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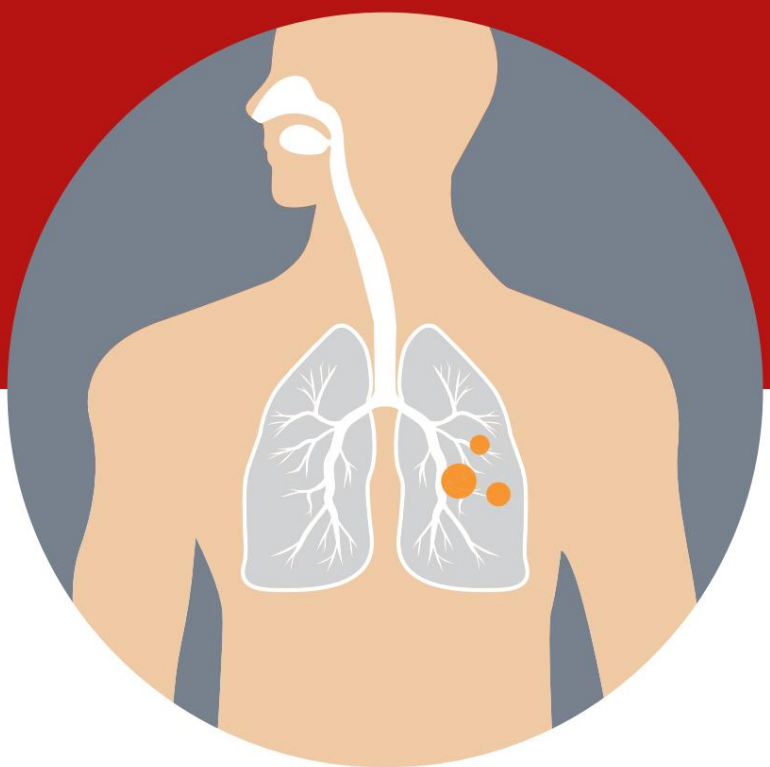
Weekly trends: covid-19 and other respiratory infections

Week 23 | 2022



STATENS SERUM INSTITUT

The epidemiological development of covid-19 and other respiratory infections in Denmark from week 21 to week 22

Prepared June 7, 2022

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Overall assessment

The number of new cases with COVID-19 is increasing for the first time since week 6 with a growth of 16% from week 21 to week 22. A further decrease in test activity is seen in week 22 with an average of just below 4,800 daily PCR tests. The increase in case numbers is seen in parallel to an increase in positive percentage both nationally, across all regions and across age groups.

As case numbers and positive percentage increase across several age groups, it is especially the case among age groups from 50 to 79 years old, where case numbers and positive percentage are also highest. Among nursing home residents, there is a stable development, whereas both incidence and positive percentage is increasing among personnel in the health- and social sector.

Overall, a stagnation or light increase in the concentration of SARS-CoV-2 waste water sampling has been seen over the recent weeks and there are now signals of increasing incidence and positive percentage based on PCR testing. This development is seen in conjunction with the continued growth in the proportion of BA.5 and BA.2.12.1 of the whole genome sequenced samples, where BA.5 continues with a high growth rate in week 22 and is expected to become the dominant sub-variant within the coming weeks.

On this background, there is a high likelihood that infections with SARS-CoV-2 will increase as a consequence of the emergence of BA.5. Both the incidence and the positive percentage are highest among the age groups between 50 and 79 years old, which should be interpreted in the light of lower infection rates among the older age groups during the Omicron wave compared to the rest of the population.

Summary

- The number of new cases with covid-19 has increased by 16% between week 21 and week 22, corresponding to the incidence in week 22 being 65 cases per 100,000 inhabitants.
  The positive percentage has increased from 10% in week 21 to 12% in week 22. During the same period, the number of PCR tests is stable.

- The incidence is still highest in the Capital Region (71 per 100,000 inhabitants) and then Region Zealand (67 per 100,000 inhabitants). It is seen rising
  incidents in all five regions. An increasing positive percentage is also seen in all five regions. The lowest positive percentage is seen in the North Jutland Region (11.0%), and the highest positive percentage is seen in the Central Jutland Region (14.3%).

- The incidence of infection increases in all age groups except the 0-15-year-olds and the 25-29-year-olds where declining or stable incidence is seen. The incidence is still highest in the older age groups over 40 years, where the incidence for the different age groups is between 72-111 per 100,000 inhabitants. The test rate remains stable or declining in all age groups, and remains highest among the oldest and lowest among children and young people aged 0-19 years. The positive percentage is increasing in all age groups except the 0-15-year-olds, where a decreasing positive percentage is seen. The highest positive percentage of 15% is seen among the 50-79-year-olds, and the lowest positive percentage is among the 3-15-year-olds (4%).

- The number of new admissions related to covid-19 has decreased by 11% to 179 in week 22. Persons aged 70-89 years constitute the largest group among the new admissions.
  There is an increase in the age groups 0-9 years, 20-29 years, 50-59 years and 80-89 years. A decrease is seen in the remaining age groups. The number of admissions to the intensive care units is 9 in week 22 compared to 13 in week 21.

- The number of covid-19-related deaths is stable from 26 in week 21 to a preliminary 25 in week 22. Mortality in Denmark is at a normal level.

- Among nursing home residents, a declining test rate is seen from 2.7% in week 21 to 2.2% in week 22. The positive percentage is declining from 4.6% in week 21 to 3.9% in week 22. The number of confirmed cases has also fallen from 49 cases in week 21 to 35 in week 22. The number of deaths among residents with covid-19 was at 6 in week 21, and is currently at 5 in week 22.

- Among special staff groups, there is an increase in the number of confirmed cases, and test rate except in the social sector, where there is a stabilization in the test rate from week 21 to week 22. There is an increasing positive percentage among employees in the social sector from 4.6% per week 21 to 5.5% in week 22. In the health sector is seen stable
  positive percentage from week 21 (10.8%) to week 22 (10.9%).

- BA.2 and sub-variants are still dominant in Denmark, but account for a declining share of all cases. BA.5 has also increased, and in week 22 amounts to approx. 17%

compared to approx. 11% the week before. Cases with BA.2.12.1 increase to approx. 13% mod ca. 11% the week before. However, a reservation must be made that a particularly large number of samples have not yet been sequenced in week 22.

- In week 22, flattening / slight increase in SARS-CoV-2 concentration in the wastewater is seen at national level. Divided into regions, there is also a flattening / slight increase in SARS-CoV-2 concentration in the wastewater in all regions phrased Region North Jutland, where a slight decrease is seen compared to week 21.

- The proportion of COVID-meter user panel who are presumably infected with covid-19 in week 22 is 0.6%, which is the same as in week 21. The test rate among all COVIDmeter participants are 2.6% in week 22, which is on a par with week 21 (2.7%). There is a small increase in the positive percentage to 18% in week 22 from 16% in week 21. Among the COVIDmeter participants who are suspected of being infected, the test rate is 43% in week 22, which is on a par with week 21, while there is a sharp increase in the positive percentage to 49% in week 22 from 32% in week 21. From this week includes proportion presumed infected with covid-19, self-reported test rate and positive percentage by region and age. Divided by regions, the highest proportion is thought to be infected with covid-19 in the Capital Region (0.7%), while the highest positive percentage is seen in the North Jutland Region (23%). Divided by age, the highest proportion is thought to be infected with covid-19 among the 50-59-year-olds (0.8%), while the highest positive percentage is seen among the 40-49-year-olds (27%). The most common symptoms reported at week 22 were runny or stuffy nose (2.9%), more tired, debilitated or exhausted (2.8%) and headache (2.4%).

- Sentinel monitoring shows that in week 21 it was parainfluenza, rhinovirus and other coronaviruses that constituted the three most common viruses among the samples.

Overall assessment

The number of new cases of covid-19 is increasing for the first time since week 6 with a growth of 16%. from week 21 to week 22. There has been a further decrease in test activity in week 22, where there have been an average of almost 4,800 PCR tests daily. The increase in the number of new cases occurs in parallel with the positive percentage increasing both nationally, across all regions and in most age groups.

As mentioned, both the infection and the positive percentage increase across several age groups, but it is still especially among people in the age groups between 50-79 years, where the infection and the positive percentage are highest. There is a stable development among nursing home residents, but among staff in the health and social sector, both incidence and positive percentage are increasing.

Overall, in recent weeks there has been a signal of a flattening / slight increase in the concentration of SARS-CoV-2 in the wastewater, and there are now signals of increasing incidence.
and positive percentage based on PCR testing. The development coincides with the continued growth in the share of BA.5 and BA.2.12.1 in the sequenced tests, where BA.5 in week 22 continues with a high growth rate, and is expected to become the dominant sub-variant within the coming weeks.

Against this background, there is a high probability that the infection with SARS-CoV-2 will increase as a result of the emergence of BA.5. Both the incidence and the positive percentage are highest in the age groups 50-79 years, which must be seen in the light of the fact that the older age groups have not been infected to the same extent during the omicron wave as the rest of the population.

At the end of this report, the data basis is described.

key figures

Covid-19

Table 1. COVID-19: Key numbers and trends, weekly, 2022

Table 1. Covid-19: Key figures and trends, broken down by week, 2022

Covid-19	2022						Trend week
	17	18	19	20	21	22	17-22
Incidence pr. 100,000 inhabitants *	120	100	8 2	7 0	5 6	6 5	
Number of tests performed (PCR)	86,904	54,762	47,014	43,041	34,129	33,525	
Confirmed cases (PCR)	7,071	5,853	4,787	4,120	3,290 th most common	3,805	
Positive Percentage (PCR)	12.0	11.8	11.1	10.4	10.4	12.1	

Notes to table: The positive percentage in this table is calculated solely on the basis of PCR tests from the public sector.

* The population for calculating incidences is described in the data base under the section "Populations for calculating incidence".

