



Coronavirus Disease 2019 (COVID-19)

Daily Situation Report of the Robert Koch Institute

22/10/2020 - UPDATED STATUS FOR GERMANY

Total (cumulative)		Previous 7 days	
Confirmed cases	Deaths	Confirmed cases	7-day incidence
392,049 (+11,287*)	9,905 (+30*)	46,771 (+4,082*)	56.2 cases/ 100,000 population
Proportion of deaths	Recovered	No. of districts reporting cases	No. of districts with 7- day incidence > 50
2.5%	ca. 306,100** (+4,000**)	411/412 (+0*)	166 (+33*)

*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 22/10/2020, 12:00 AM)

- Currently, an accelerated increase of transmissions in the population in Germany can be observed. Therefore, the entire population is strongly encouraged to commit itself to infection prevention and control.
- The nationwide incidence over the past 7 days increased to **56.2** cases per 100,000 population.
- The 7-day incidence is considerably higher in Berlin, Bremen, Hesse and North Rhine-Westphalia, and moderately higher in Bavaria and Saarland than the national average 7-day incidence.
- The number of districts with an increased 7-day incidence of >25 cases/ 100,000 inhabitants continues to rise, to **316** urban and rural districts. Of these, **34** districts have an incidence of > 100 cases/100,000 population and **132** districts have an incidence of > 50-100 cases/100,000 population.
- Since the beginning of September the proportion of cases in older age groups has been increasing again (ref. Daily Situation Report of 20.10.2020).
- A number of COVID-19-related outbreaks continue to be reported in various settings. Case clusters are being reported particularly in the context of family events, and in nursing homes.
- In total, **392,049** laboratory-confirmed COVID-19 cases and **9,905** deaths associated with COVID-19 have been transmitted to the RKI in Germany.

Epidemiological Situation in Germany

In accordance with the international standards of WHO¹ and ECDC², RKI considers all laboratory confirmations of SARS-CoV-2, irrespective of the presence and severity of clinical symptoms, as COVID-19 cases. Thus, in the following report the term "COVID-19 cases" covers acute SARS-CoV-2 infections as well as cases of COVID-19 disease.

General current assessment

After a temporary stabilisation of case numbers at a higher level in late August and early September, there is currently an increase of transmission within the population in nearly all federal states. The proportion of COVID-19 cases in the older age groups is currently increasing. Since the start of October, R-values have been clearly above 1.

There are outbreaks in various districts throughout Germany, which are associated with different situations, including large celebrations in the family and circle of friends, in occupational settings, and in old people's and nursing homes. In addition, in many districts there is an increasingly diffuse spread of SARS-CoV-2, without traceable transmission chains.

Since end July, the proportion of deaths among COVID-19 cases has been consistently below 1% and is thus markedly lower than in the spring, particularly in April (ref. Daily Situation Report of 20 Oct 2020). However, it is regarded as implausible that the virus has become less pathogenic. Rather, the low proportion of deaths can be explained as follows: On the one hand, recent infections have occurred mainly among young people, who most of the time experience a less severe course of disease. On the other hand there is also broader testing, which means more milder cases are identified.

It is therefore still necessary for the entire population to be committed to infection prevention and control, e.g. by consistently observing rules of distance and hygiene - also outdoors -, by ventilating indoor spaces and, where indicated, by wearing a community mask correctly. Crowds of people - especially indoors - should be avoided if possible and celebrations should be limited to the closest circle of family and friends.

The National Testing Strategy was updated on the basis of an ordinance on testing for SARS-CoV-2 which has entered into force on 15 October 2020. The overall objective of the National Testing Strategy remains the care for symptomatic COVID-19 cases, the protection of vulnerable groups and the prevention of the spread of the coronavirus SARS-CoV-2. The update includes the targeted use of antigen testing and the extension of testing to more population groups.

