



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

24/04/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
150,383 (+2,337*)	5,321 (+227*)	3.5%	ca. 106,800**

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

*Change from previous day; **Estimate

Summary (as of 24/04/2020, 12:00 AM)

- In total, **150,383** COVID-19 cases and **5,321** deaths due to COVID-19 have been electronically reported to the Robert Koch Institute in Germany.
- The incidence (cases per 100,000) of COVID-19 is highest in Bavaria (**305**), Baden-Wuerttemberg (**269**), Saarland (**247**) and Hamburg (**237**).
- Most cases (67%) are between 15 and 59 years old; men (48%) and women (52%) are almost equally affected.
- 87% of deaths, but only 19% of all cases, occurred in persons aged 70 years or older.
- COVID-19 related outbreaks in nursing homes and hospitals continue to be reported. In some of these outbreaks, the number of deaths is relatively high.

Epidemiological Situation in Germany

Geographical distribution of cases

Epidemiological analyses are based on validated cases notified electronically to RKI according to the Protection Against Infection Law (Data closure: 12:00 AM daily).

Since January 2020, a total of **150,383 (+2,337)** laboratory-confirmed cases of coronavirus disease 2019 (COVID-19) have been electronically reported to and validated at the RKI, including **5,321** deaths (see Table 1 and Figure 1). Information on confirmed cases are also available on the RKI website at https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Fallzahlen.html and <https://corona.rki.de>.

Table 1: Number and cumulative incidence (per 100,000 population) of notified laboratory-confirmed COVID-19 cases and deaths per federal state, Germany (24/04/2020, 12:00 AM).

Federal State	Total Number of cases	Number of new cases	Cases/100,000 pop.	Number of deaths
Baden-Wuerttemberg	29,792	349	269	1,153
Bavaria	39,939	544	305	1,525
Berlin	5,459	135	146	112
Brandenburg	2,536	89	101	90
Bremen	707	35	104	27
Hamburg	4,358	72	237	122
Hesse	7,712	119	123	296
Mecklenburg-Western Pomerania	661	2	41	16
Lower Saxony	9,544	153	120	364
North Rhine-Westphalia	31,106	522	173	1,052
Rhineland-Palatinate	5,731	88	140	136
Saarland	2,445	50	247	105
Saxony	4,377	50	107	135
Saxony-Anhalt	1,436	11	65	35
Schleswig-Holstein	2,557	27	88	88
Thuringia	2,023	91	94	65
Total	150383	2,337	181	5,321

