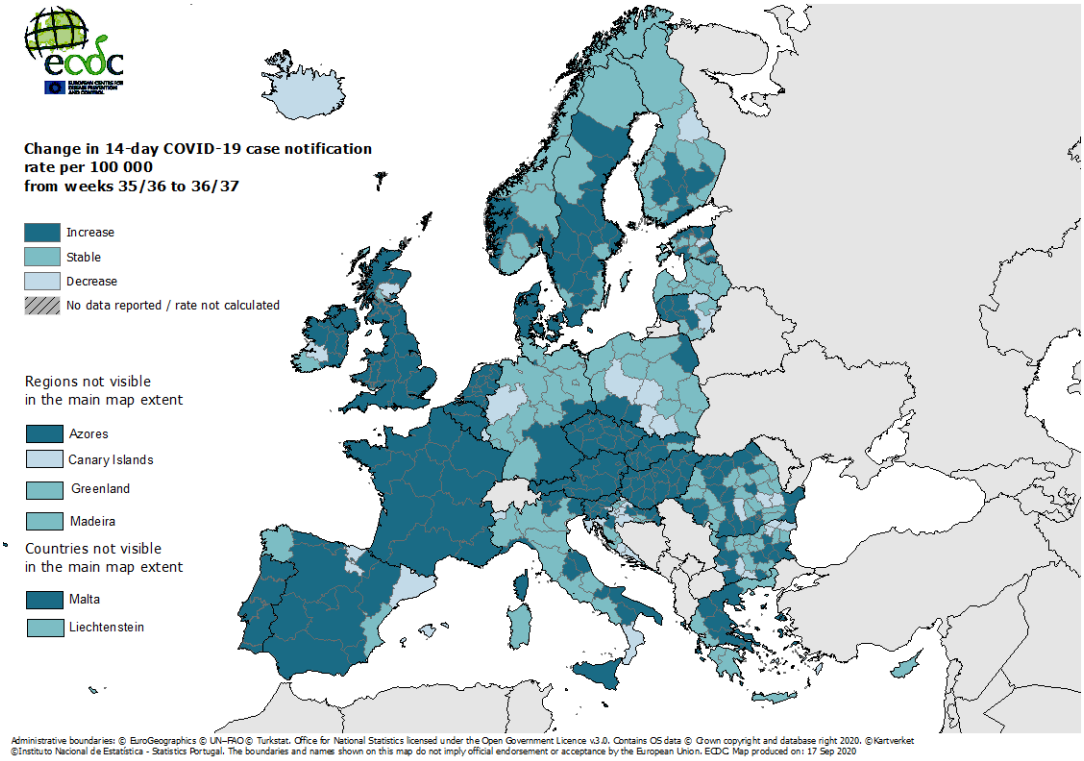


Figure 4. EU/EEA and the UK: Change* in 14-day COVID-19 case notification rate at subnational level between weeks 35-36 and weeks 36-37 2020



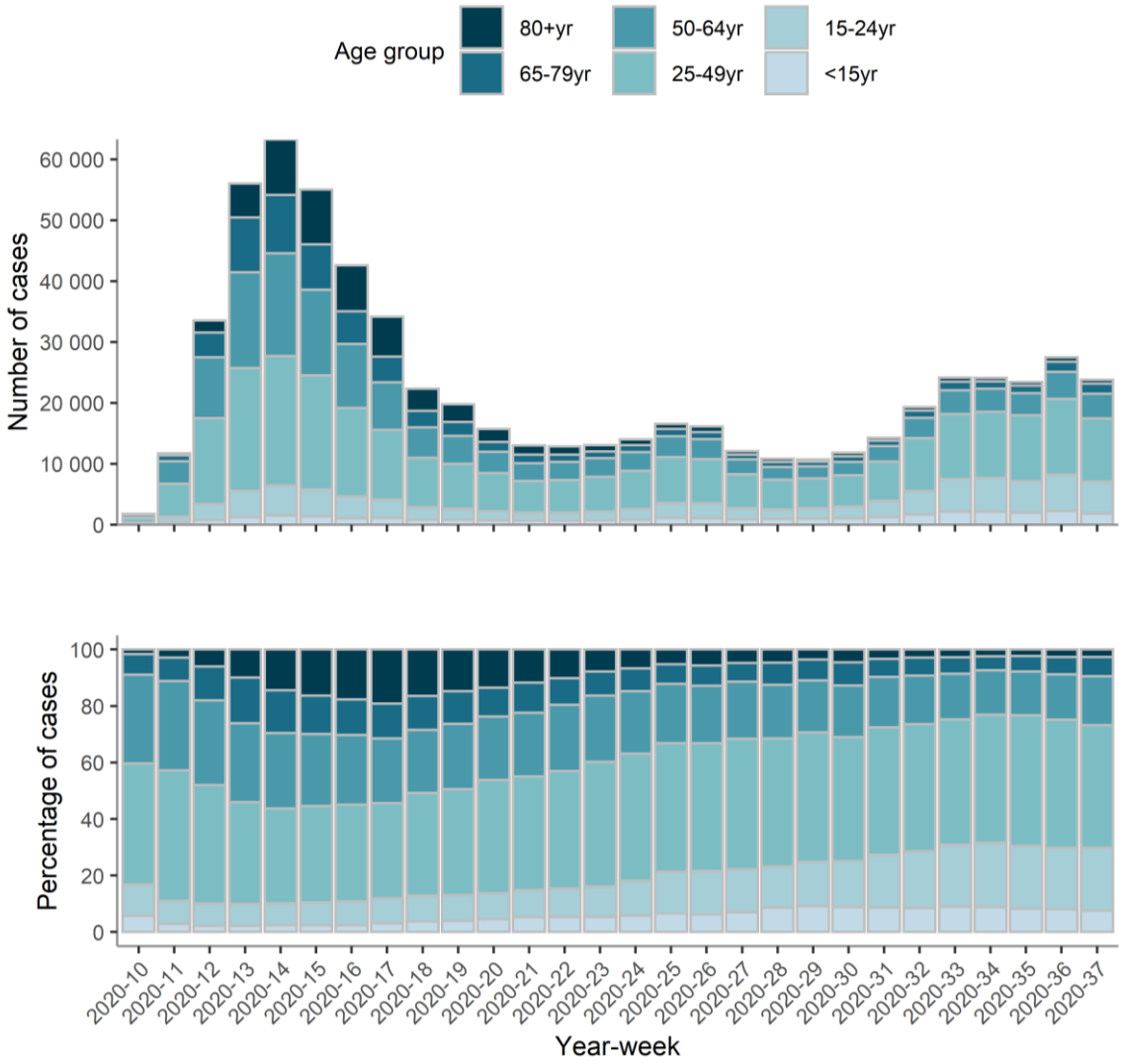
**Trend for day x compares 14-day rate on day x with that on day x-7. Regions with low 14-day notification rates (<10 cases per 100 000) or which do not meet the criteria below for an increasing/decreasing trend are classified as stable trend. Increasing/decreasing trend defined as a relative rate change of >10% or an absolute rate change of >10 per 100 000.*

The 14-day COVID-19 death notification rate for the EU/EEA and the UK was five (country range: 0–30) per million population. The overall rate was stable for 72 days (Figure 1 Panel A). However, in week 37 sustained (>10%) increases in this indicator were observed in Croatia and Spain [2]. Pooled estimates of all-cause mortality reported by EuroMOMO show normal levels in Europe. However, in Belgium and Spain a small excess mortality is observed. The excess mortality particularly affected those 65 years of age and older [3].

Testing rates have increased steadily since the beginning of the pandemic in most EU countries, even though strategies and rates of testing vary greatly (Figure 1 Panel B; Figure 2). Furthermore, the overall test positivity for SARS-CoV-2 has been increasing since the beginning of August, with an increasing pace in recent weeks (Figure 1 Panel B). In week 37, Austria, Bulgaria, Czechia, France, Hungary, Netherlands, Romania, Slovakia, Slovenia and Spain had a weekly test positivity of 3% or higher.

