Innovations in health services delivery

We have started the issue with a reprint of the highly cited JBI Methodological guidance for the conduct of mixed methods systematic reviews. The issue also features projects demonstrating innovations in health service delivery, with titles including barriers and facilitators for implementation of a patient prioritization tool, nurse facilitated reflective exercise post patient death in the intensive care unit and reduction of aggressive behavior toward health staff and patients.

Other innovations of health services delivery recently drawing significant attention in the literature is the use of Geographic Information System (GIS) Technology in health systems. Geographic Information System Technology is a framework that uses the science of geography to manage data, facilitate analysis and generate effective information to support decision-making. Considerable investment in health systems has increased the availability of trustworthy data, making GIS suitable to support global health and development activities.

A recent literature review summarized key aspects of GIS use in health. These included the benefits of GIS for healthcare planning, delivery and managing epidemics. However, the biggest challenge is the lack of spatial maps for behaviors and environmental risk data, especially in developing countries where these data would be most useful for their growth and advancement.

Geographic Information System has been used in several programs around the world to improve decision-making for managers, healthcare professionals and policy makers. Examples of these programs include the West Africa Ebola outbreak where GIS was used to help coordinate the Ebola response and identify at risk areas for rebuilding efforts, and in the prevention of child and maternal health issues in Uganda where GIS was used to identify gaps in obstetric care to prioritize facilities for program support.

Program managers and health administrators can use GIS technology in several ways to improve healthcare delivery including four main approaches. First, improving efficiency by identifying areas of overlapping services, reviewing alignment of services with target populations or comparing financial data and service statistics to identify costly health services with low yields on investment. Second, provision of equity by identifying and addressing the gaps that can be caused by limited geographic access, inadequate services or low-quality services for the population as a whole or for specific communities. Third, mapping epidemic trends as has been the case with managing the current COVID-19 epidemic. Mapping patterns in incidence or prevalence, including morbidity or mortality hotspots, may reveal locations where health interventions are lacking or ineffective. Fourth, understanding the context of evolving patterns of diseases, conditions and healthcare delivery in general. Acquiring knowledge about demographics, economic development, financial status of populations and (when relevant) land use patterns has the potential to provide valuable perspective into many health conditions.

Finally, the opportunities for GIS continue to grow due to the availability of several proprietary systems such as ArcGIS Online and ERDAS IMAGINE among others, the availability of big data and the use of machine learning. Healthcare providers and administrators may look at upskilling staff on basic geospatial skills in order to make the most of this new health innovation.

Acknowledgements
Conflicts of interest
The author reports no conflicts of interest.

Hanan Khalil BPharm MPharm PhD AACPA
Health Administration and Management, School of Psychology and Public Health, La Trobe University, Melbourne, Victoria, Australia

Correspondence: Hanan Khalil, BPharm MPharm PhD AACPA, Discipline Lead-Health Administration and Management La Trobe University, School of Psychology and Public Health 360 Collins Street, Melbourne, Vic 3000, Australia. E-mail: h.khalil@latrobe.edu.au

DOI: 10.1097/XEB.0000000000000287

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