



Coronavirus Disease 2019 (COVID-19)

National Surveillance Report as of 02/06/2020

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Summary

- As of June 2nd, a total of 952 COVID-19 cases and 24 deaths (case fatality rate: 2.5%) have been reported in the Republic of Cyprus.
- Among these cases, 20% are health-care workers (n = 190) - 4.1% physicians (n = 39), 10.1% nurses (n = 96), 1.4% other health occupations (n = 13), and 4.4% auxiliary staff (n = 42).
- The median age of cases is 45 years (Interquartile range - IQR: 31-59 years); 50.2% are male and 49.8% are female.
- Overall, of 807 cases for which the place of exposure was known, locally acquired infections (index cases and close-contacts of confirmed cases) were 667 (82.7%) - of these 8.6% (n = 57) were related to a health-care facility (General Hospital in Pafos) and 12.4% (n = 83) were reported in Aradippou municipality.
- In total, 18.5% (n = 176) of cases received hospital care, of which 144 patients (81.9%) have been discharged alive from the hospital. Median age of all hospitalized patients is 62 years (IQR: 49-73 years) and 64.9% are males.
- Three patients were still in intensive care units (for part of the day if they died, were discharged or transferred on that day or for the whole day, by June 2nd); all of them were intubated.
- Overall, 801 (84.1%) cases have recovered (without symptoms and with two negative tests following their diagnosis or released 21 days after diagnosis).
- A total of 120,298 tests have been performed as of June 2nd (13,734.2 per 100,000 population).



Epidemiological surveillance in the Republic of Cyprus

Analyses are based on laboratory-confirmed cases notified to the Epidemiological Surveillance Unit of the Ministry of Health.

As of June 2nd, 952 laboratory-confirmed cases of coronavirus disease 2019 (COVID-19) have been reported (Figure 1 and 2).

The median time between symptoms onset and date of sampling was 4 days (Interquartile range - IQR: 2-8 days). It should be noted that for 14 cases the date of sample collection was before the onset of symptoms because of immediate testing of contacts of possible and laboratory-confirmed cases.

As of June 2nd, the 14-day cumulative incidence rate of COVID-19 (per 100,000 population), a measure which reflects the number of active COVID-19 cases in the population (prevalence)¹, is 3.4 per 100,000 population (Figure 3).

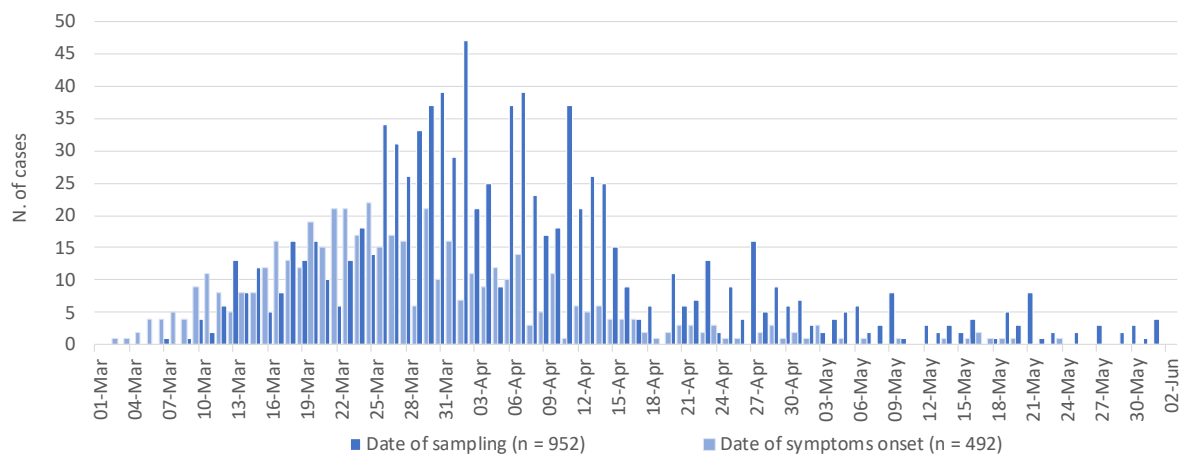


Figure 1: Number of laboratory-confirmed COVID-19 cases in Cyprus since 01/03/2020 by date of sample collection and date of symptoms onset (n = 952 and n = 492 with data available, respectively).

Recent data should be interpreted with caution due to the possibility that cases with date of onset within the reporting period have not yet been diagnosed.

¹Coronavirus disease 2019 (COVID-19) pandemic: increased transmission in the EU/EEA and the UK – seventh update, 25 March 2020. Stockholm: ECDC; 2020.

<https://www.ecdc.europa.eu/sites/default/files/documents/RRA-seventh-update-Outbreak-of-coronavirus-disease-COVID-19.pdf>

