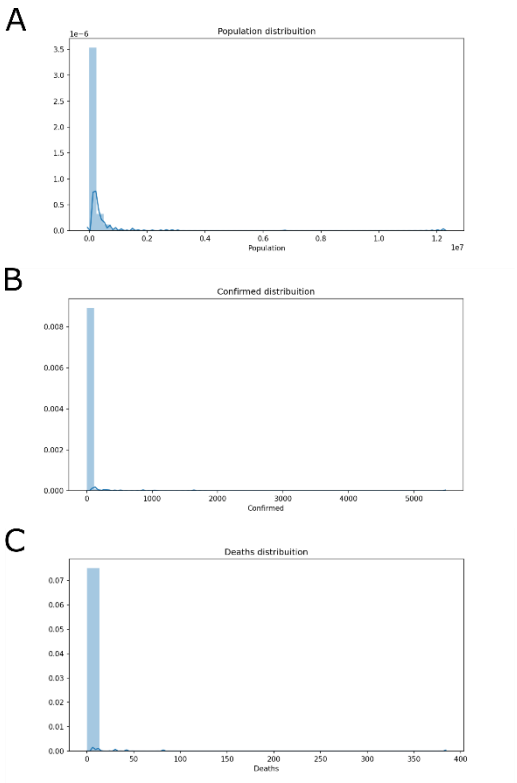


Figure 01. The distribution of the analyzed data is not Gaussian. The values of (A) population, (B) confirmed cases and (C) deaths are log-normal distribution.

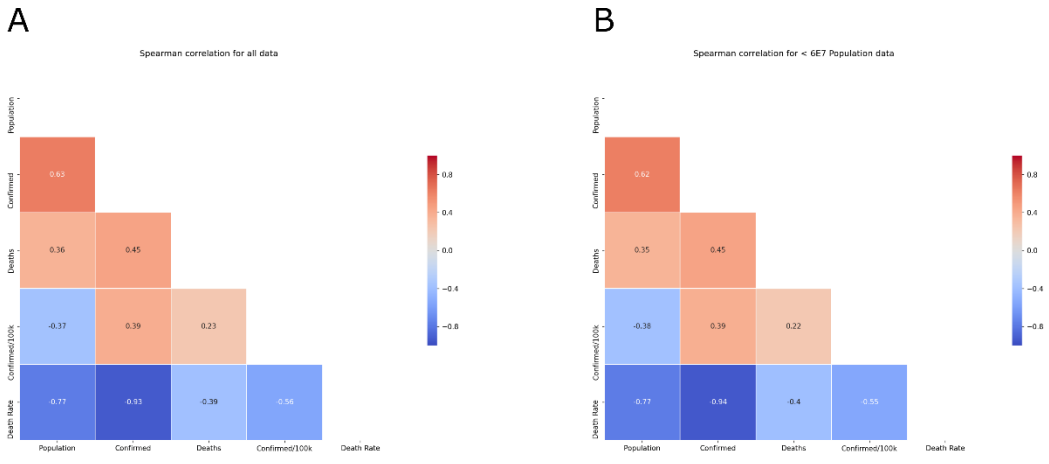


Figure 02. Population has a positive correlation (R = 0.63) with the confirmed cases. Spearman correlation between population, confirmed cases, deaths, confirmed/100k habitants and death rate in all 542 cities (A) or 540 cities with population lowest of 6.000.000 (B).