Table 2. COVID-19: Key numbers and trends for hospital admissions and deaths, weekly, 2022

Table 2. Covid-19: Key figures and trends for hospitalized and dead, by week, 2022

Covid-19	2022						Trend week
	17	18	19	20	21	22	17-22
New hospital admissions	455	359	276	249	201	179	
Number admitted on Monday morning	632	512	447	318 **	267 ***	230 ***	
Number admitted to intensive care on Monday morning	8	1 0	1 3	10 **	13 ***	9 ***	
Number of dead *	78	5 9	4 7	3 8	2 6	2 5	

* The number of deaths is updated retrospectively as data may be delayed due to post-registration.

** Data are from Tuesday morning due to problems in data delivery Monday morning

*** Due to delays in data, there is a risk that the actual number of inpatients may be slightly higher or lower.

Other respiratory diseases

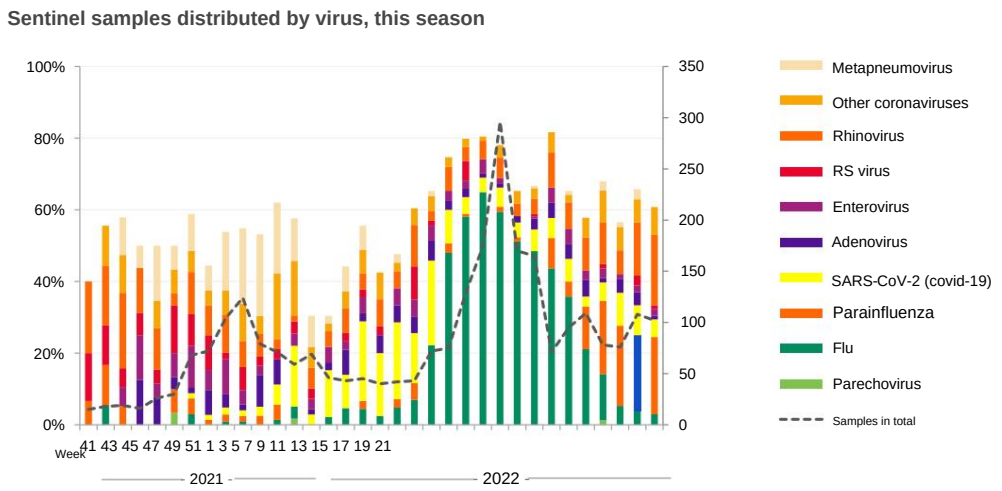
Data is updated backwards.

Follow developments in sentinel surveillance - GPs' surveillance of flu-like illness on SSI's website.

Table 3. Sentinel surveillance: Total number of test, proportion of airborne virus infections (%) and proportion of different types of airborne virus infections with 5 or more cases in week 16-21, 2022 **Table 3. Sentinel surveillance: total number of samples, proportion detected respiratory virus (%) and proportion of different types of respiratory virus with 5 or more cases in week 16-21, 2022**

	2022 week						Trend week
	16	17	18	19	20	21	16-21
Total number of samples	95	109	78	76	108	102	
Detected respiratory virus (%)	65.3	57.8	67.9	56.6	65.7	60.8	
Detected cases with other coronaviruses (%)	2.1	5.5	9.0	6.6	6.5	7.8	
Detected cases of rhinovirus (%)	7.4	9.2	11.5	6.6	14.8	19.6	
Detected cases of adenovirus (%)	4.2	4.6	1.3	3.9	3.7	1.0	
Detected cases with covid-19 (%)	6.3	2.8	5.1	9.2	8.3	4.9	
Detected cases of parainfluenza (%)	4.2	11.9	20.5	22.4	21.3	21.6	
Detected cases of influenza (%)	35.8	21.1	12.8	5.3	3.7	2.9	

Figure 1. Airborne viruses: Sentinel tests across virus types, week 40-21, 2021-2022.
Figure 1. Respiratory virus: Sentinel samples by virus, week 40-21, 2021-2022



Trends - covid-19

This section shows more detailed graphs and tables to illustrate the evolution of covid 19 over the past six weeks.

For other respiratory infections, refer to SSI's website under disease surveillance.

Regional differences

Table 4. COVID-19: Key numbers and trends by region, weekly, 2022

Table 4. Covid-19: Key figures and trends for regions, by week, 2022

Covid-19	Region	2022 week						Trend week 17-22
		17	18	19	20	21	22	
Incidence pr. 100,000 inhabitants	The capital	128	107	9 1	7 3	6 4	7 1	
	Central Jutland	104	8 8	7 1	6 5	5 0	6 1	
	North Jutland	116	8 8	7 3	5 2	4 5	4 6	
	Zealand	135	107	78	78	6 2	6 7	
	Southern Denmark	115	9 7	8 1	6 8	4 5	6 0	
Positive percentage	The capital	10.9	10.9	10.2	9.3	9.8	11.3	
	Central Jutland	12.8	13.3	13.0	12.4	11.7	14.3	
	North Jutland	14.8	13.1	12.4	9.8	10.2	11.0	
	Zealand	13.0	12.0	10.3	10.9	11.1	12.1	
	Southern Denmark	12.1	12.2	12.3	10.9	10.0	12.6	
New hospital admissions	The capital	167	134	108	9 5	8 7	6 1	
	Central Jutland	7 2	5 2	3 9	4 4	2 7	3 9	
	North Jutland	3 4	4 3	3 1	2 3	2 0	1 2	
	Zealand	9 7	6 8	4 4	4 5	3 9	3 2	
	Southern Denmark	8 2	6 1	5 1	4 2	2 4	3 0	
	Unknown region	3	1	3	0	4	5	

Age-distributed incidence, test rates and positive percentage

Data is updated backwards.

See also cases by age SSI's regional dashboard.

Figure 2. COVID-19: Age-specific incidence per 100,000 inhabitants
Figure 2. Covid -19: Age-specific incidence per 100,000 inhabitants

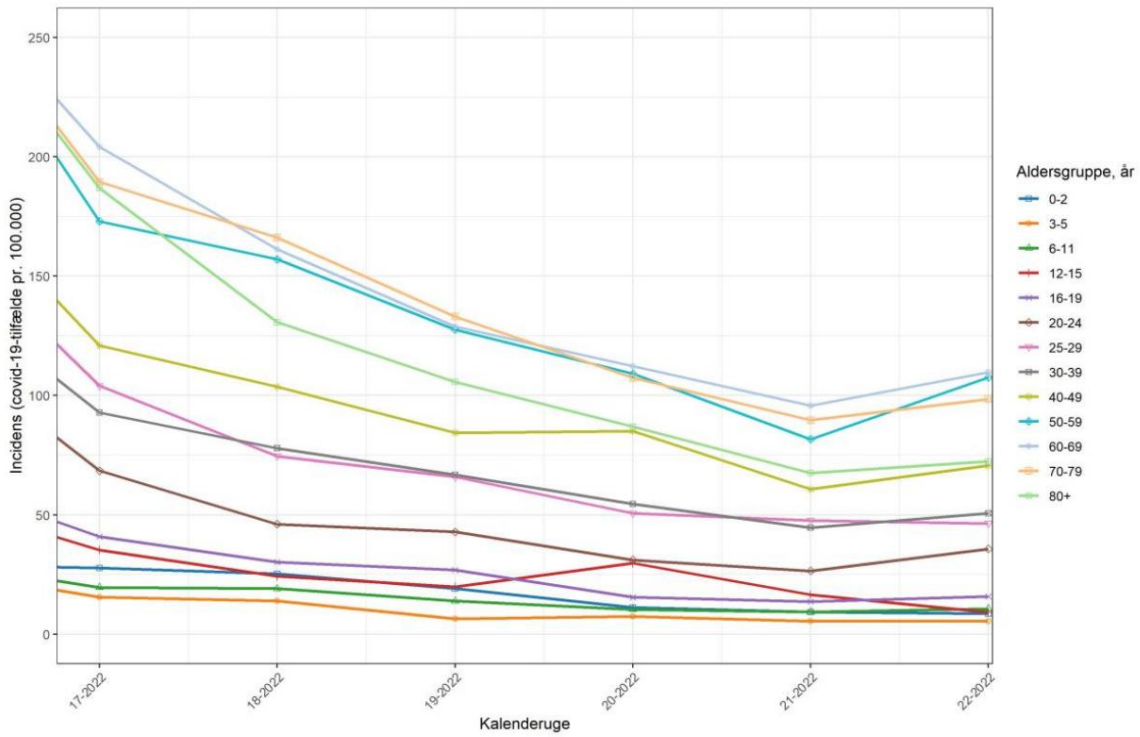


Table 5. Covid-19: Age-specific *incidence per 100,000 inhabitants, test rate and positive percentage*

Table 5. Covid-19: Age-specific incidence per 100,000 population, test rate and positive percentage

