



Coronavirus Disease 2019 (COVID-19) Daily Situation Report of the Robert Koch Institute

30/07/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
207,828 (+ 902*)	9,134 (+ 6*)	4.4%	ca. 191.800**

*Change from previous day; **Estimate

COVID-19 cases are notified to the local public health department in the respective districts, in accordance with the German Protection against Infection Act (IfSG). The data are further transmitted through the respective federal state health authority to the Robert Koch Institute (RKI). This situation report presents the uniformly recorded nationwide data on laboratory-confirmed COVID-19 cases transmitted to RKI.

– Changes since the last report are marked **blue** in the text –

Summary (as of 30/07/2020 12:00 AM)

- In the past few weeks, the number of districts that have not reported any COVID-19 cases over a period of 7 days has decreased clearly. In parallel, the COVID-19 incidence has risen in many federal states. This trend is concerning.
- The cumulative nationwide incidence over the past 7 days was **4.8** cases per 100,000 inhabitants and thus further increased slightly, albeit at a low level. A total of **80** districts transmitted zero cases over the past 7 days. Moreover, in **220** districts the 7-day-incidence is below 5.0/100,000 inhabitants.
- In total, **207,828** laboratory-confirmed COVID-19 cases and **9,134** deaths due to COVID-19 have been electronically reported to the RKI in Germany.
- In the Bavarian district of Dingolfing-Landau a COVID-19 related outbreak occurred with >150 cases among harvest workers of an agricultural company. The entire company with over 450 employees is under quarantine.
- Moreover, COVID-19-related outbreaks occur in various settings, including nursing homes and hospitals, facilities for asylum-seekers and refugees, as well as in context of religious or family events.

Note: The report is a snapshot and is continuously updated.

Epidemiological Situation in Germany

General current assessment

An increase in COVID-19 case numbers since last week occurred in many of the federal states, but was most marked in Bavaria and Northrhine Westphalia.

Nationwide, there are many smaller case outbreaks in different administrative districts in various settings, such as larger family events, leisure activities, occupational settings, but also in community and health facilities. In addition, COVID-19 cases are increasingly being identified among people returning from travel abroad.

The number of new cases reported daily has been increasing since last week. This development is very concerning and will continue to be monitored very closely by the RKI. A further worsening of the situation must be avoided. This will only succeed if the entire population continues to be committed to decreasing transmission, e.g. by consistently observing rules of distance and hygiene - also in outdoor settings -, by airing indoor areas and, where necessary, wearing a community or face mask correctly.

Geographical distribution of cases

Epidemiological analyses are based on validated cases notified electronically to the RKI in line with the Protection Against Infection Law (Data closure: 12:00 AM daily). Since January 2020, a total of **207,828 (+902)** laboratory-confirmed cases of COVID-19 have been electronically reported to and validated by the RKI (see Table 1). A total of **80** districts reported no cases in the past 7 days. In the past few weeks, the number of districts that have not submitted any COVID-19 cases over a period of 7 days has decreased continuously; on 12th July still, the number of districts reporting zero cases was 125.

