

ITS Webinar on Tracking & Tracing

Apps

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AMÉLIE DESVARS-LARRIVE

ASS.-PROF. INFECTION EPIDEMIOLOGY

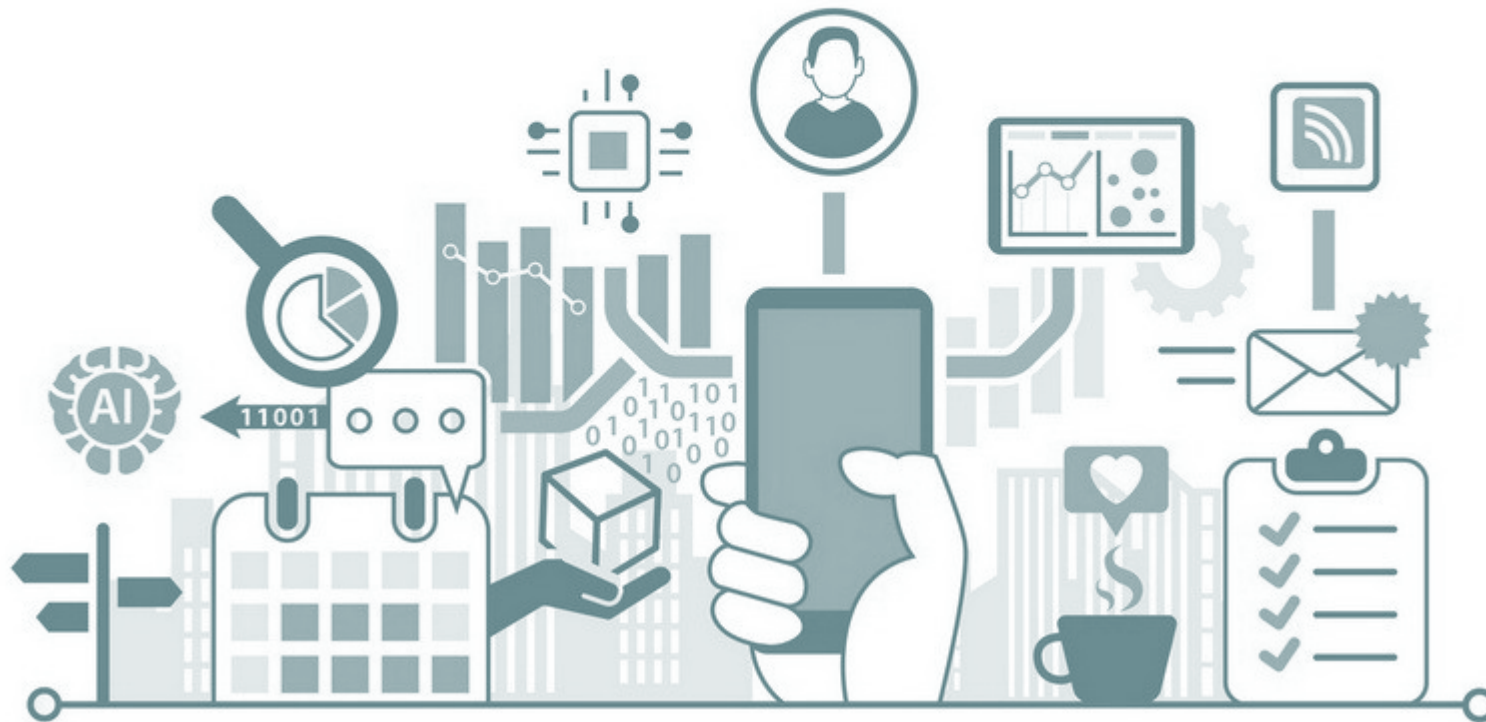
UNIVERSITY OF VETERINARY MEDICINE VIENNA, AUSTRIA
COMPLEXITY SCIENCE HUB VIENNA, AUSTRIA

amelie.desvars@vetmeduni.ac.at



What is Big Data?

BIG DATA



- **Volume**
- **Velocity**
- **Variety**
- **Variability**
- **Veracity**
- **Value**

Apps, Big Data and Big Data Analytics

Were/are Apps and Big Data or Big Data Analytics useful during the course of the Covid-19 pandemic?

