COVID-19: The Open Data Pandemic

Jamie Leach

The COVID-19 pandemic highlighted the need for trustworthy data and science to guide the response of authorities, institutions and the public. Open data, open and collaborative science are needed to hasten the development of solutions to bring this pandemic and any future crisis to an end.

33.1 Unlocking the Value of Data

I wouldn't be the first to compare data to raw material. Data in isolation and without context is as useful as a piece of rock ripped from the Earth. But what if that rock was polished, washed, cleaned, smelted and extruded? Suddenly that piece of innocuous rock may resemble the makings of steel created from Iron Ore.

Data in isolation lacks purpose or value and may pose little danger to its custodian from privacy or from the ability to manipulate it. Before COVID-19, data was coveted by its creators. The owners or custodians of data either protected it for fear of breach or recognizing the economic value in the data locked it up for future benefit and gain.

33.2 From Data Sharing to Open Science

The advent of COVID-19 has shaken the world with anxiety levels of the public and governments rising to a fever pitch. Suddenly, the potential for greater good through collaboration to overcome a united enemy has prompted the barriers to data sharing to be rapidly lowered, and in some cases, removed altogether [1–3].

Through a shared desire to find treatments and cures for the pandemic, and through a need to fact check directives issued by governments and world leaders, data is being shared at unprecedented levels. Frustrated by swathes of policies and political advice, more people are turning to science.

Examples of COVID-19 data sharing is occurring around the globe. In Europe, the launch of several COVID-19 data portals is enabling collaboration between Bioinformatics Institutes and their partners [4]. By creating a shared space, the portals address a need to share data, create an accessible and safe storage facility and analysis tools for future data development and manipulation.

Another partnership between NASA, the European Space Agency and the Japan Aerospace Exploration Agency strives [5] to find a cure to COVID-19 and to utilize the learnings to further progress sustainability. No stranger to the concept of citizen science and crowdsourcing of ideas, the

partnership participants have long been affiliated with innovation and mountains of data. Wanting to lend a hand to fight the Global pandemic, scientists and engineers' thought the best way to find solutions, would be to work as collaboratively as possible, and nothing screams collaboration as loudly as the Hackathon they held in May 2020 [6].

Not all governments have been slow to react, however. Renowned for its tech-enabled civic culture with Taiwan's revered Digital Minister Audrey Tang at the helm, a bottom-up information sharing approach, coupled with the public-private partnership model, has resulted in a participatory collective action; central to the country's success in handling pandemics and regional crises [7]. Based on hard-learned lessons from the 2003 SARS epidemic, Taiwan has experienced significantly lower COVID-19 cases than other nations. Minister Tang stated that no one decision alone had yielded their low rate of infection, but rather a unified approach to data and technology has contributed significantly [8].

33.3 The Future

Despite the groundbreaking results of data sharing between the scientific and research communities, factions of the government are resisting the adoption of open and transparent data processes. The urgent and pressing need for a cure is forcing researchers and scientists to put the benefit in front of the legalities: sharing models, research and analytics accelerating science ahead of regulation. I hope that this surge in open data, open research and overall sharing for the greater good will not only aid the quest for a solution for COVID-19, but will forever change large-scale attitudes towards data sharing and open science.

In the number of months since the pandemic recorded its first case, open science has led to the isolation of the virus, a standardized list of symptoms, COVID-19's genome has been sequenced and shared, multiple formats of testing have evolved and the potential of global vaccines have been developed across multiple jurisdictions. Prior to the pandemic, science was largely publicly funded, but not publicly accessible. To progress the current breakthroughs of the scientific and medical fraternities post pandemic, a standardization of data practices, maintaining open access and a willingness to continue mass collaboration is essential. To create and promote resilience across the community will come from their faith in a united scientific community, achieving a solution to bring this pandemic and any future crisis to an end. If open access, open science and open data are maintained, this becomes the new normal. Anything less will be regression without justification.

References

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