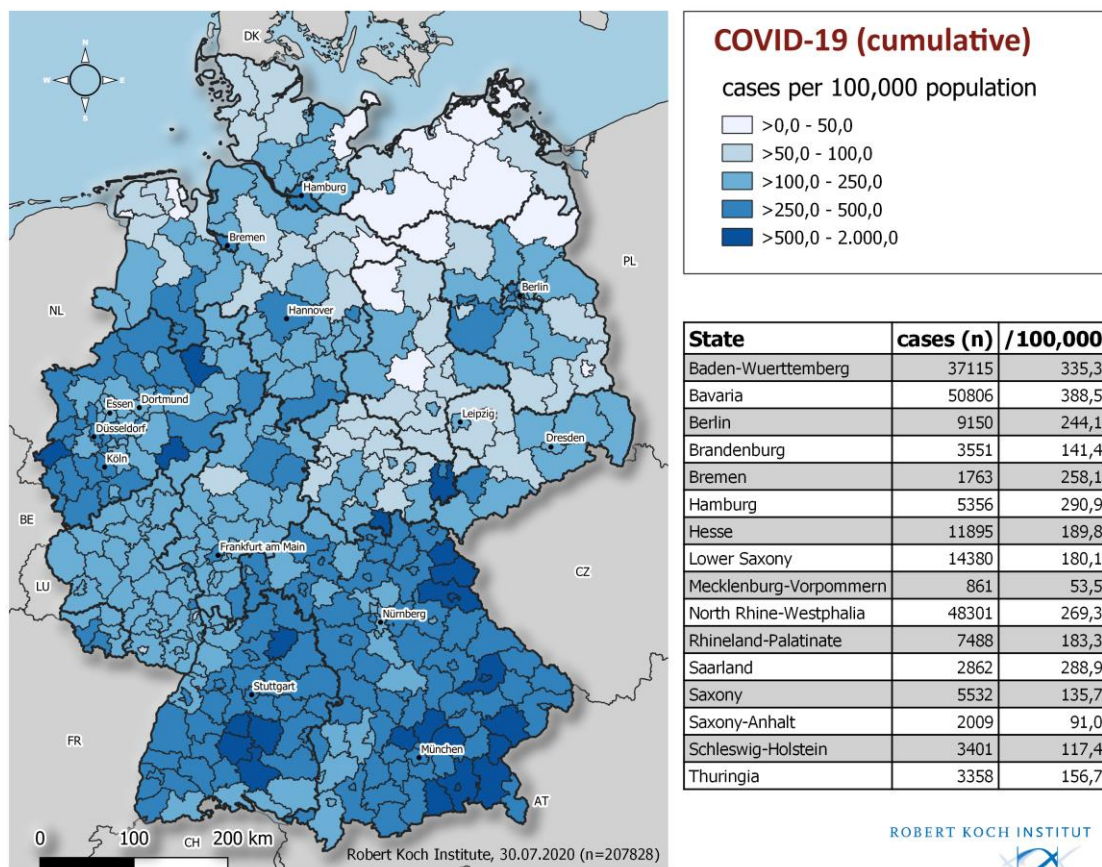


Figure 1: Number and cumulative incidence (per 100,000 population) of the 207,828 electronically reported COVID-19 cases in Germany by county and federal state (30/07/2020, 12:00 AM). Please see the COVID-19 dashboard (<https://corona.rki.de/>) for information on number of COVID-19 cases by county (local health authority).

Note: The report is a snapshot and is continuously updated.

Table 1: Number and cumulative incidence (per 100,000 population) of laboratory-confirmed COVID-19 cases and deaths for each federal state electronically reported to RKI, Germany (29/07/2020, 12:00 AM). The number of new cases covers positive cases, which have been sent to the local health department at the same day, but also at previous days.

Federal State	Total number of cases	Number of new cases	Cases/ 100,000 pop.	Cases in the last 7 days	7-day incidence per 100,000 pop.	Number of deaths	Number of deaths/ 100,000 pop.
Baden-Wuerttemberg	37.115	77	335	409	3,7	1.845	16,7
Bavaria	50.806	110	389	707	5,4	2.622	20,1
Berlin	9.150	79	244	274	7,3	223	5,9
Brandenburg	3.551	20*	141	19*	0,8	168	6,7
Bremen	1.763	5	258	36	5,3	55	8,1
Hamburg	5.356	18	291	75	4,1	261	14,2
Hesse	11.895	89	190	354	5,6	519	8,3
Mecklenburg-Western Pomerania	861	12	53	46	2,9	20	1,2
Lower Saxony	14.380	75	180	194	2,4	649	8,1
North Rhine-Westphalia	48.301	336	269	1.537	8,6	1.732	9,7
Rhineland-Palatinate	7.488	32	183	96	2,4	239	5,9
Saarland	2.862	5	289	22	2,2	174	17,6
Saxony	5.532	7	136	28	0,7	225	5,5
Saxony-Anhalt	2.009	12	91	34	1,5	64	2,9
Schleswig-Holstein	3.401	22	117	106	3,7	156	5,4
Thuringia	3.358	3	157	31	1,4	182	8,5
Total	207.828	902	250	3.968	4,8	9.134	11,0

As part of quality checks and data cleaning by the health authorities and regional offices, corrections to cases previously transmitted (e.g. detection of duplicate reports) can occasionally lead to negative values for the number of new cases.

*The number of cases is lower than the difference to the previous day, because only those cases notified by the health authorities within the last 7 days are taken into account.

Distribution of cases over time

The first COVID-19 cases in Germany were notified in January 2020. Figure 2 shows COVID-19 cases transmitted to RKI according to date of illness onset from 01/03/2020 onwards. Of these cases, the onset of symptoms is unknown in 64,170 cases (31%), thus their date of reporting is provided in Figure 2.

