



ESCAIDE

European Scientific Conference on Applied Infectious Disease Epidemiology

online, 26-27 November

extended to 24-27 November 2020!



EPIDEMIOLOGICAL CHARACTERISTICS OF THE COVID-19 OUTBREAK IN A SECONDARY HOSPITAL IN SPAIN

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BACKGROUND

On December 31, 2019, the authorities of the People's Republic of China alerted of the appearance of a new type of virus of the *Coronaviridae* family, called SARS-CoV-2. Spain is among the most affected countries. Our aim is to describe the cases of COVID-19 during the first four months of the epidemic at Infanta Sofía University Hospital, San Sebastián de los Reyes (Madrid), a public secondary hospital.

METHODS

Retrospective descriptive study of cases that met COVID-19 clinical diagnosis criteria or had a positive PCR test during the period from February 27 to June 29, 2020. A description of demographic variables, hospital and ICU stay, nursing home residents, country of birth, mortality and distribution of the epidemiological curve was performed. Since new cases were reported daily, a seven-day moving average approach was used to calculate the epidemiological curve. Patient characteristics, nursing home residency, case distribution by age and sex, mortality and the epidemiological curve were analyzed. Confirmed cases were divided into six categories (Spain, Europe, Africa, Asia, North America, Latin America and the Caribbean) according to patient country of birth.

RESULTS

1828 confirmed cases were attended at our center (Figure 1), of whom **64,4% were hospitalized**. **5,6% were admitted to ICU**. 51,6% of all confirmed cases were male. The median age was 64,4 years. The most affected age groups in our study corresponded to older ages, **70-79 in male and over 80-year-old women**. 15,1% were nursing home residents. 18,3% of all confirmed cases were of Latin American origin (Figure 2) of which 7,2% were admitted to the ICU. Overall case fatality was 14,7%. **Significant differences were observed among PCR positive testing cases and clinically diagnosed cases** where PCR positive had different basal characteristics and needed more ICU admission (6,7% vs 3,4%). We observed a **biphasic epidemiological curve**, the peak occurred between **March 20 and March 23** whereas hospital and ICU admissions remained stable (Figure 3).

