COVID-19 Real-time Information System for Preparedness and Epidemic Response (CRISPER)

To THE EDITOR: The coronavirus disease 2019 (COVID-19) pandemic has created an unprecedented need for real-time surveillance data to inform decisions and action by public health responders and primary health care practitioners. Early in the pandemic, many countries swiftly produced interactive national dashboards with mapping capabilities.[1,2] A dashboard is an online tool for data management which optimises information access and data visualisation.[3] Dashboards provide benefits compared with standard reporting, including sharing near real-time data during rapidly evolving situations, and providing users with the opportunity to interact with the data. If designed appropriately, users can also interrogate data and ask questions based on their specific informational needs. Many dashboards also provide mapping capabilities, allowing for visualisation of spatial distribution of information, and monitoring trends geographically over time.[2]

Australia does not yet have an official and publicly accessible national interactive dashboard for COVID-19. Some states and territories have developed publicly available COVID-19 dashboards, but data are generally aggregated, making it difficult to answer specific questions that include time and location and source of infection. An interactive near real-time dashboard could improve access to and comprehension of data for primary health care providers and public health responders. Researchers from the

Australian National University, Menzies School of Health Research and the University of Queensland are developing a COVID-19 Real-time Information System for Preparedness and Epidemic Response (CRISPER) (https://crisper-graphc.hub.arcgis.com/) as a nationwide information and visualisation system for Australia. CRISPER aims to become the principal source of accurate, reliable and spatially explicit real-time information for COVID-19 (Box).

The system currently uses publicly available postcode-level data, primarily from state and territory health department websites. Gaining access to nationwide line-listed data is underway, which will allow additional functionality, including a clinical dashboard detailing clinical outcomes (eg, hospital and intensive care unit admissions, deaths) stratified by demographics, comorbidities, time and place. Also under development is an automatic alert system providing registered users with daily or weekly email alerts on new cases, contract tracing alerts and/or testing rates based on user-defined geographical areas of interest.

We believe that CRISPER will improve accessibility of information for primary health care practitioners and public health responders and will enable them to make more timely and informed decisions. This system may serve as a prototype platform for rapid information sharing for other epidemic-prone diseases.

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References are available online.

Features of the Coronavirus Disease 2019 (COVID-19) Real-time Information System for Preparedness and Epidemic Response (CRISPER)

CRISPER aims to optimise information access and visualisation for COVID-19 through:
- a national summaries dashboard detailing cases, deaths and testing — information can be filtered or summarised by states and territories, time periods, and 7- or 14-day rolling averages (https://graphc. maps.arcgis.com/apps/opsdashboard/index.html#/465d9e0cd44247b488b8431a56691417); and
- an interactive mapping tool of cases, testing and contact tracing alerts by location (postcode, local government areas, public health units) — information can be filtered by time periods and source of infection (currently available for New South Wales). A key feature distinguishing this tool from other dashboards is that the data in the different components are linked; for example, the epidemic curve is dynamic based on cases in the map window (https://graphc.maps.arcgis.com/apps/opsdashboard/index.html#/74e69c2ab40f41c892a652e95373622c)

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2 Center for Systems Science and Engineering. Johns Hopkins University. COVID-19 dashboard. https://coronavirus.jhu.edu/map.html (viewed Dec 2020).

3 Dowding D, Randell R, Gardner P, et al. Dashboards for improving patient care: review of the literature. *Int J Med Inform* 2015; 84: 87–100. ■