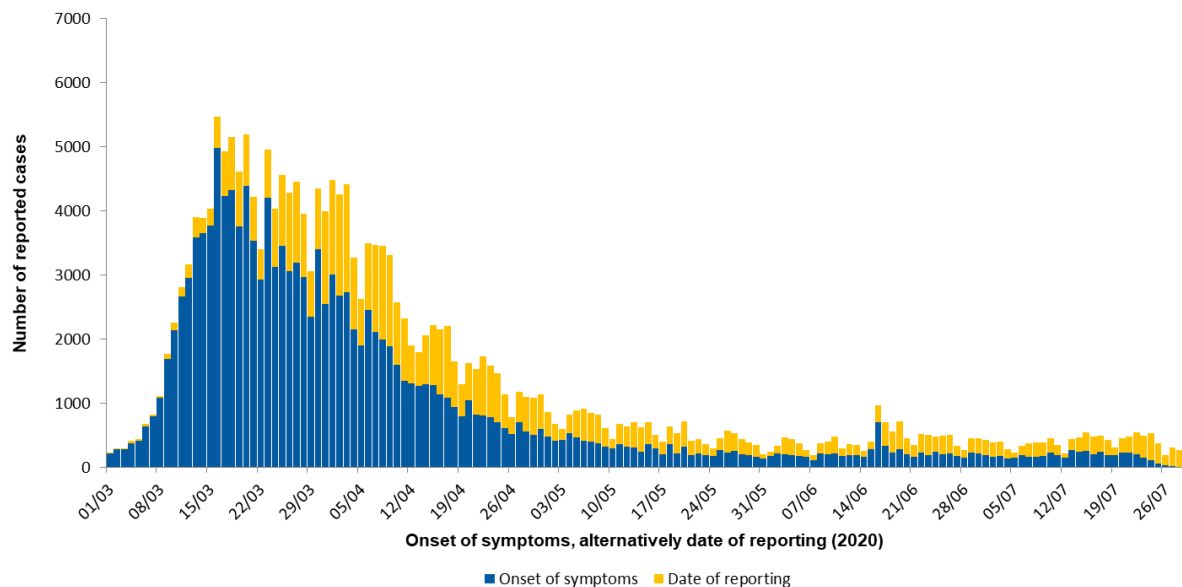


Figure 2: Number of Covid-19 cases in Germany electronically reported to the RKI by the date of symptoms onset or –if unknown- alternatively by date of reporting from 01/03/2020 (30/07/2020, 12:00 AM).

Demographic distribution of cases

Of all notified cases, 51% are female and 49% are male. Among all those notified cases, for which data on age and gender were reported, 6,015 were children under 10 years of age (2.9%), 10,810 children and teenagers aged 10 to 19 years (5.2%), 92,581 persons aged 20 to 49 years (44%), 61,629 persons aged 50 to 69 years (30%), 30,911 persons aged 70 to 89 years (15%) and 5,436 persons aged 90 years and older (2.6%). The age and/or gender is unknown in 476 notified cases. The mean age of cases is 48 years (median age 48 years). The highest incidences are seen in persons aged 90 years and older (Figure 3).