New tools for a new problem?

Tracking COVID-19 Cases in Taiwan

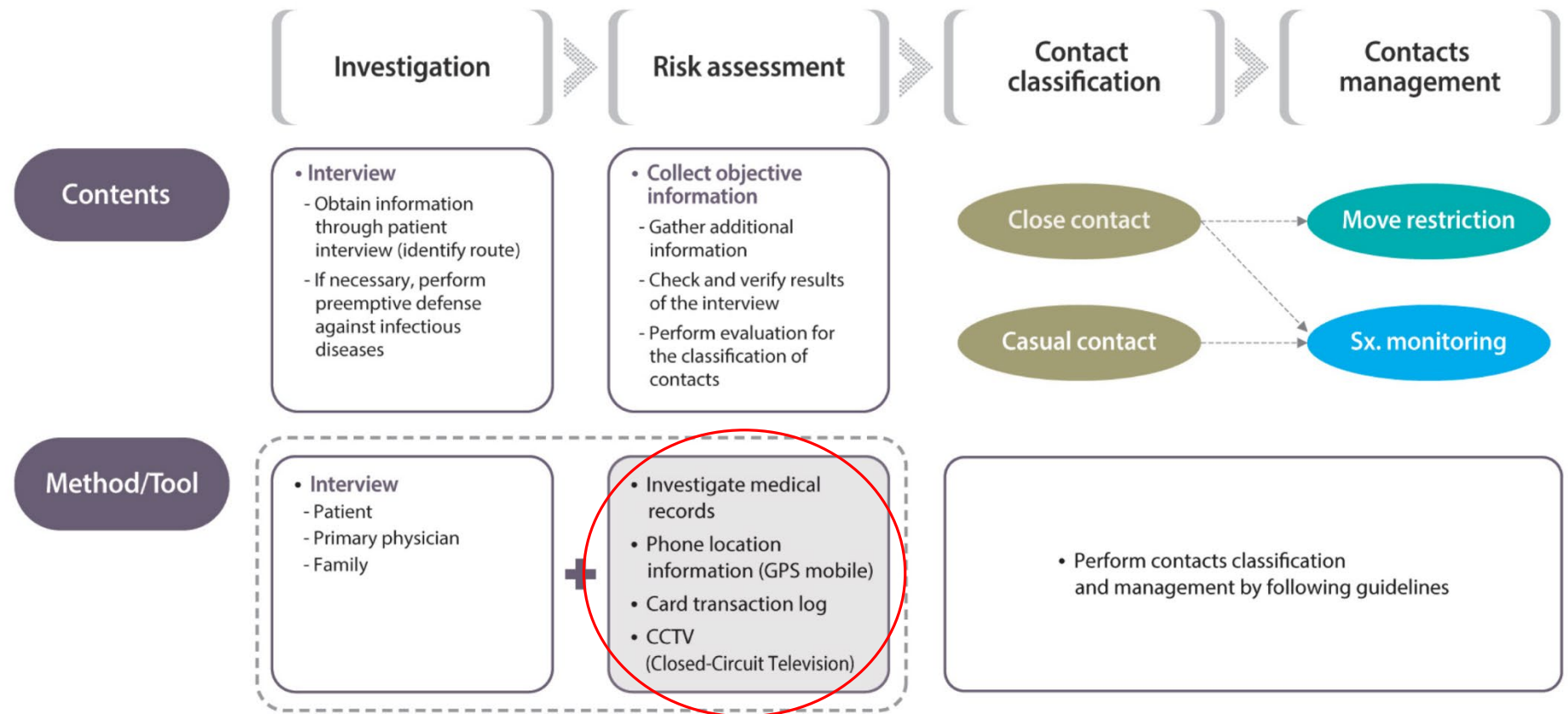


Photographer: Tomohiro Ohsumi/Getty Images AsiaPac
(<https://www.bloomberg.com/opinion/articles/2020-04-22/taiwan-offers-the-best-model-for-coronavirus-data-tracking>)

Wang CJ, Ng CY, Brook RH. Response to COVID-19 in Taiwan: Big Data Analytics, New Technology, and Proactive Testing. *JAMA*. 2020;323(14):1341–1342. doi:10.1001/jama.2020.3151

