

VODAN-AFRICA

MAINLINE MICROFILM FOR PCR REAGENTS

When the packed cell volume has settled, the supernatant is used to sediment the MCF at 16°C for investigation of anaemia. It can also be used to measure Plasmodium and malarial treatment.

Method

- 1. Fill the centrifuge tube with with equal EDTA & heparinized sedimented blood and sera (H) (these added)
- 2. Add at one end of the centrifuge tube with a suitable amount
- 3. Carefully locate the blood centrifuge tube in one of the sediment slots of the swing basket's rotor with the label end against the rim gently to prevent leakage
- 4. With the basket set on the patient's frame and before the centrifuge with another centrifuge tube
- 5. Position the rotor lid carefully to avoid disturbing the tubes
- 6. Close with the top lid and make sure its automatic digital
- 7. Centrifuge for 2-3 minutes at 1500 rpm (1000 g)
- 8. Simultaneously other centrifuging, read the PCV using a hematocrit reader, edge the base of the red cell column on the 0 line and read off the top plasma column on the 100 line.

Microscopic slides are made on the supernatant plasma.

Reference: 1. WHO (2010). *WHO Manual for Hematology*. Geneva: WHO.

CENTRIFUGING AREA



14 09 2022

Creating a FAIR Digital Health Information system



DATA OWNERSHIP IN AFRICA

Digitalising patient health records in Africa is critically important to improve health outcomes at primary care level. This can make a revolutionary leap with FAIR guidelines - creating machine operable data that is Findable, Accessible, under well defined conditions, Interoperable and Reusable.

The objectives are to move to digital - the smart FAIR way:

- to create ownership and control over sensitive health patient data;
- To create insights in health analytics at health facility level to help doctors see trends and potential population challenges and epidemic risks from the data and help planning;
- To create insights at regional and national level in analytics across health facilities and help policy makers in taking decisions;
- To create an African Health Data Space, with a federated data pipeline production that can support smart queries, digital interoperability based on data strictly held in residence of health facilities.

Figures of achievements today:

- Includes health facilities in 9 countries in Africa
- Deployed in 60 health facilities
- Preparing to deploy in 28 additional facilities
- Structured data production of Outpatient Data Records, Mother and Child care and COVID-data
- Data produced in real time
- Data is entered only ones by a data clerk, but interoperable and generates parallel use-cases simultaneously which is efficient
- Data processing is completely compatible with GDPR and regulatory frameworks in place while allowing cross-border analytics

Where we stand

TODAY

Making the jump to FAIR Data



Data as **F**indable, **A**ccessible, **I**nteroperable and **R**eusable (**FAIR**) is the step to an inclusive **FAIR Internet of Data and Services**.

In primary health care this means:

- 01** Data is produced and held in health facilities and strengthens understanding of trends within and across facilities through federated analytics;
- 02** Data from remote health facilities is included in health data analytics and provides better insights in population and epidemic trends to improve decision-making in health;
- 03** Data available for federated data analytics is a valuable asset that generates resources for the health facilities and helps integrate digital health in primary health care.

In regions where there is conflict or war, access to health data is often lost.

with FAIR data, the control of the data remains within the health facility at all times.

The idea of FAIR data held within the facility, is therefore not seen as a luxury, but is considered critical to maintain quality care for patients

African Engineering



VODAN-Africa is led by African Engineers building trust with African doctors and health practitioners, patients and policy makers and finding out what works in Africa

Pioneer Mariam Basajja and the VODAN-Africa engineers are proud that they walk in front of the curve generating global FAIR Data implementation:

- *First* to generate FAIR Data instances of patient data;
- *First* to present open source assets made available to others, such as the templates to use for OPD, mother and child care and COVID-Data as FAIR data objects;
- *First* to create an in locale federated FAIR data infrastructure independent from the cloud;
- *First* to test a cross-border data infrastructure based on data held in residence;
- *First* to deploy a WHO compatible SMART architecture.