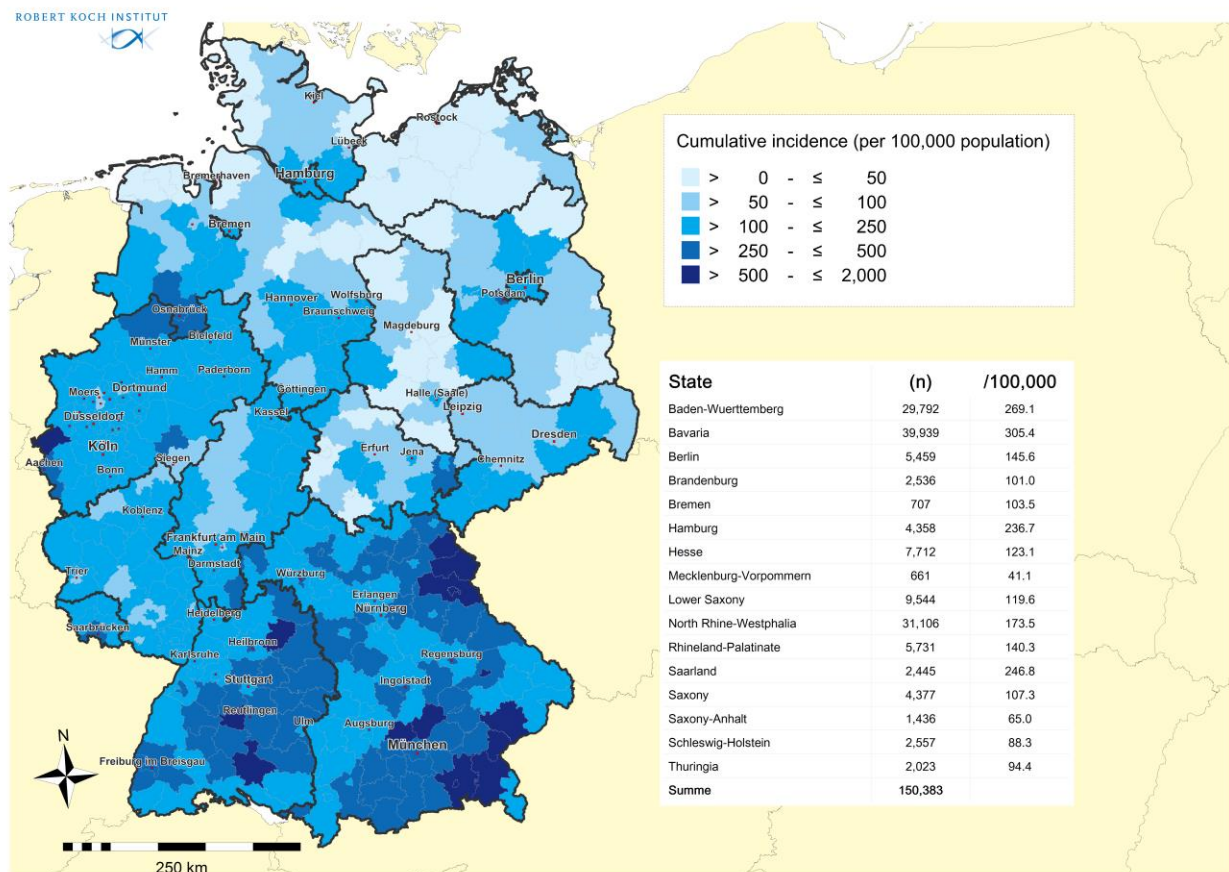


Figure 1: Number and cumulative incidence (per 100,000 population) of the 150,383 electronically reported COVID-19 cases in Germany by county and federal state (24/04/2020, 12:00 AM). Please see the COVID-19 dashboard (<https://corona.rki.de/>) for information on number of COVID-19 cases by county (local health authority).

Distribution of cases over time

COVID-19 cases were first notified in Germany in January 2020. In 52,448 cases, onset of symptoms is unknown and therefore date of reporting is shown (see Figure 2).

