Summary of SNIP-AFRICA platform master protocol synopsis

Summary Information Type	Summary Details
Short title	SNIP-AFRICA
Long Title	Severe Neonatal Infection Adaptive Platform Trials in Africa
Document	SNIP-AFRICA Master Protocol synopsis
Version	**Error! Reference source not found.**
Date	09-Feb-2026
Project Coordination	Fondazione Penta ETS (Italy)
SNIP-AFRICA ID	MP #01
ISRCTN #	**Error! Reference source not found.** (registration pending)
Sponsor #	Multiple
Funder	European Union under Global Health EDCTP3 (Project number: 101103201).
Design	The SNIP-AFRICA platform currently includes: ▪ Clinical and microbiological surveillance domain ▪ Dose domain ▪ Complex adaptive drug regimen trial domain Adaptation of the platform with the addition of new research domains is intrinsic to the platform design and the addition or removal of research domains will be reflected in subsequent versions of the Master Protocol.
Setting	Hospital
Type of Participants to be Studied	Neonates and children with severe bacterial infection
Number of Participants to be Studied	SNIP-AFRICA Research Domains have independent sample size targets; please refer to domain-specific protocols for more information. Addition of new research domains is in the scope therefore the number of participants may increase.
These are the original domains	
Clinical and Microbiological Surveillance Domain	
Objectives	▪ To *establish a surveillance platform* for neonatal sepsis and a perpetual platform for early detection, evaluation and response to outbreaks or shifts in antimicrobial resistance in SSA sites. ▪ To *create a streamlined, translatable data capture and sampling approach* across a range of health

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	facilities which is appropriate in the context of the SNIP-AFRICA architecture. ▪ To *develop a real time data dashboard* to drive quality improvement at the level of contributing sites based on rates and trends in neonatal sepsis, blood culture findings and outcomes. ▪ To *identify changes in resistant bacterial prevalence*, including to trial drugs, over time and to relate neonatal blood culture isolates to faecal carriage, the hospital environment and antimicrobial usage.
Lead Organisation	KEMRI|Wellcome Trust, Health Research Operations Kenya Limited, Kenya
Lead Investigator	Dr Christina Obiero
Pharmacokinetics for Adaptive Platform Trial	
Objectives	▪ To support rapid implementation of dose finding or confirmation pharmacokinetic studies for antimicrobials of interest for adding to 'drug-regimen' domain-specific appendices. ▪ To conduct up to two dose finding or confirmation pharmacokinetics studies involving off-patent or new antimicrobials following development of a novel generic protocol with drug-specific appendices. ▪ To use population pharmacokinetic approaches to model and simulate antibiotic exposure of infants and/or children receiving treatment within any platform domain. ▪ To interact with relevant partners and key stakeholders such as the WHO Paediatric Antimicrobial Drug Optimisation group and undertake scoping of antimicrobials of interest to neonatal sepsis management. ▪ To strengthen pharmacokinetic laboratory analysis and pharmacometrics modelling capacity in SSA countries to conduct neonatal pharmacokinetic trials for antimicrobials.
Lead Organisation	Stellenbosch University, South Africa
Lead Investigator	Prof Adrie Bekker and Prof Eric Decloedt
Complex Adaptive Drug Regimen Trial	
Objectives	▪ To *co-develop and implement country and site-specific drug-regimen appendices* to investigate relevant empiric regimens for neonatal sepsis in different African neonatal units within the platform trial

