

Testing more and earlier = better control of the epidemic and lower social costs.

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Abstract

In this note we explore the effect of the number of daily tests on an epidemics control policy purely based on testing and selective quarantine, and the impact of these actions depending on the time their application starts. Surprisingly, the results not only confirm that increasing the number of tests lowers the number of infected individuals, but also that it has a very beneficial effect limiting the number of quarantined individuals, and thus the socio-economical costs of the epidemics. The results also show that the timing in the application of the measures is as important as the measures themselves. The results suggest that fast decision making and investments to increase testing capabilities are highly rewarded not only from the public health viewpoint, but also from the socio-economical one. The study is carried out in simulation using stochastic cellular automata representing a community of 50'000 individuals. The selection of the tested individuals is carried out based on a contact tracing strategy focused on the closer contacts.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the latest manuscript can be downloaded and [accessed as a PDF](#).

Figures

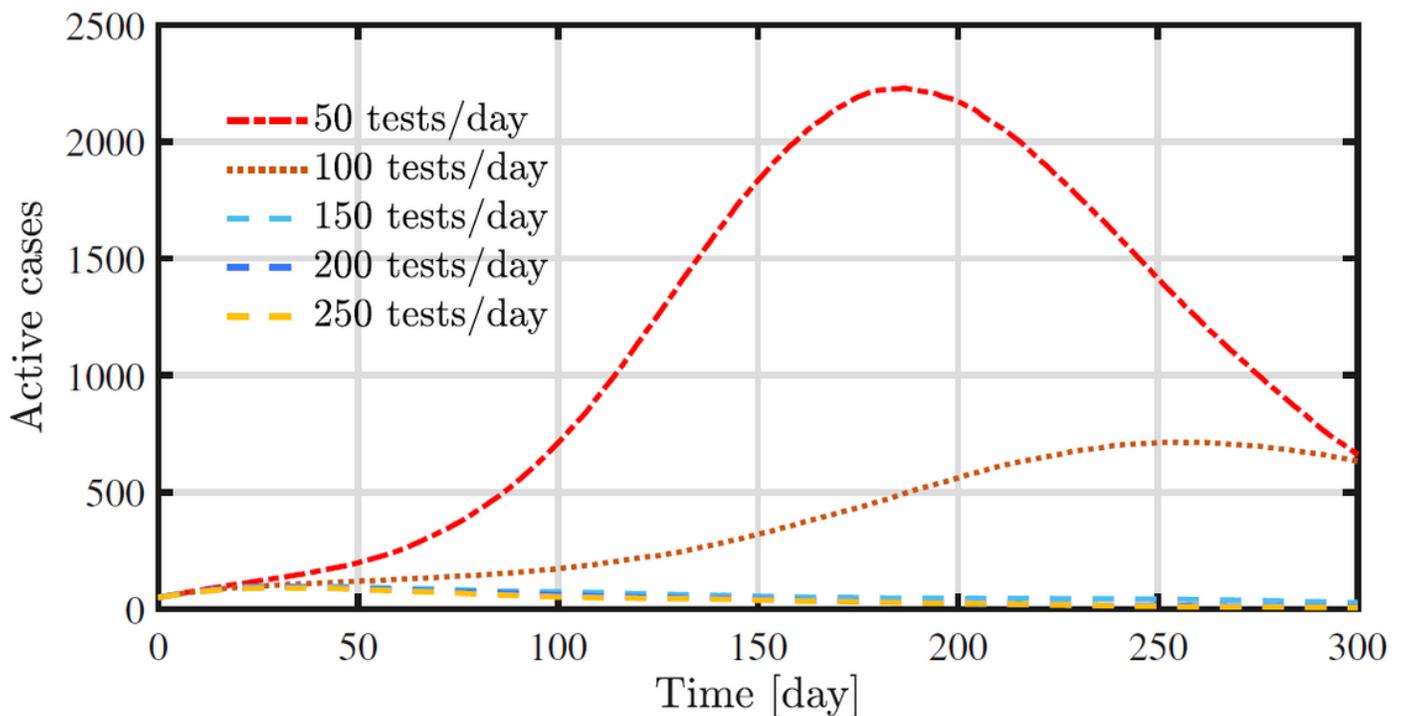


Figure 1

Evolution of the number of active cases.

