The overall mission of NACCAP is to fuel the development of African-owned research centers to be capable of carrying out clinical testing of new interventions against poverty-related diseases. In addition, NACCAP aims to stimulate networking between R&D institutions to help ensure collaboration and complementarity. The research led to effective and affordable products that meet local needs.

The NACCAP Programme is focused on Sub-Saharan Africa. It is funded by the Dutch Ministry of Foreign Affairs and managed by the ‘WOTRO Science for Global Development’ division of the Netherlands Organisation for Scientific Research (NWO). The development of new clinical interventions against poverty-related diseases was identified as a priority by the Dutch government in 2002.

European and Developing Countries Clinical Trials Partnership (EDCTP)

The European and Developing Countries Clinical Trials Partnership (EDCTP) was established in 2003 and was cofunded by the European Commission and European Member countries under the European Sixth Framework Programme. Its aim was to accelerate the development of new clinical interventions against HIV/AIDS, malaria and tuberculosis. In 2014, the programme was extended to other poverty-related and neglected infectious diseases in Sub-Saharan Africa. It is a European – African partnership focused on African needs and priorities that builds upon existing R&D activities of member states and involves stakeholders such as the pharmaceutical industry and relevant international bodies. The NACCAP-projects have been funded in accordance with the EDCTP strategy.

Research projects

The NACCAP-I programme had a total budget of 20 million euros, was launched in 2002 and ran until 2012. The programme released two open calls for proposals aimed at research and capacity strengthening. Through these calls, four African-European partnership projects were funded. Additionally, in cooperation with EDCTP, a total of ten projects were funded. In 2012, three successful projects received further funding in NACCAP-II to consolidate the capacity developed. The ARISSE research project continued the INTERACT and COMMAL activities, and the ARTA research project was prolonged. The NACCAP-II programme has a total budget of 4.5 million euros and ends in 2016.
Affordable Tests to Quality Monitor HIV Treatment in Africa

The emergence of HIV drug resistance (HIVDR) is a potential downside of the rapid scale-up of HIV treatment in Africa. HIVDR results from viral mutations that can significantly reduce the effectiveness of the antiretroviral treatment (ART). Drug resistance can emerge when patients are not fully adherent to their treatment. HIVDR needs to be identified and addressed on time to preserve the life of patients and to preserve the cost-effectiveness of the public health approach to ART in resource limited settings. In order to achieve this, easy and affordable diagnostic tools are urgently needed to support HIVDR monitoring among the population and in individual patients, in order to inform both public health action and the clinical management of African patients receiving ART.

“...if the right levels of the drug are not taken, as in they are too low or not regularly maintained, the virus can overcome the drug and become resistant. Tenofovir—an antiretroviral drug—is a critical part of our armamentarium against HIV, so it is extremely concerning to see such a high level of resistance to this drug.”

– Dr Gupta (BBC News website)

The first phase of the ART-A programme focused on developing affordable and simplified diagnostic tools that are compatible with sample collection on dried blood spots, and for the detection and interpretation of HIVDR. A viral failure assay combined to an ultralight HIVDR genotyping assay and to a HIVDR base calling software were designed and underwent an initial phase of validation.

Following up on these initial achievements, the second phase of ARTA had the following objectives:

- Further field validation of the assays for clinical application;
- Transferring all ART-A knowledge and technology to an African research institute;
- Further field validation of the assays for clinical application;
- Transferring all ART-A knowledge and technology to an African research institute;
- Fostering local assembly and distribution of the ARTA test kit at an African research institute;
- Obtaining the proof of concept for the local assembly and distribution of the ARTA test kit at an African research institute.

The ARTA test development and validation activities were embedded into long-term cohort studies of HIV adult and children.

The HIVDR assay can be used to identify HIVDR with high sensitivity and specificity on both plasma and dried blood spots. Nevertheless, the ARTA, ultralight HIVDR genotyping assay remains a useful tool to monitor HIVDR in resource-limited settings.

The ARTA technology and knowledge is fully transferred to Uganda. The HIVDR assay can be used to identify HIVDR with high sensitivity and specificity on both plasma and dried blood spots. In accordance with the original WHO specification for HIVDR detection. The more stringent WHO criteria for the definition of virological failure, published in 2013, disqualified the viral failure assay for the identification of virological failure on dried blood spots. Nevertheless, the ARTA, ultralight HIVDR genotyping assay remains a useful tool to monitor HIVDR in resource-limited settings.

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A business plan was formulated for JCRC, to explore the feasibility of ARTA test productisation. This document includes a thorough analysis of the current landscape regarding intellectual property (IP) protection in Uganda and recommends that ARTA tests be made available as open source.

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