

Home-based rapid SARS-CoV-2 antigen testing reduces transmission, saves lives at reasonable cost

A nationwide programme of frequent, home-based SARS-CoV-2 antigen testing and self-isolation to decrease transmission could greatly reduce total infections and mortality at a reasonable cost, according to a study from the US.

The study used a simple compartmental epidemic model to predict the clinical, epidemiological and economic outcomes of US population-wide, home-based SARS-CoV-2 antigen testing combined with self-enforced isolation for those who have a positive result. Input data for the model were obtained from published sources. The analysis was conducted from a societal perspective; costs included those associated with testing (assuming \$US5 for the initial testing kit and \$US20 for the confirmatory polymerase chain reaction [PCR]-based test), inpatient care and lost workdays.

Without a testing intervention, the model predicted 11.6 million infections, 119 000 deaths and \$US10.1 billion in total costs (\$US6.5 billion in inpatient care and \$US3.5 billion in lost productivity) over a 60-day horizon. Weekly home testing would reduce infections to 8.8 million and deaths to 103 000, increasing costs by \$US22.3 billion. Lower inpatient costs (\$US5.9 billion) would partially offset additional outlays for testing (\$US12.5 billion) and greater lost workdays (\$US14.0 billion). The incremental cost-effectiveness ratios for the testing intervention, compared with no testing, were \$US7890 per infection averted and \$US1.43 million per death averted. When applying the lowest estimate for the recommended range for the benchmark value of a statistical life (\$US5.3 million), this suggests that the intervention would be "exceptionally good value", note the researchers. They conclude that "this strategy can prevent transmission and save lives at a reasonable cost."

Paltiel AD, et al. Clinical and Economic Effects of Widespread Rapid Testing to Decrease SARS-CoV-2 Transmission. *Annals of Internal Medicine* : 9 Mar 2021. Available from: URL: <http://doi.org/10.7326/M21-0510>

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