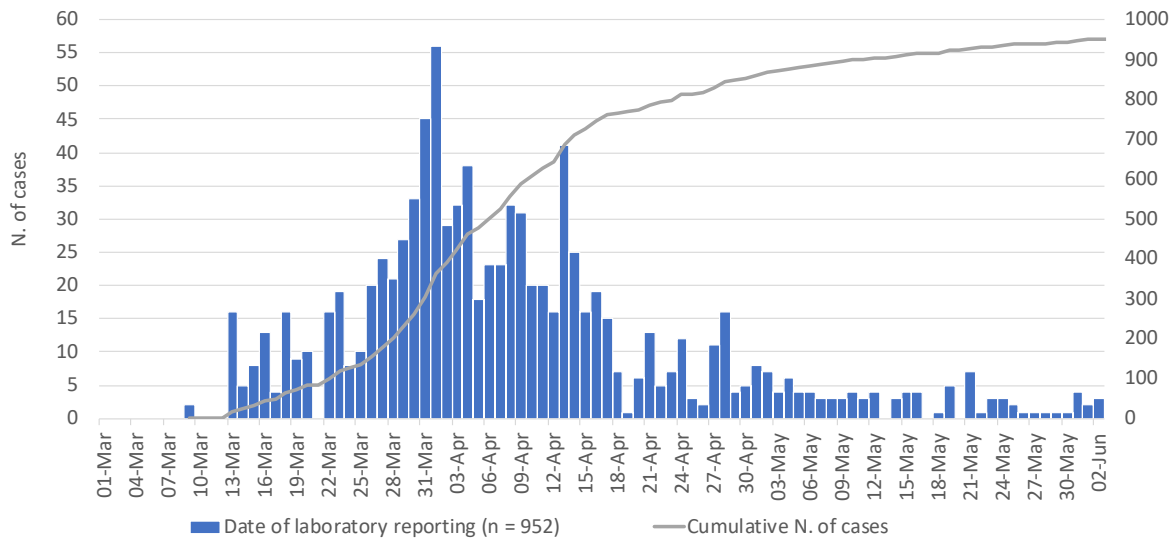


Figure 2: Number and cumulative number of laboratory-confirmed COVID-19 cases in Cyprus since 01/03/2020, by date of laboratory reporting (n = 952).
Recent data should be interpreted with caution due to the possibility that cases with date of onset within the reporting period have not yet been diagnosed.

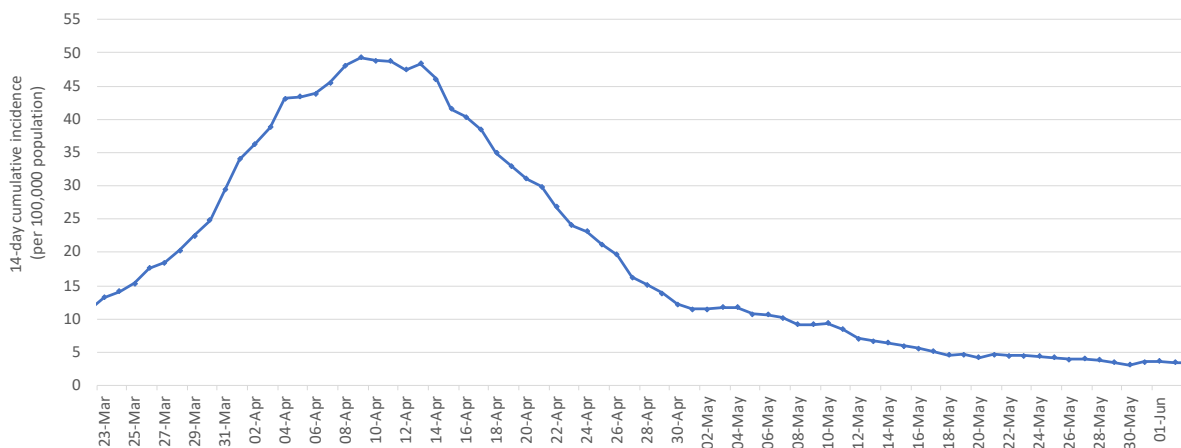


Figure 3. COVID-19 14-day cumulative incidence rate per 100,000 population (proxy of COVID-19 prevalence).
March 23rd represents the first 14th day since cases have been reported.

Characteristics of the cases

Among these cases, 50.2% are male (n = 478) and 49.8% female (n = 474).

The median age of cases is 45 years (IQR: 31-59 years). By age groups, cases included 61 infants, children and adolescents aged 0-17 years-old (6.4%), 662 adults aged 18-59 years (69.5%), and 229 persons aged 60 years and older (24.1%) (Figure 4).

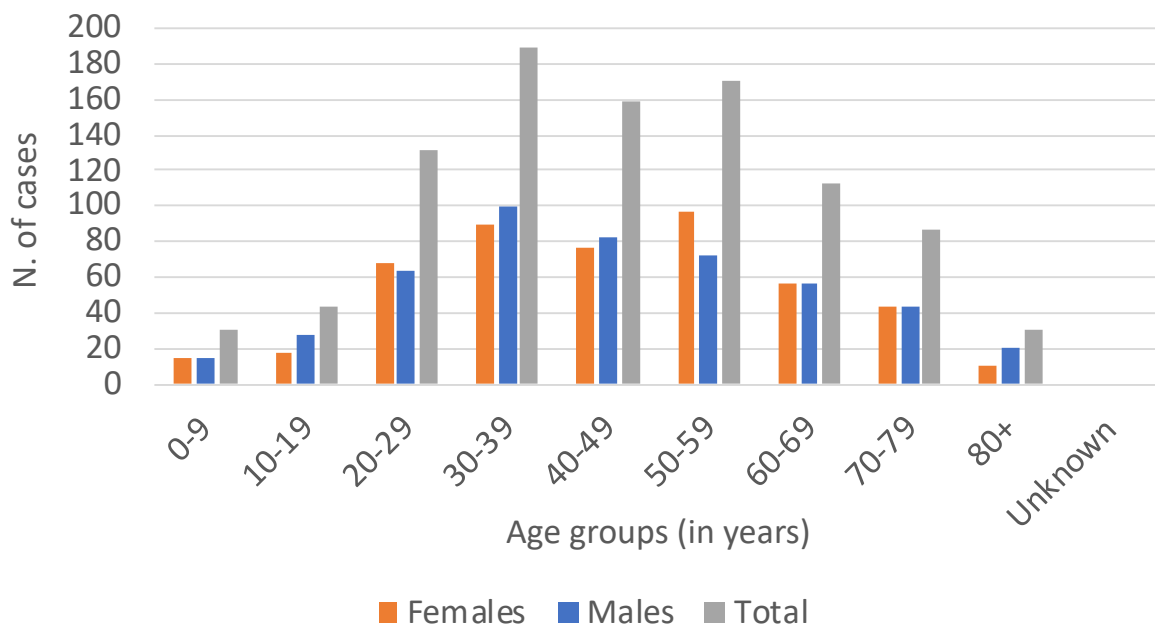


Figure 4: Laboratory-confirmed COVID-19 cases in Cyprus by sex and age groups.