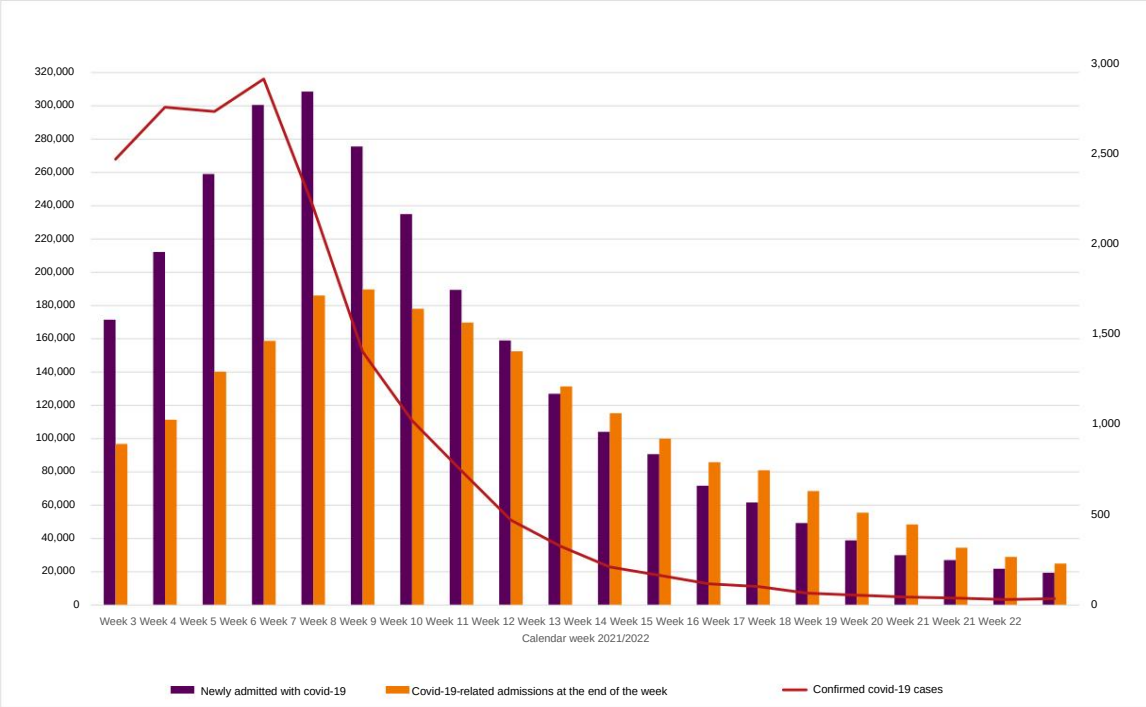
Covid-19, age groups	Incidence, test rate (%), positive percentage	2022 week						Trend week
		17	18	19	20	21	22	17-22
0-2 years	Incidence	25	22	17	10	8	7	
	Test rate	0.2	0.2	0.2	0.2	0.2	0.2	
	Positive percentage	11.0	9.6	8.4	5.1	5.3	4.7	
3-5 years	Incidence	15	14	6	7	6	6	
	Test rate	0.2	0.2	0.2	0.2	0.1	0.1	
	Positive percentage	6.8	6.9	3.3	4.4	4.4	4.3	
6-15 years	Incidence	26	21	17	19	12	10	
	Test rate	0.3	0.3	0.3	0.3	0.3	0.2	
	Positive percentage	8.4	7.3	5.2	6.7	4.7	4.4	
16-19 years	Incidence	41	30	27	16	13	16	
	Test rate	0.5	0.5	0.4	0.3	0.3	0.2	
	Positive percentage	8.5	6.7	6.0	4.7	4.9	6.7	
20-24 years	Incidence	68	46	42	31	27	36	
	Test rate	0.9	0.7	0.7	0.6	0.4	0.5	
	Positive percentage	7.5	6.2	6.4	5.3	6.2	7.8	
25-29 years	Incidence	104	74	66	52	49	46	
	Test rate	1.0	0.9	0.8	0.7	0.6	0.5	
	Positive percentage	10.0	8.5	8.6	7.4	8.5	8.7	
30-39 years	Incidence	92	78	67	56	45	52	
	Test rate	1.0	0.9	0.79	0.7	0.6	0.6	
	Positive percentage	8.8	8.8	8.5	7.8	7.8	8.9	
40-49 years	Incidence	123	106	87	88	62	72	
	Test rate	1.1	0.94	0.83	0.8	0.6	0.6	
	Positive percentage	12.0	11.0	10.0	11.0	10.0	12.0	
50-59 years	Incidence	174	159	128	110	83	109	
	Test rate	1.3	1.2	1.0	0.9	0.7	0.7	
	Positive percentage	13.0	14.0	13.0	12.0	12.0	15.0	
60-69 years	Incidence	205	161	130	113	98	111	
	Test rate	1.5	1.2	0.99	0.9	0.7	0.7	
	Positive percentage	14.0	13.0	13.0	12.0	13.0	15.0	
70-79 years	Incidence	191	168	134	109	91	100	
	Test rate	1.5	1.1	0.96	0.9	0.7	0.7	
	Positive percentage	13.0	15.0	14.0	12.0	13.0	15.0	
80+ years	Incidence	192	134	109	90	70	75	
	Test rate	2.2	1.7	1.4	1.2	1.0	0.9	
	Positive percentage	8.8	8.0	8.1	7.4	6.7	8.2	

Newly admitted

See also age distribution curves of new entrants on SSI's regional dashboard.

Figure 3. COVID-19: PCR-positive hospital admissions (purple), PCR-positive patients in hospital on Monday morning (orange) and confirmed (PCR-positive) cases in population (red)

Figure 3. Covid-19: Newly admitted, hospitalized Monday morning and confirmed cases

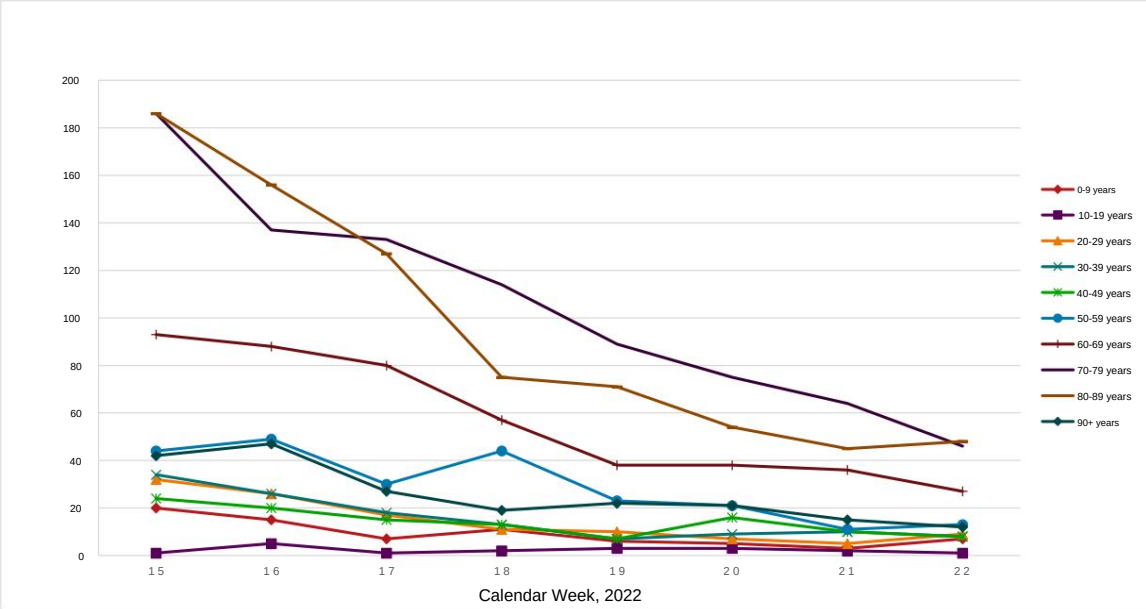


Note to figure: Number of covid-19-related admissions week 20, data were retrieved on Tuesday morning and not Monday morning as in the remaining weeks due to delivery issues.

Due to delays in data for week 21, there is a risk that the actual number of inpatients may be slightly higher or lower.

Figure 4. COVID-19: Weekly numbers of PCR-positive hospital admissions by age group

Figure 4. Covid-19: Weekly number of new admissions by age group



The following figures and tables in this section are updated retrospectively.

Figure 5. COVID-19: Proportion of hospital admissions with a positive SARS-CoV-2 test with a COVID-19 diagnosis (red), with a respiratory or tentative COVID-19 diagnosis (green), or with another diagnosis (blue), June 1st 2020 to May 22nd 2022

Figure 5. Covid-19: Proportion of new admissions with positive SARS-CoV-2 sample admitted due to covid-19 diagnosis, due to respiratory or obs covid-19 diagnosis, or due to other diagnosis, 1 June 2020 to May 15, 2022

SORRY, DATA CANNOT BE DELIVERED THIS WEEK

Table 6. COVID-19: Proportion of PCR-positive hospital admissions with a COVID-19-diagnosis, with a respiratory or tentative COVID-19 diagnosis, or with other diagnosis

Table 6. Covid-19: Proportion of new admissions with positive SARS-CoV-2 sample admitted due to covid-19 diagnosis, due to respiratory or obs covid-19 diagnosis, or due to other diagnosis

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Figure 6. COVID-19: Proportion of PCR-positive hospital admissions with a COVID-19-diagnosis (red), with a respiratory or tentative COVID-19-diagnosis (green), or with other diagnosis (blue) by age group, June 1st 2020 to May 22nd 2022

Figure 6. Covid-19: Proportion of new admissions with positive SARS-CoV-2 sample admitted due to covid-19 diagnosis, due to respiratory or obs covid-19 diagnosis, or due to other diagnosis divided by age groups, 1 June 2020 to 22 May 2022

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Table 7. COVID-19: Proportion of PCR-positive hospital admissions with a COVID-19-diagnosis (red), with a respiratory or tentative Covid-19 diagnosis (green), or with other diagnosis (blue), by age groups 0-59 and 60+ years old

Table 7. Covid-19: Proportion of new admissions with positive SARS-CoV-2 samples admitted due to covid-19 diagnosis, or due to respiratory or obs covid-19 diagnosis, or due to other diagnosis, divided by age groups 0-59-year-olds and 60 + -year-olds

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SARS-CoV-2 variants

Sequences from the Danish positive covid-19 samples can be seen here:

https://www.covid19genomics.dk/home

Figure 8. COVID-19: The 10 most frequently observed (sub) variants based on whole genome sequencing data

Figure 8. Covid-19: The 10 most frequently observed (sub) variants based on whole genome sequencing data