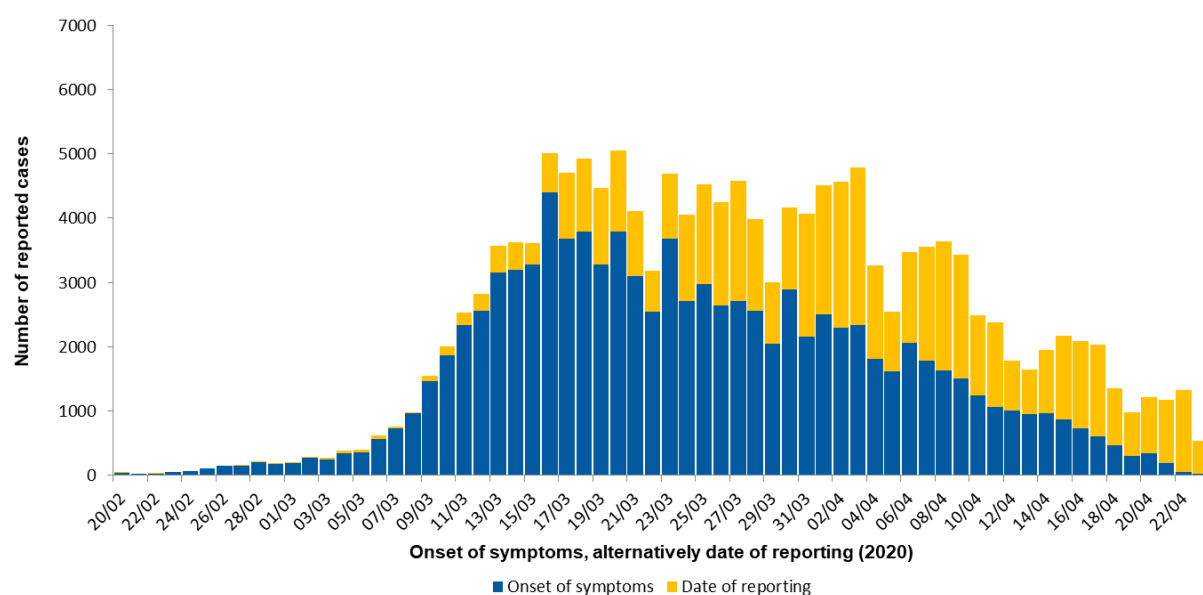


Figure 2: Number of electronically reported COVID-19 cases in Germany by date of symptom onset and alternatively by date of reporting from 20/02/2020 (24/04/2020, 12:00 AM).

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

Demographic distribution of cases

Of reported cases, 48% are male and 52% are female. Among notified cases, 2,476 were children under 10 years of age (2%), 6,209 children and youth aged 10 to 19 years (4%), 64,417 persons aged 20 to 49 years (43%), 48,976 persons aged 50 to 69 years (33%), 24,008 persons aged 70 to 89 years (16%) and 4,113 persons aged 90 years and older (3%). The age of 183 notified cases is unknown. The middle age of cases is 50 years (median 50 years). The highest incidences are in the age groups above 90 years (see Figure 3), with only 3% of reported cases.

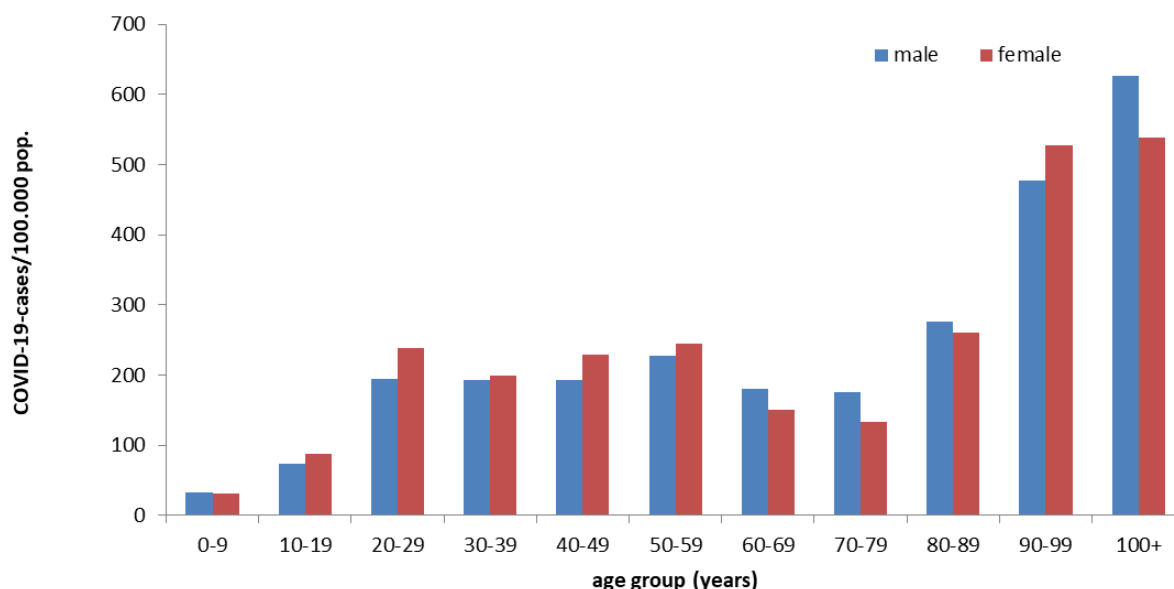


Figure 3: Electronically reported COVID-19 cases/100,000 population in Germany by age group and sex (n=149,758) for cases with information available (24/04/2020, 12:00 AM).

