Statistical methods used to weight seroprevalence

We accounted for the complex design and sampling methods with weights (the reciprocal of probability of one individual being selected) for calculating point estimates and 95% CIs of seroprevalence.

The weight for an individual was calculated as follows;

Calculating basic weight (BW);
Probability 1: probability of each cluster (village) being sampled

Prob1 = (number of households per village x number of villages) / total of villages in the district

Probability 2: probability of each household being sampled in each cluster (village)

Prob2 = number of households to be sampled in each village /number of household per village

Probability 3: probability of an individual to be sampled in each household

Prob3= 1 (all individuals in the household are invited to participate)

Basic weight: overall basic weight of an individual being sampled in the population

BW= 1/(Prob1XProb2) x Prob3

Calculating post-stratification weights (PostW)

$$PostW = \frac{N_{ij}}{\sum BW}$$

where N_{ij} is the population size of i age group j sex in the country; and $\sum BW$ is the sum of basic weights of all study subjects in the country.

Calculating final weights for an individual (FinalW);

$$FinalW = BW \times PostW$$

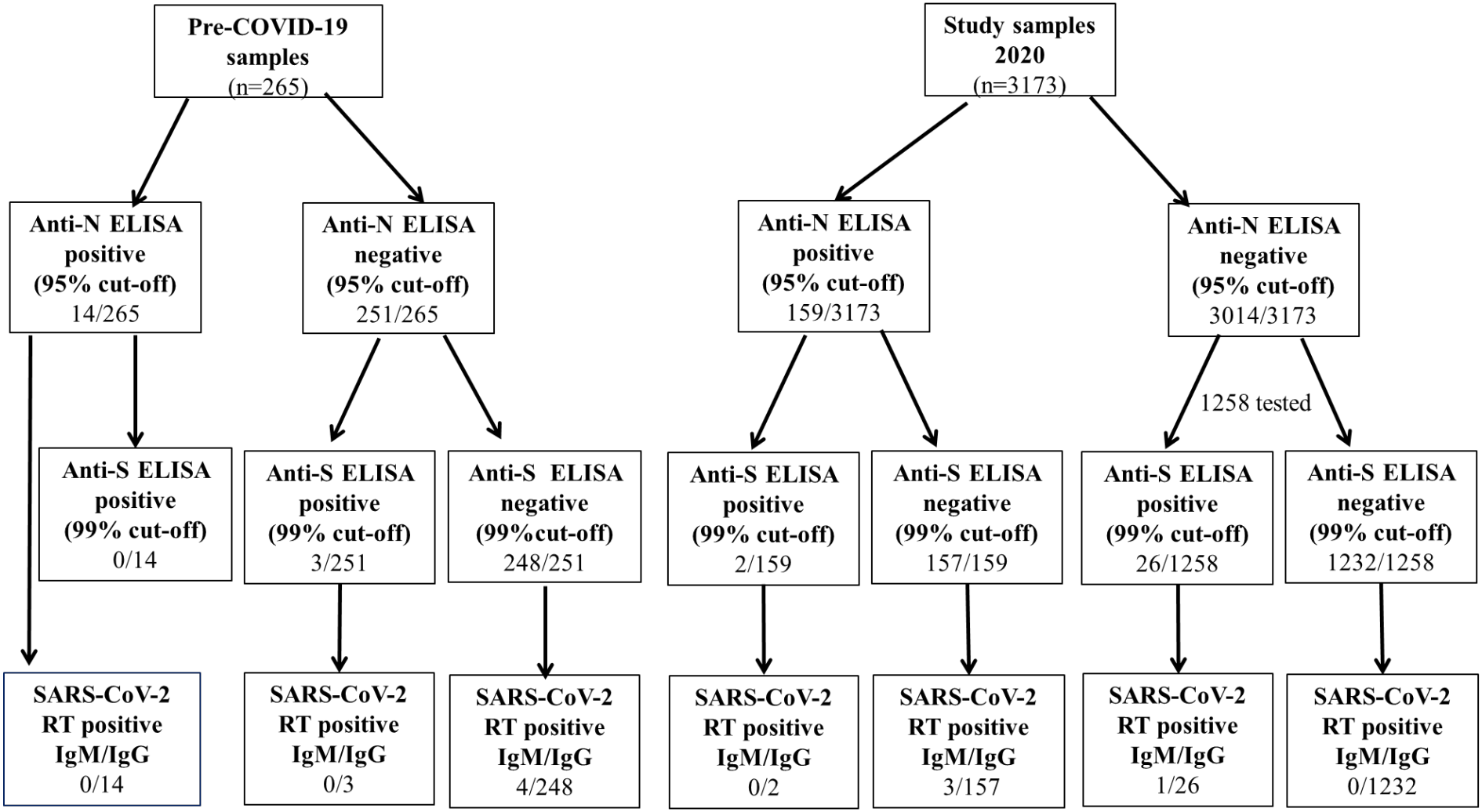
The point estimates of seroprevalence (p) was calculated as follows ;

$$p = \sum_{i=1}^{n} w_i y_i / \sum_{i=1}^{n} w_i$$

where p is the weighted prevalence, W_i is the sampling weights for an study subjects, and y_i is the characteristics of study interests, for example if we are interested in the prevalence of SARS-CoV-2 infection in males, then the value of y_i for male subjects is assigned 1 and the others would be assigned 0.

Supplementary Table 1.

Cohort		**Guano collectors**			
	Sample tested, n	**S-ELISA positive,n**	**Crude seroprevalence %,95%CI**	**N-ELISA positive, n**	**Crude seroprevalence % ,95%CI**
Total	**74**	**5**	**6.8 (2.8-15.3)**	15	20.3 (12.6-31.0)
Age					
≤ 18 years	5	0		0	
19-40 years	30	4	13.3 (4.9-31.3)	3	10.0 (3.1-27.6)
41-60 years	28	0		10	35.7 (20.0-55.3)
> 60 years	11	1	9.1 (1.1-47.2)	2	18.2 (4.1-5.3)
Sex					
Female	39	2	5.1 (1.2-19.0)	6	15.4 (6.9-30.8)
Male	35	3	8.6 (2.7-24.1)	9	25.7 (13.7-43.1)



Supplementary Figure 1. Sample testing strategy.