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Stronger Together: Rapid COVID-19 Tests A Strategy to Reopen Schools

March 10, 2021

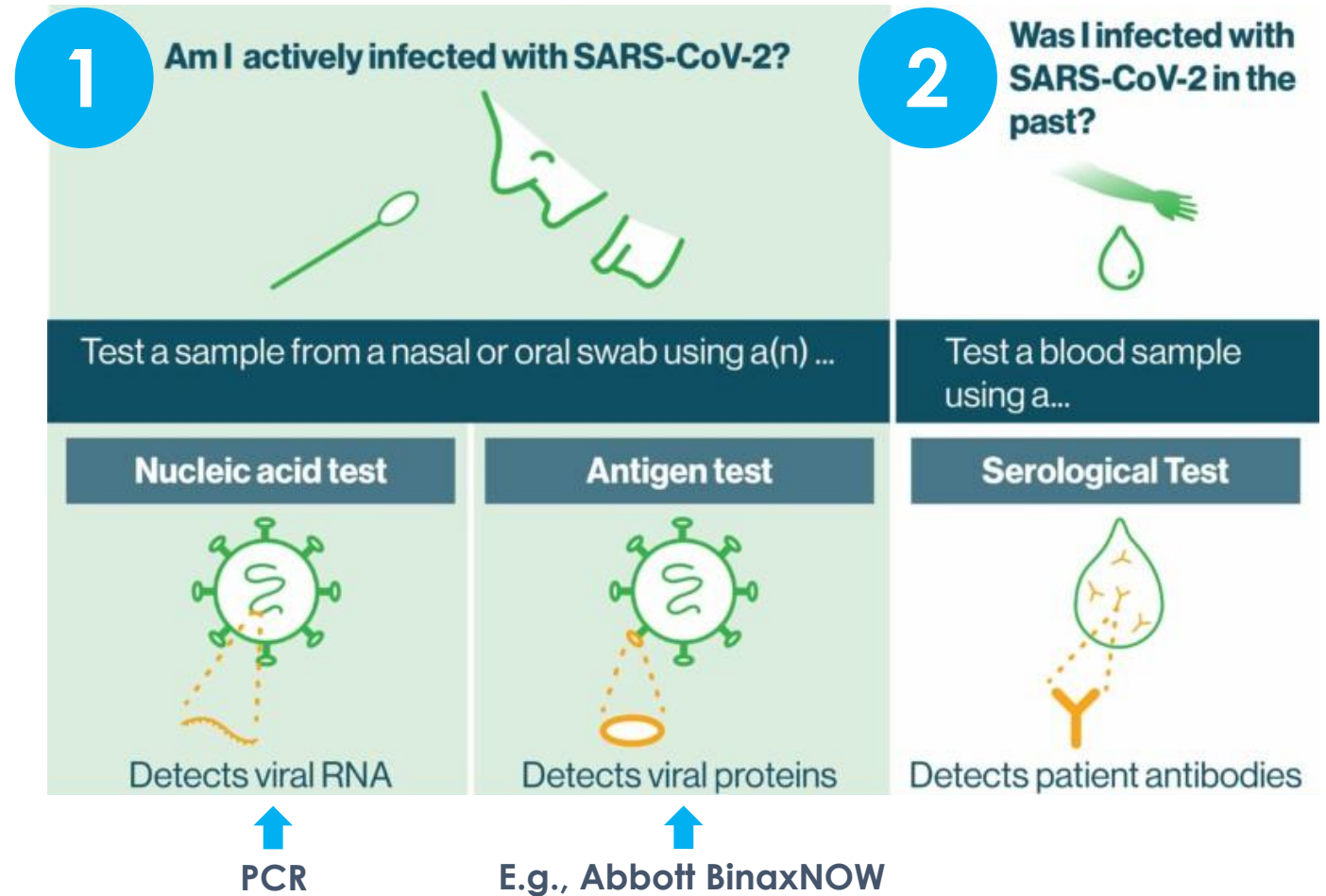
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Types of COVID-19 tests

There are **3 main types of COVID-19 tests**:

- Nucleic acid tests (PCR)
- Antigen tests
- Serological (antibody) tests

They are used to **answer two different questions**.