The number of new cases reported to The European Surveillance System (TESSy) increased by 8% in the last two weeks (31 August–13 September) compared with the previous two-week period (17–30 August) (Figure 5). The proportion of new cases among individuals between 15 and 49 years of age also increased. In the past four weeks, the median age of reported cases was 33 years (interquartile range 23-49) and 52% were men. Since mid-August, the incidence of new cases in the age groups 15-24 and 25-49 was consistently higher than all other age groups. In the last four weeks, 67% of cases were in the 15 to 49 age group, with those 25-49 years of age accounting for the largest proportion of cases (45%). Of the cases reported to TESSy in the last four weeks, 8.4% were individuals over 65 years old, 5.9% were individuals 65-79 years old, and 2.5% were individuals 80 years or older. However, in a number of countries, the case notification rates in older individuals are increasing.

Figure 5. Age distribution COVID-19 cases reported in TESSy by week in 17 EU/EEA countries* between 1 March and 13 September 2020



** Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, Germany, Iceland, Ireland, Latvia, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal and Sweden*

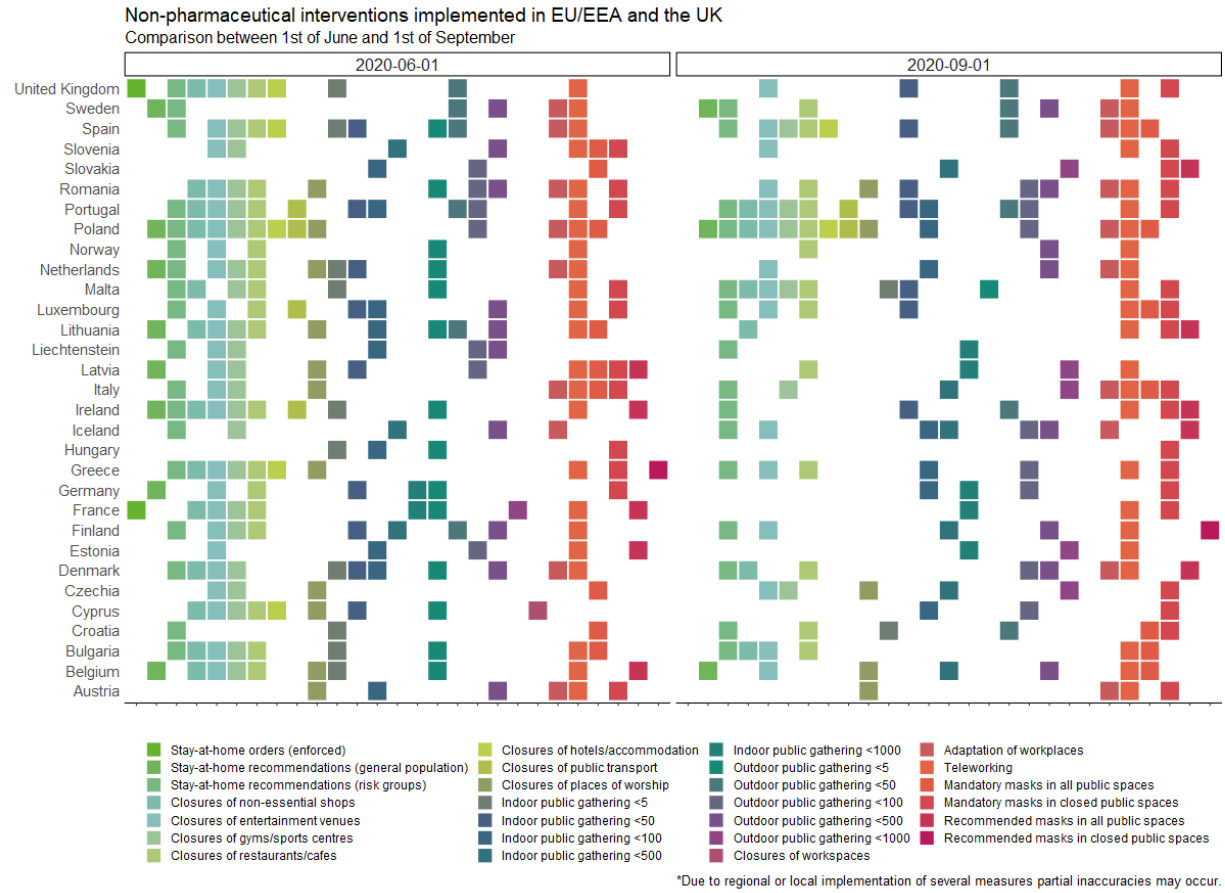
From 17 August to 13 September, 249 fatal cases were reported to TESSy in the EU/EEA and the UK. Deaths have continued to be highest in those 80 years of age and older (49%). The median age of the fatal cases was 80 years (IQR 71-86). Please note that there are inherent delays in the number of fatal cases reported to TESSy. Since 17 August, 3581 (3.6%) reported cases were hospitalised. The median age of hospitalised cases was 60 years (IQR 41-74). In the last four weeks, among the 239 (0.2%) severe cases reported in TESSy, 44% were 15 to 49 years of age. This age group accounts for the highest proportion of severe cases (Annex 2, Figure 1 and Figure 2).

Non-pharmaceutical interventions

The ECDC Response Measure Database collects the different non-pharmaceutical interventions (NPIs) enacted to prevent the spread of the SARS-CoV-2 virus by country in the EU/EEA and the UK since January 2020. Figure 6 shows the different NPIs in place in two points in time: 1 June and 1 September 2020. The two dates were selected to observe possible changes triggered by the summer season, a period in which we have observed a resurgence of cases in most countries.

Importantly, this visualisation shows a comparison of two points in time, and it is not a period analysis. In fact, several countries have introduced measures between or after the two dates selected. This visualisation portrays only measures that were active, or introduced, on the two dates.

Figure 6. Non-pharmaceutical interventions implemented at the national level in EU/EEA countries and the UK



Closure of public places: Most non-essential economic activities, in all countries, were required to shut down or severely limit their services during spring. In June, all countries still had measures demanding shops and public venues remain closed. As of 1 September, these measures have been eased or removed in almost all countries.

Looking at entertainment venues, 24 out of the 30 EU/EEA countries and the UK did not allow these places to operate on 1 June. Sixteen countries still presented the same restrictions as of 1 September.

In 18 countries, restaurants and cafes were required to shut down in June. In September, this measure was in place in 13 countries.

Mass gatherings: During the spring and early summer, all EU/EEA countries introduced limitations on the number of people allowed to gather at public events, both indoors and outdoors. Between June and September, this category of measures had been either eased (allowing a larger number of people to gather in public spaces) or removed almost everywhere in the EU/EEA and the UK.

Teleworking and facemasks: Teleworking recommendations have largely remained unchanged between 1 June and 1 September. While we noted some slight changes in the degree to which they are implemented, the mandatory use of facemasks has also remained the same in all countries.

Local and regional measures implemented: A rise in measures implemented at a lower geographical level has been observed. This reflects regional differences in incidence within countries and detection of local outbreaks.

- **Social bubbles**: The recommendation of having interactions and physical meetings only between pre-selected peers over time, sometimes known as 'support' or 'social' bubbles, have been implemented in different areas, for instance, in August and September 2020, this recommendation was issued in the Greater Manchester area, in Belfast, and in Glasgow (UK) [4,5].
- **Localised cordon sanitaire**: This limits movement within or outside an area, unless strictly necessary, while also limiting or completely prohibiting gatherings and, in some instances, restricting bars and restaurants activities. In August and September 2020, such measures were implemented, for instance, in Catalonia and in the Comunidad de Madrid (Spain), Casamaina di Lucoli (Italy) and the Caerphilly County Borough (UK) [6-10].

Disease background

For information on the latest scientific evidence on COVID-19, please visit ECDC's website: https://www.ecdc.europa.eu/en/2019-ncov-background-disease.

This update of the risk assessment only provides an overview of the latest information and current understanding of individual and population immunity against SARS-CoV-2, re-infection, clade distribution of circulating virus and prophylaxis, treatment and supportive care.