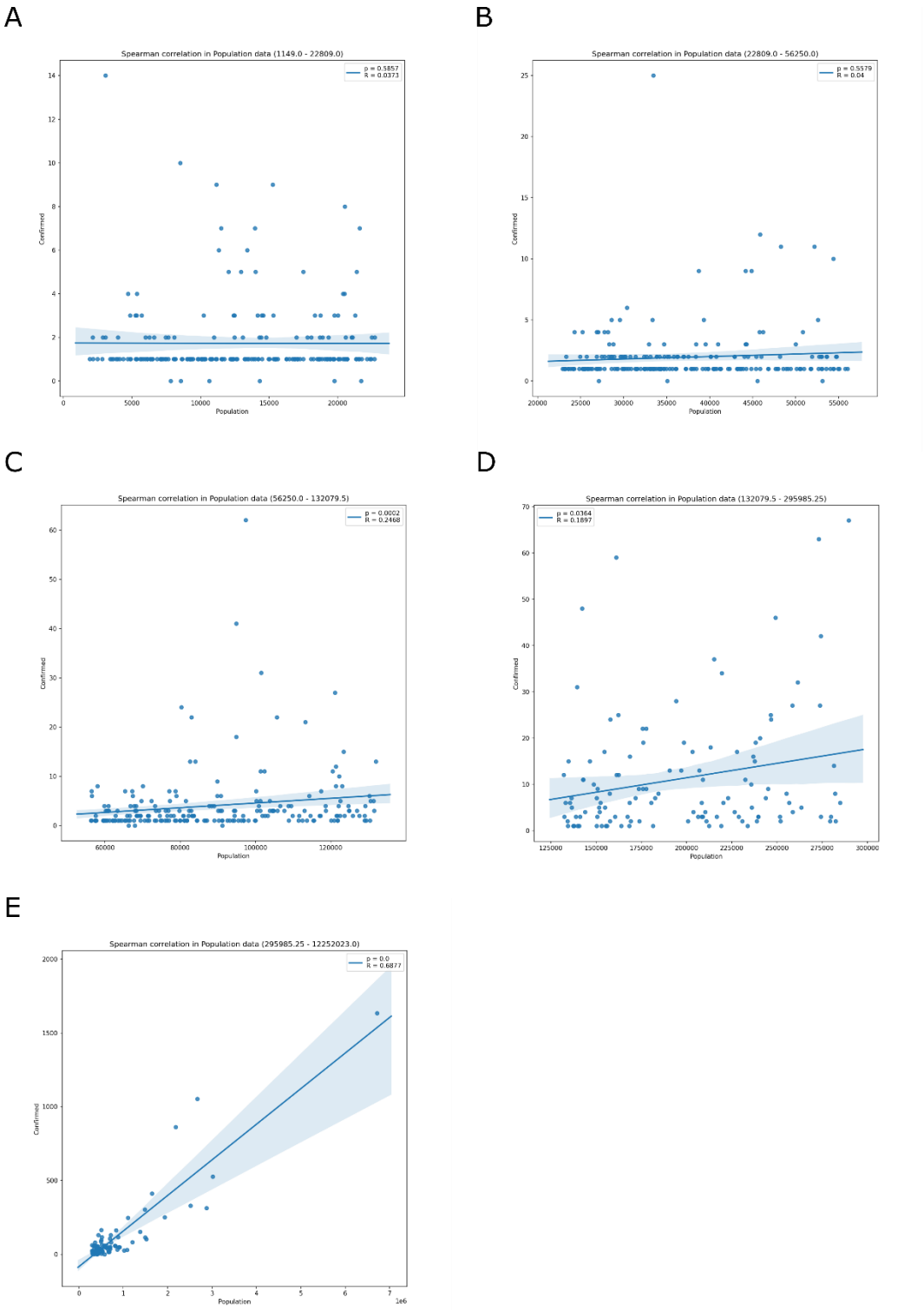


Figure 03. Positive correlation (R = 0.6994) between population and confirmed cases occurs only in cities with population up to 296.844 habitants. Spearman correlation and linear regression model (95% confidence) between population and confirmed cases in 5 quartiles distribution of population. (A) 1149 – 23.286, (B) 23.286 – 56.428, (C) 56.428 – 132.709, (D) 132.709 – 296.844 and (E) 296.844 – 12.252.023 population

