

Antibiotic-resistant sepsis still claiming newborn lives in Africa

Penta leads new scientific collaboration to improve treatment and reduce mortality

Padova (Italy), 27 July 2023 – A new European-African collaboration to improve the way infections in newborns are treated is launching today. The project, called SNIP-AFRICA, aims to reduce mortality among neonates in hospital with sepsis in Africa, in an era of increasing antimicrobial resistance.

Funded by the European Union under the Global Health EDCTP3 Programme, SNIP-AFRICA will conduct an adaptive trial to identify the best drug regimens and doses for difficult-to-treat infections and sepsis, which threaten the lives of newborns in neonatal units in sub-Saharan African countries.

“SNIP-AFRICA is a landmark project that will bring together leading scientists from Africa and Europe to address this major global health challenge,” said **Carlo Giaquinto**, Professor of Paediatrics at the University of Padova, President of Fondazione Penta ETS (Italy) and project coordinator. *“We believe that this project will help us identify new and better treatments for newborn sepsis, which is a leading cause of death in newborns in Africa.”*

Sepsis is a life-threatening condition that occurs when the body’s response to an infection damages its own tissues and organs. In newborns, sepsis is often caused by bacteria that have become resistant to antibiotics, which makes it even more difficult to treat.

Every year, 214,000 newborn babies die of sepsis that has become resistant to antibiotics, making it a major health threat worldwide. Low- and middle-income countries, especially in Africa, are particularly affected by this problem due to the lack of resources for diagnosis and treatment.

What’s more, the heterogeneous nature of sepsis means that relevant research questions may vary greatly from one hospital to another, posing a challenge for traditional clinical trials to comprehensively grasp the complexities and variations of this condition, and to find treatments suitable for multiple settings.

The SNIP-AFRICA trial will use an adaptive platform design, which allows researchers to adjust the trial as it progresses based on the results of early data. In comparison to traditional trial designs, adaptive platform trials can address multiple research questions simultaneously, providing a more personalised approach to researching neonatal sepsis.

“SNIP-AFRICA is a critical step in the fight against newborn sepsis,” said **Julia Bielicki**, Senior Researcher at the Centre for Neonatal and Paediatric Infection of St George’s University of London (United Kingdom), and SNIP-AFRICA scientific coordinator. *“We are excited to see this project get underway, and we are confident that it will make a significant difference in the lives of newborns in Africa.”*



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SNIP-AFRICA (Project No. 101103201)
is part of the EDCTP3 Programme
supported by the European Union

The trial plans to enroll 1,200 neonates in six neonatal intensive care units in Ghana, Kenya, South Africa and Uganda. The first patients are expected to be enrolled in June 2025.

To guarantee the sustainability of the SNIP-AFRICA platform, the Consortium will also invest in building the capacity of African researchers and clinicians to develop and implement future adaptive trials, fostering a culture of knowledge-sharing and collaboration. Through this project, we aspire to build a robust network of trained investigators and sites capable of designing and conducting complex clinical trials in challenging environments.

SNIP-AFRICA will be coordinated by Fondazione Penta ETS, while St George's University of London will be responsible for scientific oversight.

Stellenbosch University will be involved in the majority of work packages. Proffs Adrie Bekker and Eric Decloedt will be leading the working group aimed at accelerating African neonatal sepsis pharmacokinetic trials to optimise antimicrobial treatment for neonates. Stellenbosch University will also be facilitating African capacity building within the SNIP-AFRICA consortium to perform analytical quantification of antimicrobial plasma concentrations as well as training in pharmacometric modeling of these plasma concentrations to optimise dosing. Proffs Adrie Bekker, Angela Dramowski and Andrew Whitelaw will be actively involved with the NeoSEP Part2 trial for which we will be a study site at Tygerberg Hospital. Within NeoSEP Part2 we will be evaluating novel antibiotic regimens against standard of care for sick neonates. Microbiological surveillance data will also be collected as part of the NeoSEP Part2 trial to inform antibiotic choices for the treatment of neonatal sepsis.

Overall, ten project partners from European and African countries will come together to constitute a diverse Consortium of partners with extensive experience in neonatology and in designing and conducting randomised controlled trials in Africa, including adaptive trials.

SNIP-AFRICA's ambition is to innovate research on severe childhood infections, particularly neonatal sepsis. By using novel adaptive trial design elements, the project will generate evidence to improve antibiotic treatment of this deadly condition. This will significantly improve the wellbeing of newborns and infants, who are at the highest risk of infection from difficult-to-treat bacteria.

Notes for editors

About SNIP-AFRICA

SNIP-AFRICA (project No. 101103201) is part of the EDCTP3 Programme supported by the European Union. Project coordination is managed by Fondazione Penta ETS (Padova, Italy), whereas scientific coordination is managed by St George's, University of London (London, United Kingdom).

Other partners are: University College London (London, United Kingdom); African Research Collaboration for Health (Kilifi, Kenya); Stellenbosch University (Stellenbosch, South Africa);



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Kwame Nkrumah University of Science and Technology Kumasi (Kumasi, Ghana); DNDi-GARDP Southern Africa NPC (Cape Town, South Africa); MUJHU Care (Kampala, Uganda); Ifakara Health Institute Trust (Dar Es Salaam, Tanzania); University of Antwerp (Antwerp, Belgium).

About Penta:

Penta is an international independent scientific network devoted to advancing research on optimising the prevention, diagnosis and treatment of infectious diseases in children, globally.

More than 30 years since its creation, Penta is today one of the most prominent scientific organisations dedicated to research on maternal and childhood infections, such as HIV and viral infections, fungal infections, respiratory infections (COVID-19, RSV) and severe bacterial infections.

www.penta-id.org

ABOUT STELLENBOSCH UNIVERSITY

Stellenbosch University (SU) is home to an academic community of more than 33 000 students (including 3600 foreign students from 100 countries) as well as 3 300 permanent staff members (including 1 300 academics) on five campuses. The historical oak-lined university town amongst the Boland Mountains in the winelands of the Western Cape province of South Africa, creates a unique campus atmosphere, which attracts local and foreign students alike. On the Stellenbosch campus, paved walkways wind between campus buildings – some dating from previous centuries; others just a few years old. Architecture from various eras attests to the sound academic foundation and establishment of an institution of excellence. This, together with the scenic beauty of the area; state-of-the-art, environmentally friendly facilities and technology, as well as visionary thinking about the creation of a sustainable 21st-century institution, makes for the unique character of Stellenbosch University. www.sun.ac.za

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