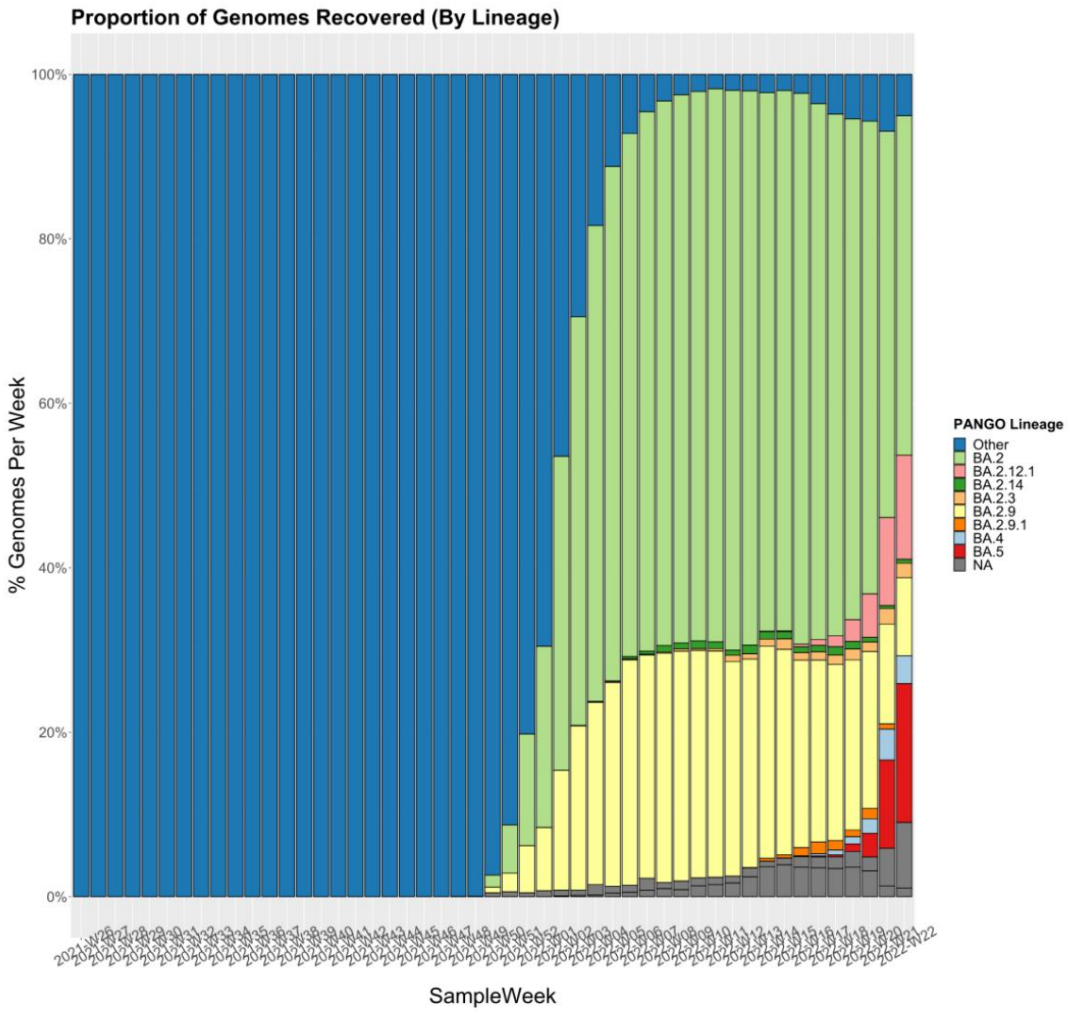


Table 8. COVID-19: The most frequently observed sub (variants) based on whole-genome sequencing data for the last four weeks, 2022

Table 8. Covid-19: The most frequently observed (sub) variants based on whole genome sequencing data in the last four weeks, 2022

The most frequently observed (sub) variants based on whole genome sequencing data in the last 4 weeks					
Lineage	WHO	19	20	21	22
BA.2	Omicron	2156 (60.92%)	1699 (57.50%)	1037 (46.97%)	352 (41.27%)
BA.2.9	Omicron	732 (20.68%)	564 (19.09%)	268 (12.14%)	81 (9.50%)
BA.5	Omicron	32 (0.90%)	85 (2.88%)	237 (10.73%)	144 (16.88%)
BA.2.12.1	Omicron	94 (2.66%)	156 (5.28%)	236 (10.69%)	108 (12.66%)
Unassigned		68 (1.92%)	50 (1.69%)	101 (4.57%)	68 (7.97%)
BA.4	Omicron	31 (0.88%)	52 (1.76%)	83 (3.76%)	29 (3.40%)
BA.2.3	Omicron	47 (1.33%)	34 (1.15%)	42 (1.90%)	15 (1.76%)
BA.2.18	Omicron	33 (0.93%)	48 (1.62%)	30 (1.36%)	14 (1.64%)
BA.2_212insSRG	Omicron	127 (3.59%)	93 (3.15%)	29 (1.31%)	9 (1.06%)
BA.2.31	Omicron	36 (1.02%)	18 (0.61%)	26 (1.18%)	6 (0.70%)
BA.2.12	Omicron	16 (0.45%)	20 (0.68%)	19 (0.86%)	4 (0.47%)
BA.2.13	Omicron	12 (0.34%)	11 (0.37%)	16 (0.72%)	1 (0.12%)
BA.2.23	Omicron	28 (0.79%)	23 (0.78%)	14 (0.63%)	8 (0.94%)
BA.2.9.1	Omicron	29 (0.82%)	37 (1.25%)	14 (0.63%)	0 (0.00%)
BA.2.10	Omicron	8 (0.23%)	7 (0.24%)	9 (0.41%)	0 (0.00%)
BA.2.5	Omicron	3 (0.08%)	7 (0.24%)	9 (0.41%)	2 (0.23%)
BA.2.14	Omicron	32 (0.90%)	17 (0.58%)	8 (0.36%)	4 (0.47%)
BA.2.7	Omicron	7 (0.20%)	2 (0.07%)	6 (0.27%)	1 (0.12%)
BA.2.1	Omicron	6 (0.17%)	9 (0.30%)	3 (0.14%)	2 (0.23%)
BA.2.10.1	Omicron	10 (0.28%)	1 (0.03%)	3 (0.14%)	1 (0.12%)
BA.2.11	Omicron	3 (0.08%)	3 (0.10%)	3 (0.14%)	0 (0.00%)
BA.2.22	Omicron	3 (0.08%)	7 (0.24%)	3 (0.14%)	1 (0.12%)
XG	Recombinant	4 (0.11%)	0 (0.00%)	3 (0.14%)	0 (0.00%)
BA.2.25	Omicron	4 (0.11%)	2 (0.07%)	2 (0.09%)	0 (0.00%)
BA.2.32	Omicron	2 (0.06%)	1 (0.03%)	2 (0.09%)	0 (0.00%)
BA.2.6	Omicron	3 (0.08%)	0 (0.00%)	2 (0.09%)	0 (0.00%)
BA.2.27	Omicron	0 (0.00%)	0 (0.00%)	1 (0.05%)	1 (0.12%)
BA.2.3.2	Omicron	1 (0.03%)	1 (0.03%)	1 (0.05%)	0 (0.00%)
BA.2.4	Omicron	0 (0.00%)	0 (0.00%)	1 (0.05%)	0 (0.00%)
BA.1	Omicron	0 (0.00%)	1 (0.03%)	0 (0.00%)	0 (0.00%)
BA.1.1	Omicron	1 (0.03%)	1 (0.03%)	0 (0.00%)	0 (0.00%)
BA.1.17	Omicron	2 (0.06%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
BA.2.2	Omicron	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (0.12%)
BA.2.21	Omicron	1 (0.03%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
BA.2.24	Omicron	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (0.12%)
BA.2.26	Omicron	4 (0.11%)	3 (0.10%)	0 (0.00%)	0 (0.00%)
BA.2.34	Omicron	1 (0.03%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
BA.2.8	Omicron	2 (0.06%)	1 (0.03%)	0 (0.00%)	0 (0.00%)
BA.2.9.2	Omicron	1 (0.03%)	2 (0.07%)	0 (0.00%)	0 (0.00%)
Total		3539	2955	2208	853

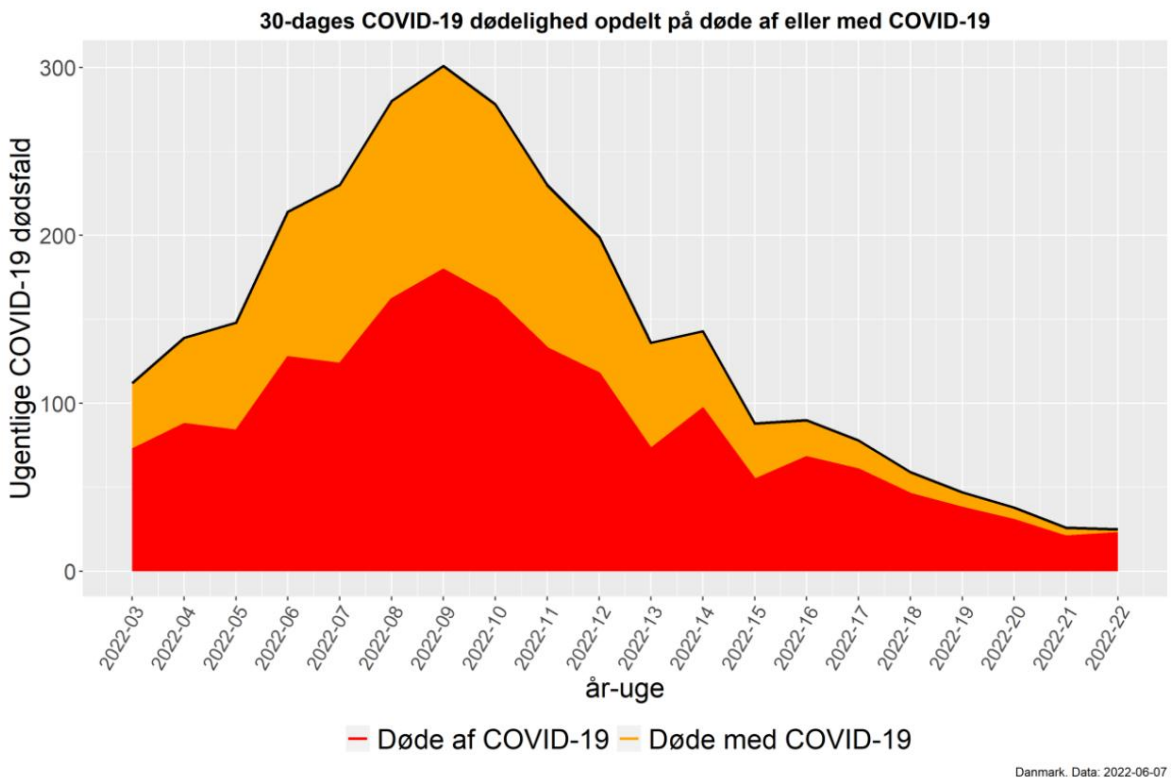
Note to table: Number of variants may change when multiple samples are sequenced and included in the table. The last week's figures are incomplete and must be interpreted with reservations.