Clinical aspects

Information on symptoms is available for 120,243 (80%) of the notified cases. Common symptoms are cough (50%), fever (42%) and rhinorrhoea (21%). Pneumonia was reported in 3,194 cases (3%). Hospitalisation was reported for 20,326 (17%) of 119,521 COVID-19 cases with information on hospitalisation available.

Approximately 106,800 persons have recovered from their COVID-19 infection. As the exact date of recovery is unknown in most cases, an algorithm was developed to estimate the number of recovered cases.

The 5,321 COVID-19 related deaths reported in Germany concerned 3,042 (57%) men and 2,275 (43%) women (sex was unknown in 4 cases). The median age was 82 years. Of all deaths, 4,615 (87%) were in persons 70 years or older, but only 19% of all cases were in this age group. COVID-19 related outbreaks continue to be reported in nursing homes and hospitals. In some of these outbreaks, the number of deaths is relatively high.

Table 2: Number of notified COVID-19 deaths by age group and sex (Data available for 5,316 of the 5,321 notified deaths; 24/04/2020, 12:00 AM)

Sex	Age groups (years)				
	<60	60 - 69	70 – 79	80 – 89	≥90
male	171	357	865	1,300	338
female	58	118	388	1,106	605
total	229	475	1,253	2,406	953

Occupation, accommodation or care in facilities

In accordance with the Infection Against Protection Law (IfSG), information on occupation, accommodation or care in a facility relevant for infection control (see Table 3) is documented and electronically transmitted to RKI for notified COVID-19 cases.

Table 3: Notified COVID-19-cases according to possible occupation, accommodation or care in facilities relevant for transmission of infectious diseases (24/04/2020, 12:00 AM)

Facility according to	Cared for/ accommodation in facility	Occupation in facility	Total
§ 23 IfSG (e.g. hospitals, outpatient clinics and practices, dialysis clinics or outpatient nursing services)	1,948	8,326	10,274
§ 33 IfSG (e.g. day care facilities, kindergartens, facilities for after school care, schools or other educational facilities, children's homes, holiday camps)	1,450*	1,708	3,158
§ 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)	10,120	6,392	16,512
§ 42 IfSG (e.g. kitchens in the catering trade, in inns, restaurants, canteens, cafés, or other establishments with or for communal catering)	Not applicable	863	863
No occupation, care or accommodation in the above institutions			59,735
Unknown			59,067

*only cases below 18 years of age are taken into account, as other information may be assumed to be incorrect.

IfSG: Protection Against Infection Law

Thus far, **8,326** cases with a SARS-CoV-2 infection have been notified among staff working in medical facilities as defined by Section 23 IfSG (Table 3). Among the cases reportedly working in medical facilities, 72% were female and 28% male. The median age was 41 years. Hospitalisation was reported for **363** of **7,800** cases among staff working in medical facilities with information available (**4,7%**). There were 13 COVID-19 related deaths among staff working in medical facilities. The proportion of cases reported as working in medical facilities among all cases increased over time from at least 3.6% in Week 12, **4.9%** in Week 13, **5.6%** in Week 14, 6.9% in Week 15, to **7.4%** in Week 16, 2020. Due to missing data on occupation **39%** of cases, the true proportion of cases working in medical facilities may be higher.

The high case numbers among persons cared for or working in various care facilities are in keeping with numerous reported outbreaks, especially in nursing homes. The low number of cases attending or working in facilities concerned with child care or education reflects that children are not as affected.

The proportion of persons with COVID-19 reported as working in the above facilities who actually acquired their infection in these settings is unknown.

