



# Coronavirus Disease 2019 (COVID-19)

## National Surveillance Report as of 07/04/2020

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## Summary

- As of April 7<sup>th</sup>, a total of 493 COVID-19 cases and 14 deaths (case fatality rate: 2.8%) have been reported in the Republic of Cyprus.
- Among these cases, 25.4% are health-care workers (n = 125) - 5.7% physicians (n = 28), 13.2% nurses (n = 65), 2.2% other health occupations (n = 11), and 4.3% auxiliary staff (n = 21).
- The median age of cases is 48.5 years (interquartile range - IQR: 35-62 years); 51% are male.
- Overall, of 438 cases for which the place of exposure was known, locally acquired infections (index cases and close-contacts of confirmed cases) were 350 (79.9%) - of these 12% (n = 42) were related to a health-care facility (General Hospital in Pafos) and 15.4% (n = 54) were reported in Aradippou municipality.
- In total, 25% (n = 123) of cases received hospital care, of which 56 (45.5%) have been discharged alive from the hospital. Median age of all hospitalized patients is: 65 years (interquartile range: 52-75 years), and 69% are males.
- Thirteen (11% of all hospitalized patients) patients are currently in intensive care units.
- A total of 13,017 tests have been performed as of April 7<sup>th</sup> (1,486.1 per 100,000 population).



**ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ**



## 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 April 7<sup>th</sup>, 493 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 4.5 days (IQR: 2-8 days). It should be noted that for six cases the date of sample collection was before the onset of symptoms, as a result of immediate testing of contacts of possible and laboratory-confirmed cases.

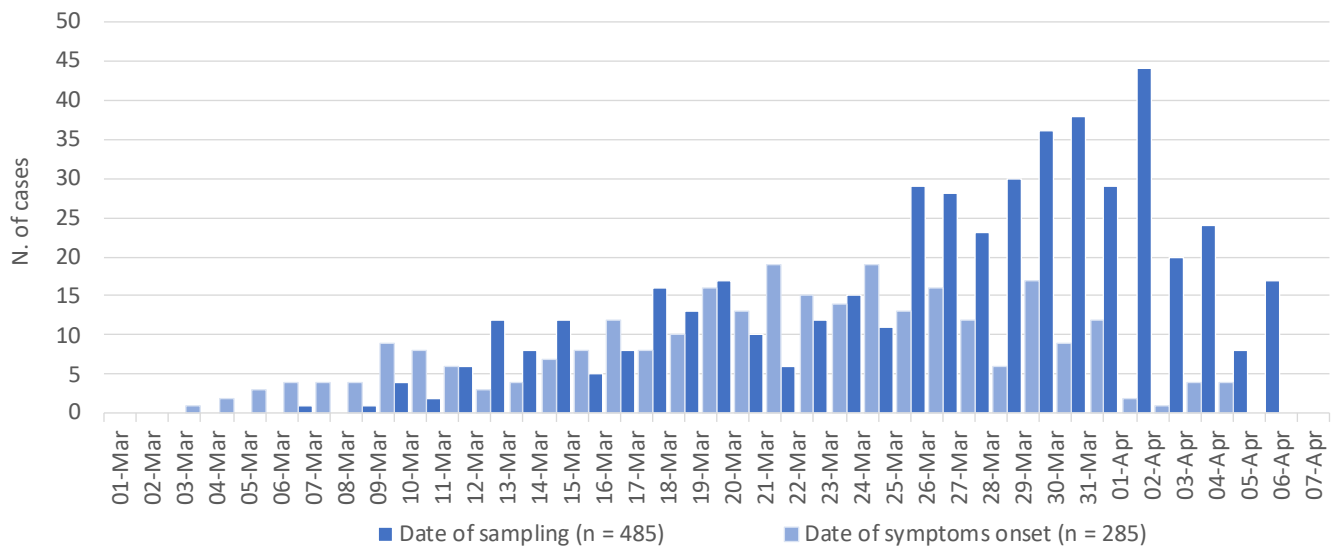


Figure 1: Number of laboratory-confirmed COVID-19-cases in Cyprus since 01/03/2020 by date of sample collection and date of symptoms onset (n = 485 and n = 285 with data available, respectively).