AUN FAIR Data Stewardship Competence Centre

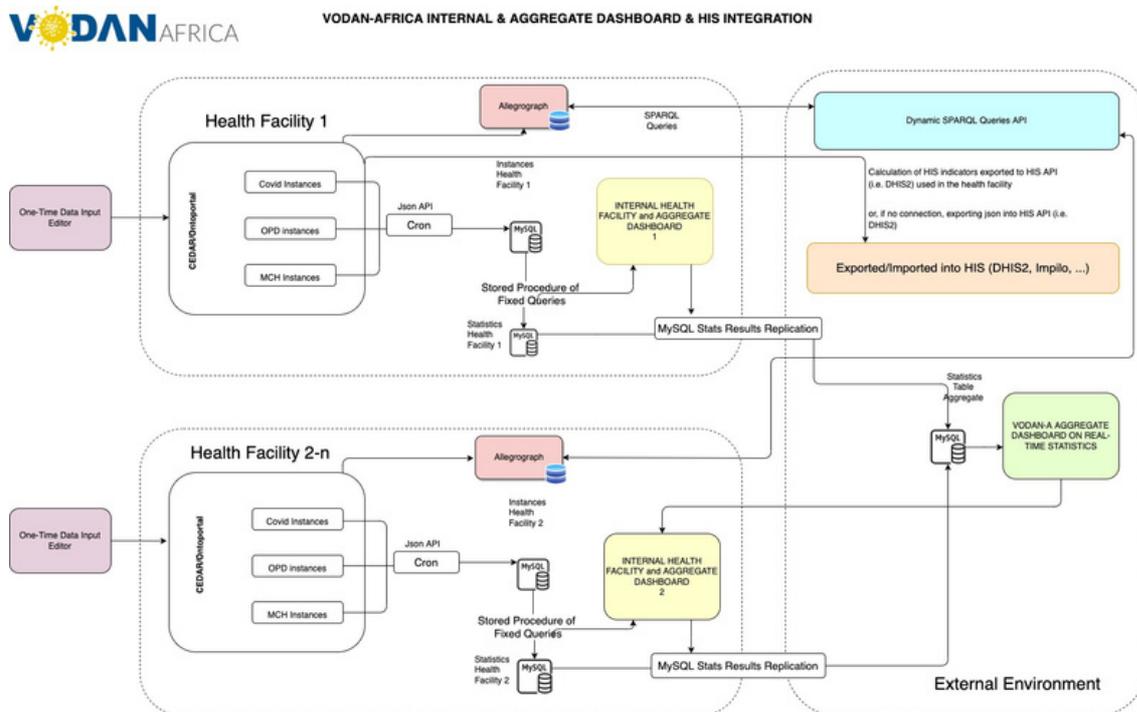
In collaboration with the Africa University Network on FAIR Open Science and the Digital Innovation and Skills Hub (DISH), led by Kampala International University and Mekelle University, VODAN-Africa is setting up the Africa University Network FAIR Data Stewardship Competence Centre. This centre will provide accreditation to FAIR Data stewards who can serve FAIR Data Management services to services in health care and scientific data management.



FAIR DATA MANAGEMENT SKILLS

Aliya Aktau is the coordinator of the FAIR Data Stewardship Competence Centre. Data stewards are trained at for different purposes:

- Data entry and data visualisation
- Creation of FAIR Data templates
- Creation of FAIR Data management plans
- Creation of FAIR Implementation Profiles



Authoried by: Mariam Basajja, Mwesigwa Ezra, Okwote Afolabi, Samson Yohannes Amare, Ruduan Plug, Mirjam van Reisen, 2022

Development priorities

Keep the trust:

- Strengthening the footprint of 88 Health Facilities in 8 countries equipped with VODAN-A FAIR Data production;
- Strengthen deployment and interoperability in geographies with poor connectivity and power conditions;
- Strengthening the Data production pipeline for in-facility and across facility analytics;
- Develop Health Data Spaces in different regions;
- Developing partnerships for expansion of the inclusion of health facilities and expanding population health insights including data from remote areas;
- Strengthening the tooling for data entry and data interoperability including with HIS and DHIS2;
- Strengthening the two-way querying of data based on semantic data held in local allegrograph;
- Creating a clear permission protocol for two-way querying;

Expand the horizon:

- Accredite 10 FAIR Data Stewards;
- Support the Research group with 10 PhDs;
- Carry out innovation FieldLabs on various development problems
- Support FAIR Data creation of life-science research data to develop interoperability with the science community;

Develop partnerships with:

- University network collaboration on FAIR Open Science;
- Federated ML and AI analysts and service providers;
- Partners interested in reaching the last billion to benefit from the internet;
- Research programmes on innovation;
- Clients for FAIR data stewardship services offered as services.

THE VODAN-A AMBITION

Intermediate end point 2024

- Health care improved for at least 8.000.000 patients;
- Health facilities expanded to at least 12 countries including remote and poorly connected regions;
- Establish an epidemic early warning system;
- Ensure an Africa-led infrastructure and maintenance capacity to support this;
- Develop an African-wide regulatory framework for personal data protection;
- Develop an African-wide collaboration with the EU on FAIR Open Science;
- Train and fully accredit at least 120 data clerks, 120 data protection officers, 40 datastewards and provide services of data management to develop work and employment and plan to develop expansion of services;
- Set up Data Health Spaces as a Commons to feed resources of the data pipeline into health facilities that produce data for the data pipeline to contribute to improves scope for services in primary health care facilities;
- Set up partnerships for services to FAIRify basic or primary health care providers, including community health workers;
- Set up partnerships between science and health on research for prevention of neglected diseases;
- Create understanding of indigenous and culturally conducive leadership on digital innovation and accountability in Africa.