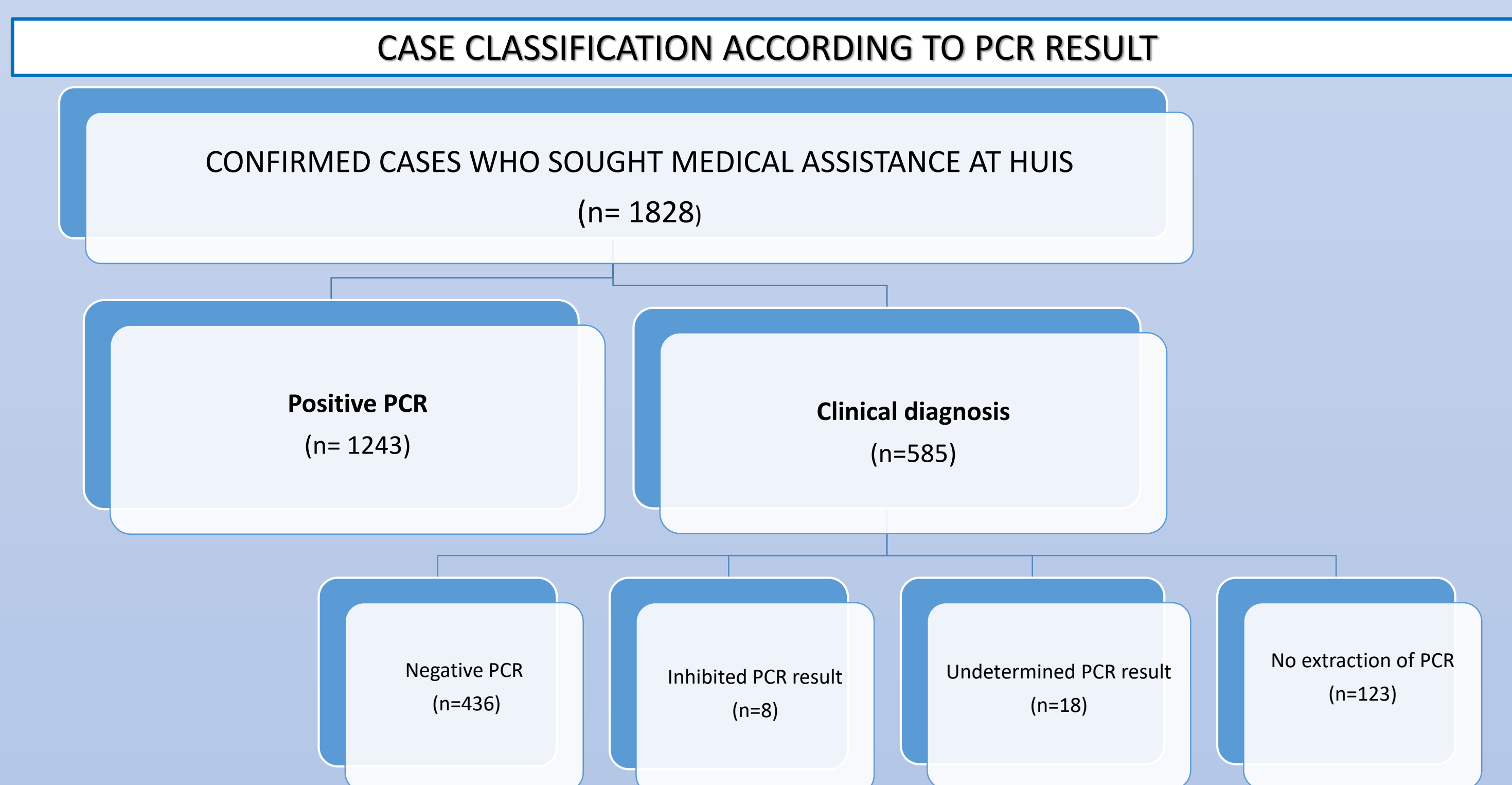


Figure 1. Identification and numbers of confirmed cases algorithm. Source: own elaboration.

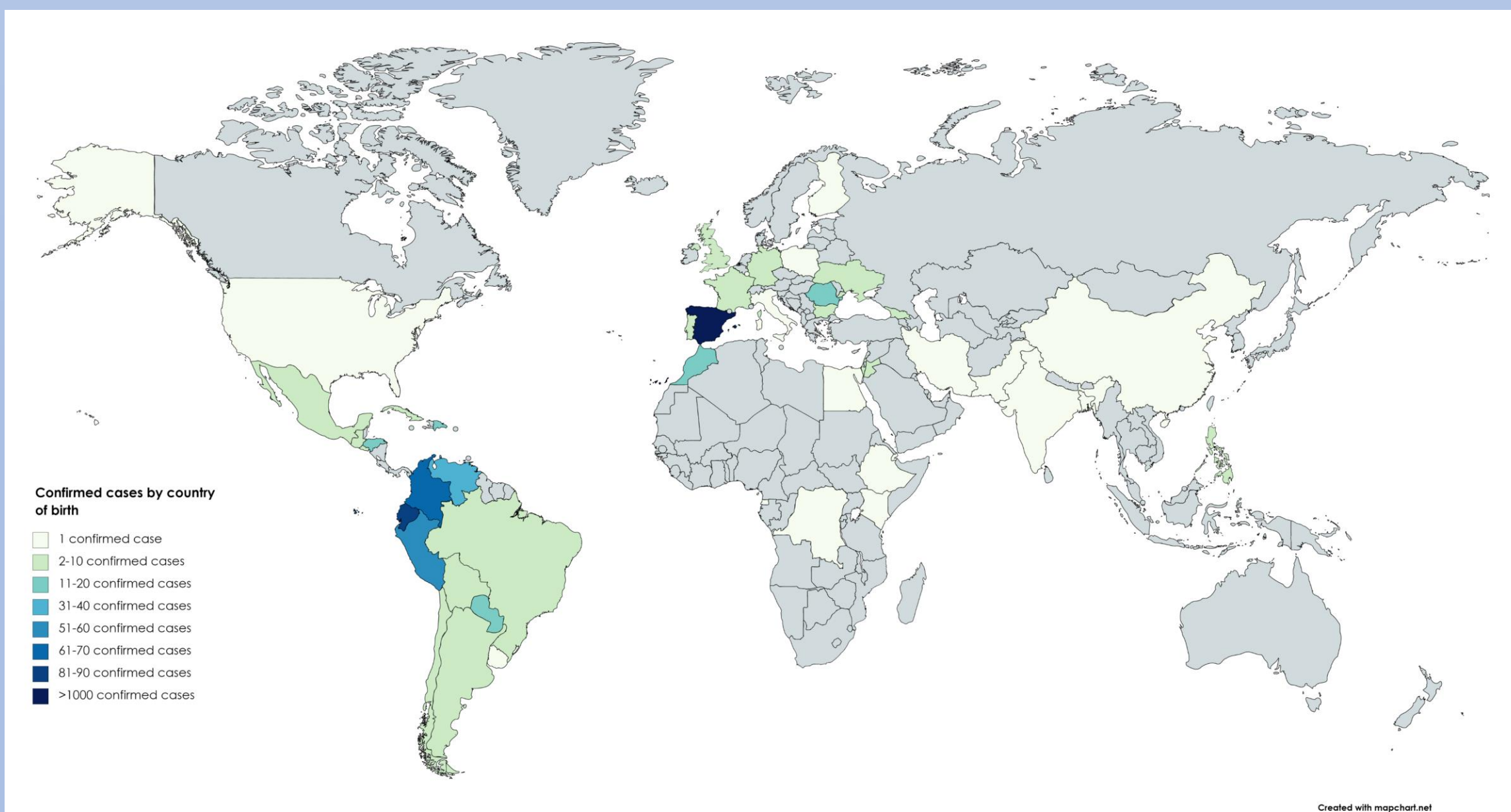


Figure 2. Distribution of country of birth of confirmed cases through April 23. A total of 1828 cases is shown. Source: own elaboration.