Source: Adapted from Mammoth Biosciences

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About the Abbott Labs BinaxNOW test



How long does it take to get test results?

15 minutes



How is the test administered?

Tests are administered with a nasal swab (to the shallow front of the nostrils only). Adults will be able to self-administer the test with the oversight of a test administrator.

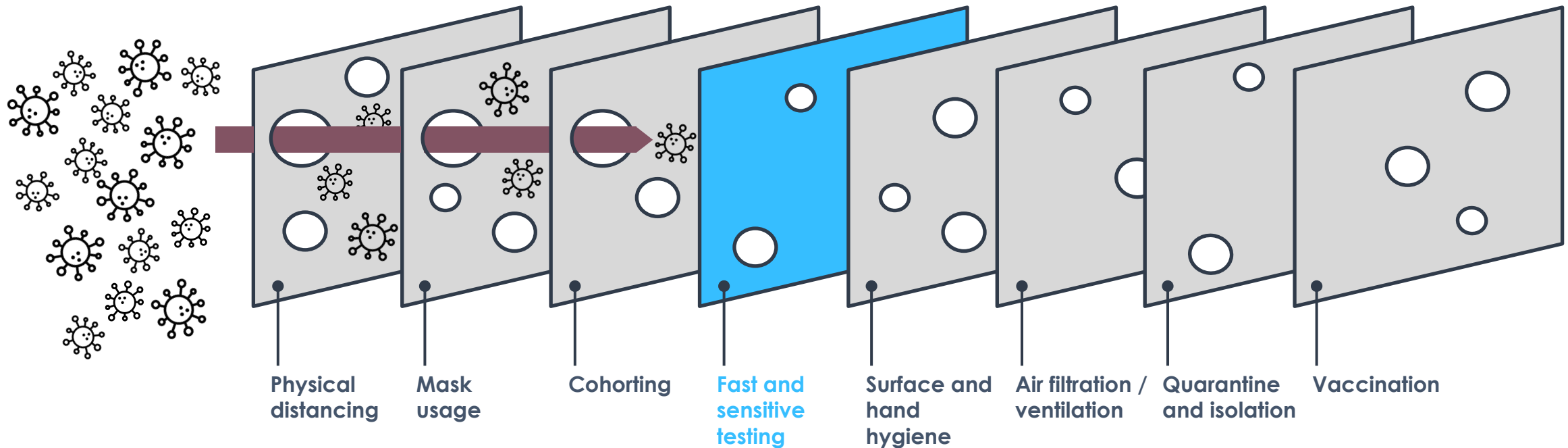


How are the tests packaged?

Tests are the size of a credit card and contain a nasal swab and reagent testing solution (one bottle per testing kit). They are packaged 40 to a shoebox-sized kit.