Mortality

SSI contributes every week with monitoring mortality in Denmark, by calculating the number of the total number of deaths in society in relation to the expected number of deaths in Denmark. See also note on mortality. In addition, SSI contributes with mortality monitoring together with 26 other European countries (www.euromomo.eu).

Figure 9. COVID-19: Estimated deaths due to or with COVID-19, by week. Calculated number of deaths directly related to COVID-19 infection (red), calculated number of deaths unrelated to COVID-19 infections (orange), 2021/2022

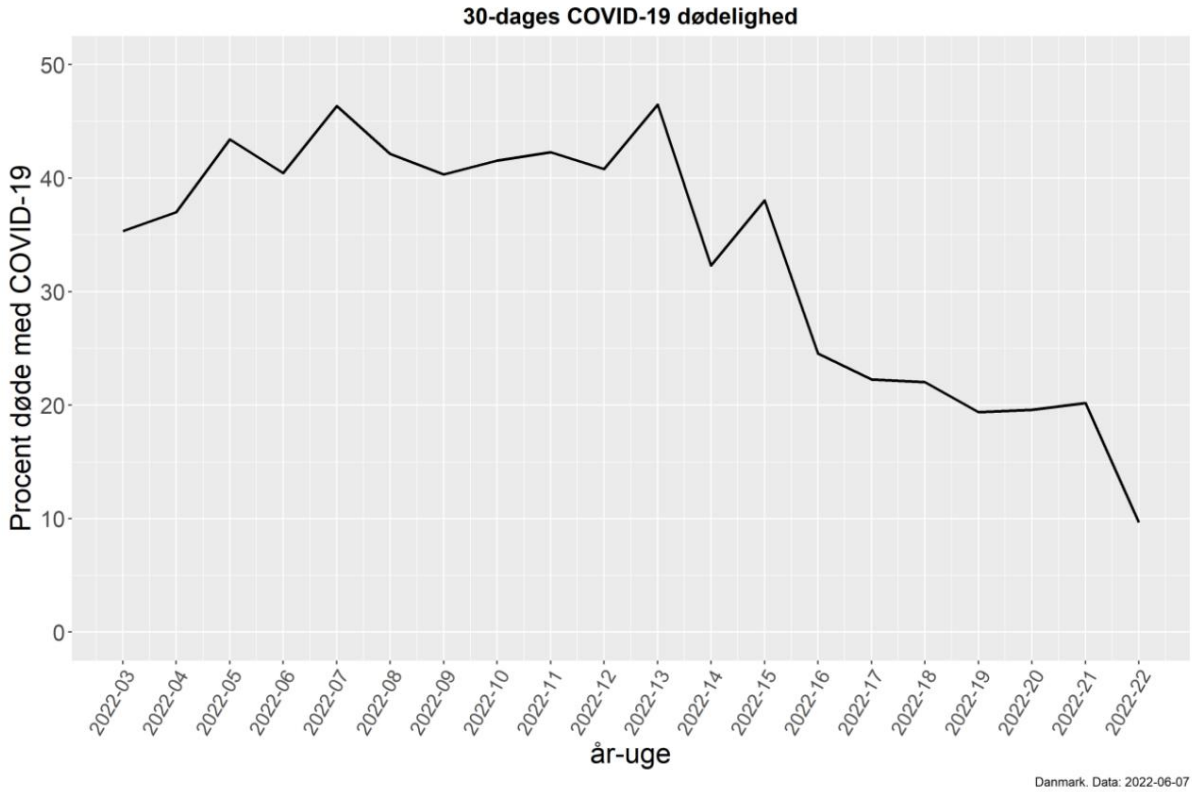
Figure 9. Covid-19: Estimated deaths of or with covid-19 and proportion of all covid-19-registered deaths calculated as non-covid-19-related, broken down by weeks, 2021/2022



Note: Calculation performed on the basis of a model from PandemiX Research Center, RUC in collaboration with EuroMOMO, SSI.

Figure 10. COVID-19: Estimated proportion of all COVID-19-registered deaths estimated not related to COVID-19, by week, 2021/2022

Figure 10. Covid-19: Estimated proportion of all covid-19-registered deaths calculated as non-covid-19-related, broken down by weeks



Note: Calculation performed on the basis of a model from PandemiX Research Center, RUC in collaboration with EuroMOMO, SSI.

Table 9. COVID-19: Estimated deaths with positive SARS-CoV-2 test within 30 days, total. Deaths due to (caused by) COVID-19. Deaths with (ie not caused by) COVID-19. Proportion of deaths with COVID-19

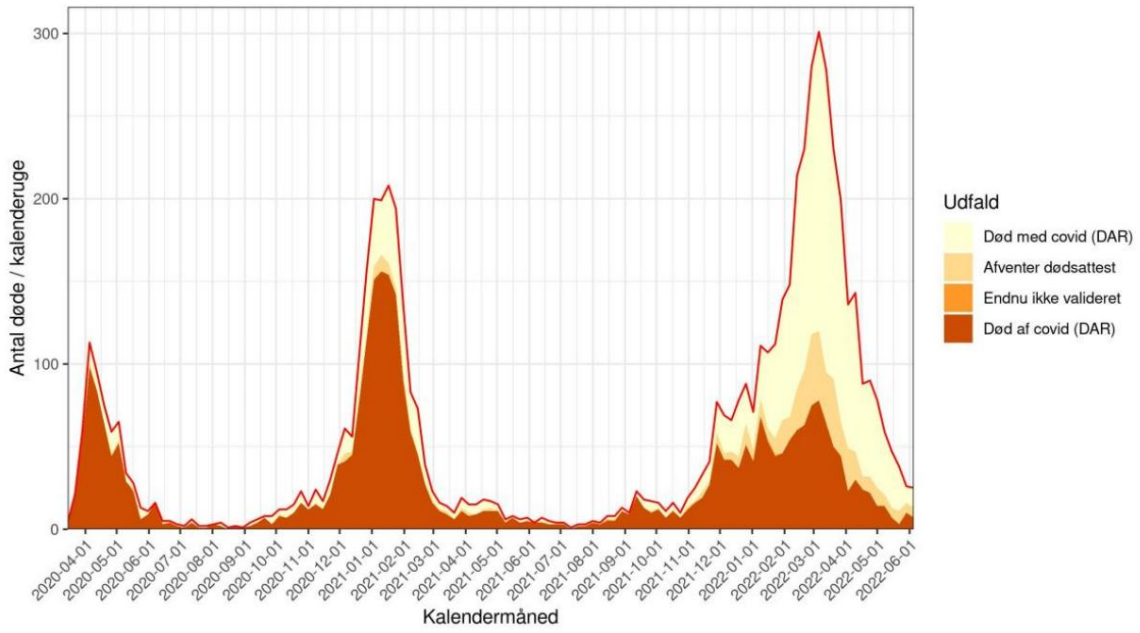
Table 9. Covid-19: Estimated deaths with positive covid-19 PCR test within 30 days, total, deaths "of" and "with" covid-19 and proportion of deaths with covid-19

2022, week	covid-19-PCR -test within 30 days, total	Deaths "of" covid-19	Deaths "with" covid-19	Percentage (%) of deaths "with" covid-19
10	278	163	115	41.5
11	230	133	97	42.3
12	199	118	81	40.8
13	136	73	63	46.5
14	143	97	46	32.3
15	88	55	33	38.1
16	90	68	22	24.6
17	78	61	17	22.3
18	59	46	13	22.0
19	47	38	9	19.4
20	38	31	7	19.6
21	26	21	5 2	20.2
22	25	23		9.7

Note: Calculation performed on the basis of a model from PandemiX Research Center, RUC in collaboration with EuroMOMO, SSI.

Figure 11. COVID-19: Deaths by and with COVID-19 based on death certificates (DAR: The Cause of Death Register). Death not related to COVID-19-infection (light), death related to COVID-19-infection (dark), 2020-2022

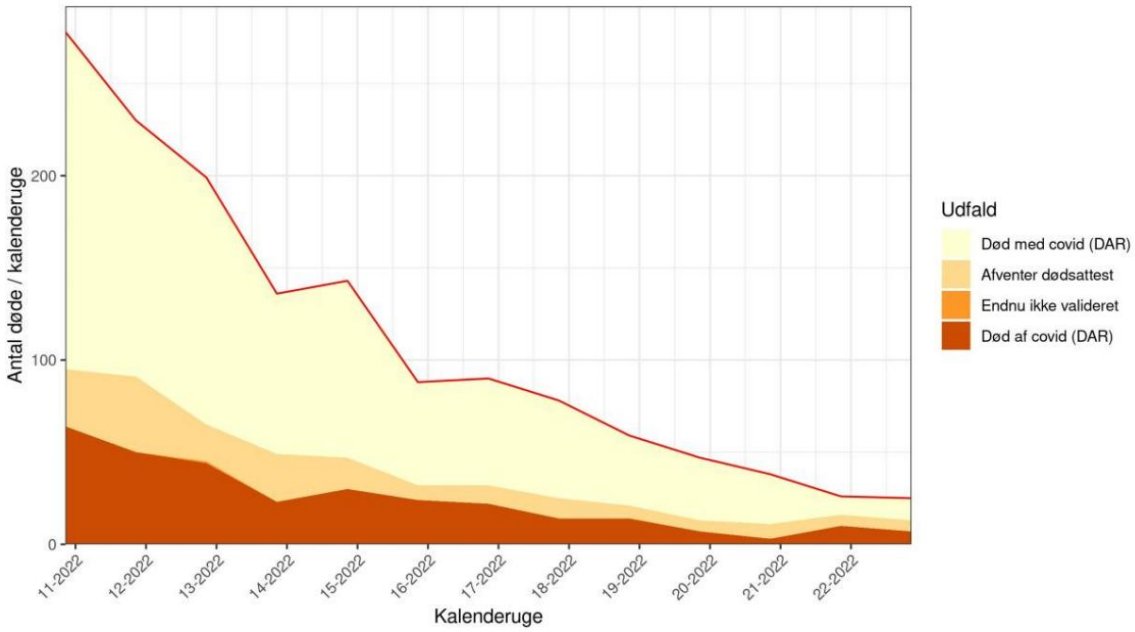
Figure 11. Covid-19: Deaths by and including covid-19 based on death certificates, 2020-2022