*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.*

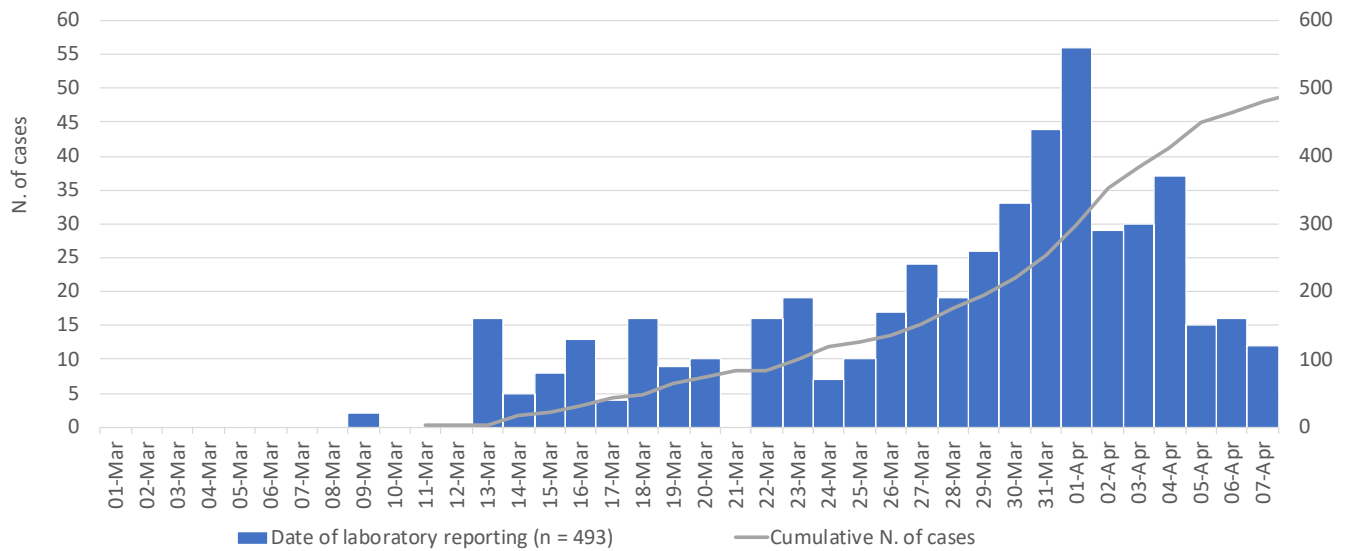


Figure 2: Number and cumulative number of laboratory-confirmed COVID-19-cases in Cyprus since 01/03/2020, by date of laboratory reporting (n = 493). Recent data should be interpreted with caution due to the possibility that cases with date of onset within the reporting period have not yet been diagnosed.



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Among these cases, 51% are male (n = 249) and 49% female (n = 242), while for two cases sex has not been recorded at the moment.

The median age of cases is 48.5 years (interquartile range: 35-62 years). By age groups, cases included 27 infants, children and adolescents aged 0-17 years-old (5.6%), 317 adults aged 18-59 years (65.5%), and 140 persons aged 60 years and older (28.9%). The age of 9 notified cases has not been recorded at the moment (Figure 3).