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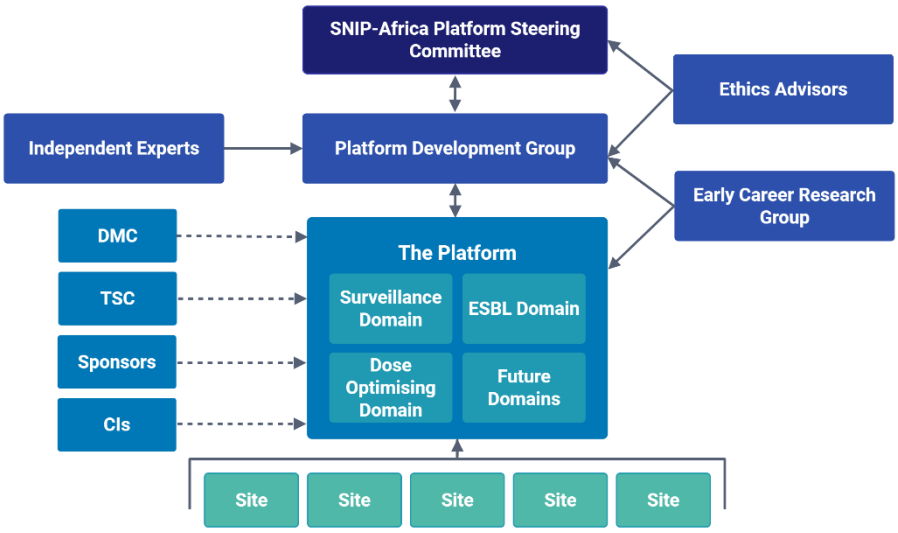
	▪ To *conduct an innovative adaptive platform trial* using combined Personalised RAndomised Controlled Trial (PRACTical) and Sequential Multiple Assignment Randomised Trial (SMART) designs. ▪ To *develop a blueprint for domain-specific eCRFs* and web-enabled data collection in collaboration with WP2 and WP4. ▪ To collaborate with WP2 and WP4 to *develop domain-specific adaptations responding to emerging project, trial, and other global data*.
Lead Organisations	Global Antibiotics Research and Development Partnership (Switzerland) Medical Research Council Clinical Trials Unit at UCL (UK) City St George's University, University of London (UK)
Lead Investigator	Prof Julia Bielicki
Extension of the platform to an older paediatric population remains within scope, and the Master Protocol will be updated as required.	

Figure 1: SNIP-AFRICA Platform Governance



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1. Background and rationale

Annually, 214,000 vulnerable newborns die from sepsis that has become resistant to antibiotics—making antimicrobial-resistant neonatal sepsis one of the most pressing threats to reducing under-five mortality, of which newborn deaths account for nearly 50 percent. As the burden of antimicrobial resistance continues to increase, there is a growing need for global guidelines to better reflect local causes of neonatal sepsis and prevailing resistance patterns, in the absence of an accepted standard of care (1, 2). Clinicians caring for sick newborns instead rely on empirical and contextual treatment approaches, tailored to their patient population and local microbial ecology. Given these challenges, a flexible and adaptable research infrastructure is urgently needed—one capable of responding efficiently and intuitively to diverse neonatal and paediatric populations, addressing context-specific research questions, and identifying adaptable, setting-appropriate treatments.

1.1 Why is the SNIP-AFRICA platform needed?

The Severe Neonatal Infection Adaptive Platform Trials in Africa (SNIP-AFRICA) starts as a 5-year clinical consortium (2023-2028) aiming to establish an adaptive neonatal and paediatric clinical research and trial platform to implement innovative adaptive platform trials across Sub-Saharan Africa (SSA) in response to this major public health threat: the inadequate and outdated treatment of neonatal sepsis in the face of rising AMR.

This platform will be established by bringing together key experts and leaders in the design and implementation of Randomised Controlled Trials (RCTs) in SSA, including adaptive neonatal and paediatric platform trials, to build on existing capacity and accelerate progress. The platform will apply a systematic yet flexible approach to evidence generation for neonatal sepsis management where it is most urgently needed, ultimately informing and updating outdated antibiotic policies and guidelines for vulnerable and sick newborns.

While the initial focus of this platform is on newborns, SNIP-AFRICA intends to extend its efforts to address key challenges in paediatric populations, including infants and children, as the platform develops and expands.

1.2 Platform objectives and ambitions

SNIP-AFRICA aims to be:

1. Fit-for-purpose, stream-lined with a transparent governance structure and processes to support adaptations, additions, and extensions.
2. Linked-up multi-directional generation of evidence from surveillance, observational and interventional research activities. Additionally, SNIP-AFRICA aims to provide insight on the impact of practice changes during the trial and after completion of discontinued arms or domains.
3. Strengthen capacity and engage key stakeholders through a framework that integrates trials and linked research activities, enabling internally driven research and empowering SSA researchers across all elements of the architecture.