Among all cases, 369 (38.8%) were reported in Nicosia district, 245 (25.8%) in Larnaka, 161 (16.9%) in Pafos, 110 (11.6%) in Limassol, 44 (4.6%) in Ammochostos, and 23 (2.4%) were reported either in the British bases or had a residence abroad, or information was not available (Table A1 in appendix).

Figure A1 in appendix shows the distribution of cases by postal code.

Notably, 126 cases (13.2%) were reported in Aradippou, a municipality in Larnaka district (Table A1 in appendix). Cases in Aradippou, including a cluster in a local bakery production line, are mainly males (58.7%; n = 74) and the median age is 49 years (IQR: 32-61 years). If the cluster is excluded, cases are mainly female (53.1%; n = 52) and the median age is 54.5 years (IQR: 39-69 years).



Among the 952 cases, 20% are health-care workers² (n = 190) - 4.1% physicians (n = 39), 10.1% nurses (n = 96), 1.4% other health occupations (n = 13), and 4.4% auxiliary staff (n = 42). Table 1 shows the distribution of health-care workers by district of residence.

Table 1: Health-care workers by district of residence (n=190).

District	Health-care worker	Physicians	Nurses	Other health occupations	Auxiliary staff
Ammochostos	16	3	7	1	5
Larnaka	43	7	24	3	9
Limassol	16	3	9	2	2
Nicosia	56	12	24	5	15
Pafos	59	14	32	2	11
Total	190	39	96	13	42

Epidemiological link

As of June 2nd, place of exposure is available for 807 cases (84.8%).

In total, 17.4% (n = 140) of laboratory-confirmed COVID-19-cases had history of travel or residence abroad during the 14 days prior to symptom onset (imported). These cases have a direct link to the UK and Greece, mainly.

Locally acquired infections (index cases and close-contacts of confirmed cases) occurred in 82.7% (n = 667 of 807 with known place of exposure) of the cases, of which 8.6% (n = 57) were related to a health-care facility (General Hospital in Pafos).

Of all cases in Aradippou (Larnaka district) (n = 126), 83 (65.9%) were locally-acquired, 10 (7.9%) imported and for 33 cases (26.2%) the epidemiological link was not recorded at the moment.

Table A1 in the appendix shows the number and the rate (per 100,000 population) of locally-acquired cases by district of residence.

² The term “health-care worker” is based on the occupation and not on the place of exposure. Health-care workers are defined as all health care professionals, allied health workers, and auxiliary health workers.



Clinical features

Of the 952 laboratory-confirmed COVID-19-cases, clinical information is available for 98.5% (n = 938), of which 33.2% (n = 311) reported no symptoms at diagnosis and 66.8% (n = 627) reported at least one symptom. The most commonly reported symptoms were:

- cough (313/926; 33.8%),
- fever (297/925; 32.1%),
- myalgia (201/924; 21.8%),
- sore throat (158/922; 17.1%),
- anosmia (108/834; 13%), and
- shortness of breath (107/909; 11.8%).

Other reported symptoms were diarrhoea, runny nose, and headache.

Table A2 in appendix reports the sex and age distribution of asymptomatic cases at diagnosis.

Pre-existing conditions

Information on comorbidities was available for 843 (88.6%) cases. Of these, 340 (40.3%) reported at least one comorbidity.

The most commonly reported comorbidities were:

- hypertension (130/835; 15.6%),
- diabetes (75/843; 8.9%),
- heart disease (66/837; 7.9%), and
- cancer (25/843; 3%).

Other reported comorbidities were chronic kidney disease, autoimmune disease, and chronic respiratory disease.



Deaths

As of June 2nd, 24 deaths were reported in Cyprus (Case Fatality Rate - CFR: 2.5%).

The mortality rate for COVID-19 is 2.7 per 100,000 population.

Seventeen deaths (70.8%) occurred in men and seven (29.2%) in women; the median age of all deaths was 76 years (IQR: 67-79 years). Nine deaths were reported among residents in Larnaka, seven in Pafos, three in Nicosia and Ammochostos, each, and two in Limassol (Appendix Table A3).

The median time from date of sampling to death was 10 days (IQR: 4.5-23.5 days). Figure A3 shows the Kaplan-Meier curve of the time from date of sampling to death.

For 17 deaths, COVID-19 was the underlying cause of death (COVID-19 CFR: 1.8%). Figure 5 reports the number of deaths by date.

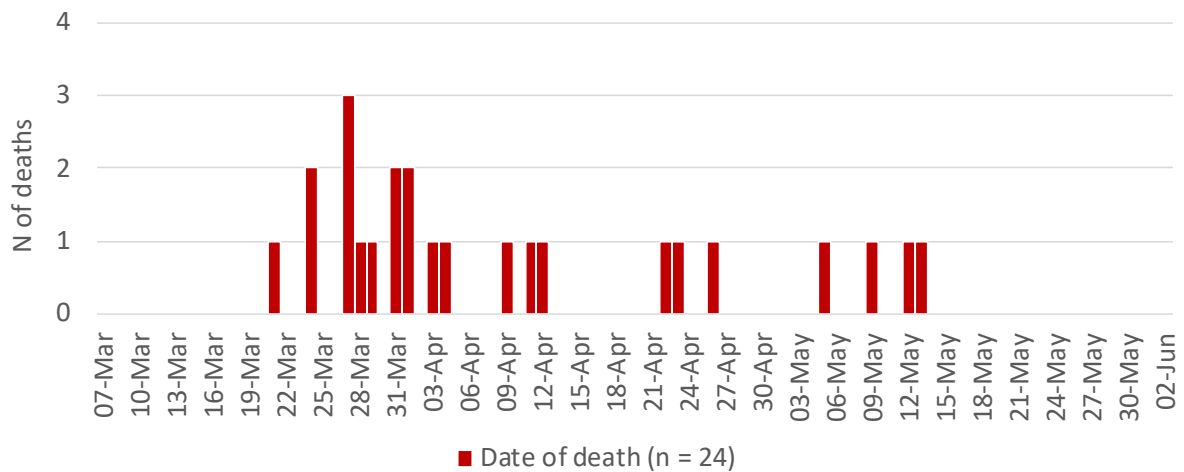


Figure 5: Number of deaths among COVID-19 cases in Cyprus by date of death (n = 24).