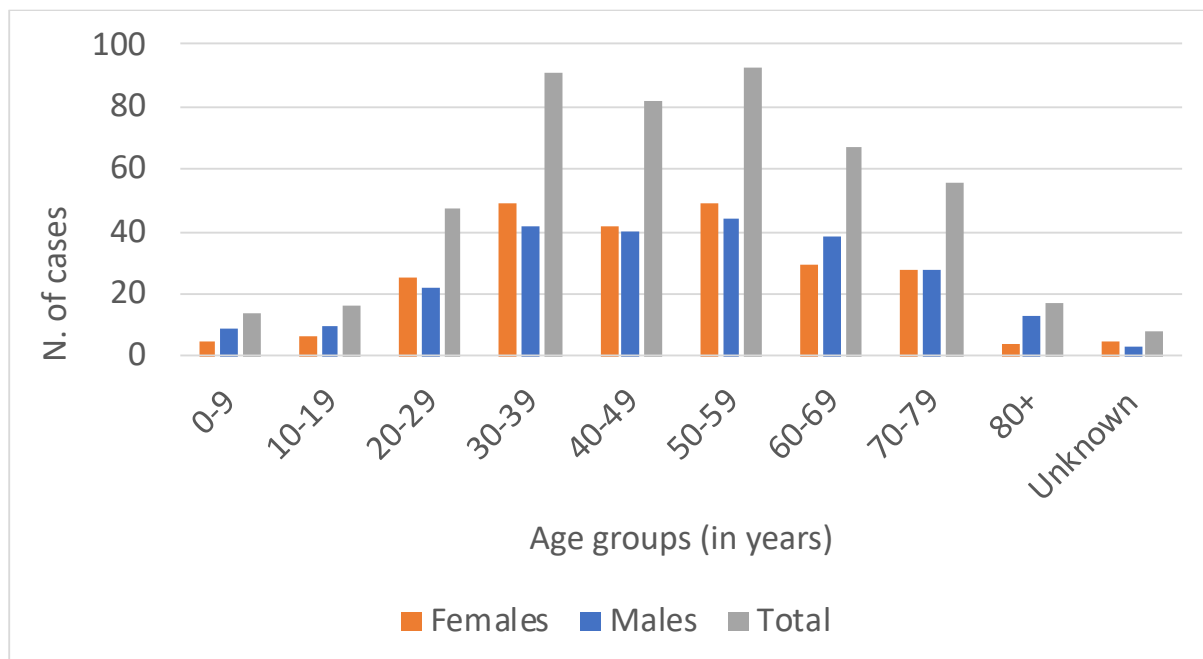


Figure 3: Laboratory-confirmed COVID-19-cases in Cyprus by sex and age groups (n=484 cases with data available).



## Characteristics of the cases

Among all cases, 177 (35.9%) were reported in Nicosia district, 124 (25.2%) in Larnaka, 90 (18.3%) in Pafos, 58 (11.8%) in Limassol, and 31 (6.3%) in Ammochostos. Thirteen cases (2.6%) were reported either in British bases or from abroad, or information was not available (Table A1 in appendix).

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

Notably, 63 cases (12.8%) were reported in Aradippou, a municipality in Larnaka district (Table A1 in appendix). Cases in Aradippou are mainly females (56%;  $n = 35$ ) and the median age is 57 years (interquartile range: 49-71 years).

Among these 493 cases, 25.4% are health-care workers<sup>1</sup> ( $n = 125$ ), of which 5.7% physicians ( $n = 28$ ), 13.2% nurses ( $n = 65$ ), 2.2% other health occupations ( $n = 11$ ), and 4.3% auxiliary staff ( $n = 21$ ).

Table 1 shows the distribution of health-care workers by district of residence.

| District    | Health-care worker | Physicians | Nurses | Other health occupations | Auxiliary staff |
|-------------|--------------------|------------|--------|--------------------------|-----------------|
| Ammochostos | 14                 | 2          | 7      | 2                        | 3               |
| Larnaka     | 25                 | 5          | 12     | 4                        | 4               |
| Limassol    | 10                 | 1          | 4      | 2                        | 3               |
| Nicosia     | 32                 | 10         | 13     | 2                        | 7               |
| Pafos       | 44                 | 10         | 29     | 1                        | 4               |
| Total       | 125                | 28         | 65     | 11                       | 21              |

Table 1: Health-care workers by district of residence ( $n=125$ )

<sup>1</sup> 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.



## Epidemiological link

As of April 7<sup>th</sup>, place of exposure is available for 438 cases (89%), and 55 cases (11%) are under investigation.

In total, 17.9% (n = 88) 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 79.9% (n = 350 of 438 with known place of exposure) of the cases, of which 12% (n = 42) were related to a health-care facility (General Hospital in Pafos).

Of all cases in Aradippou (Larnaka district) (n = 63), 54 (85.7%) were locally-acquired, five (7.9%) imported and for four cases (6.4%) the epidemiological link was not recorded at the moment.

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

## Clinical features

Of the 493 laboratory-confirmed COVID-19-cases, clinical information is available for 93.7% (n = 462), of which 21.2% (n = 98) reported no symptoms at diagnosis and 78.8% (n = 364) reported at least one symptom. The most commonly reported symptoms were:

- cough (207/433; 47.8%),
- fever (176/447; 39.3%),
- myalgia (123/442; 27.8%),
- sore throat (106/443; 23.9%), and
- shortness of breath (81/413; 19.6%).