¹ World Health Organization, https://www.who.int/publications/i/item/WHO-2019-nCoV-Surveillance_Case_Definition-2020.1

² European Centre for Disease Prevention and Control, <https://www.ecdc.europa.eu/en/covid-19/surveillance/case-definition>

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 **392,049 (+11,287)** laboratory-confirmed cases of COVID-19 have been reported to and validated by the RKI (Table 1).

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 (22/10/2020, 12:00 AM). The number of new cases includes positive cases notified 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	63,132	1438	569	5,938	53.5	1,950	17.6
Bavaria	84,090	1988	641	8,051	61.3	2,729	20.8
Berlin	23,698	971	646	3,785	103.1	243	6.6
Brandenburg	5,948	278	236	723	28.7	177	7.0
Bremen	3,868	143	568	604	88.7	63	9.2
Hamburg	10,407	200	563	859	46.5	282	15.3
Hesse	28,440	1133	452	4,800	76.3	593	9.4
Mecklenburg-Western Pomerania	1,877	87	117	309	19.2	21	1.3
Lower Saxony	27,426	815	343	2,879	36.0	720	9.0
North Rhine-Westphalia	97,507	2624	543	12,702	70.8	1,980	11.0
Rhineland-Palatinate	14,640	441	358	1,854	45.3	265	6.5
Saarland	4,625	158	469	620	62.8	178	18.0
Saxony	11,507	601	283	1,956	48.0	269	6.6
Saxony-Anhalt	3,487	100	159	412	18.8	71	3.2
Schleswig-Holstein	6,147	158	212	685	23.6	163	5.6
Thuringia	5,250	152	246	594	27.8	201	9.4
Total	392,049	11,287	471	46,771	56.2	9,905	11.9

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

Distribution of cases over time

The first COVID-19 cases in Germany were notified in January 2020. Figure 1 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 for 165,329 cases (42%), thus their date of reporting is provided in Figure 1.