Hospitalization and intensive care unit (ICU) admissions³

In total, 18.5% (n = 176) of people with COVID-19 received hospital care, and 144 patients (81.9%) have been discharged alive from the hospital. The median age of hospitalized patients was 62 years (IQR: 49-73 years). Hospitalized cases were mainly males (n = 114; 64.8%).

Figure 6 shows the total number of first hospital admissions by date.

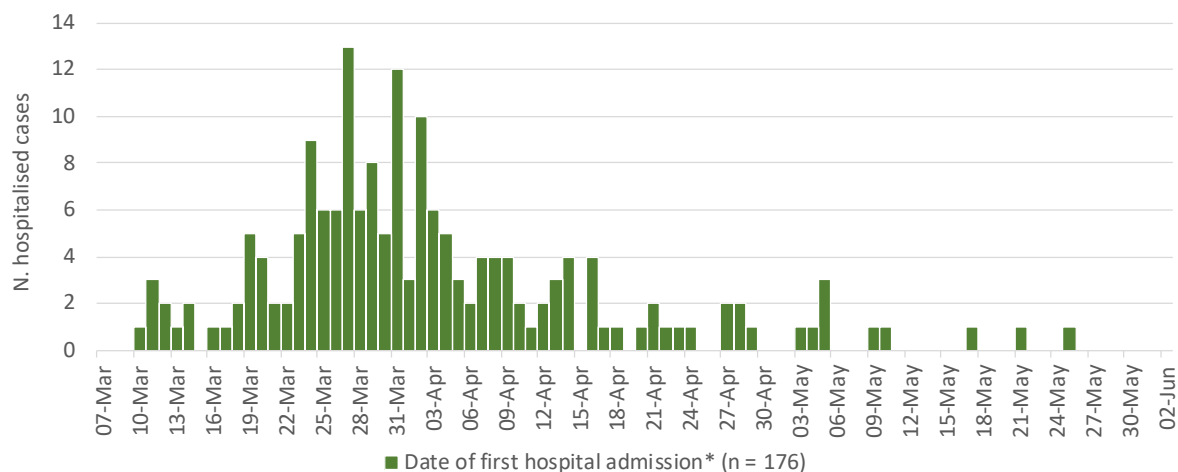


Figure 6: Number of laboratory-confirmed COVID-19 cases by date of first hospital admission (n = 176).

* Date of hospital admission; for inpatients hospitalised prior to the beginning of the epidemic, it was replaced with date of sampling.

Overall, 32 cases (18.2% of all hospitalized patients) have been admitted to ICU⁴, of which three were still in ICU (as of June 2nd).

A total of 27 ICU patients (84.4% of all ICU patients) have been intubated, of which three (100% of all patients currently in ICU) are still intubated.

³ Data on hospitalisation and ICU are provisional and should be interpreted with caution because delay in data reporting is likely; for the construction of the curve, people are no longer in an ICU the day next to the date of their discharge, death or transfer.

⁴ Intensive care unit (ICU) refers only to the ICU in Limassol General Hospital and to the ICU in Nicosia General Hospital.



The overall median length of stay in ICU (for all 32 ICU cases, considering those still in ICU until June 2nd) was 11 days (IQR: 8-29 days). Figure A4 shows the Kaplan-Meier curve of the length of stay in ICU.

For patients who died while in ICU (n = 16), the median length of stay in ICU was 10.5 days (IQR: 5.5-23.5). Figure A5 shows the Kaplan-Meier curve of the length of stay in ICU for the people who died.

For patients transferred/ discharged alive from ICU (n = 13), the median length of stay in ICU was 10 days (IQR: 8-28 days).

The median age of patients ever admitted to ICU was 65.5 years (IQR: 56-75 years). ICU patients are mainly male (n = 23; 71.9%).

The number of cases currently in ICU is 0.3 per 100,000 population. For comparison, Italy and Lombardia reported the highest rates of 6.7 per 100,000 population (n = 4,068) and 13.8 per 100,000 population (n = 1,381) on April 3rd. The ICU rates in Italy and Lombardia on June 2nd are 0.7 per 100,000 population (n = 408) and 1.7 per 100,000 population (n = 166) (<https://github.com/pcm-dpc/COVID-19/tree/master/dati-andamento-nazionale>; <https://github.com/pcm-dpc/COVID-19/tree/master/dati-regioni>).

Figure 7 shows the number of patients in ICU, by day and intubation. Table A4 in the appendix shows the total number of ICU admissions by date.