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

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





## Deaths

As of April 7<sup>th</sup>, 14 deaths were reported in Cyprus (Case Fatality Rate - CFR: 2.8%). The mortality rate for COVID-19 is 1.6 per 100,000 population.

Twelve deaths occurred in men; median age of all deaths was 72.5 years (IQR: 65-77 years). Five deaths were reported among residents in Pafos, 3 in Larnaka, 2 in Nicosia, Limassol and Ammochostos, each (Appendix Table A3).

Remarkably, among all deaths, 9 reported COVID-19 as underlying cause of death (COVID-19 CFR: 1.8%).

Figure 4 reports the number of total deaths by date.

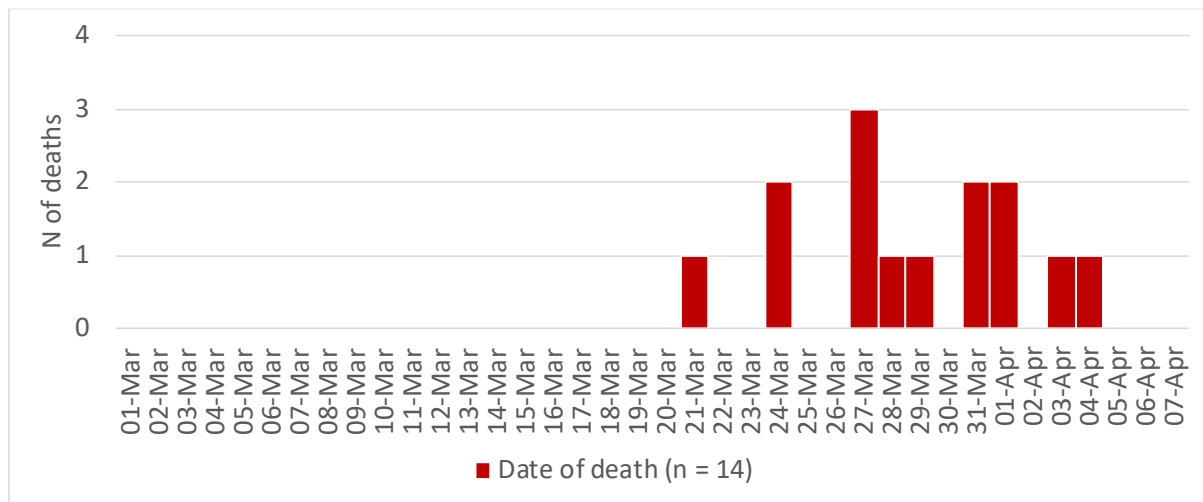


Figure 4: Number deaths among COVID-19 cases in Cyprus by date of death (n = 14)



## Hospitalization and intensive care unit (ICU) admissions<sup>2</sup>

In total, 25% (n = 123) patients received hospital care, and 56 patients (45.5%) have been discharged alive from the hospital.

When age was available (n = 121), the median age of hospitalized patients was 65 years (interquartile range: 52-75 years). Hospitalized cases were mainly males (n = 85; 69%).

Overall, 23 cases (19% of all hospitalized patients) have been admitted to ICU<sup>3</sup>, of which 13 (11% of all hospitalized patients) are currently in ICU (as of April 7<sup>th</sup>). The median age of patients admitted to ICU was 68.5 years (interquartile range: 61-76 years), for one patient age is not recorded at the moment. The number of cases in ICU is 1.5 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 3<sup>rd</sup> (<https://github.com/pcm-dpc/COVID-19/blob/8defe421b88123392e3f2b913bb113733d40f8d0/dati-andamento-nazionale/dpc-covid19-ita-andamento-nazionale.csv>; <https://github.com/pcm-dpc/COVID-19/blob/master/dati-regioni/dpc-covid19-ita-regioni-20200402.csv>).

Figure 5 shows the number of patients in ICU by day.

Table A4 in appendix shows the total number of ICU admissions by date.