Note: Prepared on the basis of data from the Cause of Death Register (DAR) via the Danish Health and Medicines Authority

Figure 12. COVID-19: Deaths by and with COVID-19 based on death certificates (DAR: The Cause of Death Register). Death not related to COVID-19-infection (light), death related to COVID-19-infection (dark), 2021/2022

Figure 12. Covid-19: Deaths by and including covid-19 based on death certificates, 2021/2022



Note: Prepared on the basis of data from the Cause of Death Register (DAR) via the Danish Health and Medicines Authority

Hospital outbreaks

Table 10. COVID-19: Outbreaks at hospitals
Table 10. Covid-19: hospital outbreaks

EXPIRES THIS WEEK DUE. MISSING DATA

Nursing home

Data is updated backwards.

Table 11. COVID-19 at nursing homes
Table 11. Covid-19 in nursing homes

Covid-19, nursing home	2022 week						Trend week
	17	18	19 20		21	22	17-22
Confirmed cases among residents	182	99	55	52	49	35	
Test rate among residents (%) *	8.3	5.3	3.8	3.0	2.7	2.2	
Positive percentage among residents *	5.4	4.7	3.6	4.3	4.6	3.9	
Deaths among confirmed cases	22	22	7	9	6	5	
Nursing homes with confirmed cases	74	53	33	30	25	18	

*** Data is drawn the night before Tuesday, with the other data in the table drawn on Tuesday morning, and the background population is defined a bit different, cf. data basis**

Special staff groups

Data is updated backwards.

Table 12. COVID-19: Confirmed cases, incidence per 100,000 inhabitants, test rate and positive percentage among specific employees **Table 12. Covid-19: confirmed cases, incidence per 100,000 inhabitants, test rate and positive percentage among special staff groups**

Covid-19, special staff groups	Confirmed cases, incidence per 100,000, test rate (%), positive percentage	2022 week						Trend week
		17	18	19	20	21	22	17-22
Social sector	Confirmed cases	379	270	194	155	122	133	
	Incidence	218	156	112	89	70	81	
	Test rate	2.9	2.5	2.1	1.9	1.5	1.5	
	Positive percentage	7.5	6.3	5.3	4.7	4.6	5.5	
Health sector	Confirmed cases	359	271	219	213	171	175	
	Incidence	202	152	123	120	96	104	
	Test rate	1.8	1.5	1.3	1.2	0.9	1.0	
	Positive percentage	11.0	9.9	9.7	9.6	10.8	10.9	

Sewage

You can read more about wastewater measurements on SSI's website with monitoring of SARS-CoV-2 .

Please note that in week 1 and week 16 2022 there are changes in test and calculation methods. For further explanation see the data base.

Figure 13. COVID-19: Incidence and results from waste-water surveillance, 2021/2022

Figure 13. Covid-19: incidence and results from wastewater measurements, 2021/2022

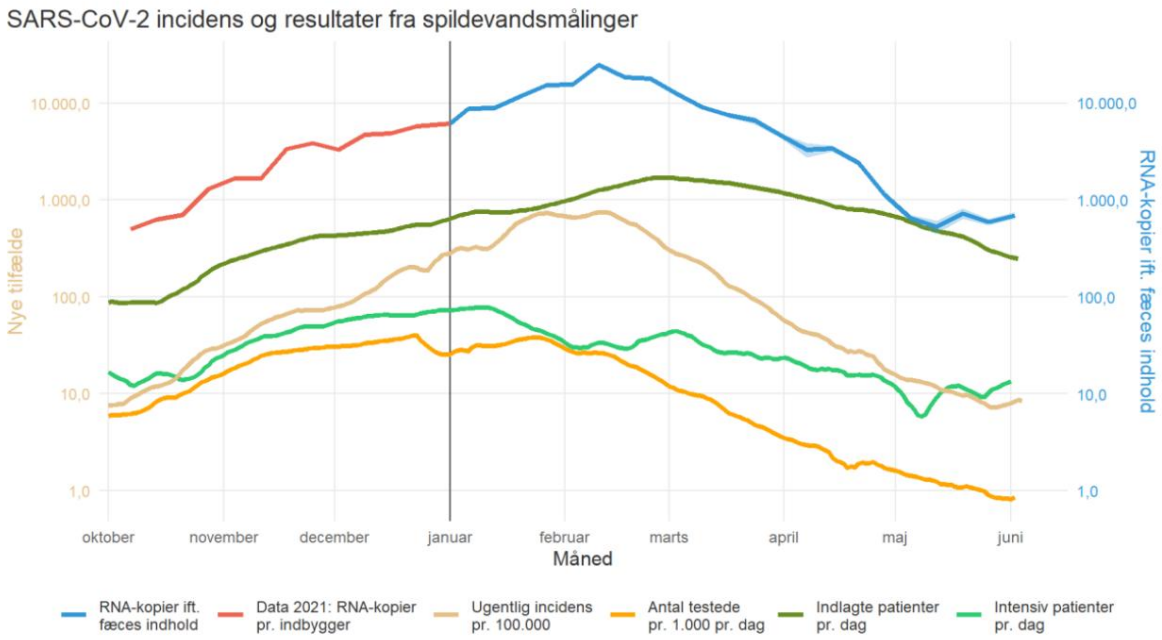
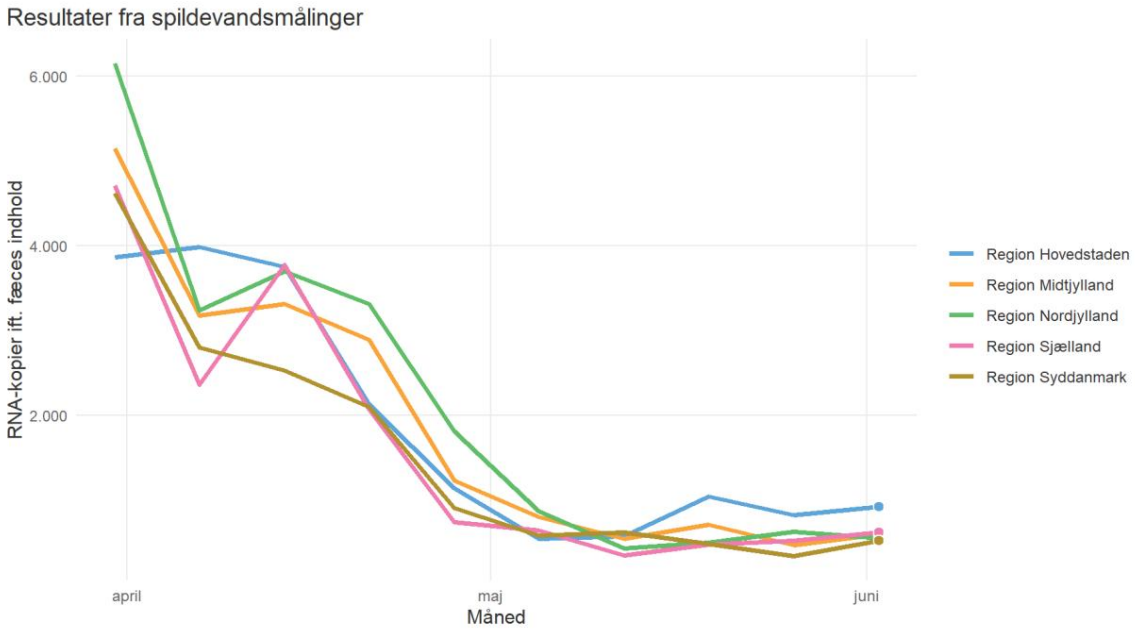


Figure 14. COVID-19. Results from waste-water surveillance by region, 2022

Figure 14. Covid-19: results from wastewater measurements by regions, 2022



Presumably infected with covid-19 and symptoms

You can read more about COVIDmeter on SSI's website with monitoring of SARS-CoV-2 .

Data is updated backwards.

Figure 15. COVID-19: Proportion of participants in user-panel presumably infected with COVID-19 per week. Gray color indicates confidence interval for the calculation.

Figure 15. Covid-19: the proportion of responses from participants suspected of being infected with covid 19 per week in the last 5 months. The gray color indicates the confidence interval for the calculation (dark gray 95%, light gray 99%).