Immunity

The understanding of immunity against SARS-CoV-2 is still incomplete. Binding and neutralising antibodies to SARS-CoV-2 have been shown to develop in most individuals between day 10 and day 21 after infection [11-14]. Reviews of the published literature indicate that most patients develop IgG seropositivity and neutralising antibodies following primary infection with SARS-CoV-2 in >91% and >90% of cases, respectively. T-cell responses against the SARS-CoV-2 spike protein have been characterised and correlate well with IgG and IgA antibody titres in COVID-19 patients, which has important implications for vaccine design and long-term immune response [15-17].

Various studies indicate that most patients mount an immune response following a SARS-CoV-2 infection, but that this immunity may wane over time. Waning immunity appears to be more likely in individuals with a less severe primary infection [18-21]. SARS-CoV-2 antibody levels have been detected up to 94 days after infection [22]. More recent studies found that antibody titres peak between 3-4 weeks after infection, and remain relatively stable up to four months after infection [23]. Neutralising activity also starts to decline after one to three months from symptom onset, as recently reported in a series of longitudinal studies on convalescent patients [24-27]. The longevity of the antibody response to SARS-CoV-2 is still to be determined, but it is known that antibody levels to other coronaviruses wane over time (range: 12–52 weeks from the onset of symptoms) and homologous reinfections have been documented [28,29].

Several countries in Europe are conducting longitudinal studies that will provide an opportunity to monitor in more detail the progression of immunity over time.

SARS-CoV-2 reinfection

Whilst reinfections are known to occur for other seasonal coronaviruses, the extent of SARS-CoV-2 re-infection remains unknown [30]. As described in the ECDC Threat Assessment Brief, 'Reinfection with SARS-CoV-2: Considerations for public health response' [31], only six confirmed cases of SARS-CoV-2 reinfections have been published so far [32-34]. While it is likely that the currently documented cases represent an under-estimation of the true number of reinfections, the evidence available so far indicates that this is an uncommon event.

Seroprevalence in EU/EEA and UK

Population-based sero-epidemiological surveys aim to measure the proportion of the population that has antibodies against SARS-CoV-2. ECDC and WHO have established a European network to provide support to countries undertaking sero-epidemiological studies and are collating the results from studies conducted in European countries.

The early results from such studies indicate that in most countries, the prevalence of individuals with SARS-CoV-2 antibodies is well below 15%. Higher estimates of prevalence have been reported in small local areas heavily affected during the early phase of the pandemic, such as the ski resort of Ischgl in Austria, where the prevalence among the general population was 42.2% [35].

Estimates of sero-prevalence among groups with high risk of exposure such as healthcare workers, have been found to be higher than in the general population. For example, 31.6% of healthcare workers at a hospital in London had antibodies against SARS-CoV-2 in May and June [36].

Virus characterisation

The genetic clade distribution of strains circulating in the EU/EEA since mid-July 2020 is similar to the clade distribution observed in March to May 2020 [37,38]. From the data available in the GISAID EpiCoV database [39] with data from 16 July 2020, there is no correlation between clade distribution and resurgence of cases at the national level.

Pharmaceutical interventions

Prophylaxis

A global effort to develop vaccines for protection against COVID-19 has, as of 17 September 2020, resulted in nine vaccine candidates that have entered phase II/III or phase III clinical trials globally [40,41]. An EU vaccine strategy with the aim to accelerate the development, manufacturing and deployment of COVID-19 vaccines was initiated on 17 June 2020 [42]. In return, for the right to buy a specified number of vaccine doses in a given timeframe, the European Commission will finance part of the upfront costs faced by vaccine producers in the form of Advance Purchase Agreements financed with the EU Emergency Support Instrument [43].

A portfolio of potential vaccines produced by different companies is foreseen. It should be stressed that it is currently unknown which vaccine candidates will be successful in the ongoing clinical trials. Two Advance Purchase Agreements have been signed with Astra Zeneca and Sanofi Pasteur/GlaxoSmithKline. Astra Zeneca initiated their phase III trial for their non-replicating viral vector candidate expressing the SARS-CoV-2 S-protein in May 2020. Sanofi Pasteur/GSK is expected to start their phase III trial for their protein subunit SARS-CoV-2 S-protein candidate with the AS03 adjuvant at the end of 2020. Further negotiations are ongoing between the European Commission and the following four companies: Johnson & Johnson (non-replicating viral vector expressing the SARS-COV-2 S-protein), Curevac (mRNA encoding for SARS-CoV-2 viral protein/s), Pfizer/BioNTech (mRNA encoding for SARS-CoV-2 viral protein/s), and Moderna (mRNA encoding for SARS-CoV-2 viral protein/s). In addition, some EU Member States are either arranging for bilateral agreements with individual companies or participate in the global mechanism for procurement named COVAX [44].

Many of the frontrunner vaccine candidates, including those of Moderna and Pfizer, are developed to be administered intramuscularly in two doses 3-4 weeks apart. Johnson & Johnson intends to trial a one-dose vaccine, and the AstraZeneca–Oxford team is looking at one- and two-dose regimens. UNICEF is currently calling for governments with industry stakeholders to arrange for transportation of the temperature-sensitive COVID-19 vaccines [45].

One of the phase III clinical trials (Astra Zeneca AZD1222) was halted in early September because of a possible vaccine safety signal. The company did not disclose the nature of the participant's illness, but The New York Times reported that the volunteer, based in Britain, was diagnosed with transverse myelitis, an inflammatory syndrome that affects the spinal cord and often is sparked by viral infections. This vaccine candidate is being tested in large-scale Phase 2 and Phase 3 trials in the United States, Britain, Brazil, South Africa and India. After review by the Data Safety Monitoring Board with external vaccine safety experts and the UK national regulatory agency MHRA, the clinical trial was resumed in the UK on the 12 September [46].

For individuals not able to respond to active immunisation due to congenital or acquired immunodeficiency, SARS-CoV-2-specific hyperimmunglobulin and monoclonal antibody products for prophylaxis are under development [47].

Recommendations for prioritisation of which target groups should be vaccinated first when vaccines are only available in short supply are expected in the coming months. On September 14, WHO SAGE published a 'Values framework for the allocation and prioritisation of COVID-19 vaccination' that offers guidance on the allocation of COVID-19 vaccines and on the prioritisation of groups for vaccination within and between countries while supply is limited [48].

Treatment and supportive care

Surveillance data reported to ECDC show that the case-fatality rate has been decreasing in several European countries compared to the peaks in March and April 2020. In several countries, the recent increases in number of cases have not been followed by a corresponding increase in the number of deaths. This can be attributed to the currently higher case identification capacity thanks to more extensive testing (i.e. allowing for the identification of cases that would not have been detected in March-April), to the higher numbers of younger individuals affected, (Figure 5), and to the inclusion of a larger number of asymptomatic cases due to changes in testing strategies.

Significant decreases in case fatality have also been observed among patients in older age groups [49]. This decrease could be attributable to improvements in the clinical management of severe cases, including the introduction of treatments such as steroids and remdesivir, as well as improvements in the management of adult respiratory distress syndrome (ARDS), such as optimising the use of high-flow nasal oxygen and non-invasive ventilation, and the recognition of the role of hypercoagulability and endothelial injury in the disease pathogenesis which allowed clinicians to prevent certain complications through administration of anticoagulants (e.g. heparin).

ECDC risk assessment

This assessment is based on information available to ECDC at the time of publication and, unless otherwise stated, the assessment of risk refers to the risk that existed at the time of writing. It follows the ECDC rapid risk assessment methodology, with relevant adaptations [50]. The overall risk is determined by a combination of the probability of an event occurring and its consequences (impact) for individuals or the population [50].

Risk assessment question

Given the increase in notification rates observed in the EU/EEA and the UK, what risk does the COVID-19 pandemic pose to the general population, vulnerable individuals, and COVID-19 healthcare provision?

Countries are currently experiencing different epidemiologic patterns which pose different risks and require targeted interventions.