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<sup>2</sup> Data on hospitalisation and ICU should be interpreted with caution because delay in data reporting is likely

<sup>3</sup> Intensive care unit (ICU) refers only to the ICU in Limassol General Hospital and to the ICU in Nicosia General Hospital

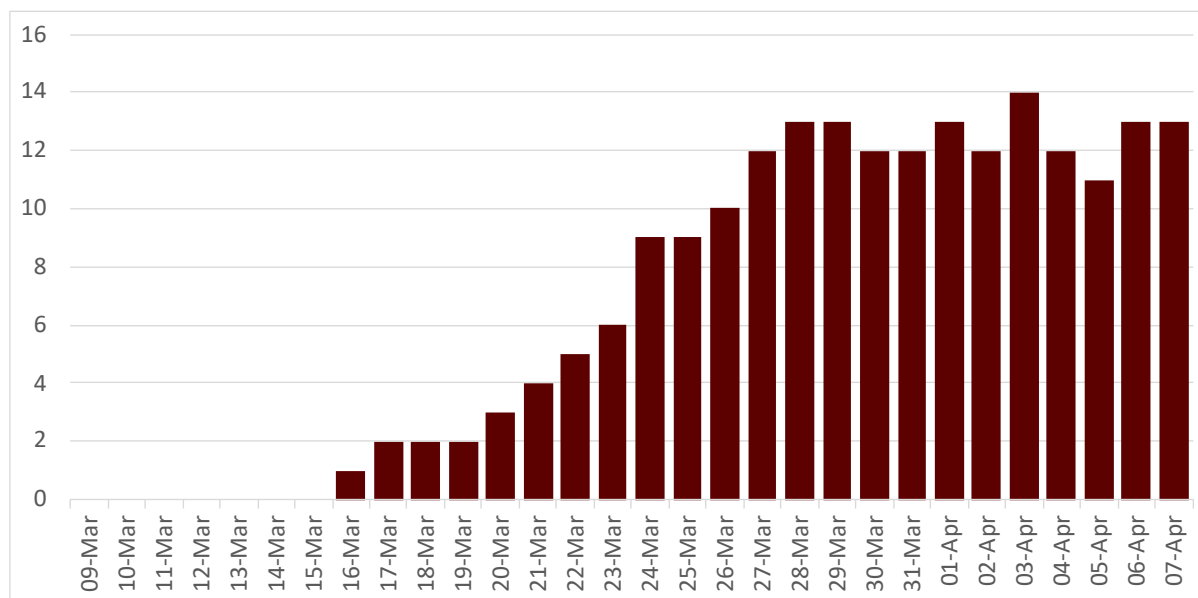


Figure 5: Number of laboratory-confirmed COVID-19 cases currently in ICU by day



## Comparison with selected countries

As of April 7<sup>th</sup>, in Cyprus the reporting rate was 56.3 cases per 100,000 population, the mortality rate was 1.6 deaths per 100,000 population and the CFR was 2.8%. Table 2 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 1,486.1 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 2: COVID-19 indicators by selected countries, as of 07/04/2020

| 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            | 493           | 56.3                          | 13017         | 1486.1                        | 14             | 2.8      | 1.6                              | 875.9*                |
| Italy             | 135586        | 224.4                         | 755445        | 1250.1                        | 17129          | 12.6     | 28.3                             | 60431.3               |
| USA               | 398809        | 121.9                         | 1951044       | 596.3                         | 12895          | 3.2      | 3.9                              | 327167.4              |
| UK                | 55242         | 83.1                          | 266694        | 401.1                         | 6159           | 11.1     | 9.3                              | 66488.9               |
| Greece            | 1832          | 17.1                          | 18844         | 175.7                         | 81             | 4.4      | 0.8                              | 10727.7               |
| Malta             | 293           | 60.1                          | 10358         | 2142.3                        | 0              | 0.0      | 0.0                              | 483.5                 |
| Sweden            | 7693          | 75.5                          | 36900         | 362.4                         | 591            | 7.7      | 5.8                              | 10183.2               |
| Netherlands       | 19580         | 113.6                         | 90614         | 525.9                         | 2101           | 10.7     | 12.2                             | 17231.0               |
| Republic of Korea | 10384         | 20.1                          | 477304        | 924.4                         | 200            | 1.9      | 0.4                              | 51635.3               |

†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](#))