1.2.1. Primary objective(s)

- Build a sustainable platform and governance structure in SSA to conduct adaptive trials for treating severe neonatal and childhood infections
- Implement an adaptive trial to determine the best antimicrobial regimens for the treatment of neonatal sepsis in SSA within the ‘drug-regimen’ domain
- Conduct up to two pharmacokinetic studies within the ‘dose domain’ to support incorporation of antimicrobials of interest at optimal neonatal doses

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- Lead on-going surveillance of neonatal sepsis epidemiology and management among hospitalised infants with neonatal sepsis
- Training and capacity building on adaptive platform trials and neonatal sepsis to researchers and clinicians in SSA
- Engage with families, clinicians, and regulators to ensure efficient and ethical implementation of adaptive trials through the platform

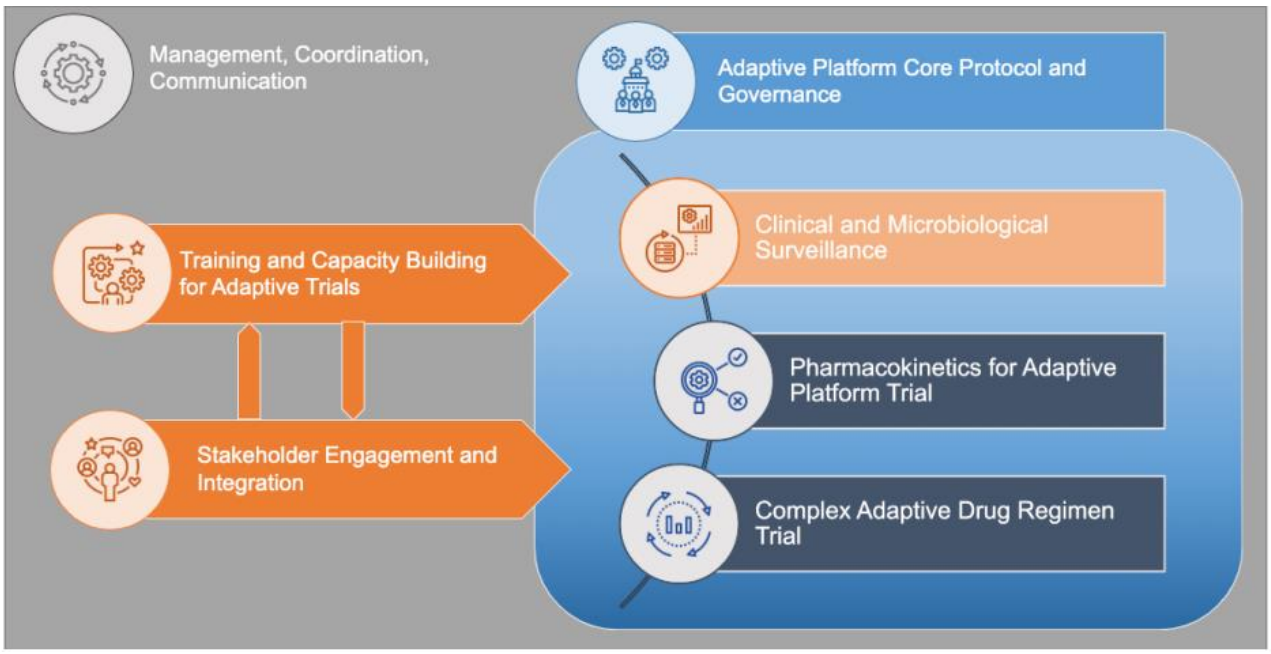

Figure 2: SNIP-AFRICA project architecture

1.3 Challenges and methodological considerations

Governance and oversight

SNIP-AFRICA applies the principles of transdisciplinary research, aligning its core activities into one platform. It is a high-level clinical research consortium constituting of a core body (Fondazione Penta) leading project oversight and internal communication. Ensuring the long-term sustainability of the SNIP-AFRICA architecture is of paramount importance, particularly when considering resource implications and anticipated adaptations throughout the consortium's lifetime. In alignment with the SNIP-AFRICA sustainability plan, securing additional funding for ongoing and add-on domains is a key priority.