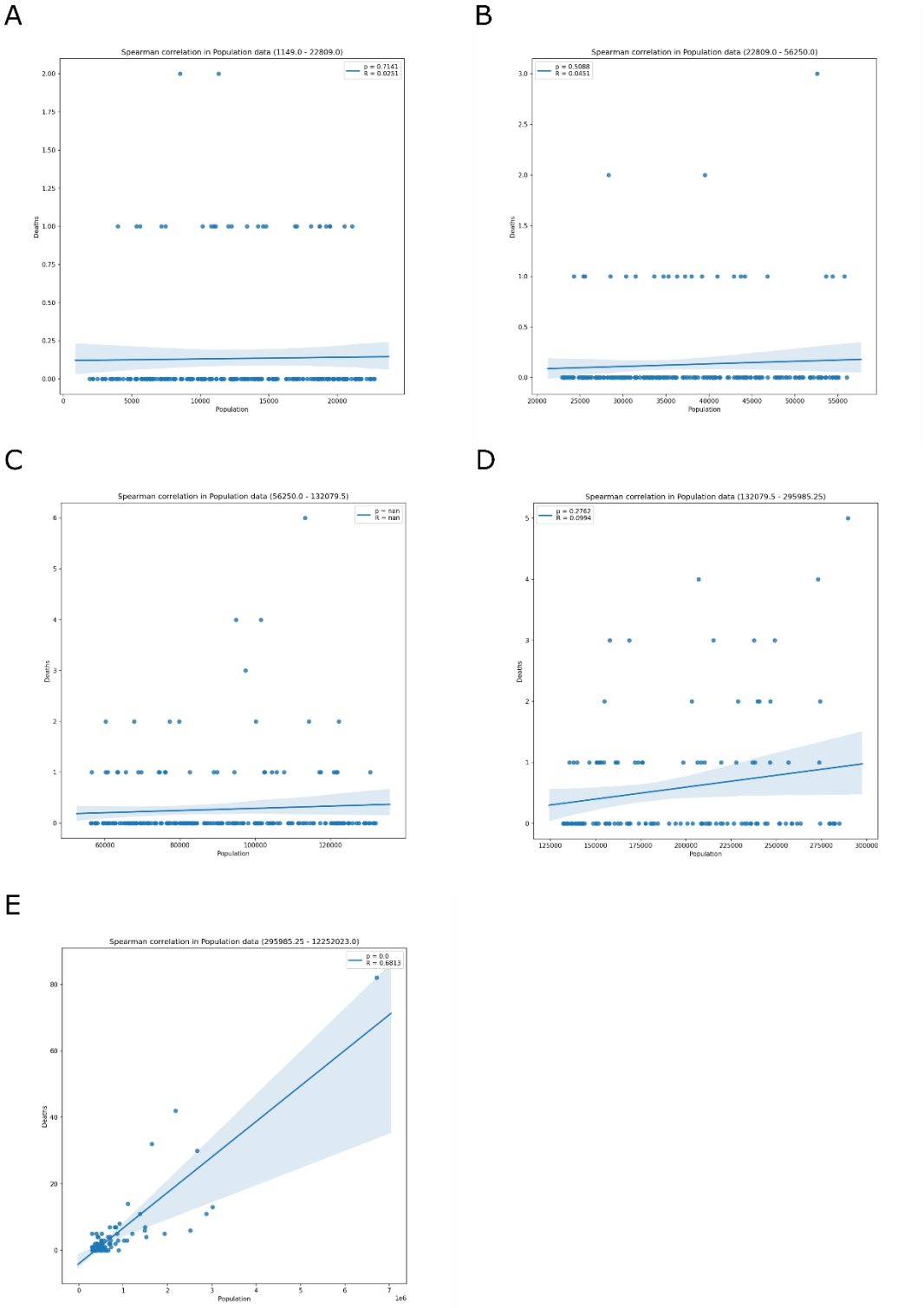


Figure 04. Positive correlation (R = 0.6449) between population and deaths occurs only in cities with population up to 296.844 habitants. Spearman correlation and linear regression model (95% confidence) between population and deaths in 5 quartiles distribution of population. (A) 1149 – 23.286, (B) 23.286 – 56.428, (C) 56.428 – 132.709, (D) 132.709 – 296.844 and (E) 296.844 – 12.252.023 population.