Based on recent epidemiological information (Annex 3), it is possible to categorise EU/EEA countries and the UK as observing either 'stable trends' or 'concerning trends'. The latter group is defined here as those that meet any two of the following criteria:

- high (≥ 60/100 000) or sustained increase (≥7 days) in 14-day case notification rates
- high (≥60/100 000) or sustained increase (≥7 days) in 14-day case notification rates in older age groups (65-79 years old AND/OR 80 years or older)
- high (≥ 3%) or sustained increase (≥7 days) in test positivity
- high (≥ 10/1 000 000) or sustained increase (≥7 days) in 14-day death rates.

The definition of trends and threshold used in the criteria above are available in the ECDC Weekly COVID-19 country overview report [51].

Countries with stable trends: As per 13 September, the EU/EEA countries with a stable trend include Belgium, Cyprus, Finland, Germany, Greece, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Poland and Sweden (Annex 3). In these countries, the overall probability of infection is assessed as low. Because of the low proportion of cases in elderly individuals, and the current low proportion of severe cases and low death notification rates, the impact of the disease is assessed as low. At this time, there is an overall **low risk** of COVID-19 for the general population and the healthcare system in these countries. Regarding vulnerable individuals (individuals with risk factors for severe COVID-19 disease, such as the elderly) [52], since the impact of the disease in these groups is very high, the overall risk is **moderate**.

Close monitoring of the evolving epidemiological situation, including infections detected at the primary care level, the level of occupancy of hospital and ICU beds and the spread of infections amongst vulnerable individuals, for whom the impact of COVID-19 is very high, are key to avoid a rapid increase in the risk level in the coming weeks.

Countries with concerning trends: As per 13 September, the other group includes all the remaining EU/EEA countries and the UK. The increased notification rates may be partially explained by the steady increase in testing rates that occurred in recent weeks and months (e.g. Luxembourg, Denmark and the UK) as well as by the larger number of young, mild or even asymptomatic cases that have been tested. However, due to the high volume of transmission, it appears that the NPIs in place have not been effective in limiting significant increase of infection, either because adherence to the measures may not be optimal or the measures in place may not be sufficient to reduce or control exposure. In addition, available data from seroprevalence studies suggest that the level of immunity in the population is <15% in most areas within the EU/EEA and the UK, and, since a vaccine will not be available in the short-term, the vulnerability of the population to infection remains high. Based on this, in these countries the overall probability of infection is very high.

These countries with concerning trends can be placed into two sub-groups. One sub-group includes those countries where high and increasing notification rates are reported due to high testing rates, and transmission is reported primarily in young individuals, with a low proportion of severe cases and low death notification rates (<10/1 000 000). This sub-group includes Austria, Denmark, Estonia, France, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Slovakia, Slovenia and the United Kingdom. Since severe COVID-19 and death is more common among vulnerable individuals and these groups are currently less affected than other groups, the impact of the disease is still low. This gives an overall **moderate risk** of COVID-19 for the general population and for healthcare provision. However, it should be noted that with a high volume of transmission continuing over the course of several weeks, shielding of vulnerable individuals becomes challenging, and since the impact of the disease in these groups is very high, the risk for this population remains **very high**. In addition, the number of hospitalised patients and severe cases will inevitably increase as some patients <65 years of age will also need hospitalisation and ICU care, although at lower proportions than older patients, with a consequent stress to healthcare provision.

The second sub-group includes countries with trends of high concern, i.e. with high or increasing notification rates in older cases and, consequently, an increased proportion of hospitalised and severe cases. In these countries, increasing or high death notification rates are already observed (as of 13 September, in Bulgaria, Croatia, Czechia, Hungary, Malta, Romania and Spain), or may be observed soon. In some local/regional areas of these countries, healthcare provision is already under pressure, with high hospital and ICU bed occupancy rates and high levels of fatigue among healthcare workers. The improvements that have been made in case management, supportive treatment and care are still not enough to avoid severe disease and death in a large proportion of vulnerable patients. Implementing stricter NPIs, which proved to be effective in controlling the epidemic in all EU/EEA countries and the UK in spring 2020, appears to be the only available strategy that may be able to ensure a moderate (as opposed to high) impact of the disease on individuals and on healthcare provision. Therefore, in these countries, even with a timely and strict implementation of NPIs, the overall **risk of COVID-19 is assessed as high** for the general population and **very high** for vulnerable individuals.

Update from 23 September

The epidemiological situation is rapidly evolving in many EU/EEA countries and the UK. As of 20 September 2020 (provisional data for week 38 extracted by ECDC on 23 September), Norway moved from the group with concerning trends to the group of countries with stable trends, while Belgium and Sweden moved from the group with stable trends to the group with concerning trends. The epidemiological situation of the 20 countries with concerning trends appears to be deteriorating with the majority of these countries now appearing to meet the criteria for classification as countries with high concerning trends, often because of an increase in the 14-day case notification rates in the older age groups (65-79 years old AND/OR 80 years or older).

Modelling

On 17 September, ECDC published 30 day forecasts of confirmed COVID-19 cases and associated hospital and ICU admissions and mortality [53]. These projections were made using a model that incorporates data on testing rates, NPIs over time and mask use. Of the nineteen countries with concerning trends, five (Czechia, Estonia, France, Hungary and Slovakia) were forecast to have the potential for a particularly steep resurgence in cases.

These were the countries that had lifted all national-level response measures in the period mid-May to late-June. Countries that had smaller outbreaks earlier in the pandemic may have lifted response measures earlier and therefore currently be at risk of higher levels of resurgence. Inference by the ECDC model shows that the rate of contact between people in these countries may have already returned to baseline levels [53] a suggestion which is supported by evidence from Google mobility data [54]. Although the number of contacts between people may be an important consideration for predicting transmission of the virus, it is also important to consider who is meeting whom and whether their encounter is protected by a facemask or similar protective measure.

Greece is not defined as a country with a trend of concern according to the ECDC criteria but has observed a strong increasing trend in ICU admissions. The ECDC model also highlights this country as having the potential for a large resurgence. Similarly, Latvia has seen a sustained increase in hospital admissions and is forecast to have the potential for a rapid resurgence.

Options for response

Data available to ECDC shows that 68% of COVID-19 cases detected in EU/EEA countries and the UK between weeks 34 and 37 were within 15-49 years of age. Increase of transmission in this age group also accounts for the majority of rapidly increasing trends observed in a number of Member States in the same time period. The current epidemiological situation poses a high risk of infection for older age groups, individuals with risk factors for severe COVID-19 disease, and healthcare workers particularly in primary care. Furthermore, although their extent, nature, and impact remain still largely unknown, there could be longer-term health sequelae among individuals experiencing a relatively mild clinical course, such as the many younger people currently being infected. Therefore, the current epidemiological situation in countries with concerning trends calls for targeted public health actions tailored at:

- controlling transmission among older children and adults younger than 50 years of age
- protecting medically vulnerable individuals
- protecting healthcare workers, particularly those involved in providing primary care

Controlling transmission among older children and adults younger than 50 years of age

To achieve this objective, public health authorities could:

- Identify settings where young people gather, where physical distancing cannot be guaranteed, and where correct and consistent face mask wearing is unlikely to happen. These high-risk settings can vary by country, region, socio-economic group, ethnicity, specific age group, culture, and other factors.
- Develop targeted communication campaigns to strengthen the application of preventive measures in such settings (at least physical distancing and correct and consistent wearing of face masks).
- Include communication messages on the importance of avoiding physical contact with older individuals, for example by promoting interactions with only the same people over time (social bubbles).
- Consider closing or regulating access to such high-risk settings in situations of widespread community transmission or when epidemiological data indicate sustained increasing incidence trends.

Protecting medically vulnerable individuals

Public health authorities should implement strategies to protect persons at risk of severe COVID-19 disease, including:

- Advise them to avoid crowded places both indoors and outdoors. This may include advice to telework, avoid using public transportation, particularly during rush hour, and avoiding mass gatherings particularly indoors.
- Instructions to correctly and consistently wear a face mask in all situations where contact with other people may occur.
- Implementation of stay-at-home advice/orders, if widespread transmission is occurring in the community they belong to.