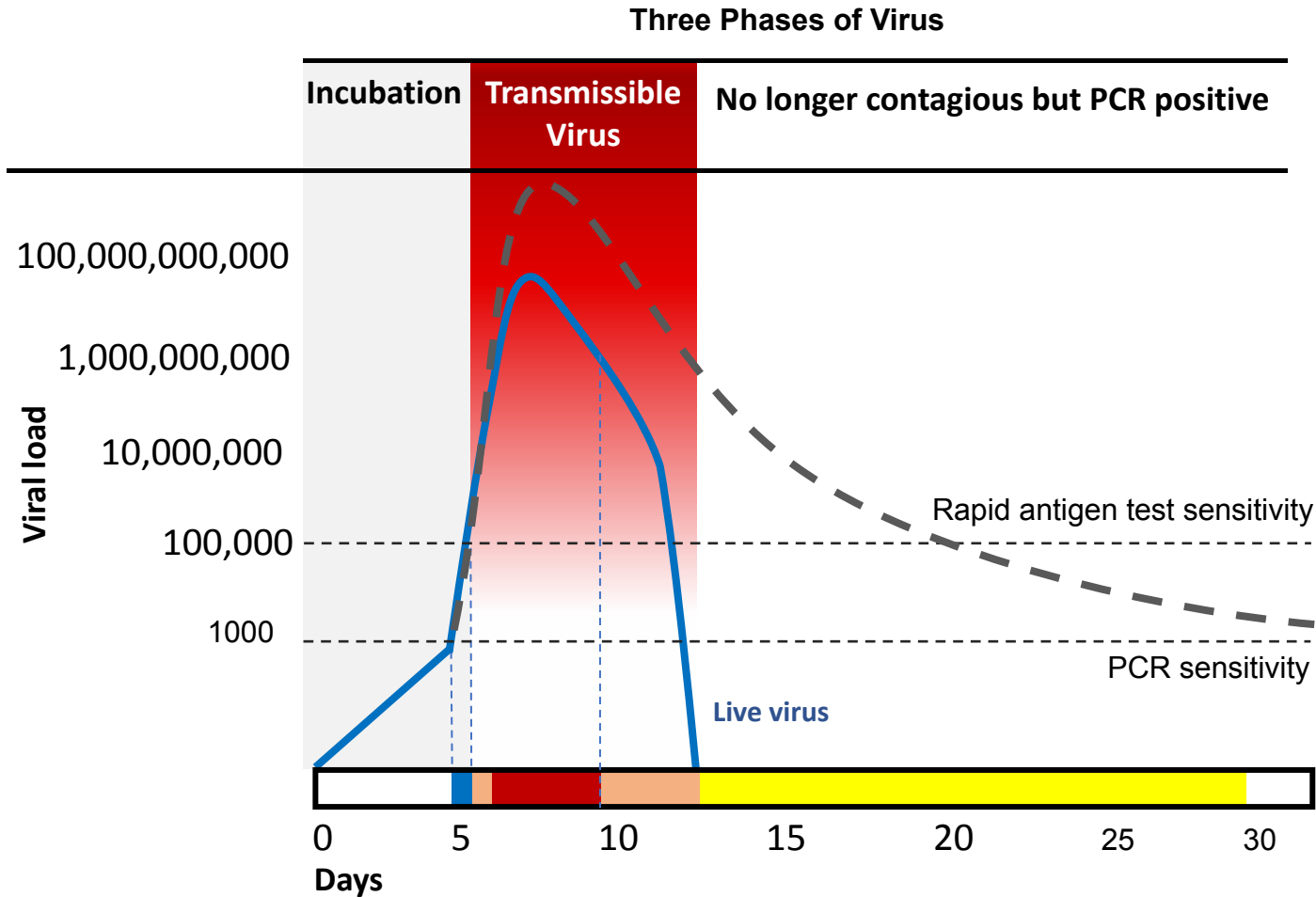
Rapid testing is a key component of a larger safe reopening strategy



Source: Adapted from Ian M. Mackay and James T. Reason

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Rapid tests are ideal for population screening



Population screening test goal:
Fast, frequent, cheap, easy

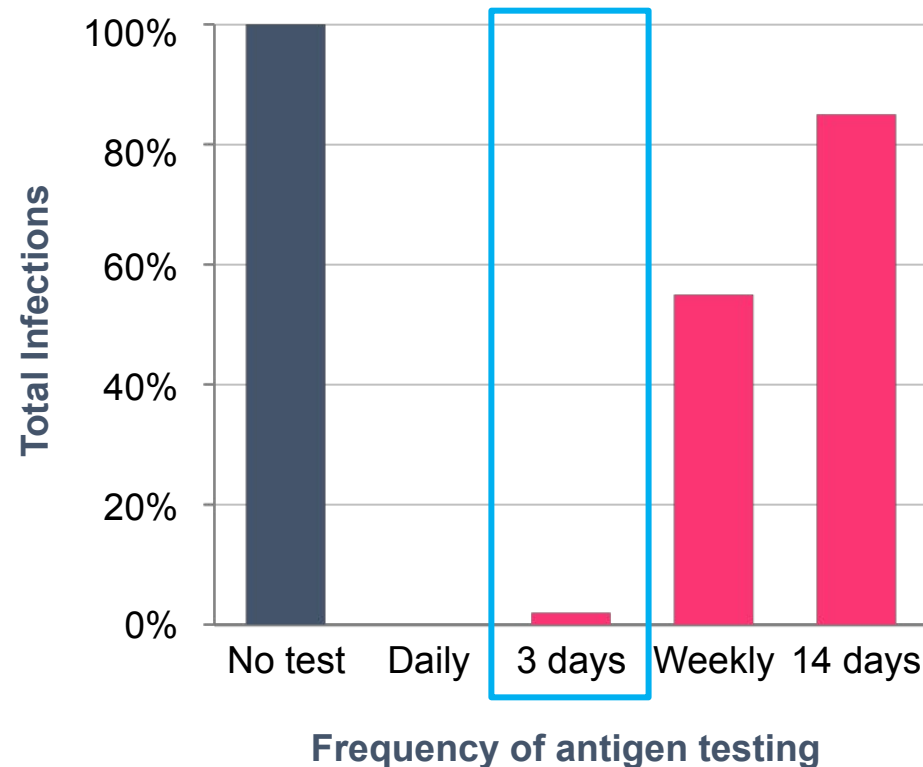
Rapid antigen tests:

- Enables fast identification + isolation
- High degree of correlation with infectiousness
- Detects the vast majority of infectious people

Source: Michael Mina, MD, PhD, Harvard T.H. Chan School of Public Health/Medical School

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Frequency of testing matters



Models show a **dramatic reduction in total infections when testing is performed every 3 days** versus on a weekly basis.

Daily testing offers limited additional reduction in infections versus testing every 3 days.

Source: Larremore *et al.* *Science Advances* 01 Jan 2021: Vol. 7, no. 1, DOI: 10.1126/sciadv.abd5393

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Antigen test characteristics that fit the needs of schools



Speed

15 minute result = identify + isolate immediately

96x faster than PCR (1-3 days)

Accuracy

Better correlation with infectiousness than PCR

Early identification of infectious person **keeps others safe.**

Cost

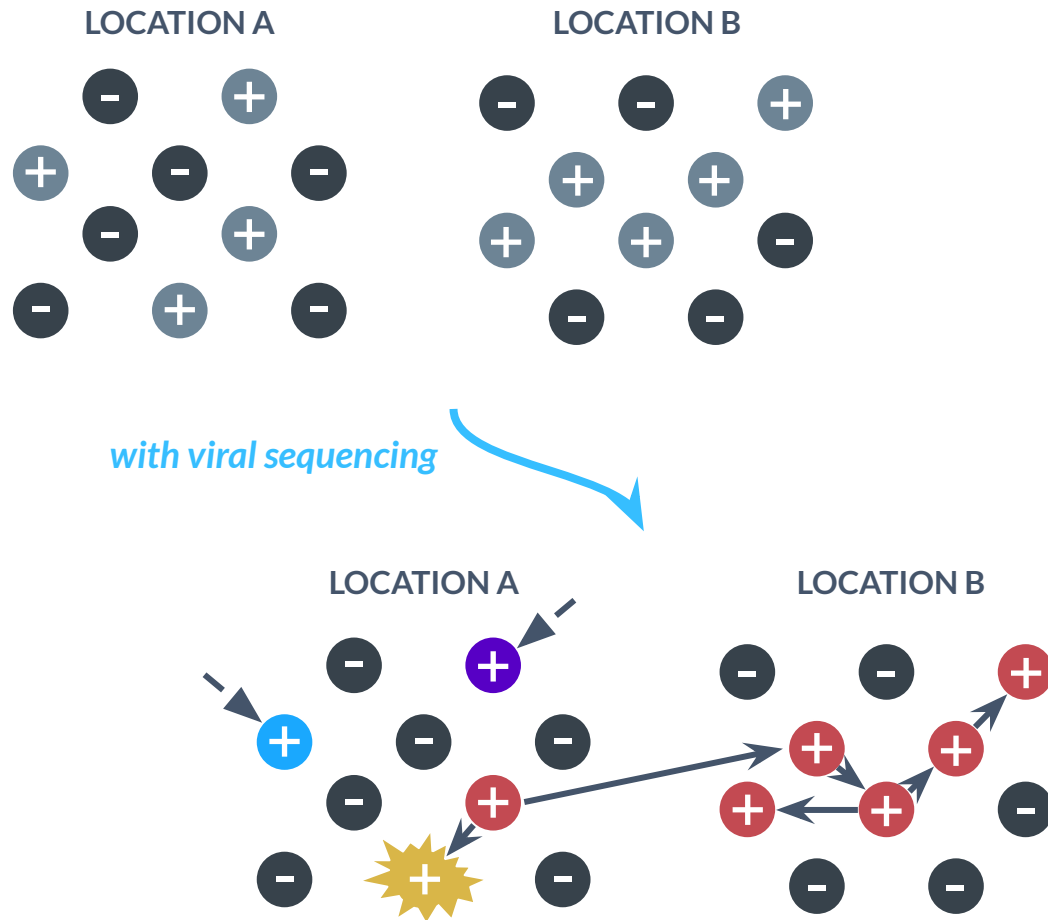
Antigen tests **cost 20x less** than PCR (\$5 instead of \$100)