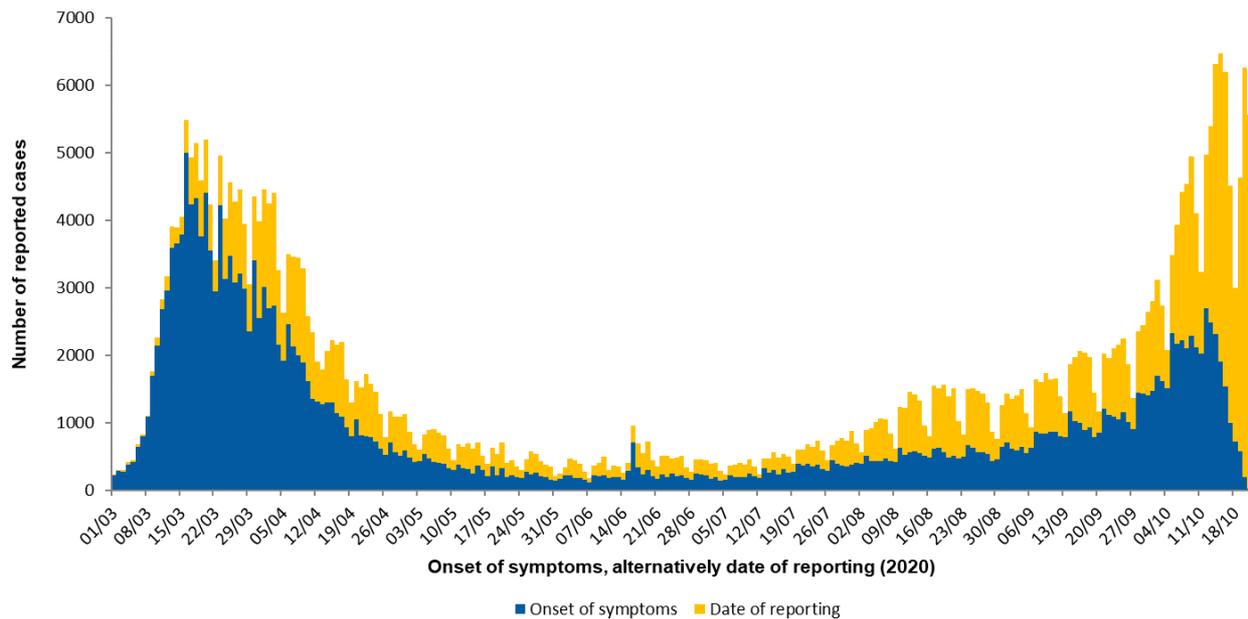


Figure 1: Number of COVID-19 cases in Germany electronically reported to the RKI by the date of symptoms onset or – if unknown – alternatively by date of reporting since 01/03/2020 (22/10/2020, 12:00 AM).

Occupation, accommodation or care in facilities

In accordance with the Protection Against Infection Act (Infektionsschutzgesetz, IfSG), 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 37% of cases; the numbers 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.

The number of COVID-19 cases was highest among persons cared for or employed in care facilities according to § 36 IfSG and among persons employed in medical facilities according to § 23 IfSG (Table 2). The number of deaths was particularly high among persons cared for in these facilities.

Among the cases reported as working in medical facilities (§ 23 IfSG), 73% were female and 27% male. Their median age was 40 years. The high number of cases among people cared for or working in various care facilities (§ 36 IfSG) is consistent with numerous reported outbreaks, especially in nursing homes. The high number of cases among persons working in the food sector (§ 42 IfSG) is largely due to outbreaks in meat processing plants.

Table 2: Notified COVID-19-cases according to possible occupation, accommodation or care in facilities relevant for transmission of infectious diseases according to the Protection Against Infection Act (IfSG), reported to RKI (389,157* cases, no data available for 137,209 cases; 22/10/2020, 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	4,768	3,199	734	3,700
	Occupation in facility	17,828	735	24	17,000
§ 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*	12,500	172	1	10,900
	Occupation in facility	6,058	224	8	5,300
§ 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	21,656	4,595	3,813	16,900
	Occupation in facility	12,103	503	43	11,600
§ 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	7,215	280	5	6,700
Neither cared for, accommodated in nor working in a facility		169,820	20,677	3,822	150,800

*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. Due to changes in data registration, not all data entries for cases ascertained in the most recent version of the surveillance software could be taken into account. This will be corrected in the coming days.

Outbreaks

An increased incidence of >25 cases in 7 days/100,000 population was reported for 316 districts, including 34 urban and rural districts with an incidence of over 100 cases/100,000 population and 132 districts with a 7-day incidences of >50 -100 cases/100,000 population. The dashboard (<https://corona.rki.de>) shows all affected districts.

In most districts the transmission is diffuse, with occasional clustering in the context of celebrations with family and friends. On some occasions, specific large outbreaks have been the cause for large increases in the concerned districts. However, many small outbreaks in old people's and nursing homes, in hospitals and facilities for asylum seekers and refugees, and community facilities, kindergartens and schools, various occupational settings and in the context of religious gatherings continue to contribute to the increase of incidence.

The increase in the 7-day incidence in the district of Vechta is largely due to new infections in connection with a private funeral. Other infections have occurred at private gatherings and among contacts at the workplace.

In the district Erzgebirgskreis, COVID-19 cases have occurred in more than 10 inpatient care facilities.

Estimation of the reproduction number (R)

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 (Figure 2) and not directly extracted from the notification system.

4-day R-value	7-day R-value
1.11	1.23
(95%-prediction interval: (0.93 – 1.32))	(95%-prediction interval: 1.11 – 1.36)

Delays in reporting of case numbers at weekend days can lead to cyclical fluctuations of the 4-day R-value. The 7-day R-value is less affected because all week days are used to determine the value.