Research focus during initial phase

There is a scarcity of mature surveillance structures in SSA, which negatively impacts the availability of neonatal and paediatric severe infection data needed for trial planning and evaluation. This results in lack of clarity on urgent and relevant evidence gaps, uncertainty regarding effective interventions, and constraints on sample size estimation. It also impedes the tracking of trial outcomes and subsequent patient management. SNIP-AFRICA addresses these challenges by establishing an adaptive, fit-for-purpose platform with transferable surveillance data focusing primarily on neonatal sepsis during its first phase. The pharmacokinetic dose-finding studies domain aims to address key questions related to achieving appropriate drug exposures. Data on older off-patent anti-infective agents remain limited, making it essential to evaluate the efficacy and effectiveness of doses used within domain-specific research activities. At the same time,

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there is increasing interest from pharmaceutical companies in updating antimicrobial agents for vulnerable paediatric populations, with companies seeking to partner with networks such as SNIP-AFRICA to accelerate the conduct and completion of regulatory trials. The SNIP-AFRICA architecture will be configured to support a broad range of research activities, including interventional studies across multiple domains, to address antimicrobial management of neonatal sepsis in a coordinated and integrated manner. Adaptive trial capabilities will be embedded across domains, allowing protocol modifications in response to emerging surveillance data or relevant external evidence, thereby enabling the timely evaluation of high-priority interventions and treatments.

Training and capacity building

SNIP-AFRICA training and capacity building will focus on three broad areas: clinical management of neonatal sepsis, laboratory evaluation including pharmacological assessments and microbiological sampling, and trial design and implementation with a focus on adaptive platform trials. Through institutional partnerships with relevant expertise, SNIP-AFRICA will provide structured training in trial design and implementation to researchers across the platform. In parallel, close collaboration with the African Neonatal Association will ensure that the development and distribution of clinically relevant materials are well coordinated and complementary. In developing clinical training and capacity-building materials, careful consideration will be given to ensure treatment approaches are appropriate for SSA settings, as reflected by the participating partners and sites. SNIP-AFRICA will also support PhDs for early career researchers spanning key research methodology domains. Training materials and activities will be co-developed under SSA leadership, to ensure contextual relevance, and disseminated through a train-the-trainer model to enhance sustainability and impact.

Stakeholder Engagement

Stakeholder engagement is integral to the timely delivery of adaptive platform trials within SNIP-AFRICA. A participatory framework embedded in the platform architecture will engage front-line clinical staff, families and communities, regulatory and ethics stakeholders. Implementation science methods will be used to identify decision-making processes, readiness for trial participation, and key barriers and facilitators among clinical staff, while qualitative engagement with families will inform communication, consent, screening and enrolment approaches, supported where appropriate by site-specific community advisory groups.

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2. SNIP-AFRICA Platform: Protocol Structure

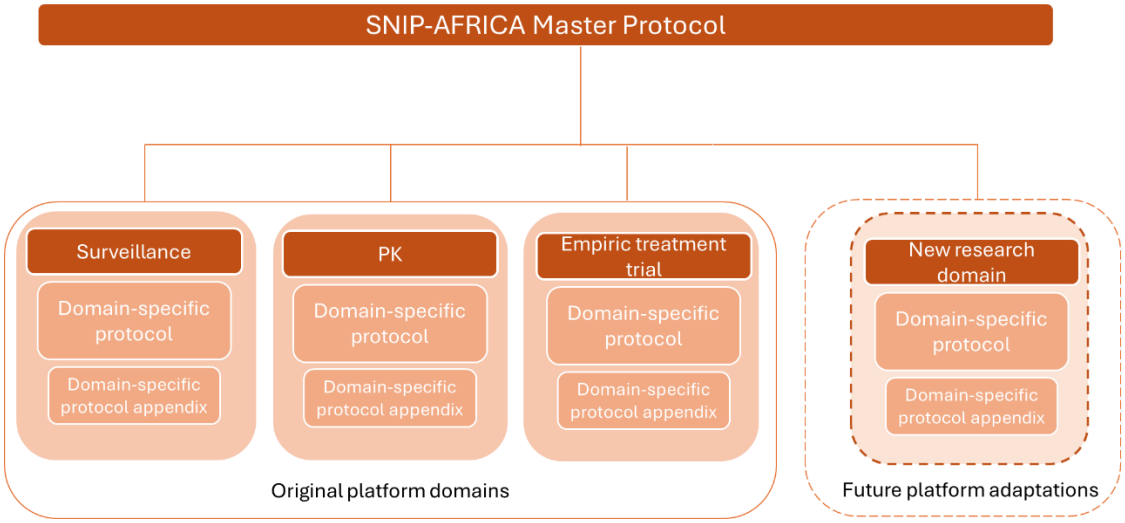
The SNIP-AFRICA Platform adopts a modular approach to its protocol structure. The Master Protocol defines overarching scientific and operational principles bringing together all elements common to all research domains, studies and trials.