Contact Tracing in South Korea

Traditional + tech-enhanced contact tracing in South Korea



Osong Public Health and Research Perspectives 2020; 11(1): 60-63. DOI: <https://doi.org/10.24171/j.phrp.2020.11.1.09>

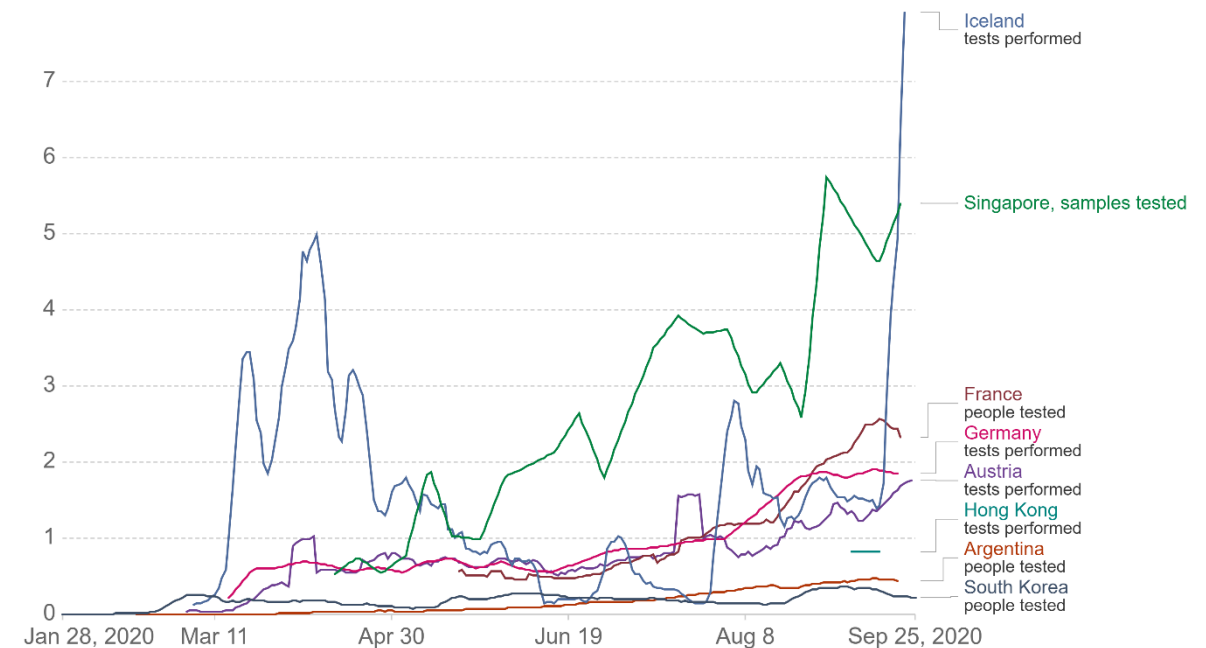
Screening for COVID-19 Infections in Iceland



Daily COVID-19 tests per thousand people

The figures are given as a rolling 7-day average.