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## Appendix

Table A1: Laboratory-confirmed COVID-19-cases in Cyprus by district of residence and origin (n = 493)

| District/<br><i>municipality</i> | Total |      | Travel-<br>related |      | Unknown<br>origin |      | Locally-<br>acquired |      | Pop.  |         |
|----------------------------------|-------|------|--------------------|------|-------------------|------|----------------------|------|-------|---------|
|                                  | N     | %    | N                  | %    | N                 | %    | N                    | %    |       |         |
| Ammochostos                      | 31    | 6.3  | 7                  | 8.0  | 5                 | 9.1  | 19                   | 5.4  | 39.4  | 48,200  |
| Larnaka                          | 124   | 25.2 | 11                 | 12.5 | 10                | 18.2 | 103                  | 29.4 | 70.1  | 147,000 |
| <i>Aradippou</i>                 | 63    | 12.8 | 5                  | 5.7  | 4                 | 7.3  | 54                   | 15.4 | 280.8 | 19,228  |
| Limassol                         | 58    | 11.8 | 20                 | 22.7 | 10                | 18.2 | 28                   | 8.0  | 11.4  | 244,900 |
| Nicosia                          | 177   | 35.9 | 34                 | 38.6 | 17                | 30.9 | 126                  | 36.0 | 36.9  | 341,700 |
| Pafos                            | 90    | 18.3 | 7                  | 8.0  | 13                | 23.6 | 70                   | 20.0 | 74.4  | 94,100  |
| Other                            | 13    | 2.6  | 9                  | 10.2 | 0                 | 0.0  | 4                    | 1.1  |       |         |
| <b>Total</b>                     | 493   | 100  | 88                 | 100  | 55                | 100  | 350                  | 100  | 40.0  | 875,900 |

NA: Not Applicable; Other includes British Bases, abroad and unknown



Table A2: Sex and age distribution of asymptomatic cases at diagnosis (n = 98)

| <b>Characteristics</b>     | <b>N</b>   | <b>%</b> |
|----------------------------|------------|----------|
| Sex                        |            |          |
| Male                       | 56         | 57.1     |
| Female                     | 42         | 42.9     |
| Unknown                    | 0          | 0.0      |
| Age groups (years)         |            |          |
| 0-9                        | 7          | 7.1      |
| 10-19                      | 4          | 4.1      |
| 20-29                      | 12         | 12.2     |
| 30-39                      | 17         | 17.3     |
| 40-49                      | 14         | 14.3     |
| 50-59                      | 15         | 15.3     |
| 60-69                      | 8          | 8.2      |
| 70-79                      | 15         | 15.3     |
| 80+                        | 3          | 3.1      |
| Unknown                    | 3          | 3.1      |
| Median age in years (IQR*) | 44 (30-60) |          |

\*IQR: Interquartile Range



Table A3: Characteristics of all deaths (n = 14)

| Characteristics            | N            | %    |
|----------------------------|--------------|------|
| Sex                        |              |      |
| Male                       | 12           | 85.7 |
| Female                     | 2            | 14.3 |
| Unknown                    | 0            |      |
| 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            | 7.1  |
| 50-59                      | 1            | 7.1  |
| 60-69                      | 5            | 35.7 |
| 70-79                      | 4            | 28.6 |
| 80+                        | 3            | 21.4 |
| Unknown                    | 0            | 0.0  |
| Median age in years (IQR*) | 72.5 (65-77) |      |
| District                   |              |      |
| Ammochostos                | 2            | 14.3 |
| Larnaka                    | 3            | 21.4 |
| Limassol                   | 2            | 14.3 |
| Nicosia                    | 2            | 14.3 |
| Pafos                      | 5            | 35.7 |