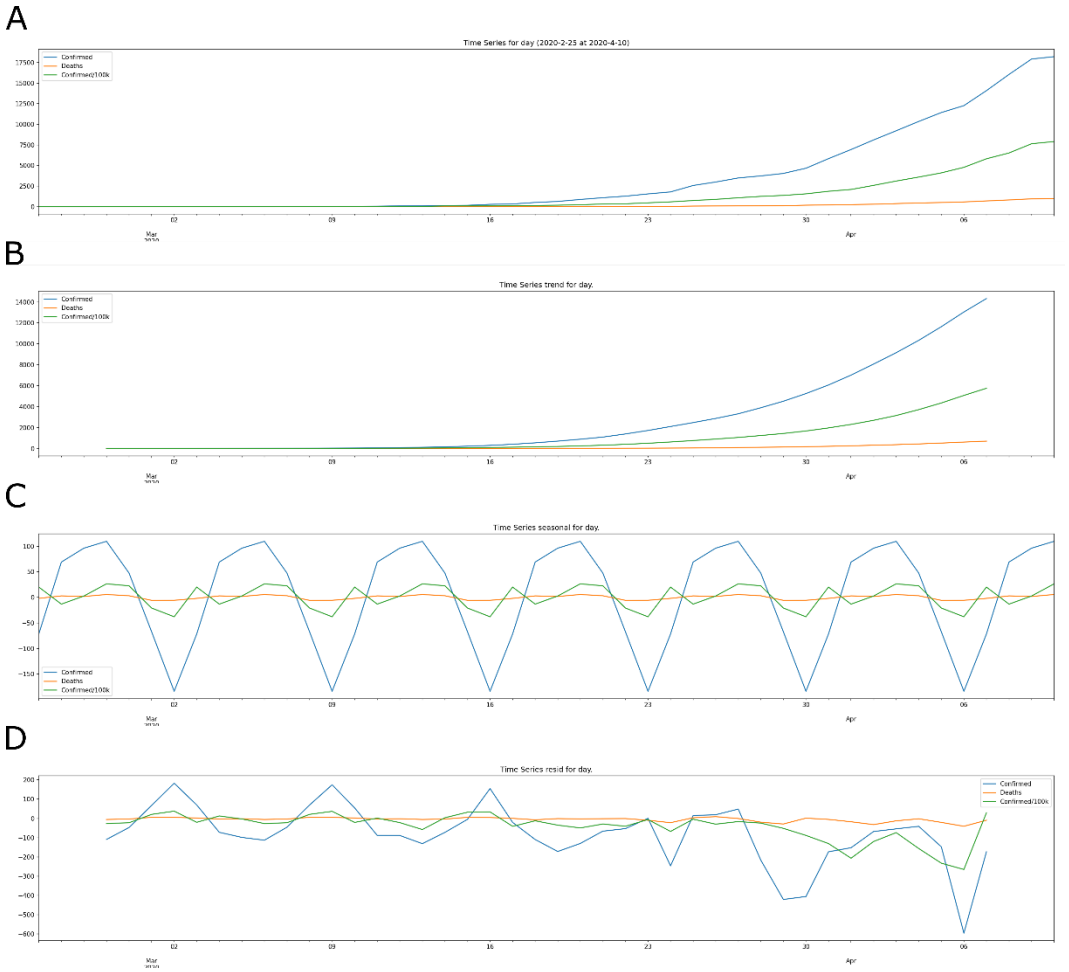


Figure 05. The number of confirmed cases and ratio of confirmed / 100k inhabitants shows a clear upward trend. Decomposition of the time series of the daily values of number of confirmed cases (blue), deaths (orange) and ratio of confirmed / 100k inhabitants (green), in components (A) raw data, (B) trends, (C) seasonality and (D) randomness.

