COVID-19 Health Data Africa Interoperability VODAN-Africa

General Information

18 March 2020

The spread of the virus causing the COVID-19 outbreak affects the whole world. Virus outbreaks like these ask for an optimization of data management and data reuse from which we all can benefit during future outbreaks too. Access to the immensely valuable data of past and current epidemics is not always equally accessible for different affected populations and countries. Under the urgent need to harness machine-learning and future AI approaches to discover meaningful patterns in epidemic outbreaks, we need to do better and ensure that data are FAIR (Findable, Accessible, Interoperable, Reusable but in this sense also meaning Federated, AI-Ready).

This time, we can do better. The GO FAIR Foundation launched the Virus Outbreak Data Network (VODAN) GO FAIR Implementation Network. Members of this rapid response VODAN Implementation Network will work primarily remotely in collaborative online work sessions to refine standards, build tooling and deploy FAIR Data Points.

The effort has been launched as part of the Virus Outbreak Data Network (VODAN) GO FAIR Implementation Network, which addresses current and immediate challenges to use and connect digital health data worldwide to follow the outbreak.

This initiative has been established under the urgent need to connect Africa to the global effort to fight COVID-19, and to ensure Africa's health professionals and data scientists are equipped to harness machine-learning and artificial intelligence (AI) approaches, to discover meaningful patterns in epidemic outbreaks. We need to ensure that data are FAIR (Findable, Accessible, Interoperable, Reusable. In this case that also means Federated and AI-Ready).

One of the efforts is focused on ensuring that the African continent is plugged into this global effort and to also strengthen capacities in countries not yet fully connected. These efforts are coordinated by the Implementation Network Africa: https://www.go-fair.org/implementation-networks/overview/in-africa/ and Implementation Network: https://www.go-fair.org/implementation-networks/overview/ambassadors-in

The Implementation Network Africa connects governments' Ministries of Health, health and medical service providers, universities, university hospitals, data scientists, computer scientists and telco-operators. A wide network has been established based on capacities provided by universities linking medical and health knowledge with data science.

FAIR Data Points are set up to ensure the interoperability of the health data, within sound governance and data-ownership parameters, to help the tracing, prevention and fight against the Covid-19 virus. This is with a view to further strengthen our capacities for connected health care in Africa, not only for this crisis, but also beyond.

The African patient data remain under the governance of the countries where they belong, under regulations of Ministries of Health. Algorithms will "visit" the data, under regulatory conditions, so that researchers can find correlations, dependencies and relations, enabling evidence-based insights and breakthroughs. The infrastructure will remain in place after the crisis, to strengthen health systems and to respond to future outbreaks.

Africa's health systems can benefit from digital innovation and support. Data interoperability will help current efforts to contain the virus and help strengthen health services. African partners benefit from the training to

ensure digital health data are useable for the fight against the spread of the pandemic and early detection of the movements of the virus.

The first step is the virtual Training for Trainers trajectory, free of charge and online on virtual platforms where data analysts will be guided to establish FAIR Data Points, to ensure data are linked and useable for global corona-relevant analytics, followed by AI powered data analytics.

The East Africa Community, Health Research Commission adopted FAIR to increase Health data interoperability: "Develop and promote regional principles on data sharing (e.g., based on FAIR principles, shared cloud services, etc.) and digital tool design". See: https://www.eahealth.org/sites/www.eahealth.org/files/content/attachments/2019-02-06/Digital-REACH-Initiative-Roadmap_20171205_custom_size_0.pdf

In Africa, next to the African Open Science Platform (AOSP) (http://africanopenscience.org.za), there are several sister initiatives such as the East African Health Research Commission's initiative for an East African Open Science Cloud for Health (EASCH) environment, and the GO FAIR IN-AFRICA implementation network (https://www.go-fair.org/implementation-networks/overview/in-africa/), with partners from both AOSP. Universities have initiated capacity building to partner with MoH and other partners on this: https://www.kiu.ac.ug/engagements.php?i=data-science-through-go-fair-in-africa-a-new-generation-internet-of-data-and-services and http://www.gzu.ac.zw/data-science-through-go-fair-in-africa-a-new-generation-internet-of-data-and-services/

Universities from within the following countries are establishing the continental wide Virus Outbreak Data Network in Africa: Uganda, Nigeria, Kenya and Ethiopia, Zimbabwe and South Africa. This outreach comes under the overall VODAN initiative.

The action is supported by the Philips Foundation.

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Further Information:
These are the sites with further details on the VODAN-initiative:
https://www.go-fair.org/implementation-networks/overview/vodan/
https://www.go-fair.org/2020/03/12/launch-of-vodan-go-fair-in-to-optimise-data-reuse-during-virus-outbreaks/
https://www.go-fair.org/