Protecting healthcare workers

Healthcare workers are on the front-line of the management of the pandemic, regardless of the level of care they are providing. However, currently SARS-CoV-2 transmission is mostly occurring among individuals at low risk of hospitalisation and therefore healthcare workers in primary care are more likely to receive a high number of patients with respiratory symptoms. Therefore, in view of the expected increase of respiratory infections during the autumn and winter months, public health authorities should implement strategies to:

- Maintain a high level of awareness among healthcare personnel regarding the epidemiological situation in the areas where they operate.
- Ensure that clear protocols for the management of suspect cases in primary care are available for use and implemented in all such settings.
- Ensure that training is provided to primary care health personnel on the clinical presentation of COVID-19 (including non-respiratory symptoms).
- Ensure that primary care health personnel are clearly instructed on the use a medical face mask for all patient contacts at all times; appropriate PPE should be worn for the contact with patients with COVID-19 compatible symptoms, including when undertaking aerosol generating procedures (AGPs).
- Ensure that capacity for, and easy access to, COVID-19 diagnostic testing is available in primary care.

ECDC has published guidance for COVID-19 infection prevention and control for primary care, including general practitioner practices, dental clinics and pharmacy settings [55].

The ECDC Guidelines for the implementation of non-pharmaceutical interventions against COVID-19 [56] comprehensively details available options for NPIs in various epidemiological scenarios, assesses the evidence for their effectiveness and addresses implementation issues including potential barriers and facilitators. The following chapter summarises the main NPI recommendations based on the current scientific evidence, including specific recommendations for scenarios of widespread transmission with possible pressure on healthcare systems.

Non-pharmaceutical interventions

Non-pharmaceutical interventions (NPI) are public health measures aimed at preventing and/or controlling SARS-CoV-2 transmission in the community. NPIs can be applied at personal, population and environmental level, and they have played a critical role in reducing transmission rates and the impact of COVID-19. Until a safe and effective vaccine against COVID-19 is available to all those at risk of severe consequences, NPIs will continue to serve as the main public health tool to control and manage SARS-CoV-2 outbreaks. However, several NPIs can have a negative impact on the general well-being of people, the functioning of society, and the economy. Therefore, their use should be guided by the local epidemiological situation, with the overall goal of protecting the most vulnerable individuals in the society.

In areas where sustained SARS-CoV-2 control has been achieved as documented by comprehensive surveillance, NPIs can be re-adjusted permitting an almost normal functioning of the society. In that (currently exceptional) epidemiological situation, travel restrictions from countries or areas with higher transmission would likely be a meaningful difference to the overall epidemiology of SARS-CoV-2 within the population.

In areas that are experiencing community transmission, the authorities should ensure that personal-level NPIs are understood and correctly applied by the population. This includes NPIs such as maintaining physical distance in all settings, hand and respiratory hygiene, and wearing face masks in all situations where physical distancing cannot be guaranteed. The use of face masks is recommended both indoors (e.g. supermarkets, shops and public transport) and in crowded outdoor settings. In addition, the use of face masks should be strongly recommended for groups at risk of developing severe complications (e.g. individuals in older age groups or having underlying conditions) and for occupations with extensive face-to-face contact with the public.

In areas experiencing widespread transmission with increasing hospitalisation rates, ICU admissions, or mortality, more strict measures at population- and/or environmental- level can be considered.

Table 1 summarises the NPI and propose indication for implementation during the pandemic based on the national/regional epidemiological situation.

Table 1. Non-pharmaceutical interventions and indications for implementation during the COVID-19 pandemic based on the national/regional epidemiological situation [56]

Non-pharmaceutical intervention	Low prevalence setting	High prevalence setting	Geo-level	Disease impact	Negative societal impact	Comment
Hygiene measures						
Meticulous hand and respiratory hygiene	+	+	National	High	Low	
Face masks						
Recommendation to use face mask in public spaces	+/-	+	National	High	Low	
Isolation and quarantine						
Recommended isolation of confirmed, probable and possible COVID-19 cases	+	+	National	High	Low	
Quarantine for contacts of cases	+	+	National	High	Low	
Quarantine of specific groups (e.g. travellers from a region or a country with high incidence of COVID-19).	+/-	+/-	National	Low	Low	Can be implemented, but: - Challenging to harmonise classification across countries and regions; - Administrative borders may not match epidemiologically relevant areas; -Questionable effectiveness when community transmission is ongoing across EU/EEA and the UK.
Physical distancing						
Recommended >2 metres physical distance between individuals in public places	+	+	National	High	Low	

Non-pharmaceutical intervention	Low prevalence setting	High prevalence setting	Geo-level	Disease impact	Negative societal impact	Comment
Closing of public spaces (e.g. non-essential shops, restaurants, entertainment venues)	-	+/-	Sub-national (preferably)	High	Medium	To consider at local/regional level first to minimise socio-economic disruption and political acceptability. To consider closing largest and most crowded spaces first.
Closing of public transport	-	+/-	Sub-national (preferably)	High	High	To consider at local/regional level first. To consider reducing capacity first.
Closing workplaces	-	+	Sub-national (preferably)	High	Medium	To consider at local/regional level first.
Recommending teleworking	+	+	National	High	Low	
Closing of schools (preschool, primary, secondary and tertiary)	-	+/-	Sub-national (preferably)	High	High	To consider, depending on pupils' age. Questionable effectiveness, especially in younger age-groups. To consider negative externalities.
Protecting high-risk groups and vulnerable populations	+/-	+	National	High	Medium	To also consider for hard-to-reach populations (e.g. testing in ethnic minorities or deprived populations).
Stay-at-home orders and recommendations	-	+/-	Sub-national (preferably)	High	High	To consider at local/regional level first to minimise socio-economic disruption and political acceptability.
Mass gatherings						
Interventions in place for public gatherings (small, medium and mass gatherings)	+/-	+	National	High	Medium	
Movement restrictions						
International travel restrictions	+/-	-	National	Low	High	May be considered in places with very low prevalence to limit introductions
National movement restrictions or recommendations	-	+	Sub-national	Medium	Medium	Prefer recommendation over restriction. To consider at local/regional level first, avoiding border closures.

+: recommended, +/- can be considered, -: not recommended
Supporting evidence for each measure is provided in the main text of the document [56].

Preparing for a scenario of widespread transmission with pressure on healthcare systems

Evolution of the epidemiological situation needs a local risk assessment and adaptive changes in response measures. The fifth Rapid Risk Assessment, produced by ECDC on 2 March 2020, outlined specific measures that should be considered for different epidemiological scenarios [57].

Several countries appear to be now progressing again from limited local community transmission towards sustained community transmission (localised outbreaks which start to merge and become indistinct; leading to sustained transmission in the country; and possibly increasing pressure on healthcare systems), and this needs a stronger approach, focused on both containment and mitigation measures. In this scenario, options for response involve promotion of various control measures, including specific physical distancing measures such as the cancellation of mass gatherings and measures in the workplace, as well as preparing healthcare services to meet potentially increased demands for the treatment of COVID-19 cases.

Geographic areas that did not experience widespread transmission during the first wave may have a higher level of susceptibility in the population and be less prepared to address the increasing demand for healthcare. Essential services, primary care facilities and hospitals should ensure appropriate surge capacity, bearing in mind that the demand could increase with the start of the influenza season. Therefore, public health efforts should focus on strengthening healthcare capacity to manage potentially high numbers of COVID-19 patients.

At the beginning of the pandemic in Europe, ECDC developed a checklist for hospitals preparing for the reception and care of coronavirus 2019 (COVID-19) patients [58] aiming to support hospital preparedness for the management of COVID-19 patients. The elements described in the list may need to be adapted to the specific characteristics of hospitals, the national health system, legislation and community where the hospital is located. The elements to be assessed include:

- establishment of a core team and key internal and external contact points
- human, material and facility capacity
- communication and data protection
- hand hygiene, personal protective equipment (PPE), and waste management
- triage, first contact and prioritisation
- patient placement, moving of the patients in the facility, and visitor access
- environmental cleaning.

For each area mentioned above, the elements or processes were identified and the items to be checked are listed in the ECDC 'checklist for hospitals preparing for the reception and care of coronavirus 2019 (COVID-19) patients' [58]. Further information can be found in the ECDC 'Health emergency preparedness for imported cases of high consequence infectious diseases' [59], in the WHO Hospital emergency response checklist [60] and Rapid hospital readiness checklist: harmonised health facility assessment modules in the context of the COVID-19 pandemic [61], and in the CDC Coronavirus Disease 2019 (COVID-19) Hospital Preparedness Assessment Tool [62].