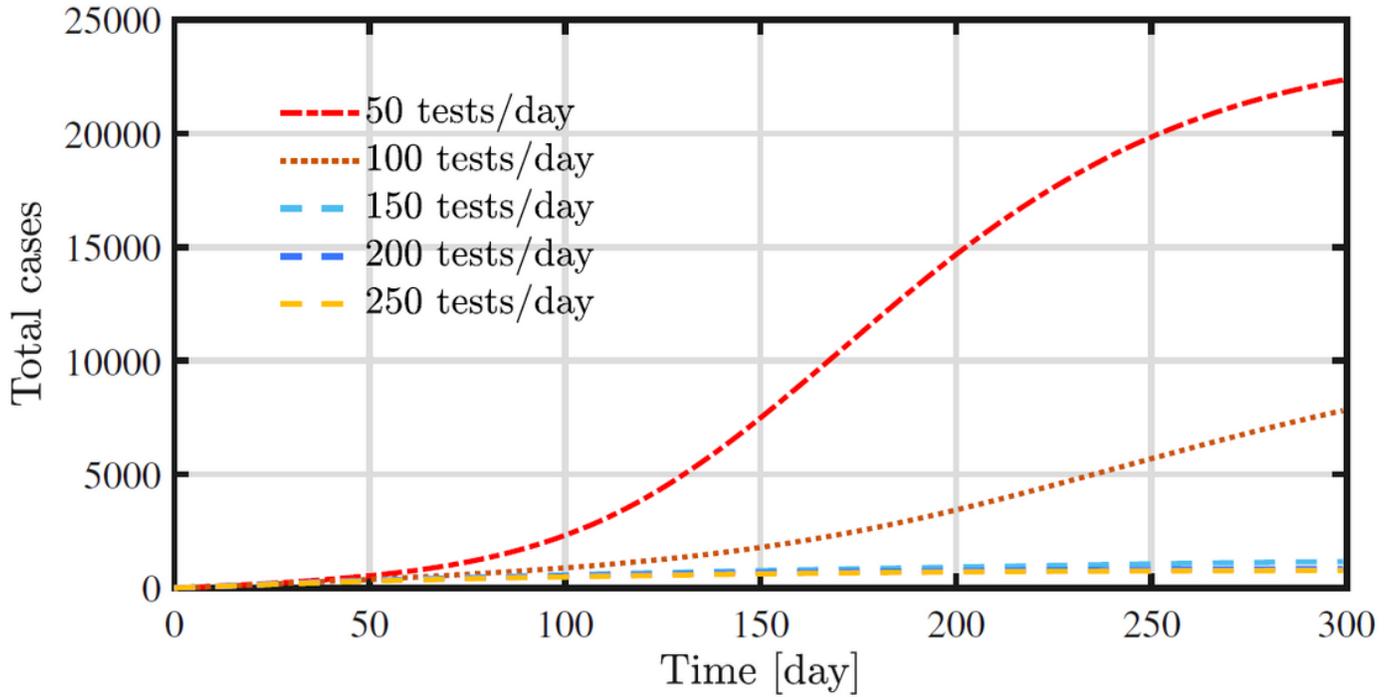


Figure 2

Evolution of the total number of cases.