Our World
in Data

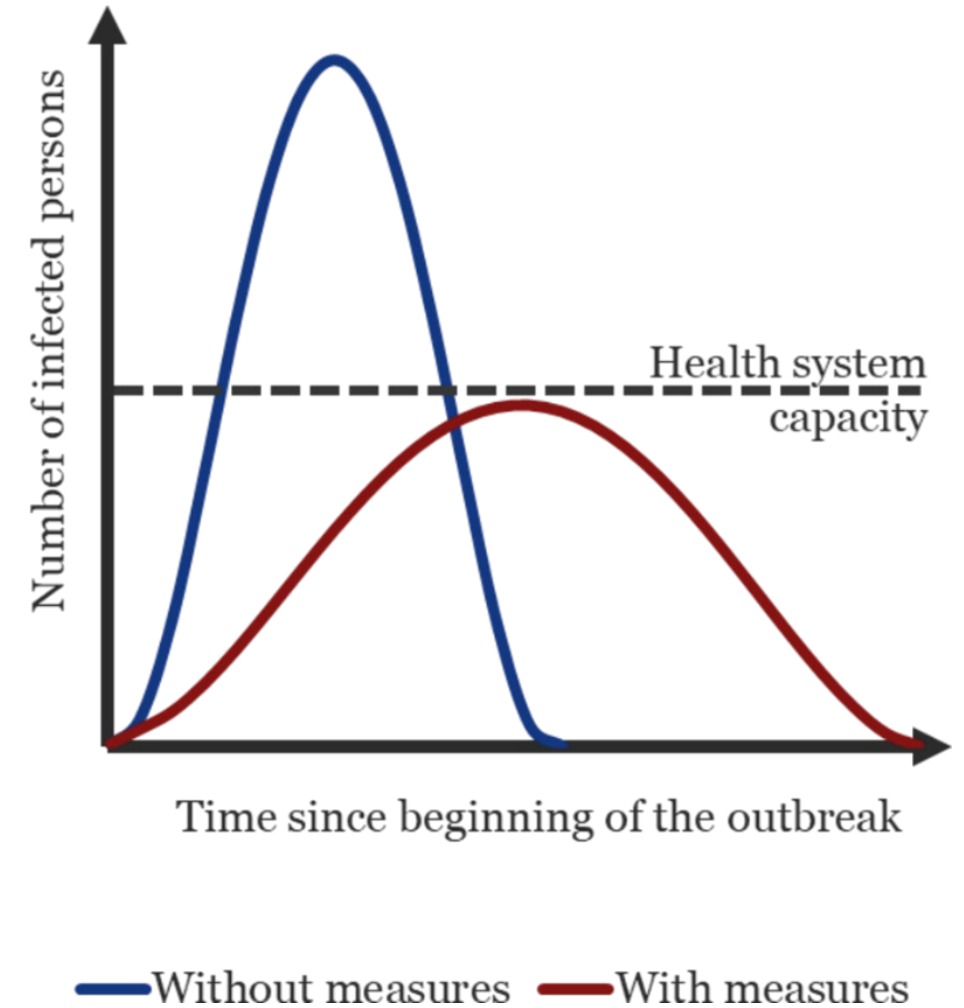


Source: Official data collated by Our World in Data

Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Daily data is interpolated for countries not reporting testing data on a daily basis. Details can be found at our Testing Dataset page.

OurWorldInData.org/coronavirus • CC BY

Apps, Big Data and Big Data Analytics



Limitations of tracking apps: high risk versus low risk exposure



Limitations of tracking apps: high risk versus low risk exposure

High-risk exposure (close contact)	Low-risk exposure
<p>A person:</p> <ul style="list-style-type: none">• having had face-to-face contact with a COVID-19 case within two metres for more than 15 minutes;• having had physical contact with a COVID-19 case;• having unprotected direct contact with infectious secretions of a COVID-19 case (e.g. being coughed on);• who was in a closed environment (e.g. household, classroom, meeting room, hospital waiting room, etc.) with a COVID-19 case for more than 15 minutes;• in an aircraft, sitting within two seats (in any direction) of the COVID-19 case;• A healthcare worker or other person providing care to a COVID-19 case, or laboratory workers handling specimens from a COVID-19 case, without recommended PPE or with a possible breach of PPE.	<p>A person:</p> <ul style="list-style-type: none">• having had face-to-face contact with a COVID-19 case within two metres for less than 15 minutes;• who was in a closed environment with a COVID-19 case for less than 15 minutes;• travelling together with a COVID-19 case in any mode of transport;• A healthcare worker or other person providing care to a COVID-19 case, or laboratory workers handling specimens from a COVID-19 case, wearing the recommended PPE. <p>(ECDC, 2020)</p>

Limitations of tracking apps: high risk versus low risk exposure

- Evaluation
- Calibration
- Notion of cumulative exposure



Sources photos: <https://calgary.ctvnews.ca/temporary-shields-inside-calgary-cabs-aimed-at-preventing-covid-19-infections-1.4894249> ; <https://www.signal-design.de/schutzwand-corona/>; <https://theconversation.com/social-distancing-is-making-public-transport-worse-for-the-environment-than-cars-heres-how-to-fix-it-142299>