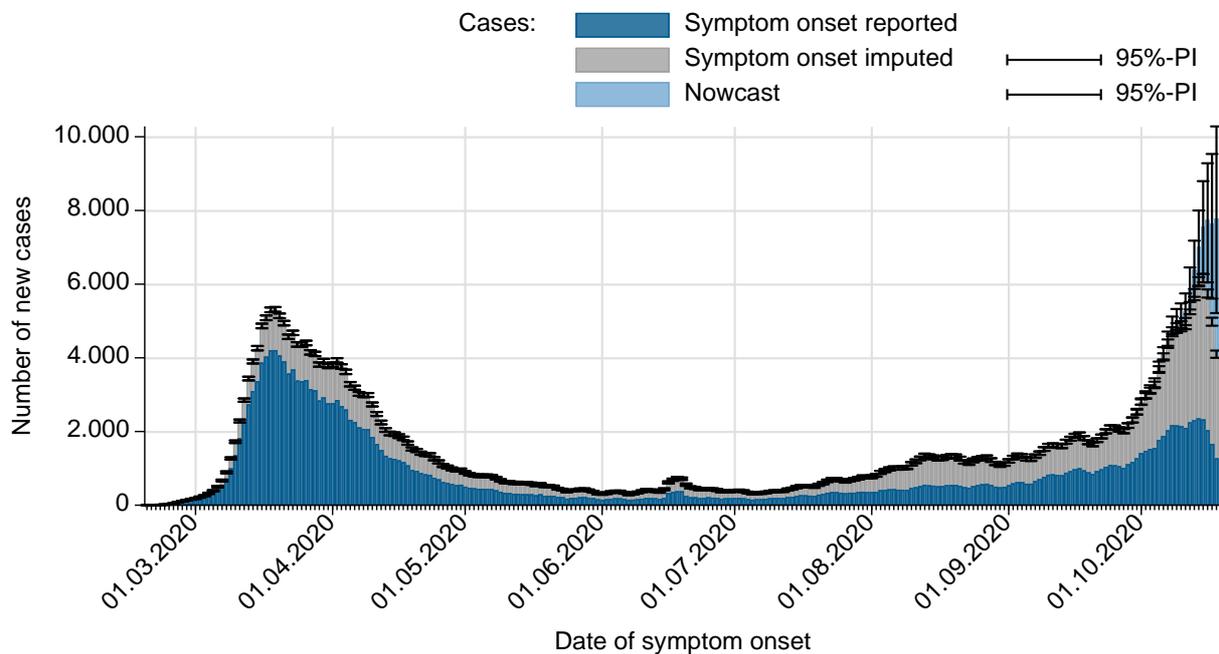


Figure 2: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 22/10/2020, 12 AM, taking into account cases up to 18/10/2020).

Since the start of October the R-values clearly have exceeded 1.

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 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

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

As of 22/10/2020, a total of 1,283 hospitals or departments reported to the DIVI registry. Overall, 29,657 intensive care beds were registered, of which 21,473 (72%) are occupied, and 8,184 (28%) are currently available. The number of COVID-19 cases treated in participating hospitals is shown in Table 3.

Table 3: COVID-19 patients requiring intensive care (ICU) recorded in the DIVI register (22/10/2020, 12:15 PM).

	Number of patients	Percentage	Change to previous day*
Currently in ICU	1.030		+87
- of these: with invasive mechanical ventilation	459	45%	+35
Discharged from ICU	19.229		+174
- of these: deaths	4.443	23%	+23

*The interpretation of these numbers must take into account 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.

Information from additional RKI based surveillance systems for acute respiratory illnesses

GrippeWeb (“FluWeb”) is a web interface at RKI for monitoring the activity of acute respiratory illness (ARI), utilizing information from the population. **In week 42, 2020, the rate of ARI (“ARI rate”) decreased.** 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 42, 2020, the overall number of patients visits due to acute respiratory infections remained stable. The number of patients visits due to ARI decreased in children aged 5 to 14 years, but remained stable in all other age groups.** Overall, it remained at a similar level to that of previous seasons at this time of the year. **Within the viral surveillance of the AGI, rhinovirus was detected in 12 of 15 sentinel samples (80%) in week 42, 2020,** whereas SARS-CoV-2 virus was detected in none of the analyzed samples. 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 41, 2020, the total number of SARI cases remained stable compared to week 40.** Of all reported SARI cases in week 41, 2020, **11% were diagnosed with COVID-19 (ICD-10 code U07.1!)** (See Figure 3). 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.