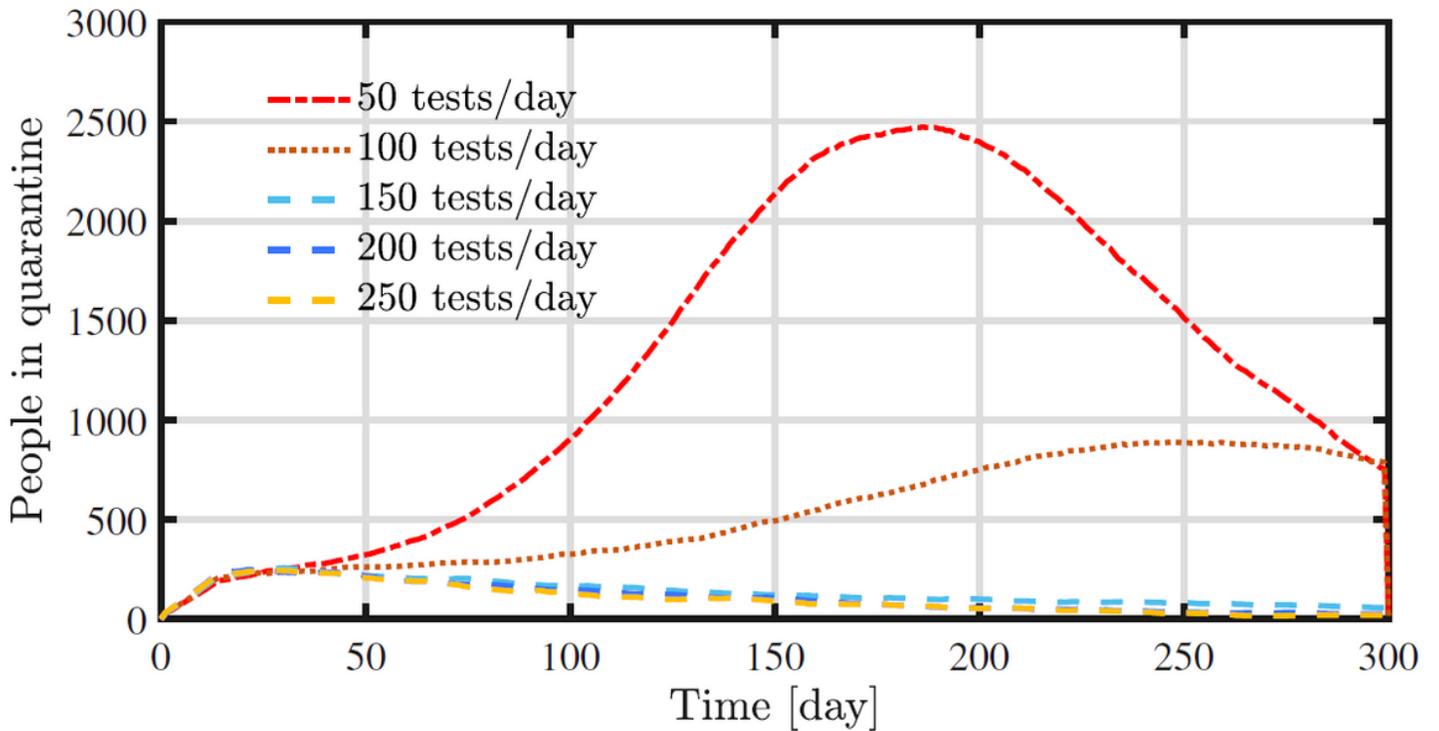


Figure 3

Evolution of the number of people in quarantine.