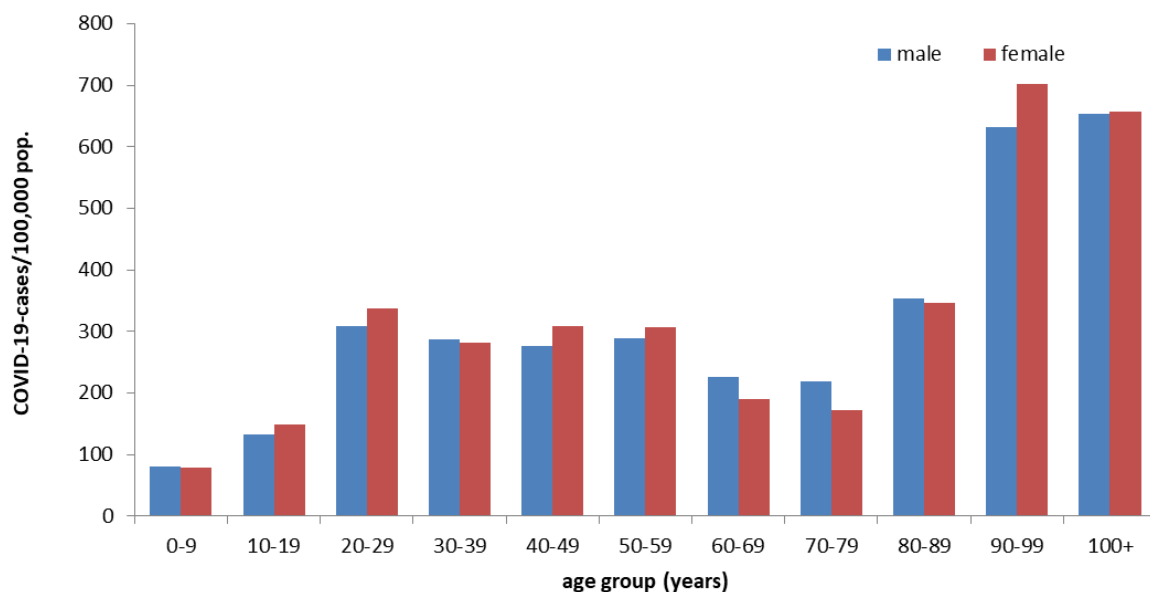


Figure 3: Electronically reported COVID-19 cases/100,000 population in Germany by age group and gender (n=206,489) for cases with information available (30/07/2020,12:00 AM).

Clinical aspects

Information on symptoms is available for 176,777 (85%) of the notified cases. Common symptoms are cough (48%), fever (40%) and rhinorrhoea (21%). Pneumonia was reported in 5,240 cases (3.0%). Since calendar week 17, cases are reported to the RKI as a distinct COVID-19 surveillance category. Since then, ageusia and anosmia can also be entered as symptoms. At least one of these two symptoms was reported in 4,913 of 32,800 cases (15%).

Hospitalisation was reported for 30,556 (17%) of 181,090 COVID-19 cases with information on hospitalisation status.

Approximately 191,800 people have recovered from their COVID-19 infection. Since the exact date of recovery is unknown in most cases, an algorithm was developed to estimate this number.

In total, 9,134 COVID-19-related deaths have been reported in Germany (4.4% of all confirmed cases). Of these, 5,050 (55%) are men and 4,079 (45%) are women (see Table 2), the gender was unknown in five cases.

The median age was 82 years. Of all deaths, 7,809 (85%) were in people aged 70 years or older, but only 18% of all cases were in this age group. So far, three deaths among COVID-19 cases under 20 years of age have been reported to the RKI. Pre-existing medical conditions were reported for all three.

Table 2: Number of notified COVID-19 deaths by age group and gender electronically reported to RKI (Data available for 9,123 of notified deaths; 30/07/2020, 12:00 AM)

Gender	Age group (in years)										
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100+
Male		2	6	17	57	240	648	1,384	2,117	573	6
Female	1		3	6	22	86	235	671	1,919	1,092	44
Total	1	2	9	23	79	327	884	2,057	4,037	1,665	50

Occupation, accommodation or care in facilities

In accordance with the Protection Against Infection Act, the RKI receives information on occupation, accommodation or care in a facility relevant for infection control for reported COVID-19 cases. Since information on occupation, accommodation or care in these facilities is missing in 25% of cases, the proportion of cases working, accommodated or cared for in these facilities reported here should be considered minimum values. Among the COVID-19 cases reported from the above mentioned facilities, the proportion of cases that actually acquired their infection in these facilities is unknown.

Table 3: Notified COVID-19-cases according to possible occupation, accommodation or care in facilities relevant for transmission of infectious diseases electronically reported to RKI (206,620* cases, no data available for 51,474 cases; 30/07/2020, 12:00 AM)

Facility according to		Total	Hospitalised	Deaths	Recovered (estimate)
§ 23 IfSG (e.g. hospitals, outpatient clinics and practices, dialysis clinics or outpatient nursing services)	Cared for / accommodated in facility	3.595	2.575	655	2.800
	Occupation in facility	14.348	656	22	14.200
§ 33 IfSG (e.g. day care facilities, kindergartens, facilities for after school care, schools or other educational facilities, children's homes, holiday camps)	Cared for / accommodated in facility*	4.098	82	1	3.800
	Occupation in facility	2.908	153	7	2.800
§ 36 IfSG (e.g. facilities for the care of older, disabled, or other persons in need of care, homeless shelters, community facilities for asylum-seekers, repatriates and refugees as well as other mass accommodation and prisons)	Cared for / accommodated in facility	18.551	4.180	3.620	14.700
	Occupation in facility	10.194	431	40	10.100
§ 42 IfSG (e.g. meat processing plants or kitchens in the catering trade, in inns, restaurants, canteens, cafés, or other establishments with or for communal catering)	Occupation in facility	5.054	217	5	4.800
Neither cared for, accommodated in nor working in a facility		96.398	16.598	3.497	89.900

*for care according to § 33 IfSG only cases under 18 years of age are taken into account, as other information may be assumed to be incorrect.