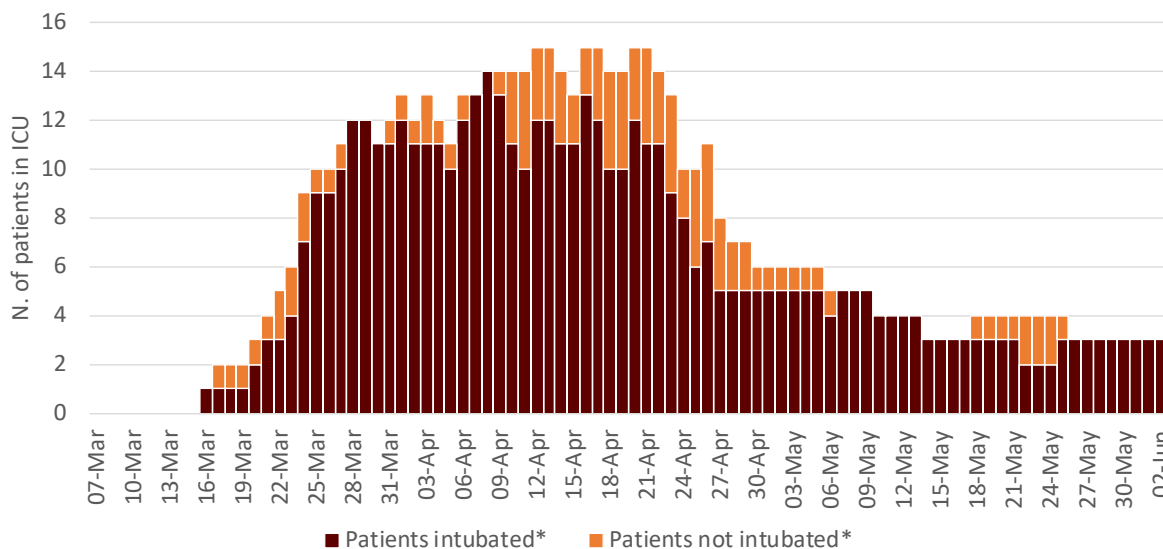


Figure 7: Number of laboratory-confirmed COVID-19 cases in ICU by date and intubation.

**Date of discharge/transfer/death included*

Recovered/released

As of June 2nd, 84.1% (n = 801) of COVID-19 cases have recovered⁵; 712 (74.8%) tested negative two consecutive times, and 89 (9.4%) have been released as per the new guidelines⁶. The median time between the second negative result and the first date of sampling was 25 days (IQR: 19-37 days).

Table 2 shows the number and percentage of recovered cases and their characteristics.

Table 2: Characteristics of recovered/released cases (n = 801)

Characteristics	Total					
	Total	Recovered			Released after 21 days	
		N	Two consecutive negative tests	%	N	%
Total	952	712	74.8	89	9.3	
Sex						
Male	478	352	73.6	42	8.8	
Female	474	360	75.9	47	9.9	
Age groups (years)						
0-9	30	16	53.3	8	26.7	
10-19	44	33	75.0	4	9.1	
20-29	131	92	70.2	9	6.9	
30-39	189	146	77.2	16	8.5	
40-49	159	125	78.6	15	9.4	
50-59	170	137	80.6	14	8.2	
60-69	112	83	74.1	15	13.4	
70-79	86	61	70.9	7	8.1	
80+	31	19	61.3	1	3.2	
Median age in years (IQR*)	45 (31-59)	45 (32-59)		45 (29-59)		

⁵ For symptomatic cases, or for cases hospitalised, a COVID-19 case can be considered cured after the resolution of symptoms and two negative tests for SARS-CoV-2 at 24-hour interval at least.

For asymptomatic cases, or for persons isolated at home, the negative tests to document virus clearance should be obtained at a minimum of 14 days after the initial positive test (end of the quarantine period). Novel coronavirus (SARS-CoV-2). Discharge criteria for confirmed COVID-19 cases- When is it safe to discharge COVID-19 cases from the hospital or end home isolation? - Technical Report, 10 March 2020. Stockholm: ECDC; 2020.

⁶ A person is released 21 days after the initial diagnosis, if he/she has a positive test 14 days after and remain in isolation for one more week without being further tested.



Comparison with selected countries

As of June 2nd, in Cyprus the reporting rate was 108.7 cases per 100,000 population, the mortality rate was 2.7 deaths per 100,000 population and the CFR was 2.5%.

Table 3 shows COVID-19 indicators for Cyprus and other selected countries.

Figure A2 in appendix reports the rates of cumulative tests and cases (per 100,000 population) in Cyprus and other selected countries. In Cyprus the testing rate is 13,734.2 per 100,000 population.

It should be noted that the number of cases, tests and deaths for Cyprus are aggregated and include people from abroad and the British bases, while the total population does not include inhabitants from abroad or from the British bases.

Table 3: COVID-19 indicators by selected countries, as of 02/06/2020.

Country	N. of cases †	N. of cases (per 100,000 pop)	N. of tests §	N. of tests (per 100,000 pop)	N. of deaths†	CFR° (%)	Mortality rate (per 100,000 pop)	Pop. (in thousands) †
Cyprus	952	108.7	120,298	13,734.2	24	2.5	2.7	875.9*
Italy	233,197	385.9	3,962,292	6,556.7	33,475	14.4	55.4	60,431.3
USA	1,811,277	553.6	17,340,682	5,300.2	105,147	5.8	32.1	327,167.4
UK	276,332	415.6	4,615,146	6,941.2	39,045	14.1	58.7	66,488.9
Greece	2,917	27.2	180,518	1,682.7	175	6.0	1.6	10,727.7
Malta	619	128.0	70,693	14,620.2	9	1.5	1.9	483.5
Sweden	37,814	371.3	177,200	1,740.1	4,403	11.6	43.2	10,183.2
Netherlands	46,545	270.1	209,718	1,217.1	5,962	12.8	34.6	17,231
Republic of Korea	11,541	22.4	939,851	1,820.2	272	2.4	0.5	51,635.3

†Number of cases, number of deaths and population (in thousands) for all countries, but Cyprus, as reported by ECDC at

<https://www.ecdc.europa.eu/en/publications-data/download-todays-data-geographic-distribution-covid-19-cases-worldwide>

§ Data for Cyprus: internal communication; data for other countries: <https://www.finddx.org/covid-19/test-tracker/>

° CFR: Case fatality ratio.

* Data from Statistical Service of the Republic of Cyprus, 2018 ([Statistical Service of the Republic of Cyprus](#))



Acknowledgments

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Appendix

Table A1: Laboratory-confirmed COVID-19-cases in Cyprus by district of residence and origin (n = 952).