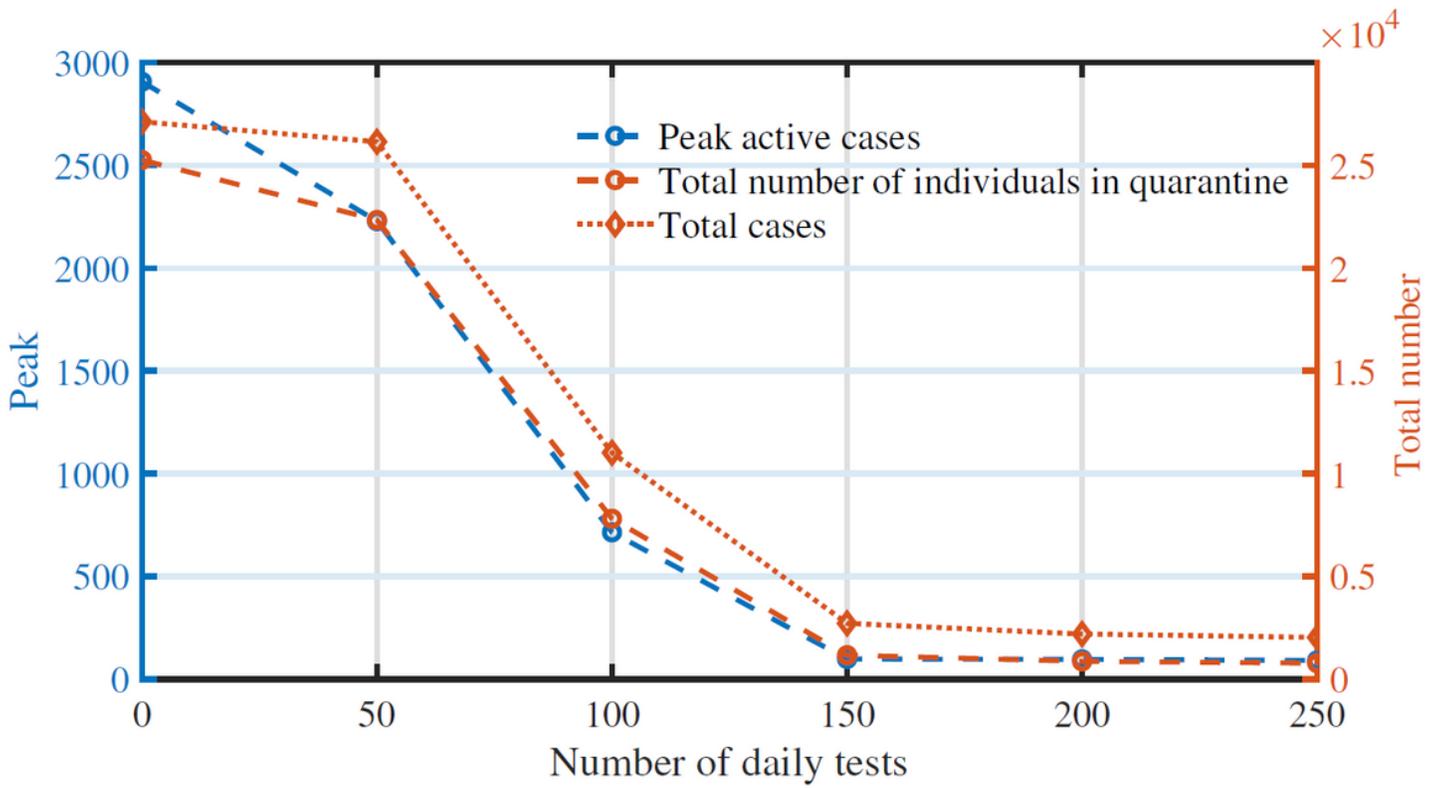


Figure 4

Evolution of the performance of the strategy with respect to the number of tests.