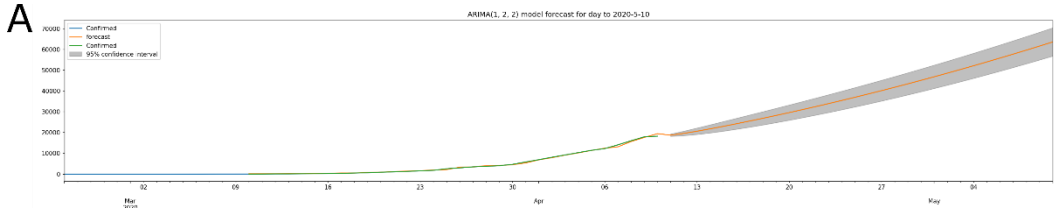


Figure 06. Average estimate of 63,638 confirmed cases in 30 days. ARIMA model (1,2,2) of forecast of confirmed cases until 05/10/2020. Confirmed cases (blue), forecast (orange), model fit analysis (green) and forecast interval with 95% confidence (gray). Up to the end date, between 56,829 and 70,447 cases are expected.

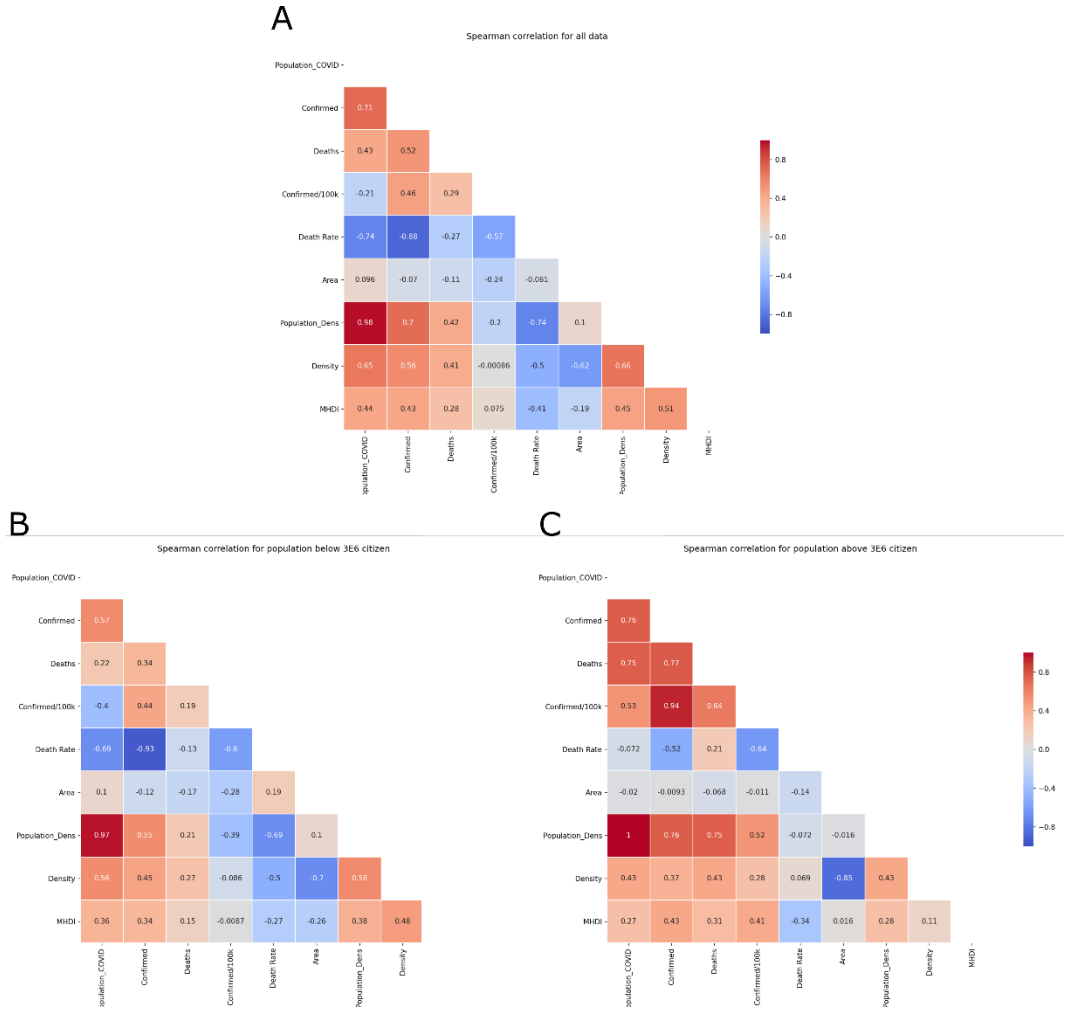
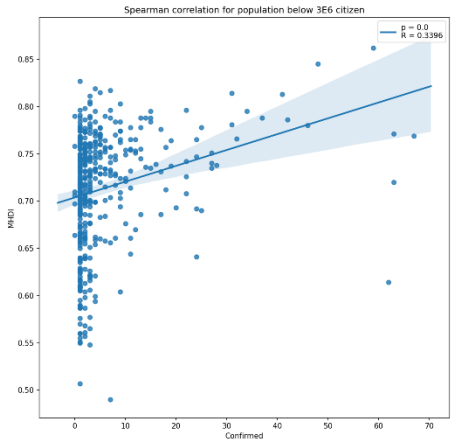