IfSG: Protection Against Infection Law

The number of COVID-19 cases was highest among persons cared for or employed in medical and other care facilities according to §23 and §36 IfSG (Table 3). The number of deaths was particularly high among persons cared for in these facilities.

Among the cases reported as working in medical facilities, 73% were female and 27% male. Their median age was 41 years. The high number of cases among people cared for or working in various care facilities (Section 36 IfSG) is consistent with numerous reported outbreaks, especially in nursing homes. The low number of cases among persons who attend or work in facilities providing child care or education (Section 33 IfSG) reflects the low incidence in children observed thus far. The increase in the number of cases among persons working in the food sector (§42) is largely due to outbreaks in meat processing plants.

Outbreaks

Five districts reported an increased incidence of >25 cases in 7 days/100.000 inhabitants: the districts of Dingolfing-Landau and Hof in Bavaria, the district of Weimar in Thuringia, [the district Solingen in North Rhine-Westphalia](#) and [the district Dithmarschen in Schleswig-Holstein](#).

A high 7-day incidence with more than 100 cases per 100,000 inhabitants was observed in the district of Dingolfing-Landau. The increase is due to an outbreak among harvest workers of an agricultural company. Among more than 450 employees, >150 SARS-CoV-2-infections were identified. Quarantine was ordered for the entire company. The local population (3,300 inhabitants) has been offered voluntary testing.

Note: The report is a snapshot and is continuously updated.

A high 7-day incidence with more than 25 cases per 100,000 inhabitants was observed in the district of Hof (Bavaria). Several events are responsible for this increase. An outbreak in a large family has extended to several families in neighbouring communities. Another outbreak is related to a family event including individuals from Hof district as well as Weimar district in Thuringia. Together with another family-related outbreak, this explains the currently increased 7-day incidence of >25 cases per 100,000 inhabitants in Weimar district. Due to ongoing screening activities, further cases can be expected.

Further COVID-19 outbreaks continue to be reported in nursing homes and hospitals, refugee facilities, family events, child-day care facilities as well as religious communities.

Estimation of the reproduction number (R)

The presented case numbers do not fully reflect the temporal progression of incident COVID-19-cases, since the time intervals between actual onset of illness and diagnosis, reporting, as well as data transmission to the RKI vary greatly. Therefore, a nowcasting approach is applied to model the true temporal progression of COVID-19 cases according to illness onset. Figure 4 shows the result of this analysis.

The reproduction number, R , is defined as the mean number of people infected by one infected person. R can only be estimated based on statistical analyses such as nowcasting and not directly extracted from the notification system.