Low cost enables **frequent** and ongoing testing.

Total price of **~\$14** per student per week

Testing is not a substitute for good infection control. It is a piece of a larger effort to reopen schools safely.

Viral sequencing supercharges outbreak investigations



If there is COVID-19 in the community, there will be cases in schools.

Sequencing the virus in positive cases can identify if transmission is happening inside the school or affirm prevention protocols are working.

This **supercharges contact tracing**.

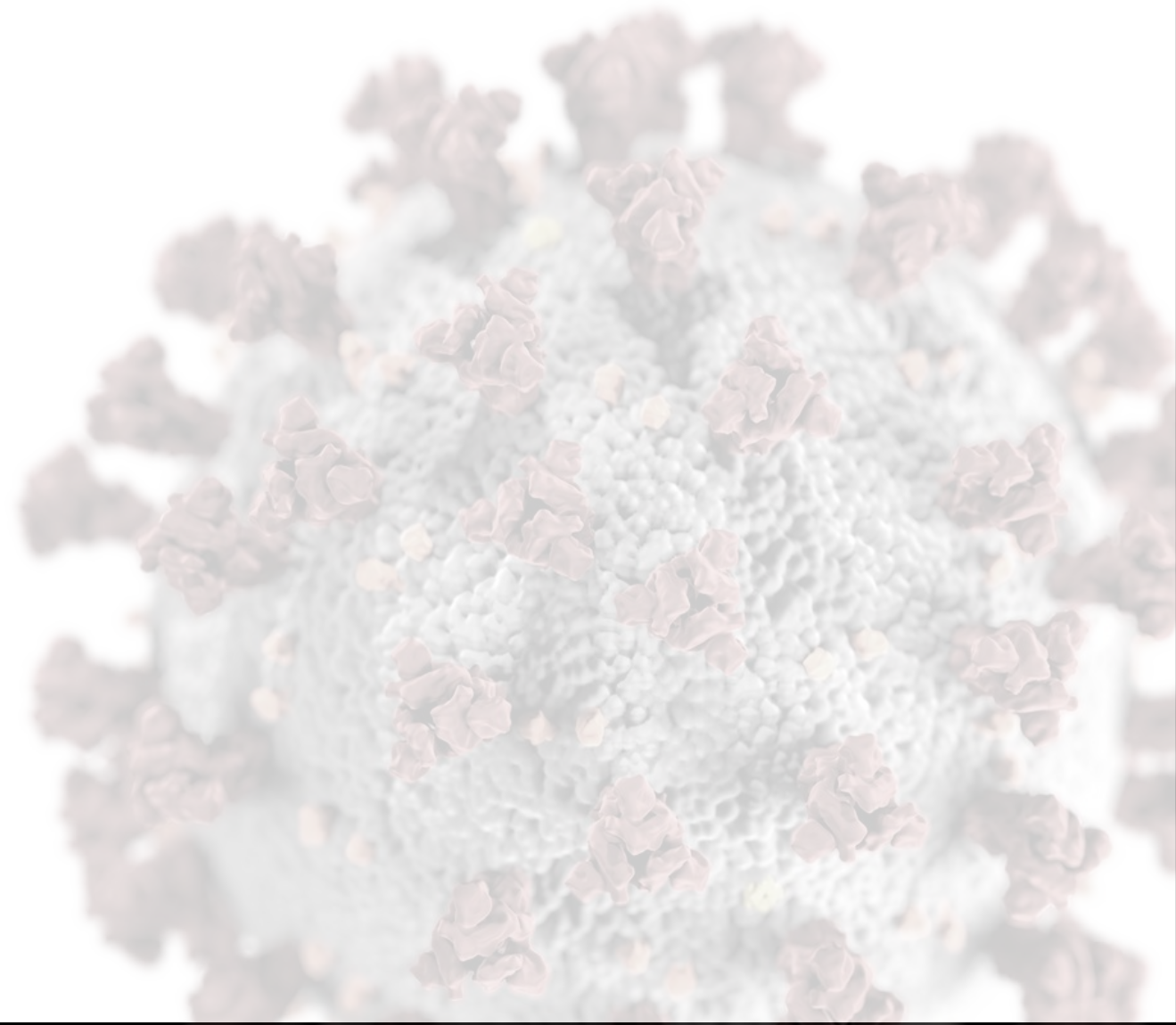


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Thank you

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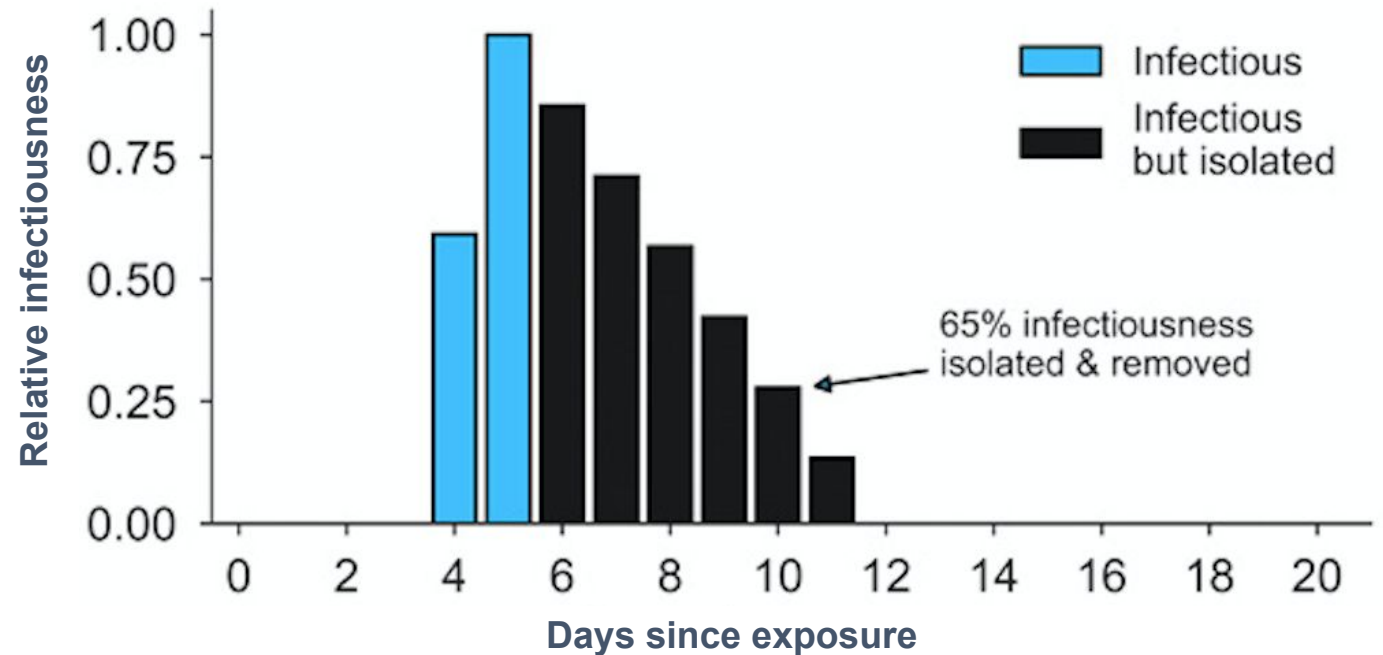
Appendix



Rapid testing reduces transmission

Identifying and isolating individuals early in the infectious period **keeps others safe.**

