

# BUILDING CAPACITY FOR AMR SURVEILLANCE



**SEQAFRICA is working to develop, establish and expand regional capacity for Whole Genome Sequencing (WGS) and bioinformatics in Africa**



## A consortium of sequencing centers

SEQAFRICA has established and currently support a consortium of three regional sequencing centers in Nigeria (University of Ibadan, UI), Tanzania (Kilimanjaro Clinical Research Institute, KCRI) and South Africa (National Institute for Communicable Diseases, NICD), a national center in Ghana (Noguchi Memorial Institute for Medical Research, NMIMR) and a COVID-19 response center in South Africa (NICD Center for Respiratory Diseases and Meningitis (NICD-CRDM)).



## Sequencing key pathogens

SEQAFRICA's sequencing efforts focus on a set of key pathogens which includes non-tuberculosis bacterial isolates of high significance to the epidemiology of antimicrobial resistance such as pan-drug resistant (PDR) strains, *Streptococcus pneumoniae* or strains isolated in the context of an outbreak of antibacterial resistance. In addition, select collections of already available nontyphoidal *Salmonella* and *Escherichia coli* with atypical antimicrobial resistance profile as well as *S. Typhi* and *Vibrio cholera* in general, is also considered important for increased knowledge of antimicrobial resistance and circulating or emerging clones. Lastly, SEQAFRICA has expanded as a response to the ongoing COVID-19 pandemic and is also sequencing samples of SARS-CoV-2 virus.



## Building capacity through training

Improving the surveillance of AMR in Africa does not only require building and expanding existing sequencing capacity through instrumentation, but also call for training in the use of equipment and acquiring necessary skills to analyze the generated data. In-depth training is instrumental to sustain activities beyond the timeframe of the project, and as such SEQAFRICA is also developing extensive virtual training for a range of audiences going from novel and non-users to more experienced staff. The training is offered to the network of SEQAFRICA partners as well as other sequencing networks on the continent, and will ensure both regional and in-country expertise in AMR and COVID-19 surveillance through WGS.



## Bringing WGS into AMR surveillance

SEQAFRICA's objectives are to develop and support WGS and bioinformatics capacity for antimicrobial resistance (AMR) surveillance across Africa as well as contribute to the global pandemic surveillance efforts of SARS-CoV-2. The centers in the consortium provides WGS and data analysis services to countries in their region as well as nationally in Ghana, and support investigation of outbreaks, unusual resistance phenotypes, and/or delineation of the flow of organisms/genes across human, animal, agricultural and aquaculture sectors.



Data



Bioinformatics



Skills



## Want to know more?

For more information about SEQAFRICA, reference sequencing opportunities, training or e-learning, please contact SEQAFRICA ([seqafrica@food.dtu.dk](mailto:seqafrica@food.dtu.dk)), Technical Lead Prof. Rene S. Hendriksen ([rshe@food.dtu.dk](mailto:rshe@food.dtu.dk)) or Project Manager Pernille Nilsson ([pnil@food.dtu.dk](mailto:pnil@food.dtu.dk)).



The Fleming Fund

SEQAFRICA is led by the Research Group for Global Capacity Building at the National Food Institute, Technical University of Denmark and is funded through a Regional grant by the Fleming Fund.