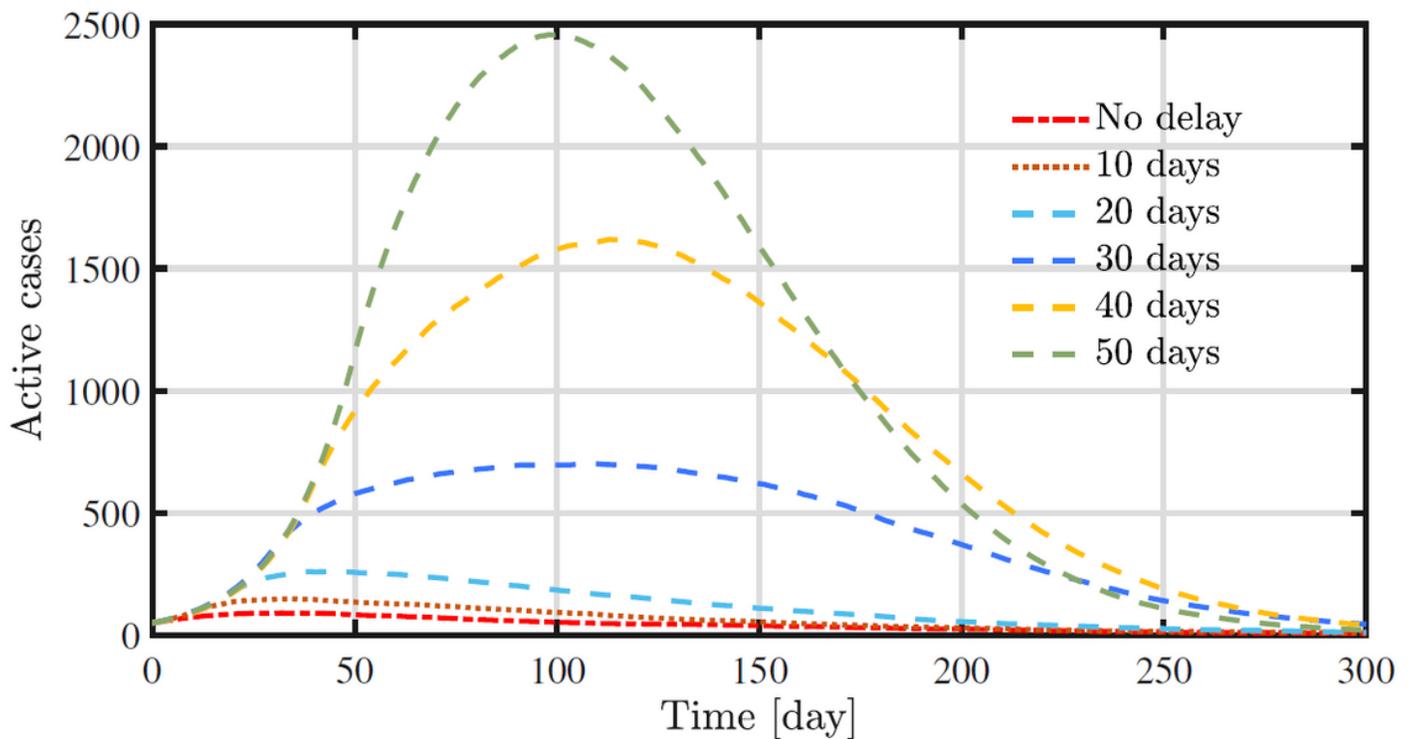


Figure 5

Evolution of the number of active cases.