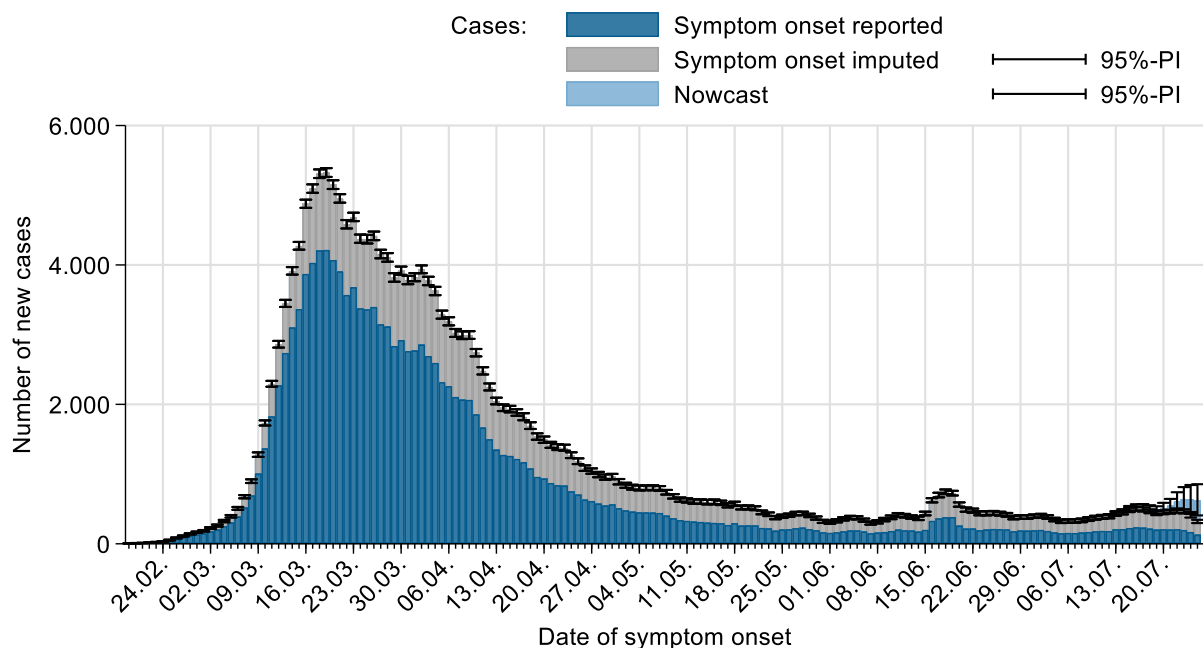


Figure 4: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 29/07/2020, 12 AM, taking into account cases up to 25/07/2020).

A sensitive 4-day- R -value can be estimated by using a 4-day moving average of the number of new cases estimated by nowcasting. This 4-day value reflects the infection situation about one to two weeks ago. This value reacts sensitively to short-term changes in case numbers, such as those caused by individual outbreaks. Furthermore, outbreak dynamics may be influenced widespread testing performed among affected persons, leading to therapid detection of many additional COVID-19 cases. This can lead to relatively large fluctuations in the estimated R -value, especially if the total number of new cases is small.

The current estimate of the 4-day R -value is 1.02 (95%-prediction interval: 0,82 – 1.26) and is based on electronically notified cases as of 30/07/2020, 12:00 AM.

Similarly, the 7-day R-value is estimated by using a moving 7-day average of the nowcasting curve. This compensates for fluctuations more effectively, as this value represents a slightly later course of infection of about one to a little over two weeks ago. The 7-day R-value is estimated at **1.17** (95% prediction interval: **1.05 – 1.29**) and is based on electronically notified cases as of 30/07/2020, 12:00 AM.

The reported 7-day R value has been around 1 or slightly above since mid-July 2020. This is due to a larger number of small outbreaks, but also case numbers in Germany overall, which have increased steadily in recent weeks since the relaxation of the measures.

See also the RKI's statement on high case numbers of 24/07/2020

https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Gestiegene_Fallzahlen.html

Sample calculations as well as an excel sheet presenting both R-values with daily updates can be found under www.rki.de/covid-19-nowcasting. A detailed methodological explanation of the more stable 7day R-value is also available there. More general information and sample calculations for both R-values can also be found in our FAQs (<http://www.rki.de/covid-19-faq>).

A detailed description of the methodology is available at

https://www.rki.de/DE/Content/Infekt/EpidBull/Archiv/2020/17/Art_02.html (Epid. Bull. 17 | 2020 from 23/04/2020)

DIVI intensive care register

A registry of the German Interdisciplinary Association for Intensive and Emergency Medicine (DIVI), the RKI and the German Hospital Federation (DKG) was established to document intensive care capacity as well as the number of COVID-19 cases treated in participating hospitals (<https://www.intensivregister.de/#/intensivregister>). The DIVI intensive care register documents the number of available intensive care beds in the reporting hospitals on a daily basis. Since 16/04/2020, all hospitals with intensive care beds are required to report.

As of 30/07/2020, a total of **1,277** hospitals reported to the DIVI registry. Overall, **33,367** intensive care beds were registered, of which **21,698** (65%) are occupied, and **11,669** beds (35%) are currently available. The number of COVID-19 cases treated in participating hospitals is shown in Table 4.

Table 4: COVID-19 patients requiring intensive care (ICU) recorded in the DIVI register (30/07/2020, 12:15 AM).

	Number of patients	Percentage	Change to previous day*
Currently in ICU	266		5
- of these: mechanically ventilated	132	50%	2
Discharged from ICU	15,395		3
- of these: deaths	3,786	25%	0

*The interpretation of these numbers must take into account the the number of reporting hospitals and therefore the number of reported patients may change from day to day. On certain days, this can explain an occasionally important decrease or increase in the cumulative number of discharged patients or deaths compared with the day before.

Data on emergency department utilisation

In collaboration with the National Emergency Department Register AKTIN (<https://www.aktin.org/en/>), the RKI analysed emergency department utilisation and prepared a weekly situation report:

<https://www.rki.de/EN/Content/Institute/DepartmentsUnits/InfDiseaseEpidem/Div32/sumo/sumo.html>.