Overall, COVID-19 remains a disease without specific treatment. Based on the experience of managing COVID-19 cases in spring 2020, new guidance has emerged advising management of respiratory distress [63] with preference to high-flow nasal cannula oxygen in patients with no indications for endotracheal intubation.

In addition, randomised clinical trials (RCTs) have produced evidence regarding pharmaceutical treatment for moderate and severe COVID-19 (e.g. no evidence for use of hydroxychloroquine [64]; evidence for the use of dexamethasone [65] and remdesivir [66,67] in moderate and severe cases; some evidence for the use of convalescent plasma) [68,69]. The European Commission is coordinating a number of joint procurements on pharmaceutical products.

Testing, isolation and contact tracing

ECDC's document on COVID-19 testing strategies and objectives is available to support Member States as they look to further strengthen their national, regional and local testing strategies [70].

Implementation of objective-driven and sustainable testing strategies for COVID-19 supports the overall public health response and helps mitigate impact on vulnerable individuals and healthcare systems, while ensuring that societies and economies can continue to function. Testing strategies should be flexible and rapidly adaptable to change, depending on the local epidemiology, transmission, population dynamics and resources.

Early identification of cases to ensure rapid isolation and the initiation of contact tracing remains important to prevent further spreading of the virus in the community. It is recommended that all persons with COVID-19 compatible symptoms are tested for SARS-CoV-2 as soon as possible after symptom onset [70]. People should be informed of the need to seek testing as soon as possible after symptom onset and testing should be easily accessible, including for visitors. Other populations can also be targeted for testing to monitor severity and trends, mitigate the impact of disease, identify clusters or prevent introduction of the virus into areas with sustained control.

Isolation of confirmed or probable cases of COVID-19 aims to separate sick from healthy persons to avoid further transmission. In a situation of widespread community transmission or when laboratory capacity is not sufficient to test everyone with symptoms, a blanket recommendation for individuals with symptoms to stay home may be given. Studies have shown that the viable virus may persist up to ten days after the onset of symptoms in mild-moderate cases and up to 20 days in severe and immunocompromised cases [71,72] ECDC has published a guidance for discharge and ending isolation in the context of widespread community transmission of COVID-19 [73].

All patients with acute respiratory symptoms in hospitals and other healthcare settings, especially individuals with underlying conditions and the elderly, and all specimens from sentinel primary care surveillance should be tested for both SARS-CoV-2 and influenza during the upcoming influenza season [74]. Multiplex RT-PCR assays can be considered for parallel testing.

Rapid contact tracing around confirmed cases, followed by quarantine, are central pillars for the public health response to reduce transmission at all stages of the epidemic. During widespread transmission, even if not all contacts of each case are traced, contact tracing still contributes to reducing the intensity of transmission when implemented in conjunction with other measures such as physical distancing. In countries or regions with low case numbers, contact tracing can help prevent a resurgence in cases. The key principles are outlined in the ECDC guidance on contact tracing [75] where information is available on how to scale up contact tracing [76].

If any contact (high-risk and low-risk exposure contacts) develops symptoms, speedy testing should be carried out. ECDC also recommends that high-risk exposure contact persons without symptoms, as well as low-risk exposure contacts without symptoms in special settings (e.g. nursing homes), are tested as soon as they have been traced, to enable early identification of any secondary cases among contacts and to and to start contact tracing of their contacts [70].

Based on the known incubation period of the virus, a duration of 14 days is advised for the quarantine of persons who have had contact with confirmed SARS-CoV-2 cases [77-81]. A test at day 10 after last exposure can be used to discontinue quarantine early if the test is negative [70]. Emerging evidence from modelling suggests that contacts could be tested and released even earlier from quarantine given certain criteria are met on the timeliness of the contact tracing process, although ending quarantine early has a residual risk which may not be acceptable in certain circumstances, for example in the context of vulnerable individuals [82].

Both nucleic acid amplification tests (NAATs) and antigen tests can be used to detect ongoing infection, and WHO's interim guidelines specify using a NAAT to confirm a COVID-19 case [83]. There are two types of tests used or in development: rapid molecular point of care tests and rapid antigen tests. The molecular point of care tests can generate rapid results with average sensitivity 95.2% (95% CI 86.7% to 98.3%) [84].

Rapid antigen tests are becoming more readily available and are being considered by Member States as a possible tool for rapid SARS-CoV-2 diagnosis. Whilst these tests are less sensitive than molecular assays, with an average sensitivity of 56.2% (95% CI 29.5 to 79.8%) [84], they offer the possibility of rapid, inexpensive and early detection of the most infectious COVID-19 cases (i.e. with high viral load) in appropriate settings [85]. Using rapid antigen tests, and depending on the individual test's performance, there is a substantial probability that the negative results are false negatives, while the positive results are very likely to be true positives. It is of essence that these assays are carefully validated for their intended use to ensure their accuracy and reliability to identify true infections. A meta-analysis of the clinical performance of commercial SARS-CoV-2 nucleic acid, antigen and antibody tests up to 22 August 2020 is available as a preprint [86]. WHO has published a guidance on: 'Antigen-detection in the diagnosis of SARS-CoV-2 infection using rapid immunoassays' [85]. ECDC is closely monitoring the latest developments in this area and liaising closely with partners and stakeholders, to provide guidance on the possible use of antigen assays in the diagnosis of SARS-CoV-2 infection. Information on specimen types and self-sampling can be found at the ECDC COVID-19 testing strategies and objectives [70].

Risk communication

Maintaining strong messaging to promote compliance with key protective behaviours

During the current resurgence of COVID-19 cases, risk communication messages should emphasise that the pandemic is far from over, and that the SARS-CoV-2 virus continues to circulate within the community throughout most of the EU/EEA. Since the introduction of safe and effective vaccines is likely to be several months away and treatment options remain limited, the overarching messages proposed by ECDC earlier in the pandemic remain valid: 'This is a marathon, not a sprint'; and 'We must not drop our guard' [1]. People's behaviour continues to be the key to controlling the pandemic.

It needs to be communicated that even if most cases are mild, there is an increasing evidence base regarding long-term effects from COVID-19 infection, which can also affect young adults and individuals with no underlying medical conditions who were not hospitalised [87]. Presenting experiences from such patients can be a compelling reminder that the disease is serious and should not be taken lightly.

Many initiatives using established risk communication methods have emerged over recent months, aimed at facilitating people's understanding of what they need to do in order to stay safe, and why. Among many others, these include the following examples:

- Colour- or number-coded phase levels, with clear justifications for either an escalation or a loosening of restrictions, as well as what each phase entails in terms of measures [88];
- Easily remembered messages based on (i) acronyms of key protective measures, such as Germany's 'AHA' (Abstand / distance; Hygiene/hygiene; Alltagsmasken/face masks) [89]; (ii) short phrases that summarise a rule in place, such as England's 'Rule of Six', which prohibits gatherings of more than six people [90]; and (iii) acronyms that summarise situations with higher risk of infection, such as the '3 Cs' – Crowded places, Close-contact settings, Confined and enclosed spaces [91].

Utilising behavioural insights to optimise risk communication

Behavioural research can facilitate an understanding of public attitudes, behaviour and beliefs. It can also show how behaviour may have changed over time [92]. This in turn can inform risk communication efforts, including for specific population groups. Such research has become particularly important as vocal opposition to the protective measures increases [93-96], and as people start to long for a return to a more 'normal' life [97]. A review of the findings from some recent national studies reveals some important insights from the specific countries:

- Respondents' perceptions of the probability that they will be infected has generally decreased over time (Sweden) [98];
- After a period of decline in support for the protective measures, support is now increasing sharply, in parallel with the current rise in infections (Netherlands) [99];
- Risk perception among the younger population has been fluctuating during the pandemic but is consistently lower than in older generations (Germany) [100].

Such findings can provide an important basis for developing effective risk communication materials.