District/ <i>municipality</i>	Total		Travel-related		Unknown origin		Locally-acquired			Pop.
	N	%	N	%	N	%	N	%	N (per 100,000 pop)	
Ammochostos	44	4.6	10	7.1	9	6.2	25	3.7	51.9	48,200
Larnaka	245	25.7	19	13.6	48	33.1	178	26.7	121.1	147,000
<i>Aradippou</i>	126	13.2	10	7.1	33	22.8	83	12.4	431.7	19,228
Limassol	110	11.6	33	23.6	14	9.7	63	9.4	25.7	244,900
Nicosia	369	38.8	50	35.7	48	33.1	271	40.6	79.3	341,700
Pafos	161	16.9	11	7.9	25	17.2	125	18.7	132.8	94,100
Other	23	2.4	17	12.1	1	0.7	5	0.7		
Total	952	100	140	100	145	100	667	100	76.2	875,900

Other includes British Bases, abroad and unknown



Table A2: Sex and age distribution of asymptomatic cases at diagnosis (n = 311).

Characteristics	All cases (n = 952)	Asymptomatic cases (n = 311)	
	N	n	%
Sex			
Male	478	170	35.6
Female	474	141	29.7
Age groups (years)			
0-9	30	11	36.7
10-19	44	21	47.7
20-29	131	54	41.2
30-39	189	70	37.0
40-49	159	47	29.6
50-59	170	47	27.6
60-69	112	21	18.8
70-79	86	30	34.9
80+	31	10	32.3
Median age in years (IQR*)	45 (31-59)	39 (29-56)	

*IQR: Interquartile Range



Table A3: Characteristics of all deaths (n = 24).

Characteristics	N	%
Sex		
Male	17	70.8
Female	7	29.2
Age groups (years)		
0-9	0	0.0
10-19	0	0.0
20-29	0	0.0
30-39	0	0.0
40-49	1	4.2
50-59	2	8.3
60-69	6	25.0
70-79	10	41.7
80+	5	20.8
Median age in years (IQR*)	76 (67-79)	
District		
Ammochostos	3	12.5
Larnaka	9	37.5
Limassol	2	8.3
Nicosia	3	12.5
Pafos	7	29.2

*IQR: Interquartile Range



Table A4: Number of cases by date of sampling, laboratory reporting, death, and ICU admission.

Date	Sampling (n = 952)	Laboratory reporting (n = 952)	Death (n = 24)	ICU first admission (n = 32)
01-Mar	0	0	0	0
02-Mar	0	0	0	0
03-Mar	0	0	0	0
04-Mar	0	0	0	0
05-Mar	0	0	0	0
06-Mar	0	0	0	0
07-Mar	1	0	0	0
08-Mar	0	0	0	0
09-Mar	1	2	0	0
10-Mar	4	0	0	0
11-Mar	2	0	0	0
12-Mar	6	0	0	0
13-Mar	13	16	0	0
14-Mar	8	5	0	0
15-Mar	12	8	0	0
16-Mar	5	13	0	1
17-Mar	8	4	0	1
18-Mar	16	16	0	0
19-Mar	13	9	0	0
20-Mar	16	10	0	1
21-Mar	10	0	1	1
22-Mar	6	16	0	1
23-Mar	13	19	0	1
24-Mar	18	8	2	3
25-Mar	14	10	0	3
26-Mar	34	20	0	1
27-Mar	31	24	3	2
28-Mar	26	21	1	3
29-Mar	33	27	1	1
30-Mar	37	33	0	0
31-Mar	39	45	2	0
01-Apr	29	56	2	1
02-Apr	47	29	0	0
03-Apr	21	32	1	2



ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ

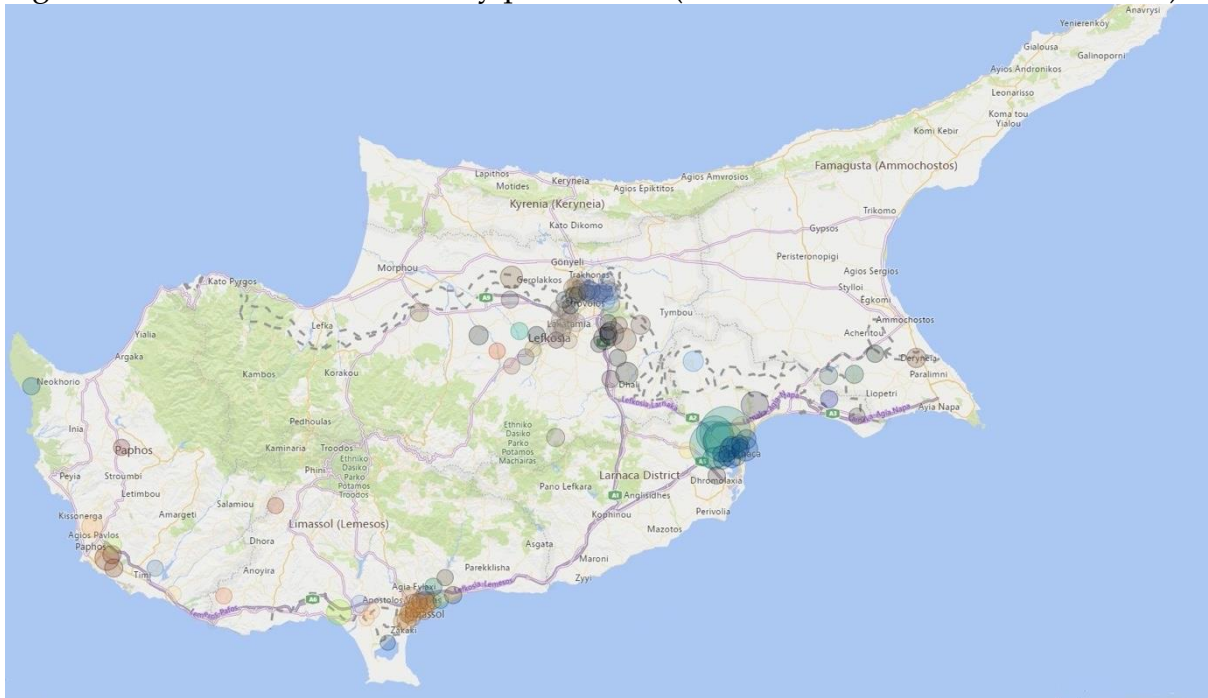
04-Apr	25	38	1	0
05-Apr	9	18	0	0
06-Apr	37	23	0	1
07-Apr	39	23	0	1
08-Apr	23	32	0	1
09-Apr	17	31	1	1
10-Apr	18	20	0	1
11-Apr	37	20	1	0
12-Apr	21	16	1	1
13-Apr	26	41	0	0
14-Apr	25	25	0	0
15-Apr	15	16	0	0
16-Apr	9	19	0	2
17-Apr	4	15	0	0
18-Apr	6	7	0	0
19-Apr	0	1	0	0
20-Apr	11	6	0	1
21-Apr	6	13	0	0
22-Apr	7	5	1	0
23-Apr	13	7	1	0
24-Apr	2	12	0	0
25-Apr	9	3	0	0
26-Apr	4	2	1	1
27-Apr	16	11	0	0
28-Apr	5	16	0	0
29-Apr	9	4	0	0
30-Apr	6	5	0	0
01-May	7	8	0	0
02-May	3	7	0	0
03-May	2	4	0	0
04-May	4	6	0	0
05-May	5	4	1	0
06-May	6	4	0	0
07-May	2	3	0	0
08-May	3	3	0	0
09-May	8	3	1	0
10-May	1	4	0	0
11-May	0	3	0	0



ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ

12-May	3	4	1	0
13-May	2	0	1	0
14-May	3	3	0	0
15-May	2	4	0	0
16-May	4	4	0	0
17-May	0	0	0	0
18-May	1	1	0	0
19-May	5	5	0	0
20-May	3	0	0	0
21-May	8	7	0	0
22-May	1	1	0	0
23-May	2	3	0	0
24-May	0	3	0	0
25-May	2	2	0	0
26-May	0	1	0	0
27-May	3	1	0	0
28-May	0	1	0	0
29-May	2	1	0	0
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31-May	1	4	0	0
01-Jun	4	2	0	0
02-Jun	0	3	0	0

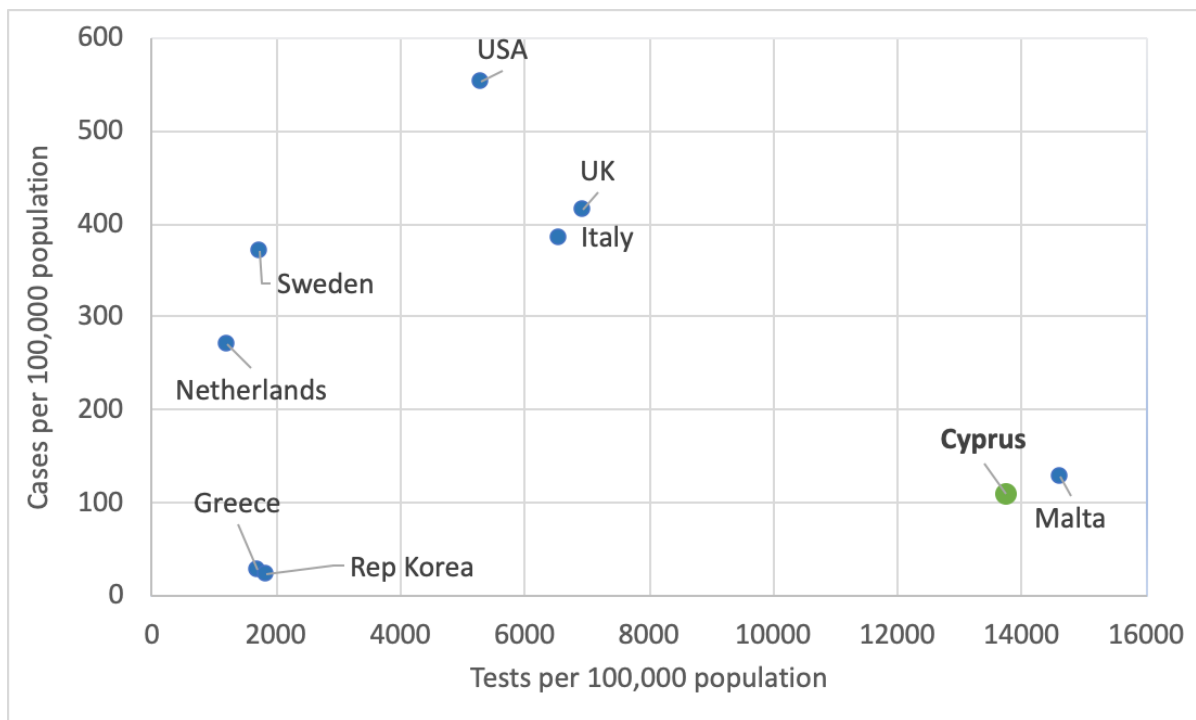
Figure A1: Distribution of cases by postal code (n = 923 with information available).



Each colour represents a different postal code and the size changes according to the number of cases.



Figure A2: Cumulative tests and cases per 100,000 population in Cyprus and other selected countries (Updated: 02/06/2020).



Data source for Cyprus: internal communication; data source for other countries:

<https://www.finddx.org/covid-19/test-tracker/>

Numbers of cases, tests and deaths for Cyprus are aggregated and include people from abroad and the British bases, while the total population does not include inhabitants from abroad or from the British bases.