As of 26-07-2020, data from 10 emergency departments have been taken into account. Between 01-11-2019 and 01-03-2020, an average of 6,608 emergency department admissions per week was recorded. From the middle to the end of March 2020, a 40% decrease in the number of admissions was observed, to 3,969 admissions in week 13, 2020. Similar declines were evident in comparable surveillance systems in the USA, England and Wales. In parallel to the decrease in daily admissions, public measures were taken to contain the COVID-19 pandemic in Germany. Subsequently, an increase in admissions has been observed. In week 30 2020, 6,396 admissions were recorded. Therefore, the number of admissions is currently 3% below the average of November 2019 to February 2020 (see Figure 5).

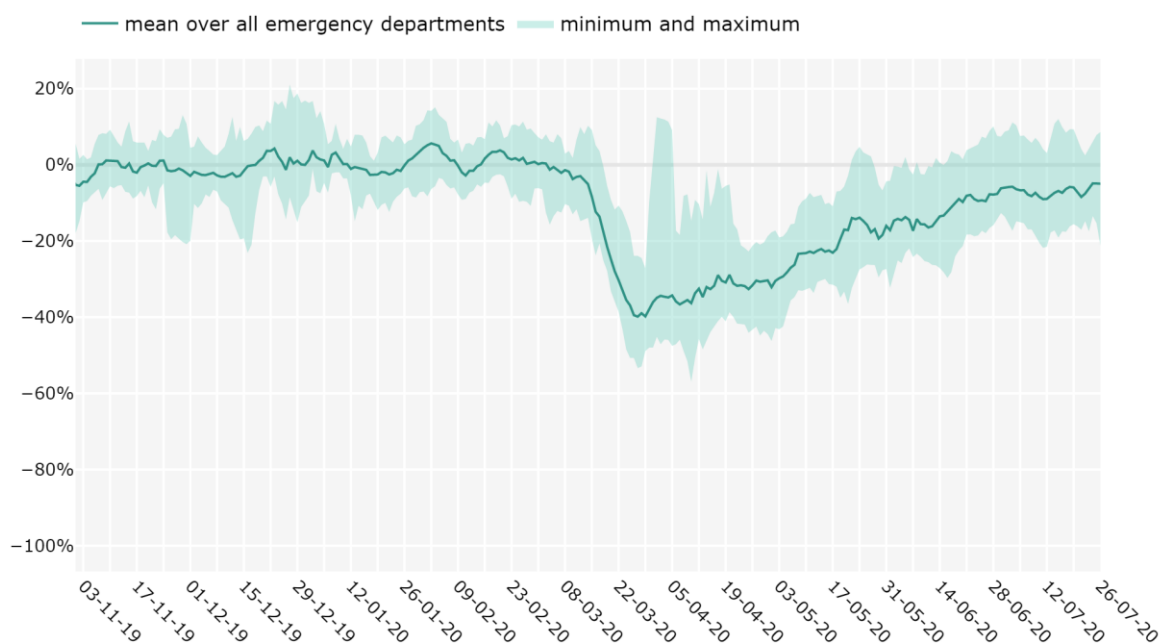


Figure 5: Number of emergency department attendances in Germany, from November 2019 to July 2020; 7-day moving average of 10 emergency departments; relative deviation to the reference period 01-11-2019 – 01-03-2020 (as of 19-07-2020)

Information from additional RKI based surveillance systems for acute respiratory illnesses

GrippWeb ("FluWeb") is a web interface at RKI for monitoring the activity of acute respiratory illness (ARI), utilizing information from the population. In week 30, 2020, the rate of ARI ("ARI rate") decreased slightly, but increased among young adults between 15 and 34 years of age. Further information can be found under <https://grippeweb.rki.de/>.

The Influenza Working Group (AGI) monitors ARI through a sentinel network of physicians in private practices. In week 30, 2020, the overall number of patient visits due to acute respiratory infections increased slightly. The ARI incidence increased for the age group 15 to 34 years and decreased for the age group 0 to 14 years. Overall, it remained at a low level that matches the level of previous season at this time of the year. Within the viral surveillance of the AGI, rhinovirus was detected in 25 of 33 sentinel samples (76%) in week 30, 2020. Since week 16, 2020, no SARS-COV-2 has been detected within the viral sentinel surveillance of the AGI. Further information can be found under <https://influenza.rki.de/>.