\*IQR: Interquartile Range





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

| <b>Date</b> | <b>Sampling<br/>(n = 485)</b> | <b>Laboratory reporting<br/>(n = 493)</b> | <b>Death<br/>(n = 14)</b> | <b>ICU admission<br/>(n = 23)</b> |
|-------------|-------------------------------|---|---------------------------|-----------------------------------|
| 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      | 12                            | 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      | 17                            | 10  | 0                         | 1                                 |
| 21-Mar      | 10                            | 0   | 1                         | 1                                 |
| 22-Mar      | 6                             | 16  | 0                         | 1                                 |
| 23-Mar      | 12                            | 19  | 0                         | 1                                 |
| 24-Mar      | 15                            | 7   | 2                         | 3                                 |
| 25-Mar      | 11                            | 10  | 0                         | 2                                 |
| 26-Mar      | 29                            | 17  | 0                         | 1                                 |
| 27-Mar      | 28                            | 24  | 3                         | 2                                 |
| 28-Mar      | 23                            | 19  | 1                         | 3                                 |
| 29-Mar      | 30                            | 26  | 1                         | 1                                 |
| 30-Mar      | 36                            | 33  | 0                         | 0                                 |
| 31-Mar      | 38                            | 44  | 2                         | 0                                 |
| 01-Apr      | 29                            | 56  | 2                         | 1                                 |
| 02-Apr      | 44                            | 29  | 0                         | 0                                 |



**ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ**

|        |    |    |   |   |
|--------|----|----|---|---|
| 03-Apr | 20 | 30 | 1 | 2 |
| 04-Apr | 24 | 37 | 1 | 0 |
| 05-Apr | 8  | 15 | 0 | 0 |
| 06-Apr | 17 | 16 | 0 | 2 |
| 07-Apr | 0  | 12 | 0 | 0 |

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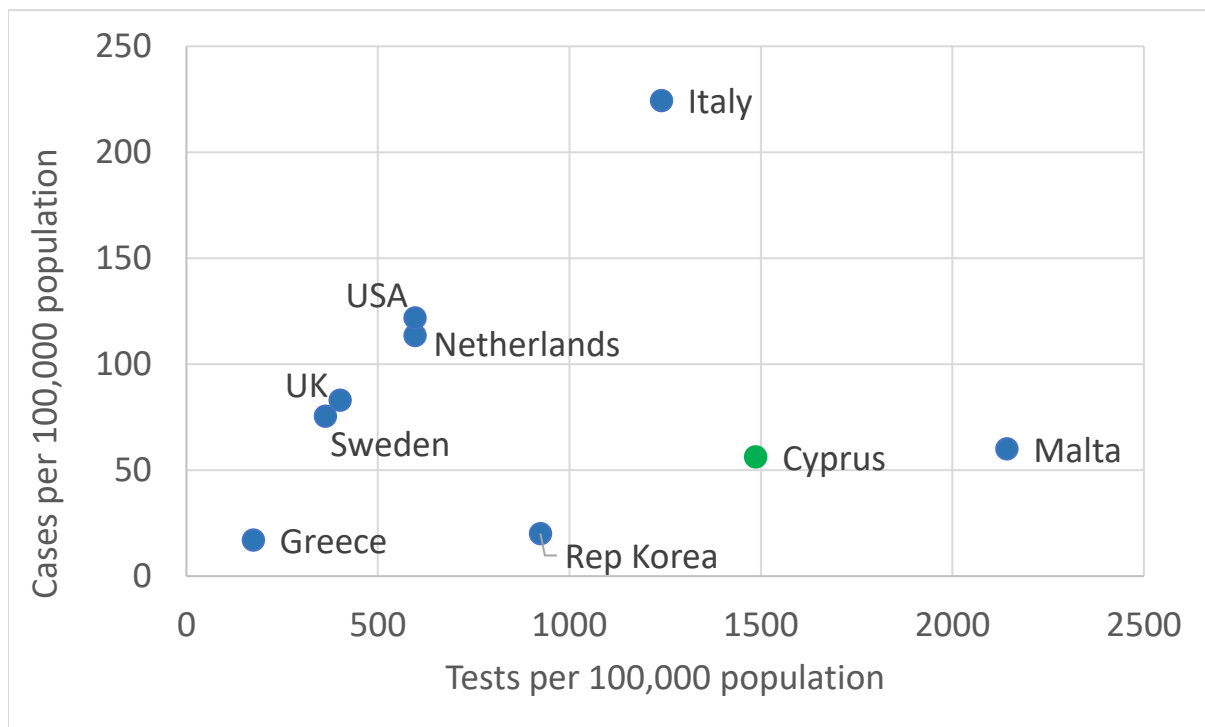
Figure A1. Distribution of cases by postal code (n = 457 with information available)



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: 07/04/2020)



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

*That 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.*