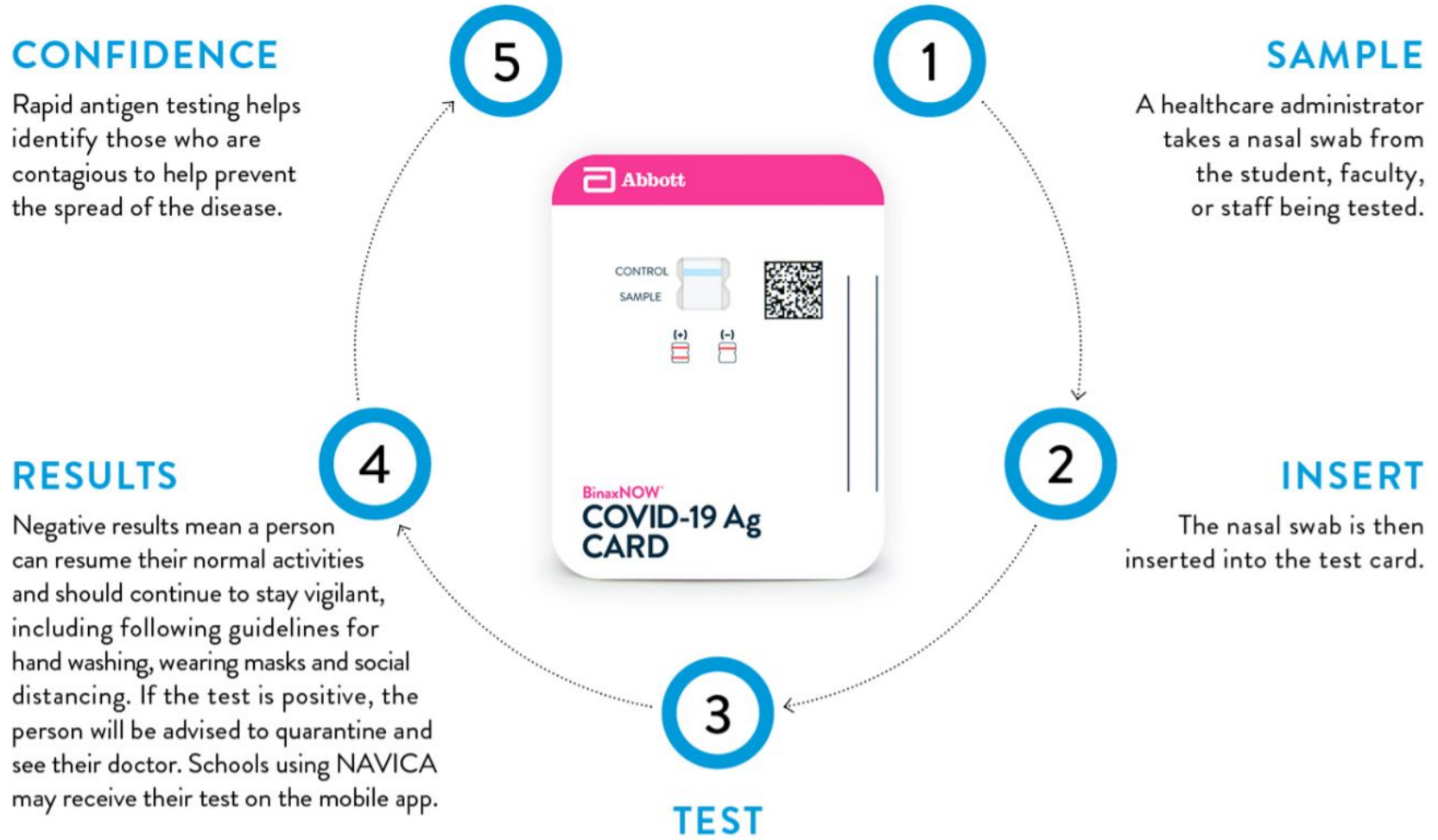
65% of infections may be prevented by using rapid tests frequently.



Source: Larremore *et al.* *Science Advances* 01 Jan 2021: Vol. 7, no. 1, DOI: 10.1126/sciadv.abd5393

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How Abbott Labs BinaxNOW tests works



In 15 minutes, a line will indicate whether the person has tested positive or negative for COVID-19 (one line indicates negative, two lines indicate positive).

Source: Abbott Labs

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