As SNIP-AFRICA involves multiple Sponsors within its platform, domain-specific protocols are defined for each component of the platform and are managed independently of the Master Protocol.

The SNIP-AFRICA Master Protocol may be amended and updated as the platform evolves, new domains come on board and others complete their protocol-defined activities. Any amendment to the Master Protocol will be reviewed by the SNIP-AFRICA Platform Development Group, which consists of a panel of domain leads and external expert members.

The SNIP-AFRICA Master Protocol is independently version-controlled from its domain-specific protocols, and a history of changes is maintained centrally.

Figure 3: SNIP-AFRICA Master Protocol and domain-specific protocols. New research domains can be added to the platform as a new modular protocol component



3. Study Population

The SNIP-AFRICA platform is primarily focused on severe infections in children and neonates. The inclusion criteria for each domain are specified in the relevant domain-specific protocols.

At the point of initiation of the SNIP-AFRICA platform, two research domains exclusively focused on the recruitment of neonates (microbiological and clinical surveillance and empiric treatment trial), whereas one research domain also included infants (any child < 1 year) and children (< 2 years of age). The extension of the platform to an older paediatric population remains in the remit and scope of the platform and the Master Protocol will be updated as needed.

Whilst each inclusion and exclusion criteria are detailed in the domain-specific protocols, the SNIP-AFRICA platform operates under the requirement of a broad overlap of the study population across all domains. This allows consistency in the population being investigated, facilitates data sharing and generalisability of the results emerging from the platform.

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4. Platform Governance and Oversight

4.1 SNIP-AFRICA Platform governance and oversight

The SNIP-AFRICA Platform is designed as an adaptive platform of studies and trials, where the overall management of the platform in its original design is coordinated by a Project Management Team (PMT) and overseen by the Project Steering Group (PSG). Adaptations to the platform beyond the 5-year consortium will be overseen by the Platform Leadership Group (PLG). The ultimate responsibility for the project coordination is with Fondazione Penta ETS.

While each domain retains independence in the oversight group established, the overall conduct of all SNIP-AFRICA domains is overseen by the Platform Development Group (PDG); this applies to the original platform domains (Clinical and Microbiological Surveillance, PK and Empiric Treatment Randomised Trial) as well as any subsequently added domains. The PDG is constituted by both representatives from each platform domain and external expert members who advise on progress and development of the platform. A PDG Charter is signed by all members and describes the principles underpinning the group's function.

The SNIP-AFRICA platform is not governed by a single Sponsor. Each domain will require sponsorship from the leading institution, but overall platform oversight is ensured via the SNIP-AFRICA PDG (see Charter). The Sponsor of each domain will be detailed in the Domain-Specific Protocols as relevant.

The SNIP-AFRICA Platform is designed as an adaptive platform of studies and trials, where multiple research questions can be addressed in parallel and results integrated in the ongoing platform as new evidence emerges.

4.2 Addition of new domains

The nature of the SNIP-AFRICA Platform enables continuous adaptations of the core platform to address new research questions for the treatment of severe infections in neonates and children. The addition of new research domains may be internal or external, and proposals are reviewed by the PDG.

All proposals for a new domain must fit with the SNIP-AFRICA main goal: to improve the treatment of and prevent neonatal and childhood infections in an era of antimicrobial resistance; each new domain must have a demonstrable route for direct translation into clinical guidance and direct impact on public health. Other principles for the introduction of new domains are captured by the SNIP-AFRICA New Domain Checklist which guides the PDG to ensure transparency and consistency in the process.

4.3 Closure of platform domains

Existing domains, including the original domains, may be closed when reaching their primary endpoint or following pre-planned interim analyses. The closure of each domain will be carefully evaluated by the PDG and PSC to ensure continuity of research outputs and sustainability of the platform.

4.4 References

1. Laxminarayan R, Matsoso P, Pant S, Brower C, Rottingen JA, Klugman K, Davies S. Access to effective antimicrobials: a worldwide challenge. Lancet. 2016;387(10014):168-75.
2. Organization WH. Newborn mortality 2024 [Available from: https://www.who.int/news-room/fact-sheets/detail/newborn-mortality.

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