Risk communication for younger people

Reduced compliance to protective measures by younger people has been reported alongside the above-mentioned lower levels of risk perception regarding COVID-19 [100]. This reversion by young people to behaviour and social mixing patterns that are traditionally common to their age group – and the consequent potential for them to act as vectors in the spread of COVID-19 to higher risk sections of the population – has become an increasing concern [101].

When developing COVID-19 risk communication material for younger people, it is important to bear in mind that, as with all population groups, they have been severely impacted by the pandemic. The OECD highlights the considerable challenges faced by young people in the fields of education, employment, mental health and disposable income, as well as the fact that youth and future generations will shoulder many of the long-term economic and social consequences of the crisis [102].

Communication campaigns specifically targeting young people have been developed in, for example, Spain [103] and France [104], and other countries may want to consider similar strategies. These should be based, if possible, on insights gained through behavioural research in order to ensure that the messages resonate with and are acceptable to the target population. It is essential that young people see themselves as part of the solution. Their involvement in strategies to control the pandemic and in the recovery effort is one of the primary keys to success [105].

Protecting mental health

The protection of mental health has been a key concern over the course of the pandemic. Loneliness caused by stay-at-home measures, worries about finances, and – in some cases – enforced proximity to an abuser has led to substantial increases in rates of depression and anxiety [106-108]. While the fall in COVID-19 cases over the summer months and the accompanying lifting of some restrictive measures may have provided respite, the ongoing return to high incidence rates and the consequent potential for a re-imposition of restrictive measures in some countries is likely to lead to renewed stresses. These may be exacerbated by the return of shorter, colder days, which make it difficult for people to socialise safely outside. Sustained efforts are therefore needed to promote mental health resilience during the pandemic: existing evidence and guidance on this is already available [109,110]. Digital health technologies, including the use of hotlines, can also be utilised to provide psychological support for people enduring mental health problems during periods of restrictive measures [111].

The mental health of people who have had COVID-19 is another issue of concern. There is evidence that COVID-19 patients can experience delirium, depression, anxiety, and insomnia when ill [112], but these conditions do not necessarily end once the initial physical symptoms have passed: one study of 402 former COVID patients found that, one month after physical recovery, 56% were still suffering from one or more of post-traumatic stress disorder, depression, anxiety, obsessive compulsive symptoms, or insomnia [113]. While it is not yet known how long these symptoms may continue, this is a potentially serious long term concern that needs attention, given the high psychiatric burden that such conditions can bring about at both the individual and community level.

Limitations

This assessment is undertaken based on information known to ECDC at the time of publication and has several key limitations.

Information on testing strategies for some EU countries was not available at the time of this assessment being published.

It is also important to consider the lag time between infection, symptoms, diagnosis, disease notification, death, and death notification that may be subject to biases, including changes in testing and reporting over time. The effects and impact of lifting or imposing response measures may take weeks to be reflected in the population's rates of disease.

Assessing the impact of response measures is complex as many countries have lifted or relaxed multiple measures simultaneously. Changes in individual behaviour, compliance with measures, and cultural, societal, and economic factors all play a role in the dynamics of disease transmission.

The data on NPIs are based on information available from official public sources and may not capture measures being taken by countries that are not reported on publicly available websites. There is substantial heterogeneity in physical distancing policies and their implementation between countries. The exact dates of introduction were often available from official sources but delays in their implementation may have occurred. Additionally, availability of public data from official government sources varies among countries. For some countries, data are no longer available on official websites concerning measures that are no longer in force, which may result in the data for more recent measures being more complete.

The 14-day notification rate of reported cases and deaths is dependent on data collected by ECDC's epidemic intelligence team. ECDC does not recommend using notification rates to directly compare countries. Caution is recommended whenever interpreting country data with small populations as small changes in reported cases can have a significant impact on the notification rates. It is important to understand any changes in testing practice within each country in order to be able to interpret the notification data

There are still gaps in knowledge on immunity and the longevity of the immune protection; a better understanding of these aspects will help address the pending questions on re-infection and vaccination.

Interpretation of estimates from sero-epidemiological studies should be done with caution as the representativeness of sample, testing methods and sampling timeframes used in these studies vary considerably.

Source and date of request

ECDC internal decision, 10 September 2020.

Consulted experts

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Disclaimer

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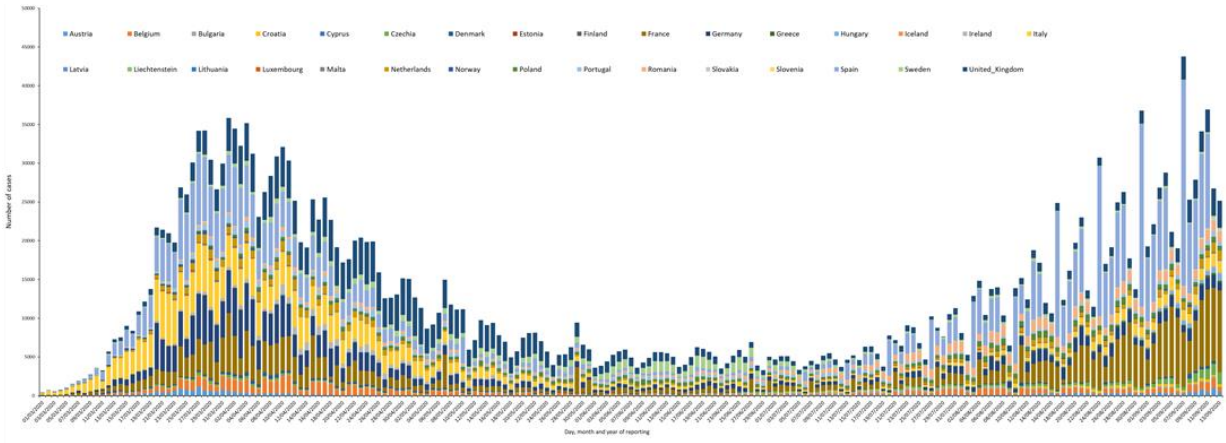
This report was written with the coordination and assistance of an Internal Response Team at the European Centre for Disease Prevention and Control. All data published in this risk assessment are correct to the best of our knowledge at the time of publication. Maps and figures published do not represent a statement on the part of ECDC or its partners on the legal or border status of the countries and territories shown.