CONCLUSIONS

60 to 79 year old males were admitted and deceased more often than women. 64,4% of all our confirmed cases were hospitalized and 5,6% were admitted to the ICU. Mortality reached 14,7%. People of **Latin American origin** and **PCR positive cases** were admitted more often to the ICU. Our study shows **statistically significant differences in length of stay** between cases confirmed by PCR or clinical diagnosis of COVID-19. Patients who were tested positively for SARS-CoV-2 stayed longer not only at the ED but also at the ICU and other hospitalization departments.

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The authors declare no conflict of interest.

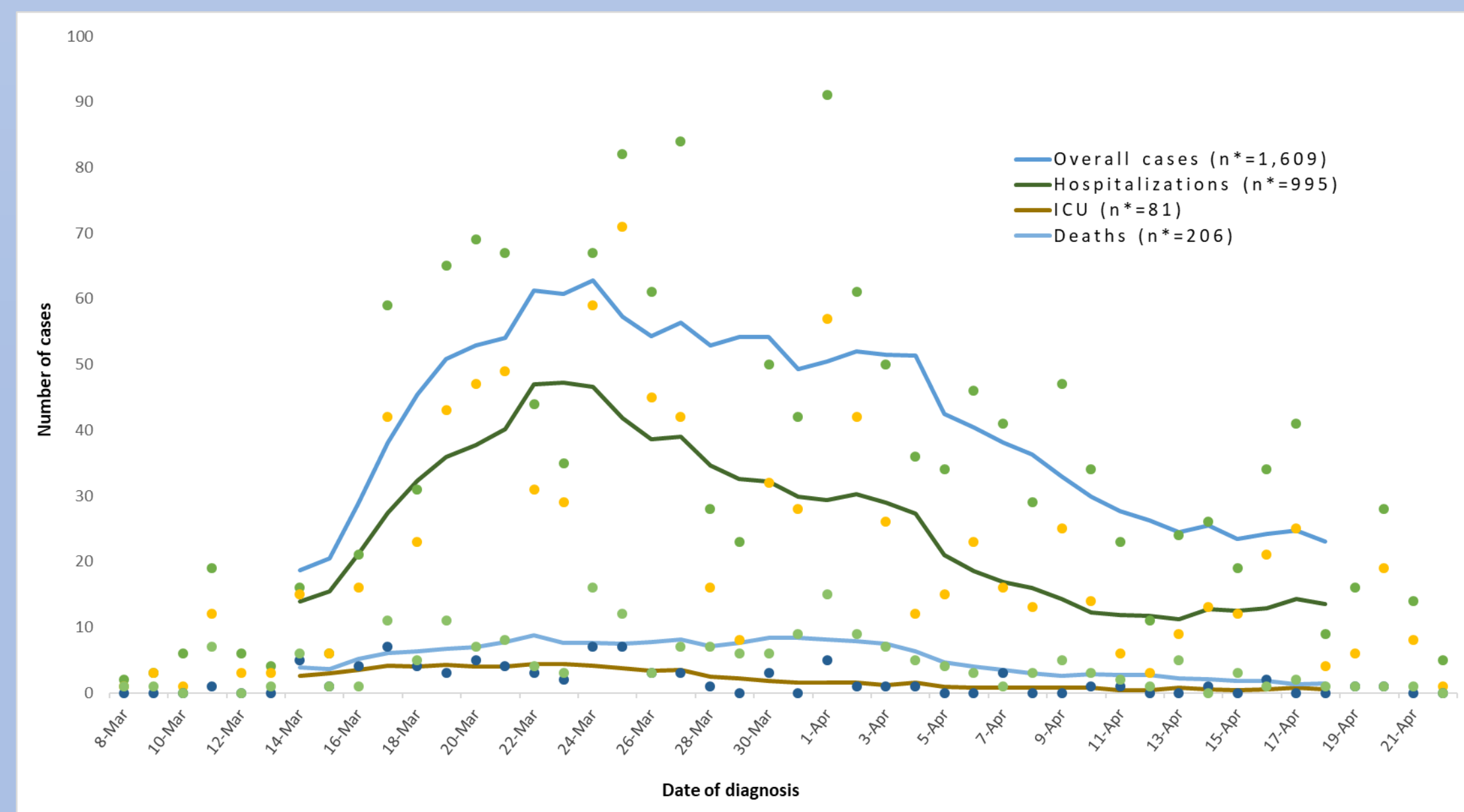


Figure 3. Epidemiological curves of COVID-19 at Infanta Sofía University Hospital through June 29. The epidemiological curve shows the progression of diagnosis of new cases in the outbreak over time from February 27 to June 29. A total of 1,828 cases are shown and confirmed cases (blue) are compared to admitted cases (green), ICU-admitted cases (brown), and deceased cases (turquoise). The line represents the trend and the dots total daily cases. Source: own elaboration