Estimation of the reproduction number (R)

The reproduction number, R, is the mean number of persons infected by a case. R can only be estimated and not directly extracted from the notification system. The current estimate is $R = 0.9$ (95% confidence interval: 0.7-1.1) and is based on current electronically notified cases (24/04/2020, 12:00 A.M.) and an assumed mean generation time of 4 days. Cases with disease onset on the preceding 3 days were excluded from the estimation as their low number due to incomplete reporting would lead to an unstable estimate. For more details on the methodology see Epid. Bull. 17 | 2020 (in German) https://www.rki.de/DE/Content/Infekt/EpidBull/Archiv/2020/17/Art_02.html

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 the capacities for intensive care as well as the number of COVID-19 cases treated in participating hospitals. 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, reporting is compulsory for all hospital sites with intensive care beds.

As of 24/04/2020, a total of 1,254 hospitals or departments reported to DIVI to the registry. Overall, 32,396 intensive care beds were registered, of which 19,541 (60%) are occupied, and 12,855 beds (40%) are currently available. The number of COVID-19 cases treated in participating hospitals are shown in Table 5.

Table 5: COVID-19 patients requiring intensive care (ICU) recorded in the DIVI register (24/04/2020, 9:15 AM). Migration of the registry to a new server led to temporary reporting delays, thus comparisons with data prior to 03/04/2020 are not meaningful. Source: <https://www.intensivregister.de/#/intensivregister>

	Number of patients	Percentage	Change to previous day
Currently in ICU	2,701		-69
- of these: mechanically ventilated	1,971	73%	-70
Discharged from ICU	8,039		+163
- of these: deaths	2,391	30%	+44

Laboratory based surveillance of SARS-CoV-2

Based on an existing system a laboratory based surveillance of SARS-CoV-2 has been established in order to monitor test behaviour and the epidemiological situation. A sentinel of voluntarily participating laboratories (n=54) are asked to report the number of tests and the proportion of positives for SARS-CoV-2.

As of 23/04/2020 the participating laboratories reported in total 629,085 PCR tests performed for SARS-CoV-2 with 52,009 tests (8.3%) detecting SARS-CoV-2.

https://ars.rki.de/Docs/SARS_CoV2/SARS_Cov2_WB_24042020.pdf

Assessment by the RKI

At the global and the national level, the situation is very dynamic and must be taken seriously. Severe and fatal courses occur in some cases. The number of cases, hospitalisations and fatalities in Germany continues to increase. The RKI currently assesses the risk to the health of the German population overall as **high** and as **very high** for risk groups. The probability of serious disease progression increases with increasing age and underlying illnesses. The risk of disease varies from region to region. The burden on the health care system depends on the geographical and age distribution of cases, health care capacity and initiation of containment measures (isolation, quarantine, social distancing etc.), and may be very high in some geographical regions. This assessment may change on short notice as a result of new findings.

Measures taken by Germany

- Data on current disease activity can be found in the daily situation reports and on the RKI dashboard <https://corona.rki.de/>.
- RKI teams are currently supporting outbreak containment measures with a focus on outbreaks in retirement and health care homes as well as hospitals in several federal states.
- As of 23/03/2020, gatherings of more than 2 persons (with the exception of families and household members) are banned in all federal states. Restaurants and businesses concerned with body care were closed. In public spaces, all persons must maintain a distance of 1.5 metres to other individuals <https://www.bundesregierung.de/breg-de/themen/coronavirus/besprechung-der-bundestkanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248> (in German)
- A new federal law was implemented on 28/03/2020 for the protection of the public in the event of epidemic situations, granting the federal government additional competencies for the control of epidemics: <https://www.bundesgesundheitsministerium.de/presse/pressemitteilungen/2020/1-quartal/corona-gesetzespaket-im-bundesrat.html> (in German)
- On 15/04/2020, the German government and the federal states agreed to gradually reduce social distancing measures <https://www.bundesregierung.de/breg-de/themen/coronavirus/fahrplan-corona-pandemie-1744202> (in German)