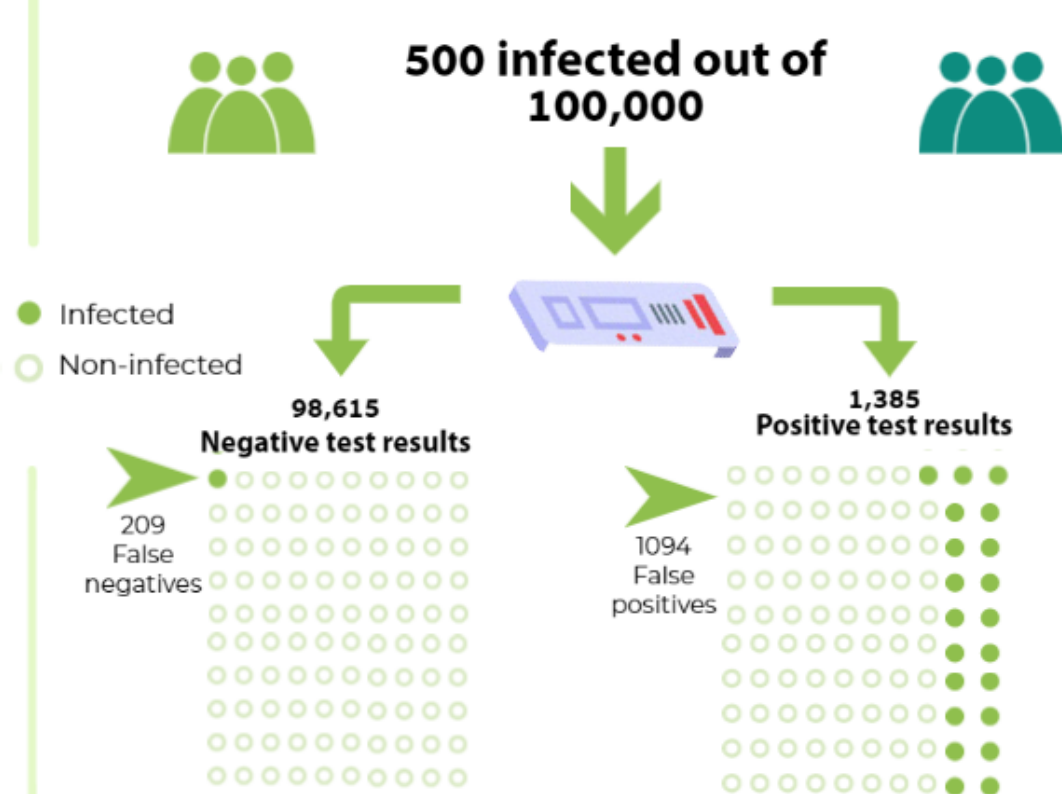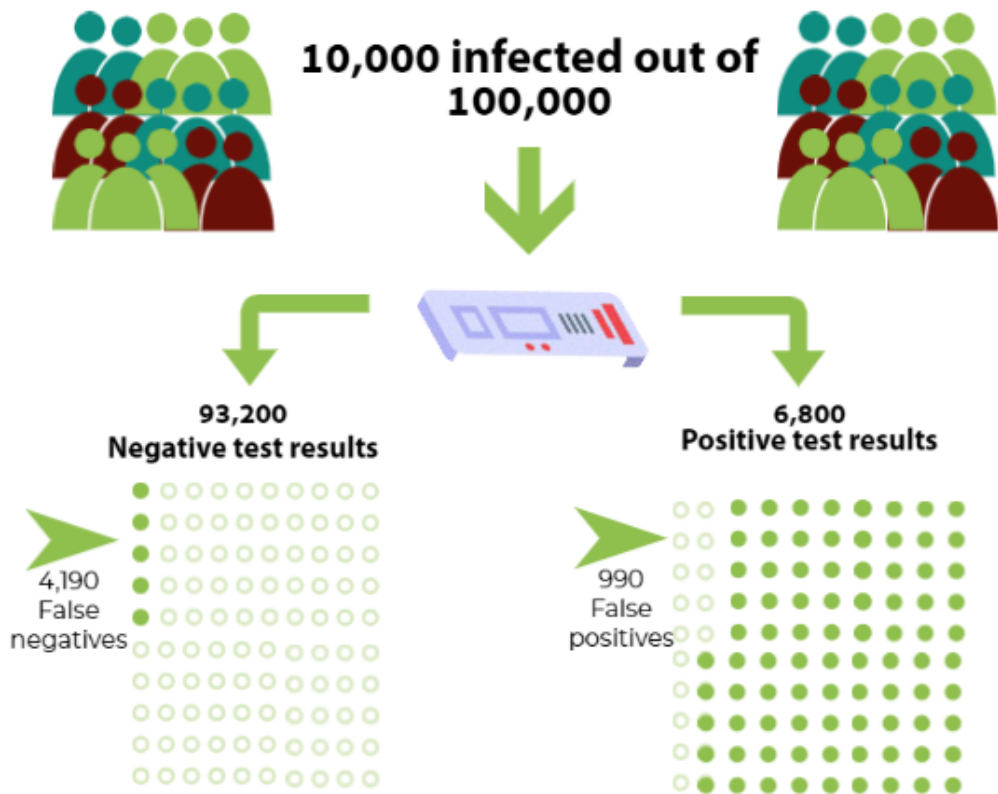# Predictive value of testing changes with prevalence

When testing 100,000 asymptomatic individuals using a rapid antigen detection test with 58.1% sensitivity and 98.9% specificity*, the proportion of false-positive and false-negative test results will vary according to the prevalence of SARS-CoV-2 infection

If prevalence is 10% (10,000 infections), approx. 1 in 7 positive results will be a false positive; 1 in 22 negative results will be a false negative.

If prevalence is 0.5% (500 infections), approx. 4 in 5 positive results will be a false positive; 1 in 470 negative results will be a false negative.

10,000 infected out of 100,000

500 infected out of 100,000

● Infected
○ Non-infected

93,200 Negative test results

6,800 Positive test results

98,615 Negative test results

1,385 Positive test results

4,190 False negatives

990 False positives

209 False negatives

1094 False positives

*Dinnes et al. Rapid, point-of-care antigen and molecular-based tests for diagnosis of SARS-CoV-2 infection. Cochrane Database of Systematic Reviews 3 (2021).