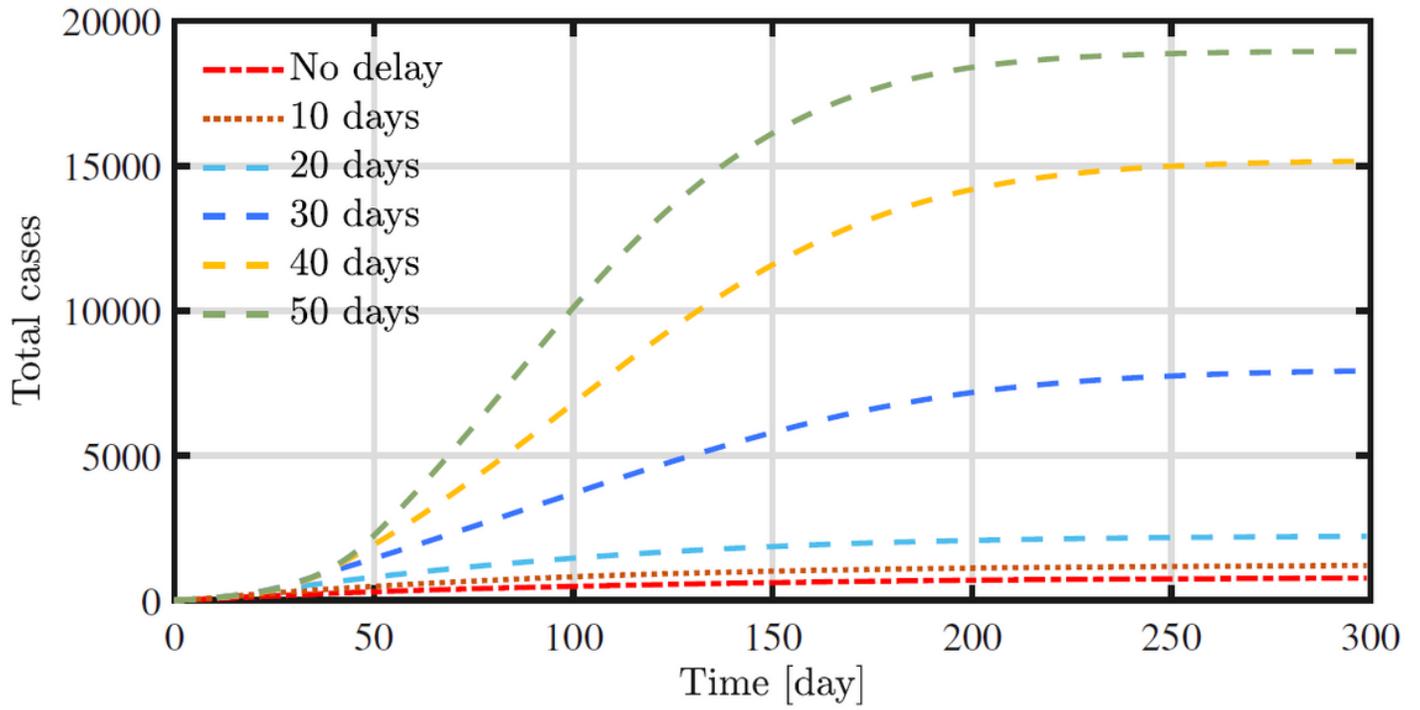


Figure 6

Evolution of the total number of cases.

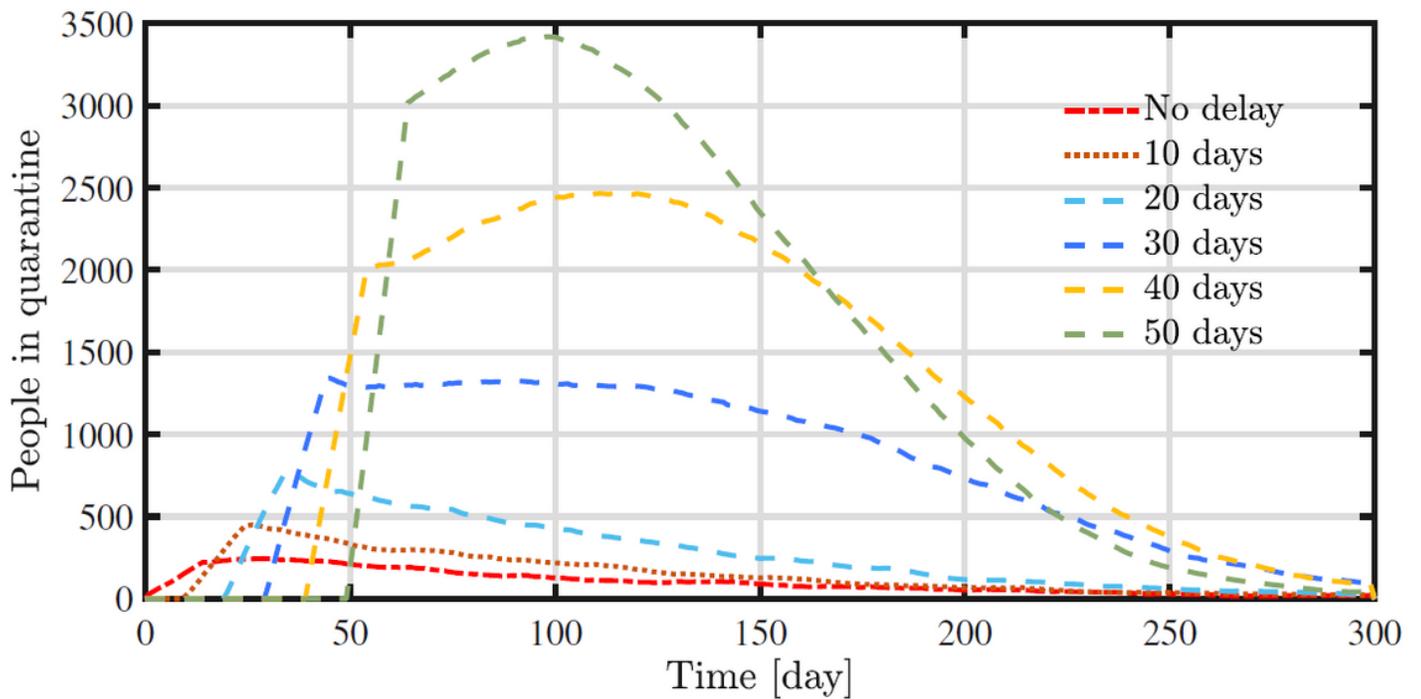


Figure 7

Evolution of the number of people in quarantine.

