COVID-19 Analytical Snapshot #68: Technology to Support Analysis and Responses UPDATE

Understanding the migration & mobility implications of COVID-19

This snapshot updates snapshot #24. These COVID-19 Analytical Snapshots are designed to capture the latest research, information and analysis in a fast-moving environment. Topics will be repeated from time to time as analysis develops. If you have an item to include, please email us at research@iom.int.

New research & analysis on digital technology, COVID-19 and mobility

Applications of digital technology in COVID-19 pandemic planning and response by Sera Whitelaw, Mamas A Mamas, Eric Topol, Harriette Van Spall

Technology, migration, and illness in the times of COVID-19 by EDRi

A Second-Order Disaster? Digital Technologies During the COVID-19 Pandemic by Mirca Madianou

Digital technology use during COVID-19 pandemic: A rapid review by Deedra Vargo, Lin Zhu, Briana Benwell and Zheng Yan

Pandemic Opened 'Pandora's Box' When it Comes to Privacy and Technology—interview with Prof Kristen Walker, California State University

Real time data to track COVID-19 spread and infection risk

Large, complex datasets are evolving to combat COVID-19 by collating new data sources that scan for COVID-19 symptoms and track location to monitor the spread of disease. To identify COVID-19 symptoms, a startup in Switzerland is testing data from wearable technology to study heart rate activity, skin temperature, and breathing rate to identify patterns in the virus. To track the spread of the virus, tech solutions, such as the COVID-19 contact tracing app in Denmark, relies on mobile phones using Bluetooth to notify users when they are at risk of getting infected. To monitor the spread of the virus on a grander scale, temperature monitoring thermographic cameras, like the one in Colombia, detect temperatures in crowds using facial recognition. Combining these approaches are self-directed, voluntary applications for users to input their symptoms and access telehealth services, while data imputed gets mapped across a geolocalization heat map, as described by the W3.Care start-up in Brazil.

Technology, mobility and the COVID-19 vaccine

Data dashboards have been developed to monitor the roll out of the COVID-19 vaccine such as the COVID-19 vaccination data from Our World in Data and the Trials and Vaccines by Country from McGill University. Further, the distribution of the COVID-19 vaccine has raised the issues of immunity passports and requirements for proof of vaccination. Through the development of apps such as the Digital Health Passport in Saudi Arabia, and the 'Fit to Fly' health passport developed by a British tech firm, these concepts are becoming a reality. Tech access (and lack thereof) has the potential to compound inequality of access to vaccines, further impacting migration patterns and the future of mobility.

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COVID-19 technology uptake throughout the migration cycle

Pre-departure

For tracking and planning purposes data dashboards, such as the web-based platforms in Singapore and the USA, visually display COVID-19 active cases by location in real time. The critical data provides real time updates guiding mobility and border restrictions.

Entry

Upon entry, screening for infection is made possible through AI, mobile phone applications, and digital thermometers. In Taiwan, for example, infrared thermal cameras are set up in airports to quickly identify individuals with a fever.

Stay

A range of tech is used to monitor quarantine regimes in different settings. In China, a quick response (QR) system is used to track individuals with COVID-19 symptoms. The QR code is used as a travel pass, where individuals with a green code have unrestricted access and those with a red code are required to self-isolate. In Italy, a digital platform monitors individuals in quarantine via Bluetooth.

Return

Upon return, migrants may be required to report and detail where and who they have been with. Contact tracing is proven to be an effective strategy in managing the spread of COVID-19. A range of digital applications support contact tracing such as security camera footage and facial recognition technology used in South Korea and smartwatch applications like the one launched in Germany.

Increasing surveillance and migrants' rights

From tracking, screening, and tracing, the increase in surveillance measures impact migrants in a variety of settings. In this article on technology interventions in COVID-19 planning and response, authors highlight the unique im/mobility challenges facing migrants. While the COVID-19 has provided opportunities for innovative tech responses, the rapid development of technology also poses serious concerns for the privacy and human rights of migrants.

COVID19 & the digital divide

The pandemic has revealed inequalities within societies and between countries, including on digital accessibility. In many countries, such as India, COVID19 has heightened the digital 'haves' and 'have-nots'. While in South Africa this has become a major challenge for virtual education; in the United States migrant farm workers in rural settings faced major Internet access issues during the pandemic; in many countries the digital divide is negatively affecting remittance inflows.

This COVID-19 Analytical Snapshot has been produced by IOM Research (research@iom.int).