Figure 07. The Municipalities Human Development Index (MHDI) and the demographic density of the municipalities are positively correlated with the number of confirmed cases. Spearman's correlation for the different characteristics of municipalities with confirmed cases. (A) For all municipalities, positive correlation for demographic density (R = 0.56) and MHDI (R = 0.43). (B) For all municipalities with less than 300,000 inhabitants, a positive correlation for demographic density (R = 0.45) and MHDI (R = 0.34). (C) For all municipalities with more than 300,000 inhabitants, a positive correlation for demographic density (R = 0.37) and MHDI (R = 0.43).

A



B

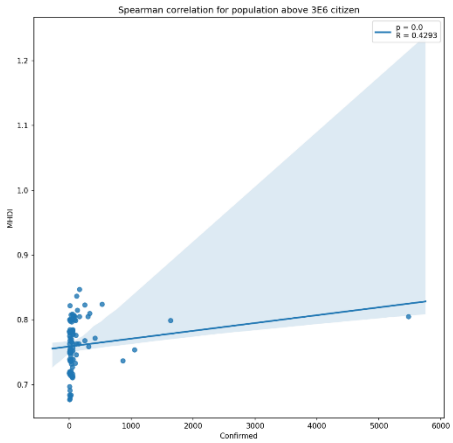
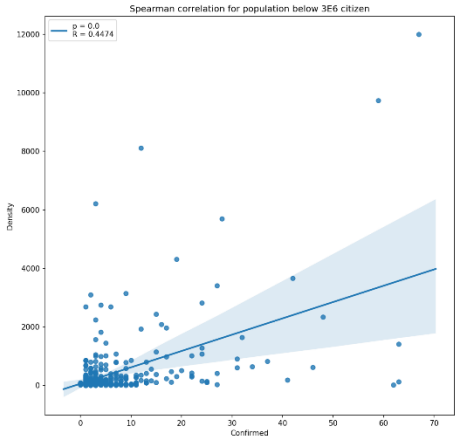


Figure 08. The Municipalities Human Development Index (MHDI) has a positive correlation with the number of positive cases. Spearman's correlation for MHDI for all (A) municipalities with less than 300,000 inhabitants (R = 0.3396), or (B) municipalities with more than 300,000 inhabitants (R = 0.4293).

A



B

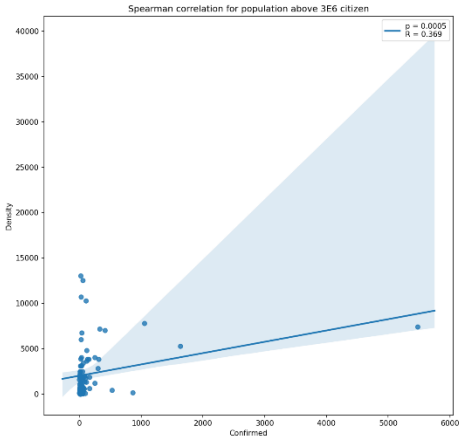


Figure 09. Demographic density has a positive correlation with the number of positive cases. Spearman correlation for demographic density for all (A) municipalities with less than 300,000 inhabitants (R = 0.4474), or (B) municipalities with more than 300,000 inhabitants (R = 0.369).