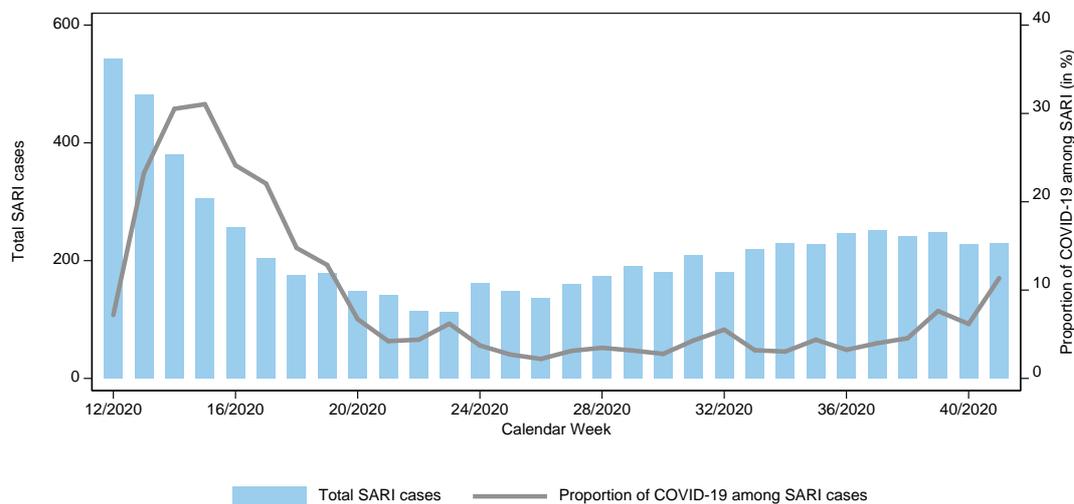


Figure 3: Weekly number of SARI cases (ICD-10 codes J09-J22) and proportion of cases with a diagnosis of COVID-19 (ICD-10 code U07.1!) among SARI cases with duration of hospitalisation of up to one week and with date of admission in weeks 12 to 41, 2020, from 71 sentinel hospitals

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 21 October 2020, data from 8 emergency departments have been taken into account. Between 1 November 2019 and 1 March 2020, an average of 5,691 emergency department admissions per week was recorded. From the middle to the end of March 2020, a 42% decrease in the number of admissions was observed, to 3,307 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 42 2020, 4,841 admissions were recorded. Therefore, the number of admissions is currently 15% below the average of November 2019 to February 2020 (see Figure 4).

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

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

Within the emergency department situation report of the 21 October 2020, data from 8 emergency departments have been included from 01 January 2019 up to and including 18 October 2020. In week 42 2020, 4,841 admissions were recorded, a -3.8% change compared to last week, and a -15.0% average change compared to the mean of last year (Figure 4).

