

Embracing open data for Caribbean health

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As the Caribbean faces an evolving health landscape along with other regional challenges, the importance of reliable, accessible and interconnected data has never been more evident. This special issue of the *Pan American Journal of Public Health/Revista Panamericana de Salud Pública* focusing on Open Data for Caribbean Health explores the potential of open data to enhance public health outcomes and imagines how it can foster collaboration and build resilience within communities. We introduce a vision for how open data, guided by principles such as FAIR (for Findable, Accessible, Interoperable and Reusable) data, can contribute to a healthier Caribbean.

WHY OPEN DATA MATTERS FOR THE CARIBBEAN

Open data makes information available to everyone, without barriers. For the Caribbean, facing unique health and economic challenges, the potential impact of open data is significant. Health systems can benefit from open data, for example, by using it to identify trends, anticipate disease outbreaks and improve health care delivery. During public health emergencies, such as hurricanes or pandemics, timely information saves lives. Integrating open data across the Caribbean region can help mitigate risks and support effective disaster responses and health planning (1).

CROSS-SECTOR COLLABORATION FOR OPEN DATA

One strength of open data is its ability to foster cross-sectoral collaboration. By making data available to health care providers, educational institutions, government bodies and private industry, diverse expertise can be leveraged to address complex health challenges. Collaboration between health care and academic researchers can lead to new interventions, while partnerships with private industry can bring technologies to scale (2). Cross-sectoral collaboration is vital for addressing

the health issues facing the Caribbean today, and it offers a pathway towards developing a sustainably larger pool of data producers.

CAPACITY BUILDING FOR DATA LITERACY

To unlock the potential of open data, capacity for data literacy must be built. In a “post-truth” world, where misinformation and disinformation are prevalent, data literacy is a vital tool to enable the public to separate evidence-based information from false narratives. Health care workers, policy-makers and the public need skills to understand and use data effectively. Training programs can empower health care professionals to make data-driven decisions and policy-makers to create evidence-based policies (3). Enhancing the public’s data literacy also fosters greater engagement and trust in data initiatives, ensuring that communities can actively shape health outcomes and make informed decisions (4).

CHALLENGES TO AND OPPORTUNITIES IN OPEN DATA

A major challenge to adopting open data initiatives is overcoming our disconnected islands of data, where data are fragmented across institutions. This limits the insights that could be gained from pooled information. To create an open data landscape, stakeholders must work together to break down silos and foster a culture of sharing.

Privacy and trust issues are particularly sensitive in the Caribbean context. Deidentified data sets can occasionally reveal personal information, for example when data are combined with other publicly available information, leading to the identification of individuals. This risk increases in small places, and striking a balance between making data open and safeguarding privacy is crucial. Robust policy frameworks are essential for

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ensuring privacy, security and the ethical use of data, and these can help build public trust.

In return, the opportunities presented by open data are immense. Open health information systems benefit researchers, clinicians, policy-makers and the public. Open data can become a public good that strengthens health care delivery and improves health outcomes.

TECHNOLOGY INFRASTRUCTURE AND INNOVATION

Cloud-based solutions and artificial intelligence (AI) offer key pathways to ensuring sustainable data-sharing, particularly in resource-constrained environments. While the initial financial outlays for cloud and AI technologies can be prohibitive, they provide essential long-term cost savings and scalability. Cloud solutions enable the efficient storage and sharing of data sets, making data more accessible. AI applications can analyze complex health data to predict disease trends and support diagnostics. Addressing the financial barriers through phased investments or regional partnerships is essential to help overcome these challenges, ensuring that technological infrastructure contributes to sustainable health improvements.

COMMUNITY ENGAGEMENT AND DATA OWNERSHIP

Community engagement is vital to the success of open data efforts. Communities should be encouraged to take ownership of their data, meaning they should have control over how their data are used, have access rights to the data and have the ability to participate in decisions regarding data-sharing. By engaging the public, public health and other health professionals can build trust and ensure that the data collected reflect the community's values and needs. Community-driven data initiatives can help address specific regional health challenges, leading to better targeted interventions. When people feel ownership, they

are more likely to support data-sharing efforts, strengthening the impact of open data.

THE FAIR DATA MODEL AND THE CARIBBEAN CONTEXT

Transitioning to a FAIR data model is a promising pathway for the Caribbean. FAIR principles ensure that data are not only available but also useful. By making data accessible, cross-border research can be enabled to tackle shared health challenges. Interoperability helps resolve fragmentation: if data systems across the Caribbean can communicate, regional collaboration becomes more feasible. Reusability ensures that data, once gathered, can be applied to different contexts, maximizing its value. For instance, data collected for an infectious disease study could later be used to explore environmental health trends, creating a multiplier effect for knowledge and insight.

A CALL TO ACTION

Embracing open data is a step towards ensuring more equitable health outcomes across the Caribbean. Policy-makers must prioritize frameworks that respect privacy while maximizing data utility. Researchers and health care professionals must contribute to open data repositories. Communities play a vital role by demanding transparency, accountability and access to information that affects their well-being. The transition to a FAIR, open data environment requires investments in infrastructure and training, and cultural change: specifically, a shift towards valuing data-sharing and collaboration among stakeholders. The rewards – better health policies, more effective health systems and healthier communities – are worth the effort. In this special issue, we hope to provide insights on leveraging open data to address the Caribbean's challenges. By breaking down barriers, making data FAIR and committing to collaboration, data's power can be unlocked for sustainable development and health resilience across the Caribbean region.

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