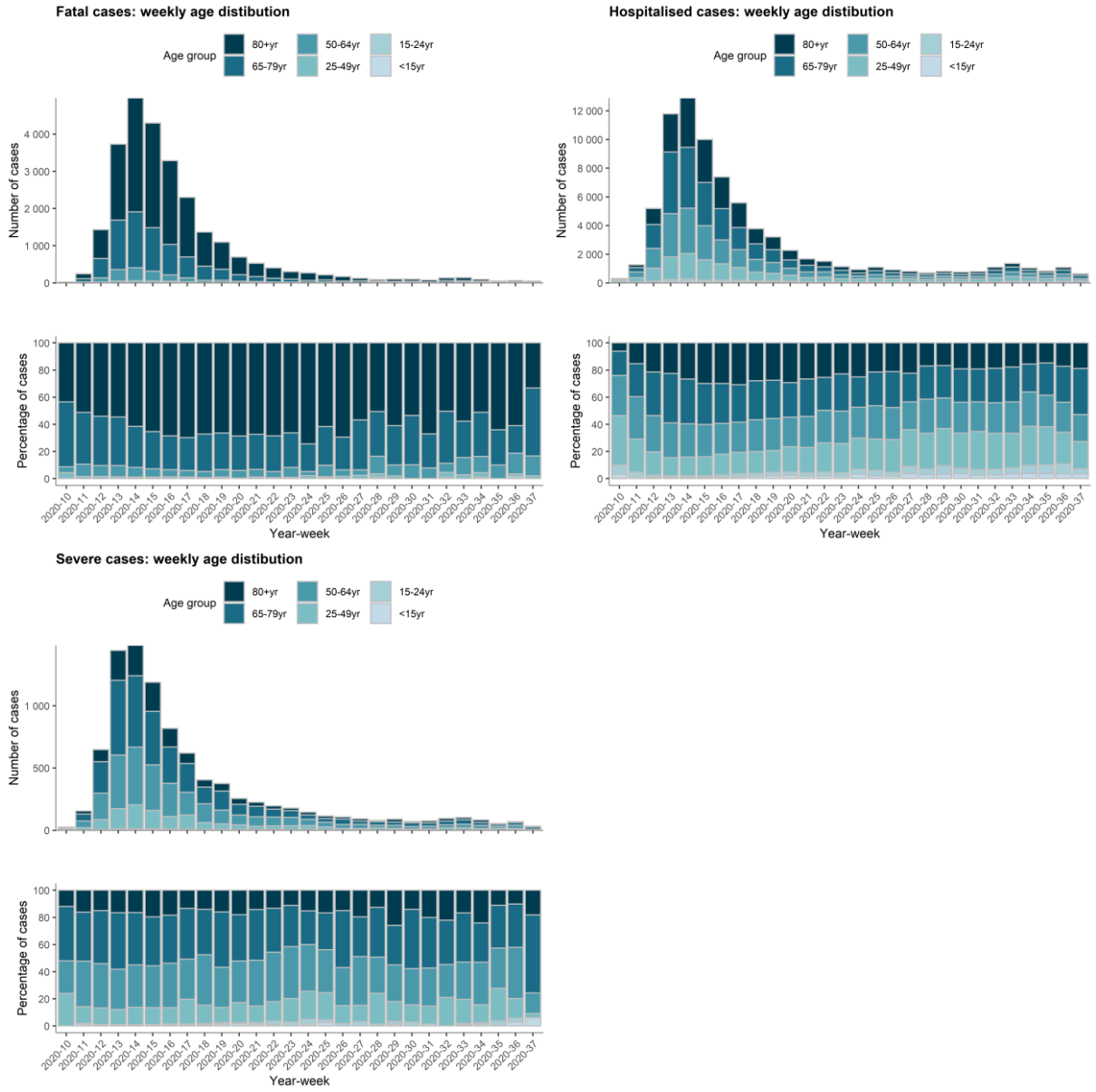
Annex 1. Distribution of new cases in the EU/EEA and the UK

Figure 1. Distribution of laboratory-confirmed of COVID-19 cases in EU/EEA and the UK, from 1 March to 13 September 2020



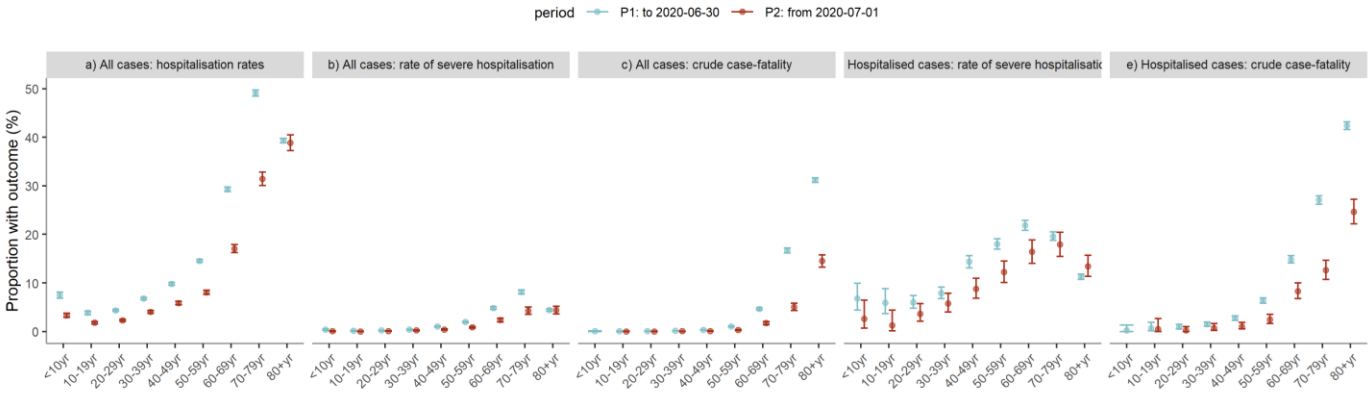
Annex 2. Age distribution of fatal, hospitalised and severe cases in the EU/EEA and the UK

Figure 1. Age distribution of COVID-19 fatal, hospitalised and severe cases reported in TESSy by week in 17 EU/EEA countries*, from 1 March to 13 September 2020



Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, Germany, Iceland, Ireland, Latvia, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal and Sweden

Figure 2. Age distribution of COVID-19 cases reported in TESSy at different levels of severity, EU/EEA countries from 1 March to 13 September 2020



Source: TESSy case-based data from countries submitting data up to at least week 36. Countries included:
a) Cyprus, Estonia, Finland, Germany, Ireland, Latvia, Luxembourg, Malta, Netherlands, Norway, Poland and Portugal;
b) Cyprus, Estonia, Finland, Germany, Ireland, Latvia, Luxembourg, Malta, Norway, Poland and Portugal;
c) Cyprus, Czechia, Estonia, Germany, Iceland, Ireland, Latvia, Luxembourg, Malta, Poland and Sweden;
d) Cyprus, Czechia, Estonia, Finland, Germany, Ireland, Latvia, Luxembourg, Malta, Poland and Portugal;
e) Cyprus, Czechia, Estonia, Finland, Germany, Ireland, Latvia, Luxembourg, Malta, Norway, Poland and Sweden.

Annex 3. Epidemiological indicators for the EU/EEA and the UK.

Figure 1. 14-day case notification rates per 100 000 population, 14-day death notification rates per 1 000 000 population, test positivity, testing rate per 100 000 population, and age-specific rate notification rates per 100 000 population for the age groups 65-79 years old and 80 years or older by country in the EU/EEA and the UK, week 37 2020

Country	Case rate		Death rate		Positivity (%)		Testing rate		65-79yr		80+yr	
	W37	Trends	W37	Trends	W37	Trends	W37	Trends	W37	Trends	W37	Trends
Austria	67.9		2.4		4.6		974		24.1		27.1	
Belgium	78.9		3.1		2.6		1,802					
Bulgaria	24.7		16		3.9		343					
Croatia	86		8.6						33		31.2	
Cyprus	4.6		0		0.1		2,031		3.7		3.1	
Czechia	106.2		3		7.8		917		40.9		45.5	
Denmark	43.3		0.9						22.7		17.4	
Estonia	22		0		1.3		939		13.4		4	
Finland	8.4		0.4		0.4		1,242		1.9		2.3	
France	151.3		4.6		5.4		1,554					
Germany	21.3		0.7						3.2		2.8	
Greece	28.5		3.9		1.7		916					
Hungary	63		1.9		6.3		636		21.9		29.6	
Iceland	17.4		0		0.7		1,004		20.9		8	
Ireland	41		1.2		1.6		1,525		29.8		48.8	
Italy	32.2		2.2		1.7		992					
Latvia	4.6		0.5		0.3		751		1.8		0.9	
Liechtenstein	5.2		0									
Lithuania	16.4		0									
Luxembourg	94.3		0		0.6		8,293		28.1		12.4	
Malta	77.6		10.1		1.6		2,684		93.9		249.4	
Netherlands	65.8		1.7		3.7		1,122		24.3		34.9	
Norway	24.8		0.2		1		1,466		6.5		10.2	
Poland	19.5		4						8.6		11.4	
Portugal	57		4.1		2.7		1,236					
Romania	85.3		30.3		6		736		88.4		81.8	
Slovakia	29.6		0.9		3.3		517					
Slovenia	37		1.4		3		744		17.9		35.1	
Spain	270.7		15.7		10.9		1,317		153.5		202.9	
Sweden	27.4		1.9		1.1		1,395		10.2		17.2	
United Kingdom	48.6		1.9		1.4		2,269		5.1		10.8	

Notes: colour of the sparkline denotes the trend in the indicator, based on a comparison of its value with that seven days earlier.

- *Red – sustained increasing trend of at least one week duration;*
- *Orange - stable;*
- *Blue – decreasing trend.*

Values in the column next to the sparkline are the current value for the indicator for the week shown. No value is shown where data for the most recent week are not available.

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