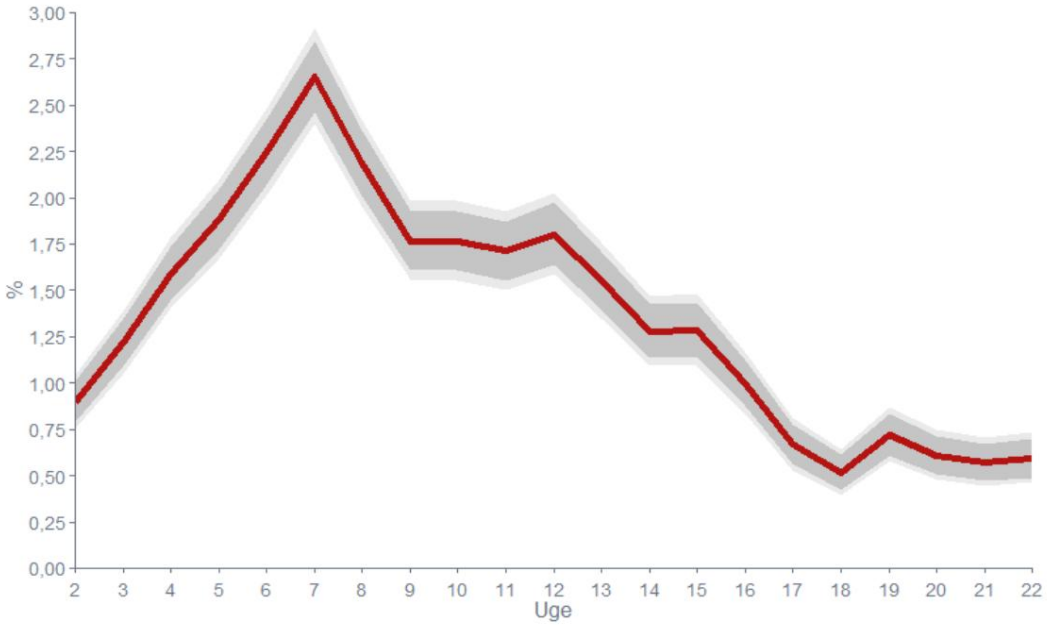


Table 13. COVIDmeter: Number of participants, proportion of presumably infected with COVID-19, self-reported test rate and positive percentage among all COVIDmeter participants and self-reported test rate and positive percentage among presumably infected with COVID-19

Table 13. COVIDmeter: number of participants, proportion presumed infected with covid-19, self-reported test rate and positive percentage among all COVIDmeter participants and among presumed infected with covid-19

COVIDmeter	Number of participants, proportion presumed infected with covid-19 (%), test	2022 week						Trend week
		17	18	19 20		21	22	17-22
All participants in COVIDmeter	Number of participants Presumed infected	22,635 22,097	21,905 22,426	22,083 21,431				
	with covid-19 (%)	0.7	0.5	0.7	0.6	0.6	0.6	
	Test rate (%) *	3.9	3.4	3.4	3.2	2.7	2.6	
	Positive percentage *	2 0	1 8	2 2	1 8	1 6	1 8	
Presumably infected with covid-19	Test rate (%) *	4 6	5 1	5 6	4 4	4 2	4 3	
	Positive percentage *	4 6	4 3	5 5	4 2	3 2	4 9	

* self-reported PCR or antigen test (private and home test) (in nose or throat), with test results.

Table 14. COVIDmeter: Proportion presumably infected with COVID-19, self-reported test rate and positive percentage among all COVIDmeter participants by region

Table 14. COVIDmeter: proportion suspected of being infected with covid-19, self-reported test rate and positive percentage among all COVIDmeter participants by region

COVIDmeter	Region	2022 week						Trend week
		17	18	19 20		21	22	17-22
Number of participants	The capital	8,286	8,103	8,016	8,229	8,106	7,868	
	Central Jutland	5,147	5,037 th most common	4,987	5,053	5,032	4,796	
	North Jutland	2,084	2,024	2,035	2,075	2,013	1,987	
	Zealand	3,200	3,082	3,080	3,190 th most common	3,072	3,021	
	Southern Denmark	3,918 th most common	3,851	3,787	3,879	3,860 th most common	3,759	
Presumably infected with covid-19 (%)	The capital	0.6	0.7	0.8	0.8	0.6	0.7	
	Central Jutland	0.6	0.4	0.6	0.5	0.4	0.5	
	North Jutland	0.9	0.8	0.6	0.5	0.6	0.6	
	Zealand	0.6	0.5	0.8	0.4	0.7	0.4	
	Southern Denmark	0.8	0.2	0.6	0.4	0.6	0.6	
Test rate (%) *	The capital	4.5	4.0	4.0	3.8	3.4	3.0	
	Central Jutland	2.8	3.0	2.9	2.7	2.2	2.0	
	North Jutland	4.3	3.2	3.0	2.7	2.3	2.0	
	Zealand	3.8	3.2	2.7	2.8	2.9	2.5	
	Southern Denmark	4.2	3.3	3.3	3.2	1.9	3.2	
Positive percentage *	The capital	18.0	19.6	23.7	17.2	15.3	20.9	
	Central Jutland	19.4	20.1	21.4	19.9	16.1	13.3	
	North Jutland	26.7	14.1	21.7	28.6	14.9	23.1	
	Zealand	23.3	13.3	23.8	11.1	17.8	18.9	
	Southern Denmark	18.2	15.2	17.5	16.8	14.9	15.1	

* self-reported pcr or antigen test (private and home test) (in nose or throat), with test results.

Table 15. COVIDmeter: Age specific proportion presumably infected with COVID-19, self reported test rate and positive percentage among COVIDmeter participants by week, 2022.

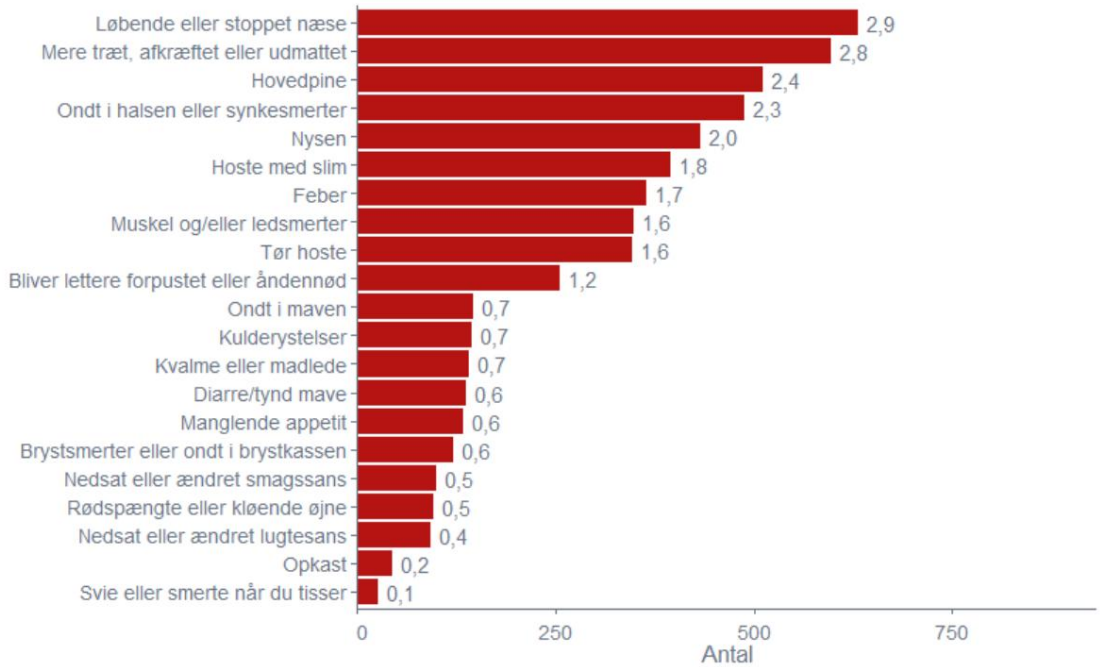
Table 15. COVIDmeter: age-specific proportion presumed infected with covid-19, self-reported test rate and positive percentage among COVIDmeter participants divided into weeks, 2022

COVID meters, age groups	Number of participants, proportion presumed infected with covid-19 (%), test rate (%) and positive percentage	2022 week						Trend week 17-22
		17	18	19	20	21	22	
40-49 years	Number of participants	2,225	2,211	2,136	2,189	2,115	2,054	
	Presumed infected with covid-19 (%)	0.8	0.5	1.2	1.0	0.4	0.7	
	Test rate (%) *	4.9	5.0	5.6	5.2	4.1	3.5	
	Positive percentage *	16.4	16.2	24.4	15.9	16.1	26.8	
50-59 years	Number of participants	5,321	5.152	5.115	5.252	5.147	5,029	
	Presumed infected with covid-19 (%)	0.7	0.7	0.9	0.7	0.8	0.8	
	Test rate (%) *	4.9	3.9	4.1	3.9	3.4	3.4	
	Positive percentage *	21.3	15.3	19.9	19.8	17.2	12.4	
60-69 years	Number of participants	7.895	7.743	7.684	7.882	7.796	7,556	
	Presumed infected with covid-19 (%)	0.8	0.4	0.6	0.6	0.6	0.6	
	Test rate (%) *	4.2	3.2	3.2	3.0	2.7	2.7	
	Positive percentage *	21.2	14.3	21.3	15.7	15.1	16.9	
70+ years	Number of participants	[illegible]	6,231	6,257	6,383	6,309	6,143	
	Presumed infected with covid-19 (%)	0.4	0.4	0.6	0.3	0.4	0.3	
	Test rate (%) *	2.6	2.6	2.0	2.0	1.6	1.5	
	Positive percentage *	18.1	25.2	24.8	19.8	13.6	22.2	

* self-reported pcr or antigen test (private and home test) (in nose or throat), with test results.

Figure 16. COVID-19: Symptoms reported to COVIDmeter by number in week 22, 2022.

Figure 16. Covid-19: symptoms reported to COVIDmeter by number in week 22, 2022.



Data basis

Covid-19

This report is based on PCR-confirmed cases.

Data for the most recent week are drawn on the preparation date. Data is not updated backwards unless otherwise stated. Data for positive PCR tests are calculated on the sample date, and therefore there may be some samples from the most recent week for which no response has yet been received. However, it is considered that the data is sufficient to assess trends and signals. It is also assessed that backward changes in data are small and insignificant in relation to the conclusions in the report.

The positive percentage is calculated so that a person can only contribute with one negative test per week. Individuals with previous covid-19 infection are not included in the calculation.

Definition of incidents in the report

In this report, the following method has been used to calculate the incidents per week:

When describing the country, region and age incidents in the report, the number of confirmed cases in the week in question (7 days calculated on a test date) per 100,000 inhabitants has been used.