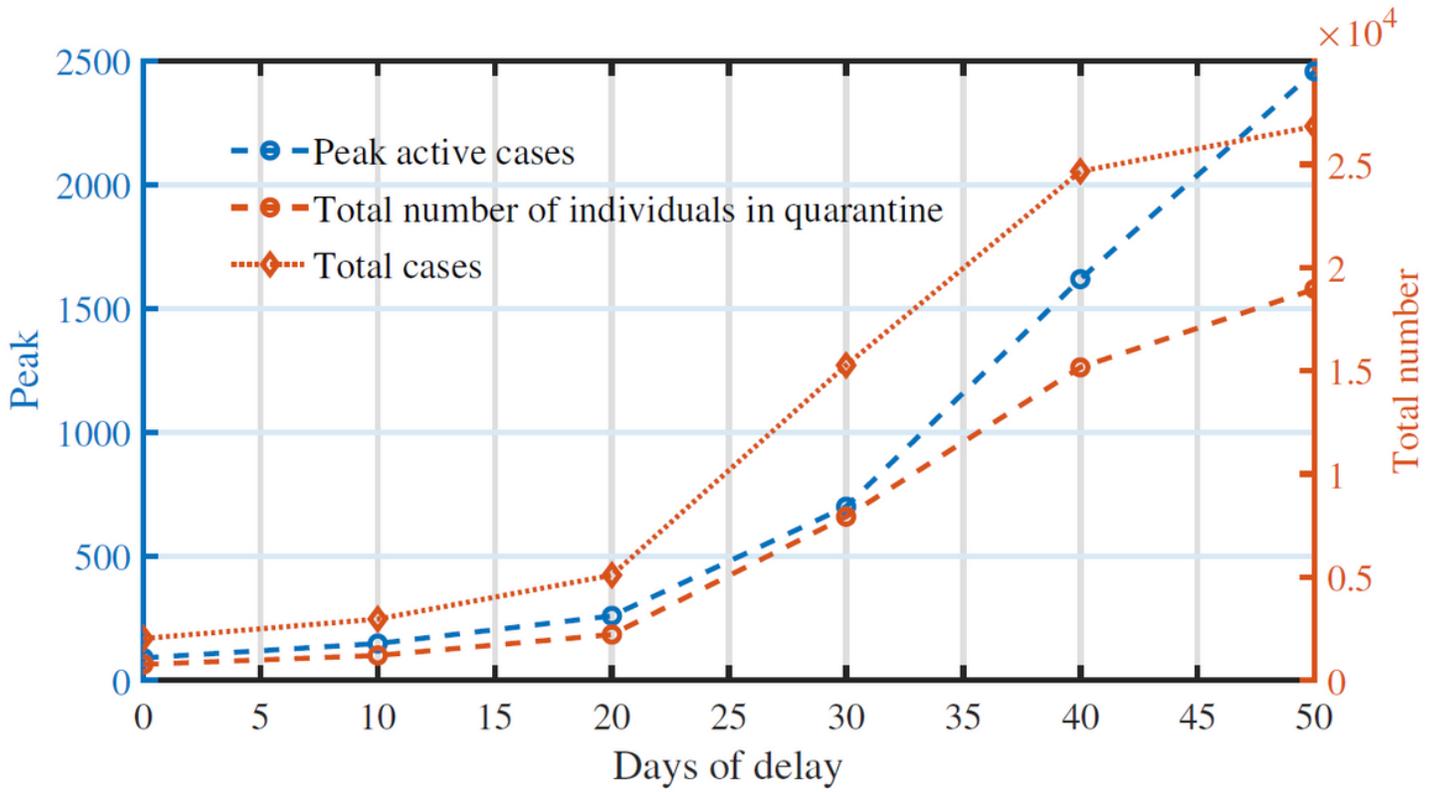


Figure 8

Evolution of the performance of the strategy with respect to the delay in the application of the measures.