First assignment

1 | Introduction and objective of the short paper

The background of this article describes the situation of the absence and incompleteness of health data in Africa, which hinders genetic research and thus slows down the progress in developing the quality of health care. In addition, the exploration of genetic basis of COVID-19 variants of concern and the recombination of SARS-CoV-2 mutations also need bulk input of data findable, accessible, interoperable and reusable. For this reason, an effective and improved data management system across several African continents was designed and created to guarantee the social contract mentioned in the article, whose objective is to "provide analytical information to help drive operational decision-making and strategic planning."

2 | Main points of the article

These are: (a)the problem of health data management in Africa in pre-development, such as the limited availability of data, which is holding back the global study of many related fields.
(b) an improved Health Data Management System (HDMS) for Africa should be designed and created to be a solution to address those problems described above. (c) introduce the concept of FAIR data (FAIR Principles and Equivalence), and the implementation of GO FAIR to make data Findable, Accessible, Interoperable, and Reusable (d)several turning points or critical junctures that set the direction of the design, advancing the development of data management. (e) Increasing data ownership in Africa is necessary. The difference between institutions which tend to take for granted that they own individuals' data, and patients where the data is produced in fact, need to be considered seriously. For instance, any access or use of these data from personals should requires patient consent or authorization.
(f)Building local research capacity to promote the participation of community is crucial, which could be an assistance to data handling.

3 | Personal Opinion

I am more concerned about the issued related to COVID-19 mentioned in this article. Absence and incompleteness of health data in
Africa greatly affect not only the global study and understanding of the genetic basis of COVID-19 but also the prevention, control, response and

preparedness of virus outbreak. Hence, much assistance,
including adequate financial support, medical equipment and
technical assistance for health facilities in Africa to help improve the
physical condition of health facilities to allow for efficient data collection
and data handling, should be taken into account.

4 | Questions

I was wondering,
(1) why EAOSCH, which is composed of health institutions, was built on the
    border of the continent (Figure 1).
(2) can data from health facilities be completely passed to WHO/GO FAIR/VODAN
    COMMUNITY directly? If not, is the data that health workforce obtains from
    the health facility and pass to the data steward complete?

5 | Conclusion

As stated in this article, "this study focused on designing a data
architecture that enables data capture for research in these domain". And the
objective of designing that data architecture is to address the problems
of lack of capability locally and the ownership of data handling at the
clinic level so that high-quality data in health could help average people
in Africa and researchers who work on these domains relative to virus or
genetics.