Figure A3: Time from date of sampling to death of COVID-19 cases who died (n = 24; for three cases who died on the day of sampling/reporting, the time alive has been considered 0.5 days).

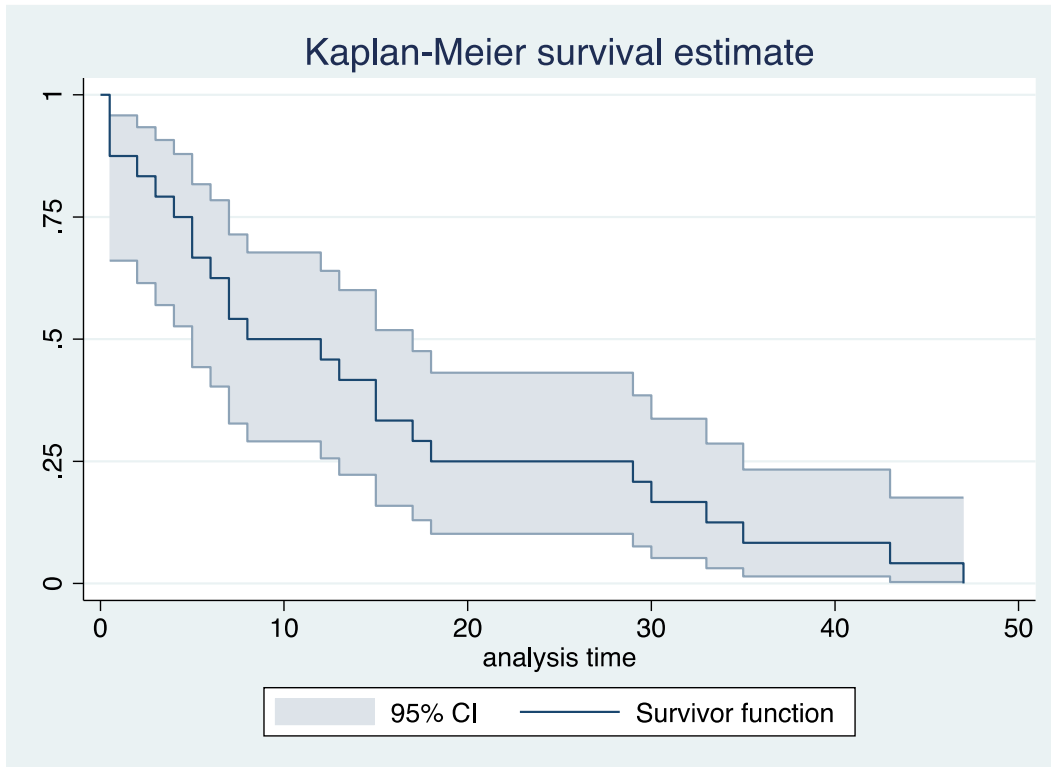




Figure A4: Length of stay in ICU (n = 32; for two cases who died on the same day of ICU admission the length of stay in ICU has been considered 0.5 days).

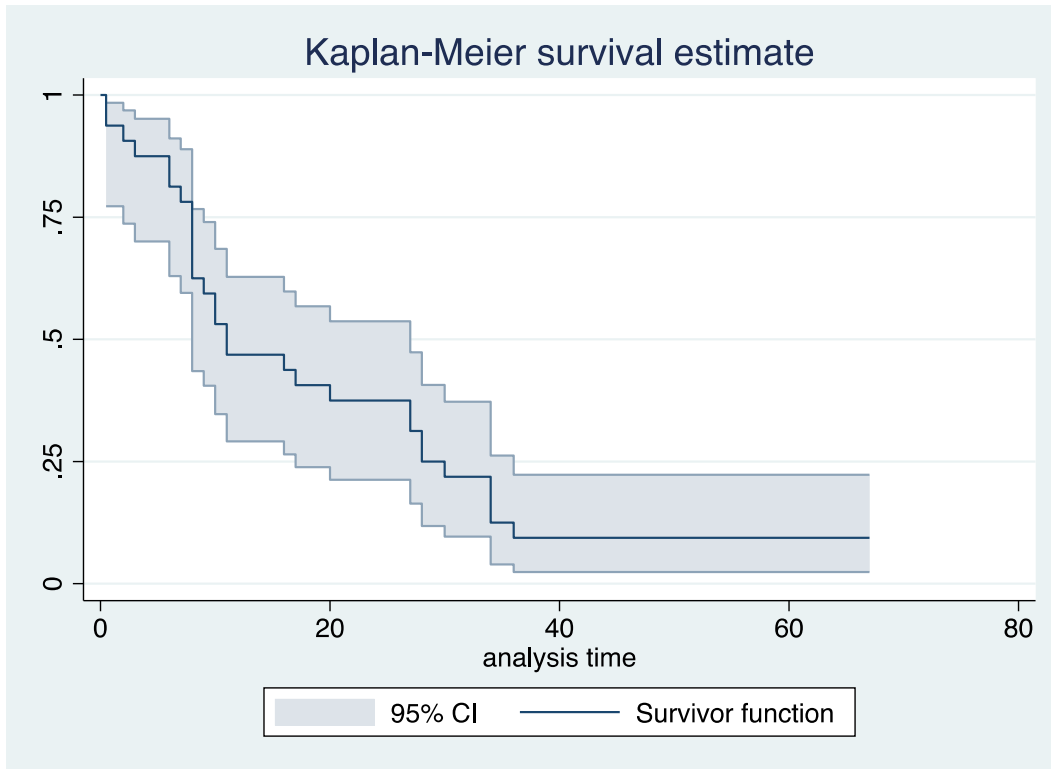




Figure A5: Length of stay in ICU of patients who died and had been admitted to an ICU (n = 16; for two cases who died the same day of ICU admission the length of stay in ICU has been considered 0.5 days).