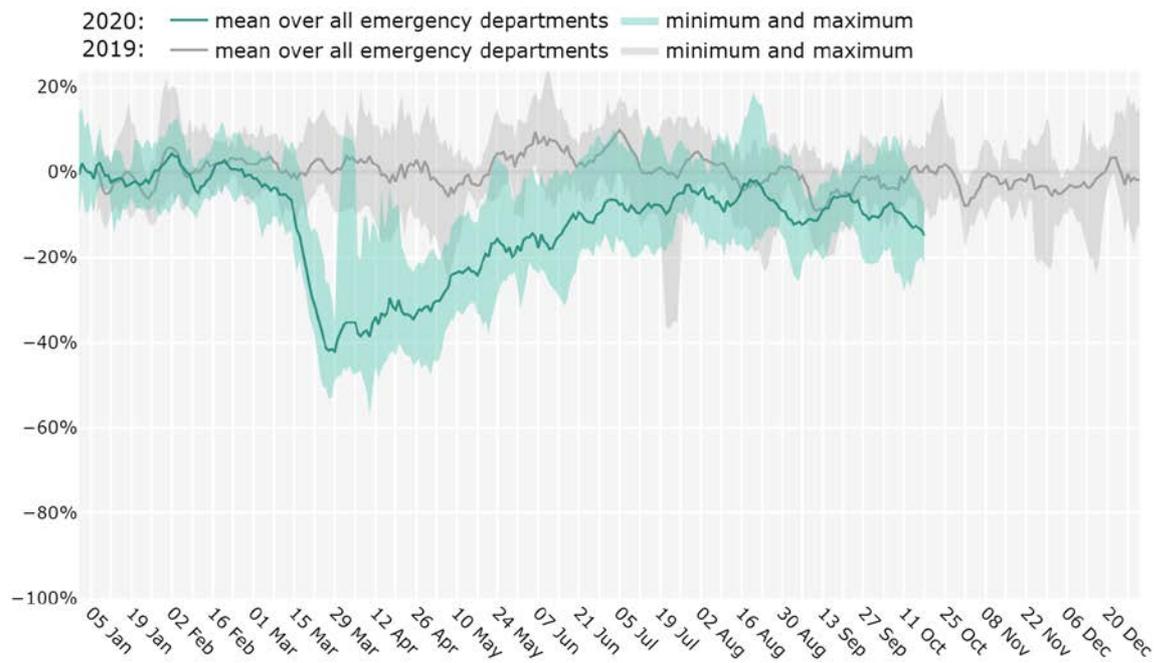


Figure 4: Relative deviation of the number of emergency department admissions, compared to the mean in 2019, from January 2019 to October 2020 (as of 21 October 2020). The mean is based on the mean of each emergency department.

Risk Assessment by the RKI

In view of the recent further increase in case numbers, the risk assessment of the RKI was adapted to the epidemiologic situation on 07/10/2020. The current version can be found here:

<https://www.rki.de/EN/Content/infections/epidemiology/outbreaks/COVID-19/Risk-assessment.html>

Measures taken in Germany

- National Testing Strategy – who will be tested for SARS-CoV-2 in Germany (14/10/2020) *(in German)*
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Teststrategie/Nat-Teststrat.html
- SARS-CoV-2 test criteria for schools during the COVID 19 pandemic (12/10/2020) *(in German)*
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Teststrategie/Testkriterien-Schulen.pdf
- Preventive measures in schools during the COVID 19 pandemic (12/10/2020) *(in German)*
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Praevention-Schulen.pdf
- Selected and regularly updated information on COVID-19 in English
<https://www.rki.de/EN/Content/infections/epidemiology/outbreaks/COVID-19/COVID19.html>
- Information on the designation of international risk areas
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikogebiete_neu.html
- The ministry of health has published a record of all measures implemented in Germany since 27/01/2020 *(in German)*
<https://www.bundesgesundheitsministerium.de/coronavirus/chronik-coronavirus.html>
- Information from the Ministry of Health for travellers entering Germany: Frequently asked questions and answers *(in German)*

- <https://www.bundesgesundheitsministerium.de/coronavirus-infos-reisende/faq-tests-einreisende.html>
- Corona-Warn-App
<https://www.rki.de/EN/Content/infections/epidemiology/outbreaks/COVID-19/CWA/CWA.html>
 - Regulations for persons entering Germany in connection with the novel coronavirus SARS-CoV-2 (15/09/2020) (*in German*)
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: (*in German*)
<https://www.bundesregierung.de/breg-de/themen/coronavirus/corona-bundeslaender-1745198>
 - Data on current disease activity can be found on the RKI dashboard:
<https://corona.rki.de/>
 - A distance of 1.5 metres to other individuals must be maintained in public spaces: (*in German*)
<https://www.bundesregierung.de/breg-de/themen/coronavirus/besprechung-der-bundeskanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248>
 - (Non-medical) face masks must be worn on public transport and in shops in all federal states.