Populations for calculating incidence

To be part of the underlying population, several criteria must be met, including that:

- the person must have a valid municipal code that matches an existing one commune
- gender must be stated
- the person must have a valid road code.

The persons included are therefore persons who meet the above criteria, have a valid civil registration number and are resident in Denmark. The population is based on the cpr register and is updated monthly.

Definition of covid-19 related admissions in SSI's covid 19 monitoring

From week 18, re-infections were included, and the calculation method is then also updated backwards.

For a more detailed definition of covid-19 admissions, see the Focus Report on COVID 19-related hospital admissions during the SARS-CoV-2 epidemic, published d.6. January, 2022.

Characterization of covid-19-related admissions based on hospital diagnoses - development of new algorithm Covid-19-related admissions will be divided into 3 categories via this algorithm:

- Covid-19 diagnosis: Patients who have been diagnosed with covid-19, and thus have been assessed by the attending physician to be ill with covid-19.
- Respiratory diagnosis or observation (obs) for covid-19: Patients diagnosed with another respiratory disease where the symptoms are completely or partially overlapping with covid-19, or where covid-19 is suspected.
- Other diagnosis: Patients who have not been diagnosed with covid-19 or a diagnosis of respiratory disease or observation of covid-19, but instead have completely different diagnoses during hospitalization, e.g. fracture, pregnancy or concussion.

In the day-to-day monitoring of the SARS-CoV-2 epidemic, SSI has defined a covid-19 related hospitalization as a hospitalization among individuals with a positive SARS-CoV-2-

test taken from 14 days before admission or during admission. If a positive SARS-CoV-2 test is detected in the period 14 days before to 48 hours after the time of admission, the covid-19-related admission starts at the time of admission. Patients who test positive for SARS-CoV-2 during hospitalization and covid-19-related hospitalization, but here the hospitalization date is considered to be equal to the test date (the period of 14 days before to 48 hours after is chosen as there is an expected latency period from infection to development of serious illness that may lead to hospitalization).

The inventory of covid-19-related admissions in SSI's monitoring is based on 3 data sources:

- SARS-CoV-2 test results and variant PCR responses from the Danish microbiology database (MiBa).
- Information on admissions registered in the National Patient Register (LPR).
- Snapshot data from the regions that provide an overview of twice a day hospitalized covid-19 patients.

When it is established whether a patient has been admitted with covid-19, another respiratory or obs diagnosis or other diagnosis, the registration will always take place with a delay in relation to the time of admission. Therefore, it must take 14 days before the data is accurate, which means that this data is older than the other data in the report.

SARS-CoV-2 variants

The “SARS-CoV-2 variants” section is based on results from whole genome sequencing.

Data for the most recent week are drawn on the preparation date. Data is continuously updated backwards as results from sequencing are added. Data are calculated on a sample date, and therefore there may be some samples from the most recent week for which no response has yet been received. However, it is considered that the data is sufficient to assess trends and signals. It is also assessed that backward changes in data are small and insignificant in relation to the conclusions in the report.

Mortality

Calculation of deaths with and by covid-19

In the daily counts of covid-19-related deaths, all deaths that have occurred among persons with at least one positive PCR test within the last 30 days are counted. The definition of covid-19-related death is international standard, has been in use since the beginning of the epidemic and is relatively easy to use in practice.

However, with a high incidence of covid-19, the definition will include a number of individuals who have tested positive but who have died of other causes. On the basis of the number of deaths per

week and the incidence of covid-19 infection, it can be calculated using probability mathematics how many people have died ”of” covid-19, and how many have died ”of” covid.

The analysis assumes that all individuals in the group have the same probability of testing positive and the same probability of dying during the period - or at least that the two variables are independent. Younger (0-39-year-olds) have e.g. ca. 20% probability of testing positive during the period and at the same time very low probability of death, while the elderly (65 + - year olds) only has approx. 2.5% probability of testing positive and at the same time significantly higher risk of death. It is therefore necessary to perform the analysis for each age group separately. In the analysis, we have for practical reasons chosen to use the age groups 0-19, 20-39, 40-59, 60-69, 70-79 and 80+ -year-olds. The exact choice of age groups will not significantly affect the final result, but if the method is used without age division, answers will emerge that cannot be used.

The age-specific 30-day incidence of positive covid-19 test is taken from SSI's weekly inventories. The weekly age-specific information on the number of deaths among test-positive individuals is retrieved at the same place. The total weekly age-specific deaths are taken from SSI's contribution to the EuroMOMO monitoring and apply EuroMOMO's normal method of correction for delays in the registration of deaths.

Further details on the methods and interpretations used can be requested from SSI.

Validation of Covid-19 died, cf. the Cause of Death Register

A more accurate way of calculating how many have died "of" covid-19 and how many have died "of" covid-19 is by using death certificates. However, this method causes more delay in data. Data from the Cause of Death Register via the Danish Health and Medicines Authority include deaths, where one of the following ICD10 codes on the death certificate is marked as the underlying cause:

- Covid-19 infection without indication of location
- Covid-19, severe acute respiratory syndrome
Coronavirus infection without specification
- Covid-19, virus identified
- Covid-19, virus not identified

Death is included if 30 days or less have passed since the positive SARS-CoV 2 test.

Nursing homes and special staff groups

Test and positive test data.

The data basis for the inventories is a compilation of the Statens Serum Institut's overview of COVID-19 tests (MiBa), the Danish Agency for Labor Market and Recruitment's progress database, DREAM, the CPR register and the Danish Health and Medicines Authority's overview of nursing home residents. The statement is made by the Danish Health and Medicines Authority.

- The list of COVID-19 tests (MiBa) has been updated on Tuesday night
- Industry association information from the DREAM database is based on the latest possible employment information
- The CPR register per date for data extraction
- The nursing home overview

The overview of COVID-19 test (MiBa) is a reflection of MiBa.

The inventory is based on residents and staff who are active in CPR (not departed on death or left) with residence in the Danish population register. Both unique tested persons are seen in the specified week and tests performed.

Nursing home residents include persons who on Monday in the given week have an address at a nursing home that appears in the Nursing Home overview. The specified municipality is based on the nursing home address.

Nursing home employees include persons employed in the industry "87.10.10 - Nursing homes".

Home help employees include people employed in the industry ”88.10.10 - Home help ”.

The industry affiliation is formed on the basis of the salary report to the eIndkomst register and the industry at the company from which citizens have received the largest salary sum in the given month. In Statistics Denmark's Register-based Labor Force Statistics (RAS), industry affiliation is attempted to be corrected for any error reports. Data used here does not include industry association corrections.

Sewage

Trend analyzes:

From week 16, a new calculation method has been used for the wastewater results in the graphs, and the current and future graphs can therefore not be compared directly with the previously published ones. The change was introduced as of 25.04.2022 and has been implemented backwards until 03.01.2022. Until 03.01.2022, the wastewater results are calculated as the number of SARS CoV-2 RNA copies per inhabitant. As of 03.01.2022, the faeces normalized wastewater results are displayed. That is, the virus concentration of SARS CoV-2 in the wastewater is calculated as the average weekly number of SARS-CoV-2 RNA copies, relative to the average of two viruses (PMMoV and CrassphAge), which are indirect measures of the amount of feces in the wastewater. . This can be done, as from 03.01.2022 a new type of RT-PCR test has been taken into use, and the wastewater is thus analyzed simultaneously for two

other harmless and naturally occurring viruses (PMMoV and CrAssphage) that are excreted in the faeces. The indirect measure of the amount of faeces in the waste water is set in relation to the amount of SARS-CoV-2. In this way, the results take into account dilution of the wastewater, eg due to rainwater.

The national graph and the regional graphs are made by giving the wastewater results from each treatment plant a weight, in relation to the number of residents in the catchment area, after which they are added together. The combined measurements are then presented in the graphs.

As of 3.1.2022, a new PCR test has been taken into use. Therefore, the results from before and after 3.1.2022 can not be compared directly.

COVIDmeter

Presumably infected with covid-19 and symptoms are based on data from COVIDmeter.
COVIDmeter is a digital solution where citizens can sign up for a user panel and weekly report whether they have had symptoms or not. All information in COVIDmeter is self-reported.

The COVIDmeter participants are not a representative sample of the Danish population. Eg. women and people aged 40-70 are overrepresented in the user panel.

In order to be included in the analyzes, the user must have submitted a minimum of three answers.

For COVIDmeter, a separate analysis has been made to be able to answer the question of which symptom composition is most likely due to covid-19. It is based on data from people who have had symptoms and tested positive for covid-19 and people who have had symptoms but who tested negative for covid-19. These are data from two other monitoring systems (SSI's sentinel monitoring and SSI's interviews with people who tested positive for covid-19).

If you meet the case definition two weeks in a row, you are only included as presumably infected with covid-19 in the first week.

The test rate and the positive percentage are based on self-reported negative and positive test results (PCR and home test).

Other respiratory diseases

Sentinel surveillance is an important part of the Danish and international standardized surveillance of influenza and other respiratory infections, including covid-19 and RS viruses. A fixed number of general practitioners geographically distributed throughout the country are included in the sentinel monitoring. The sentinel doctors report weekly how many patients with flu-like symptoms they see in their practice, as well as how many consultations they have had in total in their practice. In addition, they take weekly inoculations from patients with flu-like illness. The inoculations are analyzed at the Statens Serum Institut for a large number of different respiratory viruses. The results from the sentinel monitoring are used for

to assess the prevalence of respiratory infections in the population, as well as which respiratory viruses are the cause.

Definition of incidents in the report

In this report, the following method has been used to calculate the incidents per week:

Number of confirmed cases in that week (Monday through Sunday) per 100,000 inhabitants.

The background population is the entire population of Denmark.

Links

Inventories of covid-19 in Denmark can be seen here:
Covid-19 monitoring figures - updated every Tuesday

Every Tuesday, an overview of possible outbreaks in schools is published on SSI's website .