A third, ICD-10 code based system, monitors severe acute respiratory illness (SARI) in hospitalized patients (ICD-10 codes J09 to J22: primary diagnoses influenza, pneumonia or other acute infections of the lower respiratory tract). In week 29, 2020, the total number of SARI cases remained stable overall, but increased for the age groups up to 34 years of age. Numbers decreased for older age groups. Overall, the total number of SARI cases remained at a low level. Of all reported SARI cases in week 29, 2020, 3% were diagnosed with COVID-19 (ICD-10 code U07.1!) (See Figure 6). Please note that due to data availability only patients with an ICD-10 Code for SARI as the main diagnosis and hospitalisation duration of up to one week were included in this analysis.

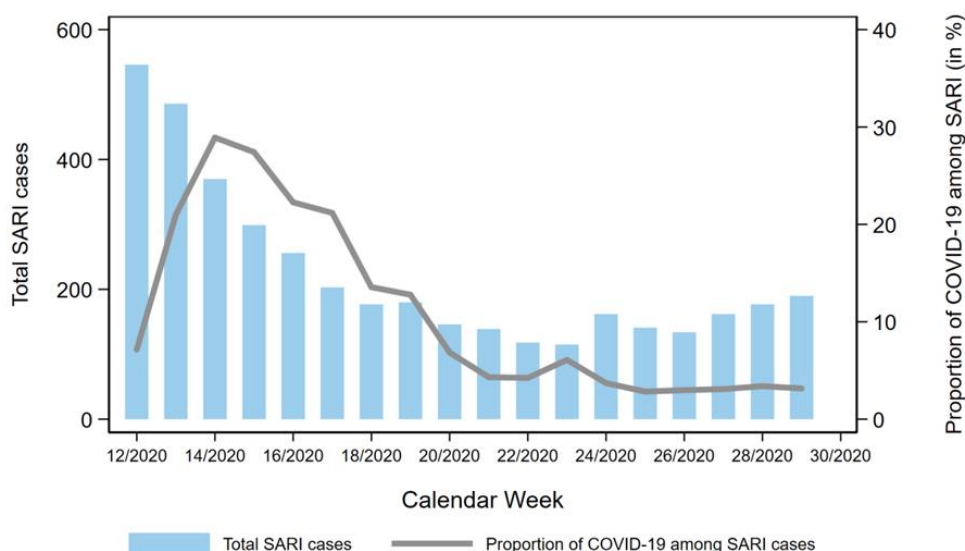


Figure 5: Weekly number of SARI cases (ICD-10 codes J09-J22) and proportion of cases with a diagnosis of COVID-19 (ICD-10 code U07.1!) among SARI cases with duration of hospitalisation of up to one week and with date of admission in weeks 12 to 29, 2020, from 70 sentinel hospitals

Risk Assessment by the RKI

General assessment

At the global and the national level, the situation is very dynamic and must be taken seriously. The number of cases continues to increase worldwide. The number of newly reported cases declined from mid-March until early July. Since then, case numbers have been steadily increasing. Some districts are transmitting very few or no cases to the RKI. However, individual outbreaks are increasingly occurring again, which can reach considerable proportions. Vaccines and anti-viral therapeutics are currently not available. The RKI currently assesses the risk to the health of the German population overall as high and as very high for risk groups. This assessment may change at short notice based on new insights.

Infection risk

SARS-CoV-2 can be transmitted easily from person to person. The risk of infection depends heavily on the regional spread, living conditions and also on individual behaviour (physical distancing, hygiene measures and community masks).

Disease severity

In most cases, the disease is mild. The probability of progression towards serious disease increases with increasing age and underlying illnesses. Individual long-term consequences cannot be estimated yet.

Burden on health system

The burden on the health care system depends largely on the geographical distribution of cases, health care capacity and initiation of containment measures (isolation, quarantine, physical distancing etc.). In large parts of Germany it is currently low, but it can rapidly increase locally and affect the public health system in particular as well as medical care facilities.

Measures taken by Germany

- Corona-Warn-App
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/WarnApp/Warn_App.html
- Regulations for persons entering Germany in connection with the novel coronavirus SARS-CoV-2 (15.06.2020) https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Transport/BMG_Merkblatt_Reisende_Tab.html
- Information on additional regulations at the regional level regarding control measures such as physical distancing or quarantine regulations for persons entering from other countries can be accessed here: <https://www.bundesregierung.de/breg-de/themen/coronavirus/corona-bundeslaender-1745198> (in German)
- (Non-medical) face masks must be worn on public transport and in shops in all federal states.
- Data on current disease activity can be found in the daily situation reports and on the RKI dashboard:
<https://corona.rki.de/>
- A distance of 1.5 metres to other individuals must be maintained in public spaces:
<https://www.bundesregierung.de/breg-de/themen/coronavirus/besprechung-der-bundestkanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248> (in German)