Progress and Challenges of the OHDSI Africa Chapter

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Background

The OHDSI Africa Chapter aims to strengthen awareness and capacity for data harmonization and analyses using OHDSI tools to meet the data-driven evidence needs of African researchers, health providers, and governments. Objectives for the Chapter in 2025 are to (1) hold the first OHDSI Africa Symposium on the continent by year end, (2) submit two or more grants supporting additional Extract, Transform and Load (ETL) processes of African data, (3) conduct a deep dive exercise of the ETL process to the OMOP CDM (4) propose Africa-specific terminology to add to the OHDSI standard vocabulary (5) develop customized curricula on OHDSI methodology for different stakeholder groups (e.g. government officials in health agencies, clinicians, hospital staff), and (6) initiate work on a maturity level framework for OMOP CDM ETL implementation.

Methods

At OHDSI Africa Chapter meetings, members exchange information about OHDSI resources, identify potential data assets for transformation to the OMOP CDM, discuss governance issues, and showcase institutions that have transformed their health data. Occasionally, OHDSI members from other regions are invited to present on OHDSI developments for other African data science communities such as VODAN and HELINA. The Chapter meets biweekly in MS Teams on Monday at 3 pm WAST, 4 pm CAT/SAST, 5 pm EAT (10 am US **EDT**). During US Standard Time (December and February)., the meeting time will shift to **9 AM EST**. By joining the free OHDSI Teams environment and the OHDS Africa Chapter, one will receive the meeting link

and Agenda for the on-line biweekly Teams meeting, read and post news relevant for the membership, participate in surveys to gather membership feedback, and join sub-groups focused on specific tasks.

Results

- Chapter members are organizing the **first OHDSI Africa Symposium**, scheduled to take place 10-12 November 2025 at the Joint Clinical Research Center (JCRC) in Kampala, Uganda.[1] The program will consist of free tutorials, speaker presentations and a poster session, with presentation of OHDSI use cases during the first session of the JCRC HIV.
- The OHDSI Africa Chapter was invited as a collaborator for the African Population Cohort Consortium,[2] which aims to build an African evidence base and strengthen policy and practice towards attaining equitable universal health. An integrated data system will leverage more than 40 population cohorts in 16 African countries and link data sets on health and disease (aligning with the OHDSI framework), genetic, environmental and socioeconomic factors. Wellcome Trust will be funding this Consortium.
- The OHDSI Africa Chapter was invited to present at the Social Linked Data (SOLID) Symposium[3] in April 2025 held at Leiden University, which aims to promote the adoption of FAIR data practices. Many members of VODAN Africa, African data organizations, and African ministries attended. Oral presentations of the OHDSI organization and OHDSI Vocabulary were favorably received, in particular the OHDSI governance model and conduct of studies in a distributed network.
- The African Population Health Research Center (APHRC) in Kenya is the lead organization of the Data Science Without Borders Program,[4] a Wellcome Trust-funded partnership of African institutions in Ethiopia, Cameroon, Senegal, Africa CDC, the Committee on Data for Science and Technology (CODATA), The Alan Turing Institute, and the London School of Hygiene and Tropical Medicine is pursuing activities to build capacity for data harmonization and interoperability using the OMOP CDM and to promote open data science in Africa.[4] Mental health is a clinical domain of particular interest in this program.
- OpenMRS is one of the most widely used applications in Africa for collecting health data at the point of contact between patient and health care provider.[5] The OpenMRS community is collaborating with the OHDSI Africa Chapter to support ETLs to the OMOP CDM and help identify concepts unique to the African context. Thirty members enrolled in an ETL Deep Dive exercise and transformed an OpenMRS database to the OMOP CDM, led by Andy Kanter, Lars Halvorsen, Jayasanka Weerasinghe, and Cynthia Sung.
- The Horizon Europe EDCPT3-funded BRIDGE program led by Ghent University, “Scaling Up Research in Sub-Saharan African Countries in Infectious Diseases: African-European Training Network in Integrated Health Informatics and Data Sciences” is focused on human capacity building of African researchers in health informatics through PHD and postdoctoral fellowship funding.[6] BRIDGE held a kickoff meeting in Nairobi in December 2024. Ten PhD and four postdoctoral positions were selected from >120 applicants. The selected students and fellows will perform ETLs of health data at their locale. Under mentorship of experienced European OHDSI members, the students and fellows will conduct health informatics studies of infectious diseases relevant to Africa, ideally involving multiple institutions in a federated network.
- Malawi has created a national data lake of HIV healthcare data, which is undergoing harmonization with the OMOP CDM and is exploring its use to prepare PEPFAR reports.[7]
- To increase the accessibility of training materials, The Book of OHDS is being translated into languages widely used in Africa. A User Interface, MetaLink, has been created to manage and track language revisors’ progress on translations of The Book of OHDSI. A French translation is available, and being used in Cameroon and Senegal. Translation teams for Portuguese, Arabic, and Kiswahili have

formed. After the second edition of the Book of OHDSI is completed, the teams will commence the translation work.

Conclusion

Many African healthcare facilities are transitioning from paper-based data collection forms to electronic health records. Vast amounts of data in Africa exist in many health institutions, such as clinic and hospital visits, pharmacy orders, surveys, registries, and disease surveillance reports, yet these datasets remain siloed in different organizations and captured in varying formats and terminologies.[9] As efforts to digitize health data advance, adoption of standardized formats and widely used vocabulary Ontologies will facilitate interoperability across institutions. Transformation of data to the OMOP CDM offers a solution for standardizing data while ensuring patient privacy and retaining data control. Awareness of OHDSI is growing in Africa, and several African institutions have successfully utilized the OMOP CDM and OHDSI tools. Many other OHDSI Africa Chapter members are prepared to adopt the OMOP CDM but face challenges of insufficient funding for data storage, computational resources and personnel training. The OHDSI framework offers an opportunity to make African health data FAIR through standardization to the OMOP CDM, Standard Vocabulary and use of OHDSI tools, thereby enabling advanced analytics for healthcare improvement. Additional investment is critical to scaling these efforts and creating sustainable, Africa-led programs to generate evidence from digital health data.

References

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