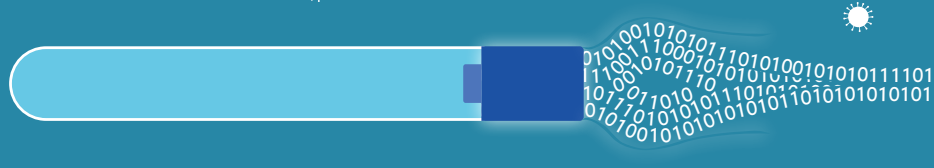
The Economist INTELLIGENCE UNIT

The role of covid-19 testing, data and informatics in getting back to normal



Testing, data and informatics have significantly improved countries' abilities to lessen covid-19 transmission and mitigate the ongoing crisis to help get back to normal

3 primary types of testing are currently used:[1]

- Molecular
- Antigen
- Serologic

Evidence suggests that for every **€1** spent on test-track quarantine strategies approximately **€7** can be recovered from saved health resources[2]

1 : 7

Data and informatics supporting testing

Some of the tools that have seen rapid adoption include:

Informatics | Artificial Intelligence | Telehealth

Digital technologies have been useful in:[3,4]

- Epidemiological surveillance
- Rapid case identification
- Interruption of community transmission
- Public communication
- Clinical care

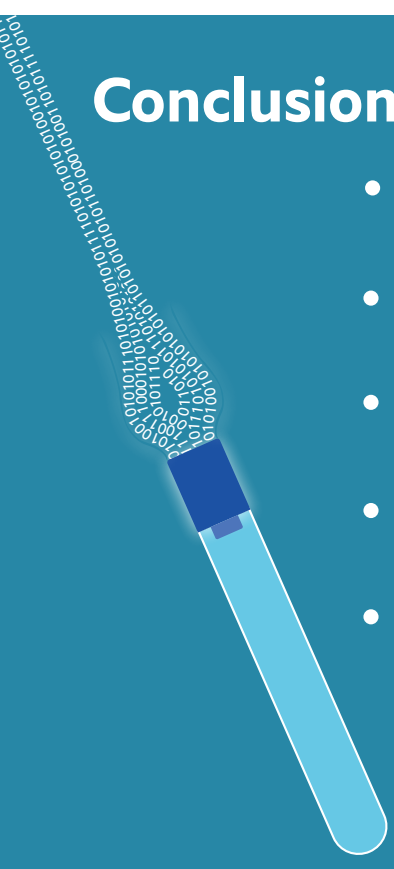
Benefits of effective testing strategies are apparent, but questions remain around the use of testing as we look towards the future of immunity:

- What level of immunity is needed for protection?
- How long it takes to develop the specified immunity levels?
- How to boost immunity effectively?

Future outlook

- Workplaces and schools might use rapid "at-home" testing kits
- Clinics and hospitals might move to panel testing, such as for influenza
- There might be a general shift from antigen to antibody testing to assess travel safety or the need for vaccine booster

Conclusion



- Testing cannot take a back seat to vaccination; no test in isolation will be enough.
- As immunity passports inch into reality, testing will remain crucial to ensure the accuracy and validity of passports.
- Countries will need more transparency in their data processing and cloud computing tools without sacrificing privacy and security.
- Greater collaboration is needed among technology developers, physicians and policymakers to design and implement digital tools.
- There is a need for seamless integration of data into Electronic Health Record systems to improve healthcare outcomes.

Sponsored by Abbott

References:
1. OECD. Testing for COVID-19: how to best use the various tests? Paris: Organisation for Economic Co-operation and Development; 2020. Available from: https://read.oecd-ilibrary.org/view/?ref=1036_1036993-cfmlc0vov2&title=Testing-for-COVID-19-How-to-best-use-the-various-tests
2. López-Valcárcel BG, Vallejo-Torres L. The costs of COVID-19 and the cost-effectiveness of testing. Applied Economic Analysis. 2021.
3. Budd J, Miller BS, Manning EM, et al. Digital technologies in the public-health response to COVID-19. Nature Medicine. 2020;26(8):1183-92.
4. Singapore MoH. Updates on COVID-19 (coronavirus disease 2019) local situation. Available from: https://www.moh.gov.sg/covid-19/